ALABAMA DEPARTMENT OF TRANSPORTATION

1409 Coliseum Boulevard, Montgomery, Alabama 36110

Bureau of Materials and Tests

3700 Fairground Road, Montgomery, Alabama 36110
Phone (334)206-2200 FAX (334)264-6263

Kay Ivey
Governor

John R. Cooper
Transportation Director

February 6, 2018

Memo

To: **Mr. Matt Ericksen, P.E.**
MRB & Bayway Project Director

From: Ms. Kaye Chancellor Davis, P.E. AKCD
State Geotechnical Engineer

Re: **West Area Subsurface Data Report**
Project No.: **DPI-0030 (005)**
I-10 Mobile River Bridge
Mobile County

The Materials & Tests Bureau, Geotechnical Division, has reviewed the West Area Subsurface Data Report. This office agrees with the information held within this report. Please contact this office if there any question or concerns.

AKCD/rld

Attachments

C: Project File
File

REPORT OF GEOTECHNICAL CONSULTING SERVICES

GEOTECHNICAL SUBSURFACE DATA REPORT

I-10 Mobile River Bridge – West Area

Mobile County, Alabama

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

Thompson Engineering Project No.: 17-1101-0145

February 15, 2018

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February 15, 2018

Mr. Scott W. George, P.E.
Materials and Test Engineer
Alabama Department of Transportation
Bureau of Materials and Test
3700 Fairgrounds Road
Montgomery, Alabama 36130

Attention: **Kaye Chancellor Davis, P.E.**
ALDOT Geotechnical Engineer

Subject: **Report of Geotechnical Consulting Services**
Subsurface Data Report
I-10 Mobile River Bridge – West Area
ALDOT PE Project No.: DPI-0030(005)
Mobile, Mobile County, Alabama
Thompson Project No. 17-1101-0145

Dear Ms. Davis:

Thompson Engineering is pleased to transmit this geotechnical subsurface data report for the project referenced above. This submittal summarizes the field exploration and laboratory testing results for the referenced design build operate and maintain project. Our services were performed in accordance with the Thompson Fee Proposal dated July 20, 2017.

We appreciate the opportunity to assist the Alabama Department of Transportation with project-related geotechnical matters. Please do not hesitate to contact our office with any questions concerning this submittal.

Respectfully submitted,

THOMPSON ENGINEERING, INC.

Michael Davis, Jr. E.I.
Geotechnical Engineering Associate II

Sam Sternberg III, P.E.
Senior Geotechnical Engineer

2970 Cottage Hill Road, Ste. 190
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- Unconsolidated Undrained (U.U.) Triaxial Shear Tests
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- One Dimensional Consolidation Tests

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1.0 SCOPE OF SERVICES

Thompson Engineering (Thompson) has completed the field exploration and laboratory testing for the West Area in support of the overall Mobile River Bridge (MRB) located in Mobile and Baldwin Counties, Alabama. This scope of work was performed in general accordance with the contracted scope of services between the Alabama Department of Transportation (ALDOT) and Thompson, dated July 20, 2017. Our services were authorized in the ALDOT Work Order #71,002 on Contract ID #2096.

2.0 PROJECT DESCRIPTION

The West Area is located along interstate I-10 in Mobile, Mobile County, Alabama. This portion of the project includes approximate stations 423+00 to 507+00 along the I-10 Mainline. The scope of services included landside subsurface exploration and associated laboratory testing for the I-10 modifications in support of the design build or design build operate and maintain (DBFOM) delivery method. The overall intent was to provide subsurface information to the prospective teams in an effort to reduce the risk and unknowns associated with the subsurface conditions. **Figure 1** below depicts the project location and immediate surrounding areas.

***Figure 1**: Project location and immediate surrounding area.*

3.0 SUBSURFACE EXPLORATION PROGRAM

Thompson geotechnical drilling crews performed soil test borings and sampling operations at the approximate locations shown on the appended Boring Location Plan in **Appendix A**. CME 45, CME 550, and Diedrich D-50 geotechnical drilling rigs, equipped with automatic standard penetration test (SPT) hammers, were utilized to advance the borings using hollow stem auger and mud rotary drilling techniques. Drilling and field operations took place between September 7, 2017 and November 9, 2017. The automatic SPT hammer energy calibration reports are attached in **Appendix D** of this report.

Borings were drilled to depths ranging from 20 to 200 feet below the existing ground surface as shown on the attached Record of Test Borings in **Appendix B.** Boring locations were surveyed by Thompson Survey crews upon completion.

Brief descriptions of the testing protocols are presented below.

3.1 Standard Penetration Test (SPT) Borings

The SPT borings were performed in general accordance with AASHTO T-206 guidelines. Recovered samples were examined and visually classified in the field or in the geotechnical laboratory by an engineer. Samples were returned to Thompson's geotechnical laboratory for additional testing. The results of the classification and stratification are shown on the appended Record of Test Borings. Weight of Rod (WOR) and Weight of Hammer (WOH) "N" blow counts were noted as a zero (0) on the attached boring logs.

3.2 Undisturbed Soil Sampling

Undisturbed soil specimens were recovered utilizing thin-wall "Shelby" tube sampling equipment at select depths within soft to firm cohesive soil zones. Undisturbed samples were collected in general accordance with AASHTO T-207 guidelines. The recovered soil samples were sealed and transported to Thompson's geotechnical laboratory.

3.3 Cone Penetration Tests

The cone penetration tests were carried out using an integrated electronic piezocone (CPTU). The cone reaction system consisted of a S4 Mini Track Rig. The cone was advanced to termination depths at a rate of 2 cm/s. Tip resistance (qc), sleeve friction (fs), and dynamic pore pressure measurements (u2) were recorded every 5 centimeters (2 inches). Testing was performed in general accordance with the methods and procedures described in ASTM Specification D5778-07. Samples are not recovered with the cone penetration test.

The results of the soundings are shown on the CPT logs, presented in **Appendix B**. The corrected tip resistance (Qt) is the recorded tip resistance (Qc) which has been corrected to account for the pore water pressures acting on unequal tip areas of the cone.

4.0 LABORATORY TESTING

Samples selected for laboratory testing were assigned by Thompson. **Table 1** provides a quantitative summary of the lab tests performed.

Table 1: Laboratory Testing Summary	
Test Type	**Quantity**
Atterberg Limits	343
Full Sieve Analysis	334
Hydrometer	9
Consolidation	16
Unconsolidated Undrained (U.U.) Triaxial Shear Tests	27
Consolidated Undrained (C.U.) Triaxial Shear Tests	4
Direct Shear	3

A laboratory test summary table, BMT-5 sheets, and individual test results are included in **Appendix C**.

5.0 SUBSURFACE FINDINGS

While establishment of generalized subsurface conditions is useful for the geotechnical engineering evaluation process, such generalizations should be reviewed with caution as they promote extrapoloation of recovered data between soil test boring locations. The stratifications shown on the Soil Test Borings represent the conditions only at the actual boring locations. The actual transition between soil types may be more gradual than those depicted on the test boring log and between borings.

5.1 Groundwater Conditions

Groundwater measurements were taken immediately after borehole completion. Delayed measurements were obtained whenever possible. Fluctuations in groundwater depth measurements can be attributed to elevations and/or drilling techniques used in the field. Groundwater depth measurements are provided in **Table 2**.

Table 2: Groundwater Depth Measurements					
Boring	**Completion of Boring (ft.)**	**Day 1 (ft.)**	**Day 2 (ft.)**	**Day 3 (ft.)**	**Comments**
TH-01	7.5	Not Obtained	Not Obtained	16.3	
TH-02	23.5	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
TH-03	23.6	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
TH-04	9.0	7.8	7.9	7.9	
TH-05	4.4	7.5	7.8	7.7	
TH-06	Not Obtained	3.7	3.7	3.4	
TH-07	Not Obtained	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
TH-08	33.5	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
TH-09	Not Obtained	Not Obtained	Not Obtained	12.1	Day 4: 12.5 ft. / Day 5: 12.7 ft.
TH-10	1.8	20.0	15.5	14.0	
TH-11	19.1	8.4	8.7	9.0	
TH-12	44.3	21.1	21.1	21.0	
TH-13	36.3	23.3	23.4	22.9	
TH-24	Not Obtained	5.8	6.1	6.2	
TH-25	Not Obtained	7.2	Not Obtained	Not Obtained	
TH-26	Not Obtained	4.4	4.5	4.5	
TH-27	Not Obtained	8.3	Not Obtained	Not Obtained	
W-01	Not Obtained	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
W-02	Not Obtained	Not Obtained	2.5	10.7	Day 4: 10.2 ft.
W-03	Not Obtained	Not Obtained	15.5	15.5	Day 4: 15.3 ft.
W-04	23.5	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
W-05	23.3	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
W-06	3.9	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
W-07	3.0	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
W-08	Not Obtained	Not Obtained	Not Obtained	Not Obtained	Day 4: 10.0 ft. / Day 5: 7.0 ft.
W-09	3.3	4.6	Not Obtained	Not Obtained	Day 4: 12.1 ft. / Day 5: 12.5 ft.
W-10	4.0	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
W-11	8.3	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
W-12	13.3	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
W-13	13.3	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
W-14	27.0	Not Obtained	Not Obtained	Not Obtained	Interstate Boring
W-15	10.0	7.2	2.9	3.2	
W-16	3.1	3.9	4.6	4.3	

Boring	Completion of Boring (ft.)	Day 1 (ft.)	Day 2 (ft.)	Day 3 (ft.)	Comments
W-17	6.7	6.25	Not Obtained	Not Obtained	
W-18	7.3	Not Obtained	7.1	6.2	
W-19	2.0	Not Obtained	Not Obtained	Not Obtained	Day 6: 2.0 ft. / Day 7: 2.0 ft.
W-20	19.6	13.5	11.8	11.9	
W-21	2.0	1.8	4.3	4.4	
W-22	21.8	9.0	9.2	9.1	
W-23	21.8	18.6	18.8	Not Obtained	Day 6: 19.0 ft. / Day 7: 19.0 ft.
W-24	Not Obtained	5.0	8.2	8.1	

Fluctuations of the groundwater level on this project may be expected to occur seasonally as a result of rainfall, surface runoff, tidal issues, and immediate area construction activities.

6.0 REPORT LIMITATIONS

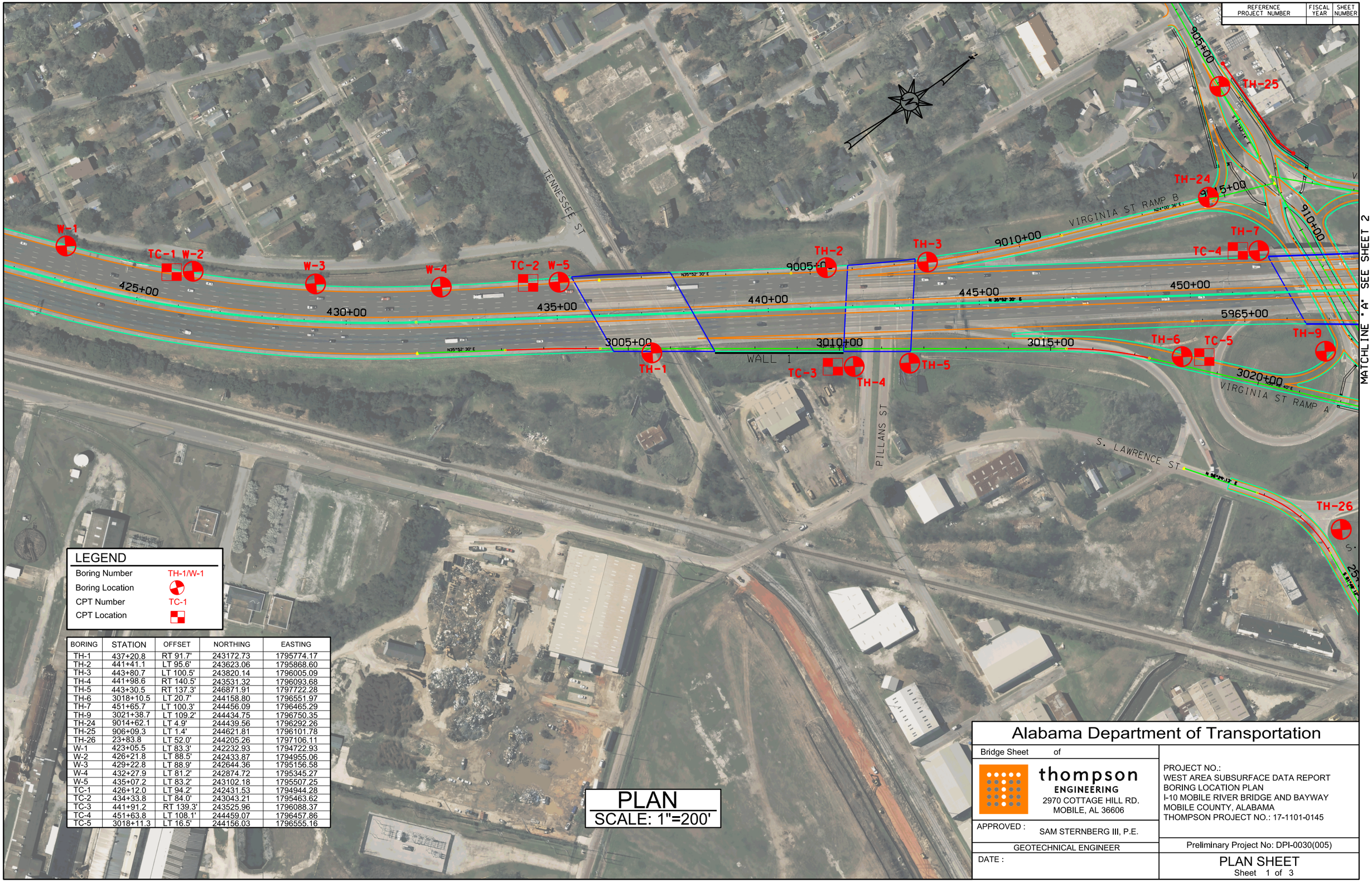
This Geotechnical Subsurface Data Report has been prepared for the exlusive use of ALDOT for the specific project discussed herein. This Geotechnical Subsurface Data Report has been prepared in accordance with generally accepted local geotechnical engineering practices; no other warranty is expressed or implied. The recovered samples were not examined, either visually or analytically, for chemical composition or environmental hazards.

The observations from field sample recovery, laboratory examination of samples and testing, and computed data analysis, which are presented in this data report, should be considered preliminary investigation and are subject to change upon the acquisition of additional data during the final investigation for the final design. Additional subsurface exploration including borings and laboratory testing for the purposes of evaluating cut slopes, embankment slopes, embankment settlements, retaining walls and bridge foundation types and capacities will be required for final design and applicable to the specific final design layout. The Geotechnical Engineer of Record for the project must review the data submitted in this report and develop their own interpretation of the testing results as they apply to design.

APPENDIX A

- **Boring Location Plan**

REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER



LEGEND

Boring Number	TH-1/W-1
Boring Location	
CPT Number	TC-1
CPT Location	

BORING	STATION	OFFSET	NORTHING	EASTING
TH-1	437+20.8	RT 91.7'	243172.73	1795774.17
TH-2	441+41.1	LT 95.6'	243623.06	1795868.60
TH-3	443+80.7	LT 100.5'	243820.14	1796005.09
TH-4	441+98.6	RT 140.5'	243531.32	1796093.68
TH-5	443+30.5	RT 137.3'	246871.91	1797722.28
TH-6	3018+10.5	LT 20.7'	244158.80	1796551.97
TH-7	451+65.7	LT 100.3'	244456.09	1796465.29
TH-9	3021+38.7	LT 109.2'	244434.75	1796750.35
TH-24	9014+62.1	LT 4.9'	244439.56	1796292.26
TH-25	906+09.3	LT 1.4'	244621.81	1796101.78
TH-26	23+83.8	LT 52.0'	244205.26	1797106.11
W-1	423+05.5	LT 83.3'	242232.93	1794722.93
W-2	426+21.8	LT 88.5'	242433.87	1794955.06
W-3	429+22.8	LT 88.9'	242644.36	1795156.58
W-4	432+27.9	LT 81.2'	242874.72	1795345.27
W-5	435+07.2	LT 83.2'	243102.18	1795507.25
TC-1	426+12.0	LT 94.2'	242431.53	1794944.28
TC-2	434+33.8	LT 84.0'	243043.21	1795463.62
TC-3	441+91.2	RT 139.3'	243525.96	1796088.37
TC-4	451+63.8	LT 108.1'	244459.07	1796457.86
TC-5	3018+11.3	LT 16.5'	244156.03	1796555.16

PLAN
SCALE: 1"=200'

Alabama Department of Transportation

Bridge Sheet of

thompson ENGINEERING
2970 COTTAGE HILL RD.
MOBILE, AL 36606

APPROVED : SAM STERNBERG III, P.E.

GEOTECHNICAL ENGINEER

DATE :

PROJECT NO.:
WEST AREA SUBSURFACE DATA REPORT
BORING LOCATION PLAN
I-10 MOBILE RIVER BRIDGE AND BAYWAY
MOBILE COUNTY, ALABAMA
THOMPSON PROJECT NO.: 17-1101-0145

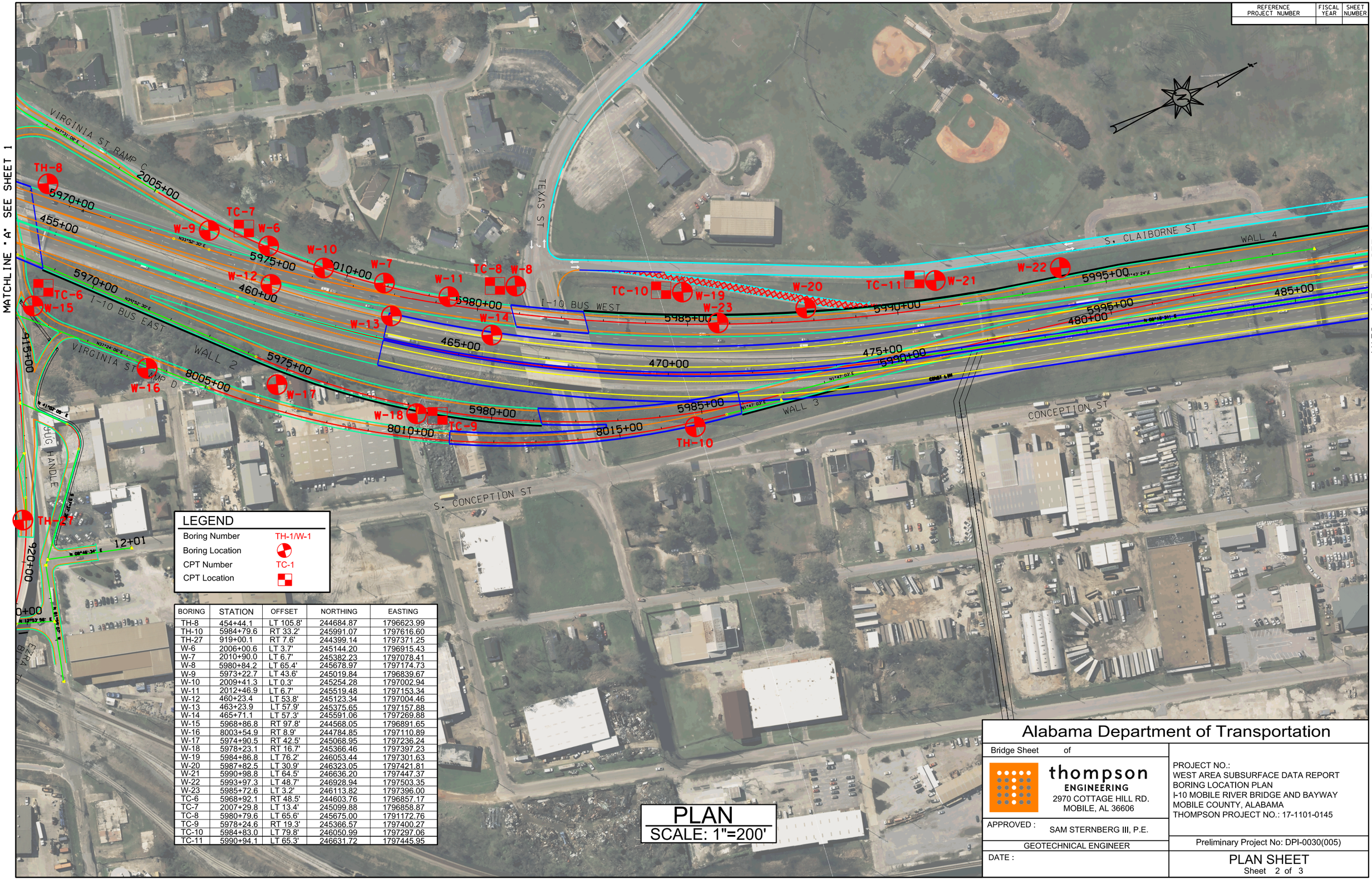
Preliminary Project No: DPI-0030(005)

PLAN SHEET
Sheet 1 of 3

REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER

MATCHLINE "A" SEE SHEET 1

MATCHLINE "B" SEE SHEET 3



LEGEND

Boring Number	TH-1/W-1
Boring Location	
CPT Number	TC-1
CPT Location	

BORING	STATION	OFFSET	NORTHING	EASTING
TH-8	454+44.1	LT 105.8'	244684.87	1796623.99
TH-10	5984+79.6	RT 33.2'	245991.07	1797616.60
TH-27	919+00.1	RT 7.6'	244399.14	1797371.25
W-6	2006+00.6	LT 3.7'	245144.20	1796915.43
W-7	2010+90.0	LT 6.7'	245382.23	1797078.41
W-8	5980+84.2	LT 65.4'	245678.97	1797174.73
W-9	5973+22.7	LT 43.6'	245019.84	1796839.67
W-10	2009+41.3	LT 0.3'	245254.28	1797002.94
W-11	2012+46.9	LT 6.7'	245519.48	1797153.34
W-12	460+23.4	LT 53.8'	245123.34	1797004.46
W-13	463+23.9	LT 57.9'	245375.65	1797157.88
W-14	465+71.1	LT 57.3'	245591.06	1797269.88
W-15	5968+86.8	RT 97.8'	244568.05	1796891.65
W-16	8003+54.9	RT 8.9'	244784.85	1797110.89
W-17	5974+90.5	RT 42.5'	245068.95	1797236.24
W-18	5978+23.1	RT 16.7'	245366.46	1797397.23
W-19	5984+86.8	LT 76.2'	246053.44	1797301.63
W-20	5987+82.5	LT 30.9'	246323.05	1797421.81
W-21	5990+98.8	LT 64.5'	246636.20	1797447.37
W-22	5993+97.3	LT 48.7'	246928.94	1797503.35
W-23	5985+72.6	LT 3.2'	246113.82	1797396.00
TC-6	5968+92.1	RT 48.5'	244603.76	1796857.17
TC-7	2007+29.8	LT 13.4'	245099.88	1796858.87
TC-8	5980+79.6	LT 65.6'	245675.00	1791172.76
TC-9	5978+24.6	RT 19.3'	245366.57	1797400.27
TC-10	5984+83.0	LT 79.8'	246050.99	1797297.06
TC-11	5990+94.1	LT 65.3'	246631.72	1797445.95

PLAN
SCALE: 1"=200'

Alabama Department of Transportation

Bridge Sheet of

thompson ENGINEERING
2970 COTTAGE HILL RD.
MOBILE, AL 36606

APPROVED : SAM STERNBERG III, P.E.

GEOTECHNICAL ENGINEER

DATE :

PROJECT NO.:
WEST AREA SUBSURFACE DATA REPORT
BORING LOCATION PLAN
I-10 MOBILE RIVER BRIDGE AND BAYWAY
MOBILE COUNTY, ALABAMA
THOMPSON PROJECT NO.: 17-1101-0145

Preliminary Project No: DPI-0030(005)

PLAN SHEET
Sheet 2 of 3

REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER

MATCHLINE "B" SEE SHEET 2

CANAL ST
WATER ST RAMP C
WATER ST RAMP B
WATER ST RAMP D
WATER ST RAMP A
I-10 BUS
I-10 WBR
I-10 EBR
WATER ST
ST EMANUAL ST
CHARLESTON ST
PALMETTO ST
CANAL ST
ROYAL ST
MADISON ST
CLAIBORNE ST
S. CLAIBORNE ST EXT
JACKSON ST
JOACHIM ST
CONCEPTION ST
WALL 5
WALL 6

800+00 805+00 810+00 815+00 820+00 825+00
1105+00 1110+00 1305+00 1715+00 1720+00 1800+00 1900+00 2000+00 2200+00
130+00 135+00 140+00 145+00 150+00 155+00
490+00 495+00 500+00 505+00 510+00
1205+00 1500+00 2300+00

TC-12 TH-11 W-24 TC-14 TH-13 TH-12 TC-13

LEGEND

Boring Number	TH-1/W-1
Boring Location	
CPT Number	TC-1
CPT Location	

BORING	STATION	OFFSET	NORTHING	EASTING
TH-11	141+91.2	LT 7.3'	249086.98	1797872.95
TH-12	1206+11.1	LT 2.5'	249538.16	1798051.71
TH-13	153+01.7	RT 78.9'	250156.58	1798133.78
W-24	701+61.6	LT 24.2'	245382.23	1797078.41
TC-12	141+87.6	LT 9.5'	249083.73	1797870.20
TC-13	1715+30.4	LT 1.6'	245019.84	1798318.67
TC-14	2011+11.7	RT 11.7'	250035.79	1798096.47

PLAN
SCALE: 1"=200'

Alabama Department of Transportation

Bridge Sheet of

thompson ENGINEERING
2970 COTTAGE HILL RD.
MOBILE, AL 36606

APPROVED : SAM STERNBERG III, P.E.

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I-10 MOBILE RIVER BRIDGE AND BAYWAY
MOBILE COUNTY, ALABAMA
THOMPSON PROJECT NO.: 17-1101-0145

Preliminary Project No: DPI-0030(005)

PLAN SHEET
Sheet 3 of 3

APPENDIX B

- **Records of Test Borings**
- **CPT Soundings**
- **Legend**

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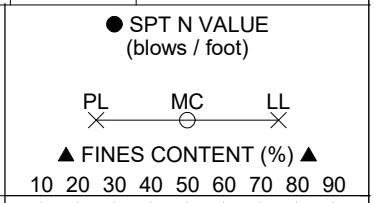
RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-01	**Boring Location:**	437+20.8	**Offset:**	RT 91.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	S.Howard
Elev.:	10.6 ft.	**Northing:**	243172.73	**Easting:**	1795774.17	**Date Started:**	10/10/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/11/2017
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** 7.5 ft.	**Delayed:**	16.3 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0	10.0	Approximately 3 inches of asphalt and 8 inches of base material.	0.9					
		Medium dense, moist, red, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=13.6 %#200=22.7	2.4	SS-1	12	9	6	15
		Loose, wet, light tan and reddish brown, fine grained, CLAYEY SAND (SC, A-6(1)), LL=33 PL=18 PI=15 NMC=14.9 %#200=36.2	3.9	SS-2	3	4	3	7
5.0	5.0	Medium dense, wet, light brown, fine to medium grained, SILTY SAND (SM)	5.4	SS-3	4	7	11	18
		Loose, wet, brown and reddish brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=22.1 %#200=28.8	6.9	SS-4	6	4	4	8
		Loose, reddish brown and bluish gray, fine to medium grained		SS-5	3	4	5	9
10.0	0.0	Firm, wet, bluish gray and red, with trace gravel, SANDY LEAN CLAY (CL, A-7-6(15)), LL=41 PL=17 PI=24 NMC=26.9 %#200=69.9	9.4	SS-6	2	4	3	7
		Medium dense, wet, reddish yellow and brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=25.1 %#200=7.3	13.5	SS-7	3	6	10	16
15.0	-5.0							
20.0	-10.0	Very loose, wet, reddish brown and bluish gray, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=30.6 %#200=37.3	18.5	SS-8	1	2	2	4
25.0	-15.0	Loose, wet, tan and gray, fine grained, with trace clay, POORLY GRADED SAND (SP)	23.5	SS-9	2	4	5	9
30.0		Medium dense, yellowish tan, fine to medium grained	28.5	SS-10	11	14	14	28



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-01	**Boring Location:**	437+20.8	**Offset:**	RT 91.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	S.Howard
Elev.:	10.6 ft.	**Northing:**	243172.73	**Easting:**	1795774.17	**Date Started:**	10/10/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/11/2017
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** 7.5 ft.	**Delayed:**	16.3 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	-20.0									
35.0	-25.0	Medium dense, white, medium to fine grained		33.5	SS-11	5	5	7	12	
40.0	-30.0	Dense, wet, tan, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=21.2 %#200=4.1		38.5	SS-12	12	14	17	31	
45.0	-35.0	Medium dense, white		43.5	SS-13	12	15	14	29	
50.0	-40.0	Dense, wet, tan, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=16.1 %#200=5.4		48.5	SS-14	8	13	18	31	
55.0	-45.0	Medium dense		53.5	SS-15	11	12	14	26	
60.0		Dense, with trace gravel and shells		58.5	SS-16	15	21	17	38	

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-01	**Boring Location:**	437+20.8	**Offset:**	RT 91.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	S.Howard
Elev.:	10.6 ft.	**Northing:**	243172.73	**Easting:**	1795774.17	**Date Started:**	10/10/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/11/2017
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** 7.5 ft.	**Delayed:**	16.3 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	-50.0									
65.0	-55.0	Medium dense, wet, brown and tan, WELL GRADED GRAVEL with SAND (GW)		63.5	SS-17	10	12	17	29	
70.0	-60.0	Medium dense, wet, light tan, medium to fine grained, with trace gravel, POORLY GRADED SAND (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=19.0 %#200=3.9		68.5	SS-18	13	12	13	25	
75.0	-65.0	Dense, wet, pale brown, coarse to fine grained, POORLY GRADED SAND with GRAVEL (SP, A-1-a(0)), LL=NP PL=NP PI=NP NMC=15.4 %#200=2.7		73.5	SS-19	11	14	18	32	
80.0	-70.0	Medium dense		78.5	SS-20	5	7	6	13	
85.0	-75.0	Loose		83.5	SS-21	3	3	3	6	
90.0		Very loose, fine to medium grained		88.5	SS-22	0	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.:	TH-01	**Boring Location:**	437+20.8	**Offset:**	RT 91.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	S.Howard
Elev.:	10.6 ft.	**Northing:**	243172.73	**Easting:**	1795774.17	**Date Started:**	10/10/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/11/2017
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** 7.5 ft.	**Delayed:**	16.3 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	-80.0									
95.0	-85.0	Dense, wet, white and yellow, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=22.9 %#200=4.1		93.5	SS-23	6	16	21	37	
100.0	-90.0	Very dense, pale yellow		98.5	SS-24	12	17	35	52	
105.0	-95.0	Undisturbed sample obtained from 103.0 to 105.0 feet. Approximately 24 inches of recovery. Top of tube: Wet, tan, fine grained, CLAYEY SAND (SC) Bottom of tube: Wet, dark gray, FAT CLAY (CH)		103.0	T-1					
110.0	-100.0	Undisturbed sample obtained from 103.0 to 105.0 feet. Approximately 24 inches of recovery. Wet, dark gray, with trace sand, FAT CLAY (CH, A-7-6(37)), LL=52 PL=17 PI=35 NMC=32.0 %#200=96.5		108.0	T-2					
115.0	-105.0	Very dense, wet, dark gray, medium to fine grained, POORLY GRADED SAND (SP)		113.5	SS-25	17	27	30	57	
120.0		Very dense		118.5	SS-26	15	33	44	77	

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-01	**Boring Location:**	437+20.8	**Offset:**	RT 91.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	S.Howard
Elev.:	10.6 ft.	**Northing:**	243172.73	**Easting:**	1795774.17	**Date Started:**	10/10/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/11/2017
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** 7.5 ft.	**Delayed:**	16.3 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
120.0	-110.0								
125.0	-115.0	Very dense		123.5	SS-27	14	38	39	77
130.0	-120.0	Very dense, wet, dark gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=20.0 %#200=5.0		128.5	SS-28	21	30	30	60
135.0	-125.0	Very dense, gray, with trace gravel		133.5	SS-29	24	30	40	70
140.0	-130.0	Very dense, pale brown		138.5	SS-30	11	19	14	33
145.0	-135.0	Very dense, wet, bluish gray, fine grained, CLAYEY SAND (SC, A-2-6(0)), LL=32 PL=18 PI=14 NMC=25.1 %#200=23.1		143.5	SS-31	23	27	30	57
150.0		Very stiff, wet, bluish gray, with few sand, FAT CLAY (CH, A-7-6(42)), LL=59 PL=15 PI=44 NMC=22.7		148.5	SS-32	10	12	16	28

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.:	TH-01	**Boring Location:**	437+20.8	**Offset:**	RT 91.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	S.Howard
Elev.:	10.6 ft.	**Northing:**	243172.73	**Easting:**	1795774.17	**Date Started:**	10/10/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/11/2017
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** 7.5 ft.	**Delayed:**	16.3 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
		%#200=90.1 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	

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-02	**Boring Location:**	441+41.1	**Offset:**	LT 95.6	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	B.Ellis/B.Ralph
Elev.:	33.8 ft.	**Northing:**	243623.06	**Easting:**	1795868.6	**Date Started:**	10/20/2017
Total Depth:	150.4 ft.	**Soil Depth:**	150.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.5 ft.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 5 inches of asphalt.	0.4					
		Medium dense, moist, reddish brown, fine to medium grained, with few gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=9.2 %#200=18.7	1.9	SS-1	9	12	12	24
	30.0	Medium dense, FILL	3.4	SS-2	9	12	15	27
5.0		Medium dense, FILL	4.9	SS-3	8	8	8	16
		Medium dense, fine grained, FILL	6.4	SS-4	10	12	12	24
		Medium dense, moist, reddish brown, fine to medium grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=16.5 %#200=18.7		SS-5	10	8	8	16
	25.0	Medium dense, FILL	8.9	SS-6	11	11	14	25
10.0								
	20.0		13.9	SS-7	8	14	14	28
15.0		Medium dense, FILL						
	15.0		18.9	SS-8	10	14	16	30
20.0		Dense, moist, moist, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=17.5 %#200=16.8						
	10.0		23.9	SS-9	3	4	2	6
25.0		Loose, wet, grayish brown, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=16.9 %#200=35.7						
	5.0		28.9					
30.0		Undisturbed sample obtained from 28.9 to 30.9 feet.						

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.:	TH-02	**Boring Location:**	441+41.1	**Offset:**	LT 95.6	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	B.Ellis/B.Ralph
Elev.:	33.8 ft.	**Northing:**	243623.06	**Easting:**	1795868.6	**Date Started:**	10/20/2017
Total Depth:	150.4 ft.	**Soil Depth:**	150.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.5 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		Approximately 24 inches of recovery. Wet, light brown, SANDY LEAN CLAY (CL, A-6(8)), LL=37 PL=17 PI=20 NMC=23.7 %#200=55.5			T-1					
	0.0			33.9						
35.0		Stiff, light brown and gray			SS-10	5	7	6	13	
	-5.0			38.9						
40.0		Top of spoon: Stiff, moist, gray and red			SS-11	4	6	6	12	
		Bottom of spoon: Medium dense, wet, light brown, fine grained, POORLY GRADED SAND with SILT (SP-SM)								
	-10.0			43.9						
45.0		Dense, moist, pale brown and white, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=21.5 %#200=7.6			SS-12	13	20	26	46	
	-15.0			48.9						
50.0		Dense			SS-13	14	22	28	50	
	-20.0			53.9						
55.0		Dense			SS-14	13	22	22	44	
	-25.0			58.9						
60.0		Dense, wet			SS-15	9	15	16	31	

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-02	**Boring Location:**	441+41.1	**Offset:**	LT 95.6	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	B.Ellis/B.Ralph
Elev.:	33.8 ft.	**Northing:**	243623.06	**Easting:**	1795868.6	**Date Started:**	10/20/2017
Total Depth:	150.4 ft.	**Soil Depth:**	150.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.5 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										
65.0	-30.0	Medium 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=23.2 %#200=5.0		63.9	SS-16	10	15	14	29	
70.0	-35.0	Dense		68.9	SS-17	7	15	24	39	
75.0	-40.0	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=22.1 %#200=6.4		73.9	SS-18	12	16	17	33	
80.0	-45.0	Dense, tan		78.9	SS-19	13	15	19	34	
85.0	-50.0	Dense, light brown, medium to coarse grained, with trace gravel		83.9	SS-20	10	17	24	41	
90.0	-55.0	Medium dense, with trace gravel and few clay		88.9	SS-21	11	10	9	19	

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-02	**Boring Location:**	441+41.1	**Offset:**	LT 95.6	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	B.Ellis/B.Ralph
Elev.:	33.8 ft.	**Northing:**	243623.06	**Easting:**	1795868.6	**Date Started:**	10/20/2017
Total Depth:	150.4 ft.	**Soil Depth:**	150.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.5 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									
	-60.0								
95.0		Dense, fine grained		93.9	SS-22	13	19	13	32
	-65.0								
100.0		Dense, wet, reddish brown and light brown, medium to fine grained, with few gravel, POORLY GRADED SAND with SILT (SP-SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=17.3 %#200=6.1		98.9	SS-23	19	27	19	46
	-70.0								
105.0		Very dense, light brown, with trace gravel		103.9	SS-24	23	50/4	X	50+
	-75.0								
110.0		Dense, with trace gravel		108.9	SS-25	11	15	16	31
	-80.0								
115.0		Very dense, light brown and pale brown, fine to coarse grained		113.9	SS-26	43	46	48	94
	-85.0								
120.0		Very dense, tan, fine grained		118.9	SS-27	36	50/5	X	50+

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.:	TH-02	**Boring Location:**	441+41.1	**Offset:**	LT 95.6	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	B.Ellis/B.Ralph
Elev.:	33.8 ft.	**Northing:**	243623.06	**Easting:**	1795868.6	**Date Started:**	10/20/2017
Total Depth:	150.4 ft.	**Soil Depth:**	150.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.5 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
120.0										
125.0	-90.0	Dense, wet, tan, medium to fine grained, POORLY GRADED SAND with SILT (SP-SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=18.6 %#200=6.3		123.9	SS-28	15	17	15	32	
130.0	-95.0	Top of spoon: Medium dense, medium to coarse grained, with trace wood		128.9	SS-29	9	7	6	13	
135.0	-100.0	Bottom of spoon: Stiff, moist, dark brown, FAT CLAY (CH)		133.9	T-2					
140.0	-105.0	Undisturbed sample obtained from 133.9 to 135.9 feet. Approximately 17 inches of recovery. Top of tube: Moist, dark brown and gray, FAT CLAY (CH) Bottom of tube: Moist, dark brown and gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM) Very dense, wet, light tan and white, medium to fine grained		138.9	SS-30	14	26	34	60	
145.0	-110.0	Very dense		143.9	SS-31	27	38	39	77	
150.0	-115.0	Dense, light gray and tan, fine to medium grained,		148.9	SS-32	11	19	19	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.:	TH-02	**Boring Location:**	441+41.1	**Offset:**	LT 95.6	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	B.Ellis/B.Ralph
Elev.:	33.8 ft.	**Northing:**	243623.06	**Easting:**	1795868.6	**Date Started:**	10/20/2017
Total Depth:	150.4 ft.	**Soil Depth:**	150.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.5 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
150.0		POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=25.5 %#200=9.0 Boring Terminated at 150.4 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-03	**Boring Location:**	443+80.7	**Offset:**	LT 100.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	28.7 ft.	**Northing:**	243820.14	**Easting:**	1796005.09	**Date Started:**	10/18/2017
Total Depth:	150.9 ft.	**Soil Depth:**	150.9 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.6 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
0.0		Approximately 5 inches of asphalt and 6 inches of base material.		0.9						
	25.0	Medium dense, wet, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=12.2 %#200=18.5			SS-1	11	10	9	19	
				2.4	SS-2	7	10	11	21	
5.0		Medium dense, FILL		3.9	SS-3	6	10	8	18	
		Medium dense, FILL		5.4	SS-4	8	8	12	20	
		Medium dense, wet, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=13.9 %#200=17.5		6.9	SS-5	11	11	11	22	
	20.0									
10.0		Medium dense, FILL		9.4	SS-6	6	14	14	28	
	15.0									
15.0		Medium dense, FILL		14.4	SS-7	10	10	11	21	
	10.0									
20.0		Medium dense, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=17.5 %#200=30.8		19.4	SS-8	7	7	5	12	
▼	5.0									
25.0		Undisturbed sample obtained from 24.4 to 26.4 feet. Approximately 24 inches of recovery. Wet, light brown and reddish brown, SANDY LEAN CLAY (CL, A-6(6)), LL=34 PL=15 PI=19 NMC=21.6 %#200=51.5		24.4	T-1					
	0.0									
30.0		Loose, wet, gray, fine grained, CLAYEY SAND (SC,		29.4						

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-03	**Boring Location:**	443+80.7	**Offset:**	LT 100.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	28.7 ft.	**Northing:**	243820.14	**Easting:**	1796005.09	**Date Started:**	10/18/2017
Total Depth:	150.9 ft.	**Soil Depth:**	150.9 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.6 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 (%)
30.0										10 20 30 40 50 60 70 80 90
		A-4(1)), LL=26 PL=17 PI=9 NMC=26.3 %#200=44.2			SS-10	3	4	4	8	
	-5.0			34.4						
35.0		Loose, fine grained			SS-11	2	4	7	11	
	-10.0			39.4						
40.0		Medium dense, wet, light gray, fine grained, SILTY SAND (SM)			SS-12	3	7	7	14	
	-15.0			44.4						
45.0		Medium dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=28.5 %#200=6.9			SS-13	9	10	10	20	
	-20.0			49.4						
50.0		Dense			SS-14	17	24	32	56	
	-25.0			54.4						
55.0		Medium dense			SS-15	10	6	18	24	
	-30.0			59.4						
60.0		Dense, fine to medium grained								

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-03	**Boring Location:**	443+80.7	**Offset:**	LT 100.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	28.7 ft.	**Northing:**	243820.14	**Easting:**	1796005.09	**Date Started:**	10/18/2017
Total Depth:	150.9 ft.	**Soil Depth:**	150.9 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.6 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)
60.0					SS-16	14	14	19	33
	-35.0								
65.0		Medium dense, wet, gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=21.8 %#200=6.8		64.4	SS-17	10	11	14	25
	-40.0								
70.0		Very dense		69.4	SS-18	16	26	26	52
	-45.0								
75.0		Medium dense		74.4	SS-19	13	13	17	30
	-50.0								
80.0		Dense, wet, gray, medium to fine grained, POORLY GRADED SAND with SILT (SP-SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=14.6 %#200=6.6		79.4	SS-20	19	21	26	47
	-55.0								
85.0		Dense, brown		84.4	SS-21	10	20	28	48
	-60.0								
90.0		Dense, with trace gravel		89.4					

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.:	TH-03	**Boring Location:**	443+80.7	**Offset:**	LT 100.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	28.7 ft.	**Northing:**	243820.14	**Easting:**	1796005.09	**Date Started:**	10/18/2017
Total Depth:	150.9 ft.	**Soil Depth:**	150.9 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.6 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
90.0					SS-22	11	18	18	36	
	-65.0			94.4						
95.0		Medium dense, wet, brown, fine to medium grained, with few gravel, CLAYEY SAND (SC, A-6(5)), LL=39 PL=16 PI=23 NMC=26.2 %#200=40.6			SS-23	0	5	20	25	
	-70.0			99.4						
100.0		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=19.1 %#200=6.2			SS-24	11	13	25	38	
	-75.0			104.4						
105.0		Dense, with trace gravel			SS-25	14	20	21	41	
	-80.0			109.4						
110.0		Dense			SS-26	14	18	18	36	
	-85.0			114.4						
115.0		Dense, with trace gravel			SS-27	8	12	20	32	
	-90.0			119.4						
120.0		Dense, wet, gray, medium to fine grained, POORLY								

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-03	**Boring Location:**	443+80.7	**Offset:**	LT 100.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	28.7 ft.	**Northing:**	243820.14	**Easting:**	1796005.09	**Date Started:**	10/18/2017
Total Depth:	150.9 ft.	**Soil Depth:**	150.9 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.6 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									
	-95.0	GRADED SAND with SILT (SP-SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=19.6 %#200=8.7			SS-28	12	15	32	47
125.0		Medium dense		124.4	SS-29	13	9	9	18
	-100.0								
130.0		Undisturbed sample obtained from 129.4 to 131.4 feet. Approximately 17 inches of recovery. Moist, dark brown, medium to fine grained, CLAYEY SAND (SC, A-2-7(3)), LL=47 PL=22 PI=25 NMC=84.6 %#200=33.1		129.4	T-2				
	-105.0								
135.0		Very dense, wet, gray, fine to medium grained, POORLY GRADED SAND (SP)		134.4	SS-31	21	37	42	79
	-110.0								
140.0		Very dense		139.4	SS-32	26	38	50	88
	-115.0								
145.0		Very dense		144.4	SS-33	23	35	50	85
	-120.0								
150.0		Very dense		149.4					

● 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.:	TH-03	**Boring Location:**	443+80.7	**Offset:**	LT 100.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	28.7 ft.	**Northing:**	243820.14	**Easting:**	1796005.09	**Date Started:**	10/18/2017
Total Depth:	150.9 ft.	**Soil Depth:**	150.9 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.6 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
150.0					SS-34	22	48	50/4	100+	>>
		Boring Terminated at 150.9 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-04	**Boring Location:**	441+98.6	**Offset:**	RT 140.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher/D.Sikdar
Elev.:	12.2 ft.	**Northing:**	243531.32	**Easting:**	1796093.68	**Date Started:**	10/3/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/10/2017
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** 9.0 ft.	**Delayed:**	7.9 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										
	10.0	Approximately 5 inches of topsoil. Medium dense, dry, dark brown, fine grained, with trace organics, SILTY SAND (SM), FILL		0.0	SS-1	5	6	5	11	
		Medium dense, reddish brown, FILL		1.5	SS-2	3	2	10	12	
		Loose, moist		3.0	SS-3	2	3	2	5	
5.0		Firm, moist, reddish brown, LEAN CLAY with SAND (CL)		4.5	SS-4	2	4	6	10	
	5.0	Firm, reddish brown and light gray		6.0	SS-5	3	3	5	8	
▽										
▼ 10.0		Medium dense, moist, tan, fine grained, CLAYEY SAND (SC, A-6(5)), LL=38 PL=16 PI=22 NMC=31.2 %#200=42.5		8.5	SS-6	3	3	7	10	
	0.0									
		Medium dense, moist, tan, fine grained, SILTY SAND (SM)		13.5	SS-7	5	5	7	12	
15.0										
	-5.0									
		Stiff, moist, tan and gray, SANDY SILT (ML, A-4(0)), LL=NP PL=NP PI=NP NMC=27.5 %#200=53.1		18.5	SS-8	4	5	5	10	
20.0										
	-10.0									
		Medium dense, moist, tan and gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=23.8 %#200=15.9		23.5	SS-9	4	8	11	19	
25.0										
	-15.0									
		Medium dense, moist, tan, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP		28.5	SS-10	9	11	14	25	
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.:	TH-04	**Boring Location:**	441+98.6	**Offset:**	RT 140.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher/D.Sikdar
Elev.:	12.2 ft.	**Northing:**	243531.32	**Easting:**	1796093.68	**Date Started:**	10/3/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/10/2017
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** 9.0 ft.	**Delayed:**	7.9 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 (%)
30.0		PL=NP PI=NP NMC=25.4 %#200=4.3								
	-20.0									
		Medium dense		33.5	SS-11	10	11	15	26	
35.0										
	-25.0									
		Medium dense, white, fine grained		38.5	SS-12	8	11	13	24	
40.0										
	-30.0									
		Medium dense, moist, white, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=21.6 %#200=3.4		43.5	SS-13	8	10	13	23	
45.0										
	-35.0									
		Medium dense		48.5	SS-14	9	13	15	28	
50.0										
	-40.0									
		Medium dense		53.5	SS-15	8	10	12	22	
55.0										
	-45.0									
		Medium dense, fine to medium grained		58.5	SS-16	11	11	12	23	
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-04	**Boring Location:**	441+98.6	**Offset:**	RT 140.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher/D.Sikdar
Elev.:	12.2 ft.	**Northing:**	243531.32	**Easting:**	1796093.68	**Date Started:**	10/3/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/10/2017
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** 9.0 ft.	**Delayed:**	7.9 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										
	-50.0									
65.0		Stiff, moist, gray, with trace gravel, SANDY LEAN CLAY (CL)		63.5	SS-17	2	3	7	10	
	-55.0									
70.0		Loose, moist, tan, medium to fine grained, with trace gravel, POORLY GRADED SAND with SILT and GRAVEL (SP-SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=20.1 %#200=7.4		68.5	SS-18	6	5	2	7	
	-60.0									
75.0		Medium dense, reddish brown		73.5	SS-19	11	10	12	22	
	-65.0									
80.0		Dense, fine to medium grained		78.5	SS-20	15	21	23	44	
	-70.0									
85.0		Very dense. Automatic hammer malfunction midwat through standard penetration test.		83.5	SS-21	15	8/4	X	8/4"	>>
	-75.0									
90.0		Dense, wet, gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP		88.5	SS-22	14	18	22	40	

LEGEND

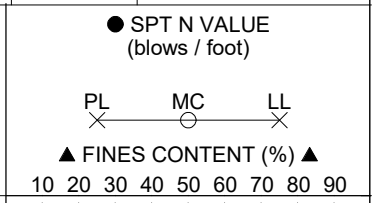
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	AC - Auger Cuttings	HSA - Hollow Stem Augers	MR - Mud Rotary Wash
T - Shelby Tube	GB - Grab Bag	SSA - Solid Stem Augers	RC - Rock Coring
DCP - Dynamic Cone Penetrometer	NQ - Rock Core	HA - Hand Auger	

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-04	**Boring Location:**	441+98.6	**Offset:**	RT 140.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher/D.Sikdar
Elev.:	12.2 ft.	**Northing:**	243531.32	**Easting:**	1796093.68	**Date Started:**	10/3/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/10/2017
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** 9.0 ft.	**Delayed:**	7.9 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		PL=NP PI=NP NMC=24.1 %#200=8.1							
	-80.0								
		Dense, gray and dark gray		93.5	SS-23	15	16	22	38
95.0									
	-85.0								
		Very dense, fine to coarse grained		98.5	SS-24	18	26	28	54
100.0									
	-90.0								
		Very dense, fine to medium grained		103.5	SS-25	22	30	28	58
105.0									
	-95.0								
		Stiff, wet, gray, with few sand, FAT CLAY (CH, A-7-6(32)), LL=51 PL=16 PI=35 NMC=24.4 %#200=88.6		108.5	SS-26	4	6	11	17
110.0									
	-100.0								
		Very dense, wet, gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM)		113.5	SS-27	22	31	49	80
115.0									
	-105.0								
		Very dense		118.5	SS-28	18	31	48	79
120.0									



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-04	**Boring Location:**	441+98.6	**Offset:**	RT 140.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher/D.Sikdar
Elev.:	12.2 ft.	**Northing:**	243531.32	**Easting:**	1796093.68	**Date Started:**	10/3/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/10/2017
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** 9.0 ft.	**Delayed:**	7.9 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									
	-110.0								
125.0		Very dense, wet, gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=21.4 %#200=9.2		123.5	SS-29	17	33	50	83
	-115.0								
130.0		Very dense, with trace gravel		128.5	SS-30	38	50/5	X	50+
	-120.0								
135.0		Very dense, with trace gravel		133.5	SS-31	29	36	30	66
	-125.0								
140.0		Very dense, olive gray, fine grained		138.5	SS-32	22	37	39	76
	-130.0								
145.0		Undisturbed sample obtained from 143.0 to 145.0 feet. Approximately 24 inches of recovery. Moist, olive gray, FAT CLAY with SAND (CH, A-7-6(29)), LL=51 PL=17 PI=34 NMC=18.5 %#200=82.8		143.0	T-1				
	-135.0								
150.0		Very stiff, wet, gray, with few sand, FAT CLAY (CH, A-7-6(47)), LL=61 PL=13 PI=48 NMC=21.0		148.5	SS-33	6	9	14	23

● 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.:	TH-04	**Boring Location:**	441+98.6	**Offset:**	RT 140.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher/D.Sikdar
Elev.:	12.2 ft.	**Northing:**	243531.32	**Easting:**	1796093.68	**Date Started:**	10/3/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/10/2017
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** 9.0 ft.	**Delayed:**	7.9 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
		%#200=93.1 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.:	TH-05	**Boring Location:**	443+30.5	**Offset:**	RT 137.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	Chris L\Charles T
Elev.:	12.8 ft.	**Northing:**	243640.06	**Easting:**	1796168.35	**Date Started:**	10/1/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/3/2017
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** 4.4 ft.	**Delayed:**	7.7 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0									
	10.0	Approximately 4 inches of topsoil. Medium dense, dry, brown, fine grained, SILTY SAND (SM)		0.0	SS-1	5	6	10	16
		Medium dense, dry, brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=13.3 %#200=25.6		1.5	SS-2	8	6	8	14
5.0 ▼		Loose, moist		3.0	SS-3	3	3	2	5
		Loose		4.5	SS-4	3	3	7	10
	5.0	Loose, moist, brown, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=23.6 %#200=39.2		6.0	SS-5	1	2	4	6
▽									
10.0		Medium dense		8.5	SS-6	3	4	7	11
	0.0								
15.0		Loose, moist, brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=29.7 %#200=31.7		13.5	SS-7	5	4	3	7
	-5.0								
20.0		Stiff, moist, brown, SANDY SILT (ML, A-4(0)), LL=NP PL=NP PI=NP NMC=28.9 %#200=67.9		18.5	SS-8	2	6	7	13
	-10.0								
25.0		Medium dense, moist, brown, fine grained, POORLY GRADED SAND (SP)		23.5	SS-9	8	11	14	25
	-15.0								
30.0		Medium dense, fine to medium grained		28.5	SS-10	7	11	14	25

● 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.:	TH-05	**Boring Location:**	443+30.5	**Offset:**	RT 137.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	Chris L\Charles T
Elev.:	12.8 ft.	**Northing:**	243640.06	**Easting:**	1796168.35	**Date Started:**	10/1/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/3/2017
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** 4.4 ft.	**Delayed:**	7.7 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
30.0									
	-20.0	Medium dense		33.5	SS-11	7	10	15	25
35.0									
	-25.0	Medium dense, fine grained		38.5	SS-12	7	9	14	23
40.0									
	-30.0	Dense, light brown, fine to medium grained		43.5	SS-13	12	15	16	31
45.0									
	-35.0	Medium dense, moist, light brown, fine to medium grained, with trace gravel, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=22.6 %#200=4.6		48.5	SS-14	11	14	14	28
50.0									
	-40.0	Dense		53.5	SS-15	10	15	16	31
55.0									
	-45.0	Dense		58.5	SS-16	15	21	27	48
60.0									

● 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

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-05	**Boring Location:**	443+30.5	**Offset:**	RT 137.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	Chris L\Charles T
Elev.:	12.8 ft.	**Northing:**	243640.06	**Easting:**	1796168.35	**Date Started:**	10/1/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/3/2017
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** 4.4 ft.	**Delayed:**	7.7 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										
	-50.0	Dense		63.5	SS-17	12	15	16	31	
65.0										
	-55.0	Dense, moist, light 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=18.2 %#200=6.7		68.5	SS-18	9	15	20	35	
70.0										
	-60.0	Medium dense, with gravel		73.5	SS-19	10	14	8	22	
75.0										
	-65.0	Dense, fine to medium grained		78.5	SS-20	14	21	26	47	
80.0										
	-70.0	Dense, moist, light brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=22.5 %#200=6.3		83.5	SS-21	21	23	24	47	
85.0										
	-75.0	Very dense, pale brown		88.5	SS-22	22	41	50/5	100+	>>
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.:	TH-05	**Boring Location:**	443+30.5	**Offset:**	RT 137.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	Chris L\Charles T
Elev.:	12.8 ft.	**Northing:**	243640.06	**Easting:**	1796168.35	**Date Started:**	10/1/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/3/2017
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** 4.4 ft.	**Delayed:**	7.7 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
90.0									
	-80.0	Very dense, gray		93.5	SS-23	23	33	35	68
95.0									
	-85.0	Dense, gray and pale brown		98.5	SS-24	14	20	22	42
100.0									
	-90.0	Dense, moist, gray, medium to fine grained, POORLY GRADED SAND (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=20.3 %#200=4.3		103.5	SS-25	13	19	22	41
105.0									
	-95.0	Dense, pale brown		108.5	SS-26	15	17	23	40
110.0									
	-100.0	Very dense, dark gray		113.5	SS-27	23	34	46	80
115.0									
	-105.0	Very dense, moist, gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)),		118.5	SS-28	25	43	50/5	100+
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.:	TH-05	**Boring Location:**	443+30.5	**Offset:**	RT 137.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	Chris L\Charles T
Elev.:	12.8 ft.	**Northing:**	243640.06	**Easting:**	1796168.35	**Date Started:**	10/1/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/3/2017
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** 4.4 ft.	**Delayed:**	7.7 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
120.0		LL=NP PL=NP PI=NP NMC=22.7 %#200=6.5							
	-110.0								
125.0		Very dense		123.5	SS-29	27	31	29	60
	-115.0								
130.0		Very dense, moist, light gray, fine to medium grained, with few gravel, POORLY GRADED SAND with SILT (SP-SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=7.1 %#200=6.9		128.5	SS-30	28	48	42	90
	-120.0								
135.0		Very dense, with trace gravel		133.5	SS-31	29	50/5	X	50+
	-125.0								
140.0		Very dense, moist, green, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=25.2 %#200=26.0		138.5	SS-32	24	30	39	69
	-130.0								
145.0		Stiff, moist, greenish gray, LEAN CLAY with SAND (CL, A-6(6)), LL=28 PL=17 PI=11 NMC=21.1 %#200=71.3		143.5	SS-33	2	7	10	17
		Undisturbed sample obtained from 145.0 to 147.0 feet. Approximately 24 inches of recovery. Moist, greenish gray, with few sand, FAT CLAY (CH, A-7-6(43)), LL=56 PL=13 PI=43 NMC=18.3 %#200=93.9 Very stiff		145.0	T-1				
	-135.0			148.5	SS-34	9	12	17	29
150.0									

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.:	TH-05	**Boring Location:**	443+30.5	**Offset:**	RT 137.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	Chris L\Charles T
Elev.:	12.8 ft.	**Northing:**	243640.06	**Easting:**	1796168.35	**Date Started:**	10/1/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/3/2017
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** 4.4 ft.	**Delayed:**	7.7 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
		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	

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-06	**Boring Location:**	3018+10.5	**Offset:**	LT 20.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	13.5 ft.	**Northing:**	244158.8	**Easting:**	1796551.97	**Date Started:**	10/12/2017
Total Depth:	30.0 ft.	**Soil Depth:**	30.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/12/2017
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** N.O.	**Delayed:**	3.4 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 24 inches of topsoil.	0.0	SS-1	3	4	6	10
	10.0	Loose, moist, black and reddish brown, fine grained, with trace organics and trace gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=18.2 %#200=17.0	1.5	SS-2	7	9	9	18
5.0		Medium dense, moist, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=15.1 %#200=15.8	3.0	SS-3	8	12	10	22
		Medium dense, gray and reddish brown	4.5	SS-4	7	6	16	22
		Medium dense, wet, reddish brown	6.0	SS-5	3	3	4	7
	5.0	Loose, wet, reddish brown, fine grained, CLAYEY SAND (SC, A-6(2)), LL=27 PL=13 PI=14 NMC=18.5 %#200=39.5						
10.0		Very loose	8.5	SS-6	2	3	2	5
	0.0	Undisturbed sample obtained from 13.5 to 15.5 feet. Approximately 24 inches of recovery. Wet, reddish brown, fine grained, CLAYEY SAND (SC, A-6(2)), LL=30 PL=13 PI=17 NMC=24.4 %#200=39.3	13.5	T-1				
15.0								
	-5.0	Very loose, wet, reddish brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=27.2 %#200=19.9	18.5	SS-8	2	2	2	4
20.0								
	-10.0	Soft, wet, reddish brown, fine grained, POORLY GRADED SAND with SILT (SP-SM)	23.5	SS-9	2	4	2	6
25.0								
	-15.0	Medium dense, wet, reddish brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)),	28.5	SS-10	5	7	8	15
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.:	TH-06	**Boring Location:**	3018+10.5	**Offset:**	LT 20.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	13.5 ft.	**Northing:**	244158.8	**Easting:**	1796551.97	**Date Started:**	10/12/2017
Total Depth:	30.0 ft.	**Soil Depth:**	30.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/12/2017
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** N.O.	**Delayed:**	3.4 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
		LL=NP PL=NP PI=NP NMC=25.8 %#200=8.2 Boring Terminated at 30.0 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-07	**Boring Location:**	451+65.7	**Offset:**	LT 100.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	29.6 ft.	**Northing:**	244456.09	**Easting:**	1796465.29	**Date Started:**	10/19/2017
Total Depth:	151.0 ft.	**Soil Depth:**	151.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** N.O.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 12 inches of asphalt.						
		Medium dense, moist, brown, fine to medium grained, with few gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=11.2 %#200=17.2	1.0	SS-1	7	12	11	23
			2.5	SS-2	3	9	9	18
5.0	25.0	Medium dense, moist, brown, fine to medium grained, with trace gravel, POORLY GRADED SAND with SILT (SP-SM), FILL	4.0	SS-3	8	12	22	34
		Dense, moist, brown, fine to medium grained, with trace gravel, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), FILL, LL=NP PL=NP PI=NP NMC=16.5 %#200=10.5	5.5	SS-4	6	13	14	27
		Medium dense, FILL	7.0	SS-5	7	14	17	31
		Dense, FILL						
10.0	20.0	Medium dense, moist, brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), FILL, LL=NP PL=NP PI=NP NMC=15.2 %#200=8.5	9.5	SS-6	8	13	12	25
15.0	15.0	Dense, moist, brown, fine to medium grained, POORLY GRADED SAND (SP), FILL	14.5	SS-7	8	16	18	34
20.0	10.0	Dense, fine to coarse grained	19.5	SS-8	8	10	22	32
25.0	5.0	Loose, moist, brown, medium to fine grained, with trace gravel, POORLY GRADED SAND (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=15.6 %#200=1.7	24.5	SS-9	2	3	4	7
30.0	0.0		29.5					

SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

LEGEND

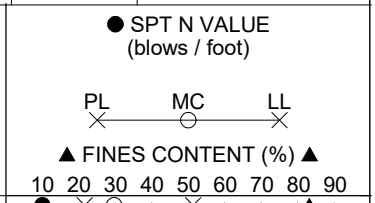
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	AC - Auger Cuttings	HSA - Hollow Stem Augers	MR - Mud Rotary Wash
T - Shelby Tube	GB - Grab Bag	SSA - Solid Stem Augers	RC - Rock Coring
DCP - Dynamic Cone Penetrometer	NQ - Rock Core	HA - Hand Auger	

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-07	**Boring Location:**	451+65.7	**Offset:**	LT 100.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	29.6 ft.	**Northing:**	244456.09	**Easting:**	1796465.29	**Date Started:**	10/19/2017
Total Depth:	151.0 ft.	**Soil Depth:**	151.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** N.O.	**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)
30.0									
		Stiff, moist, brown, FAT CLAY with SAND (CH, A-7-6(25)), LL=51 PL=22 PI=29 NMC=29.7 %#200=83.2			SS-10	3	5	5	10
35.0	-5.0	Undisturbed sample obtained from 34.0 to 36.0 feet. Approximately 24 inches of recovery. Moist, tan and reddish brown, fine grained, CLAYEY SAND (SC, A-2-6(0)), LL=28 PL=16 PI=12 NMC=28.7 %#200=32.8		34.0	T-1				
40.0	-10.0	Firm, moist, brown, FAT CLAY with SAND (CH, A-7-6(36)), LL=66 PL=22 PI=44 NMC=27.7 %#200=79.2		39.5	SS-11	1	2	4	6
45.0	-15.0	Dense, moist, brown, fine grained, POORLY GRADED SAND with SILT (SP-SM)		44.5	SS-12	11	17	20	37
50.0	-20.0	Medium dense		49.5	SS-13	5	5	6	11
55.0	-25.0	Loose, fine to medium grained		54.5	SS-14	6	5	5	10
60.0	-30.0			59.5					



LEGEND

SAMPLER TYPE

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

DRILLING METHOD

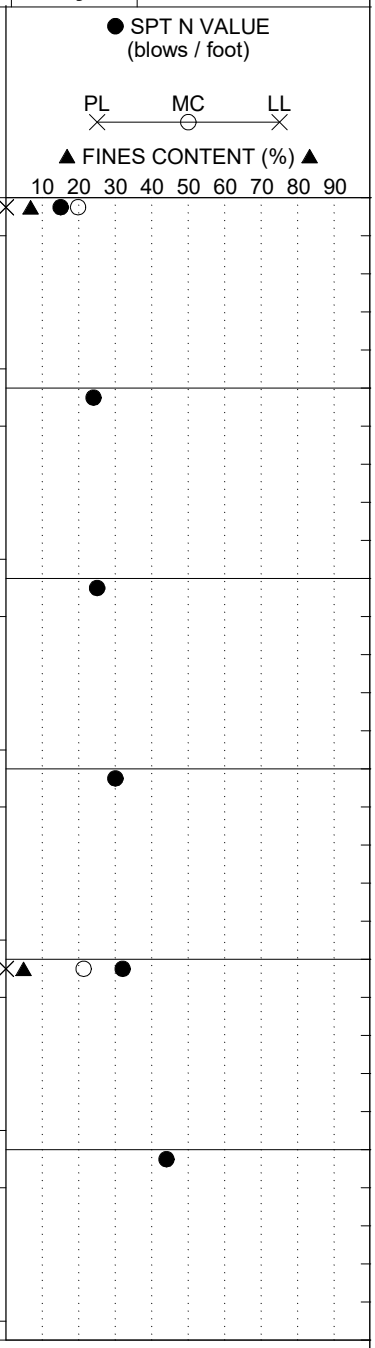
HSA - Hollow Stem Augers
SSA - Solid Stem Augers
HA - Hand Auger
MR - Mud Rotary Wash
RC - Rock Coring

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-07	**Boring Location:**	451+65.7	**Offset:**	LT 100.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	29.6 ft.	**Northing:**	244456.09	**Easting:**	1796465.29	**Date Started:**	10/19/2017
Total Depth:	151.0 ft.	**Soil Depth:**	151.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** N.O.	**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)
60.0									
		Medium dense, moist, brown, medium to fine grained, POORLY GRADED SAND with SILT (SP-SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=19.8 %#200=6.8			SS-15	5	8	7	15
65.0	-35.0	Medium dense		64.5	SS-16	9	12	12	24
70.0	-40.0	Medium dense		69.5	SS-17	7	13	12	25
75.0	-45.0	Medium dense		74.5	SS-18	11	15	15	30
80.0	-50.0	Dense, moist, brown, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=21.3 %#200=4.8		79.5	SS-19	12	14	18	32
85.0	-55.0	Dense		84.5	SS-20	17	22	22	44
90.0	-60.0			89.5					



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-07	**Boring Location:**	451+65.7	**Offset:**	LT 100.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	29.6 ft.	**Northing:**	244456.09	**Easting:**	1796465.29	**Date Started:**	10/19/2017
Total Depth:	151.0 ft.	**Soil Depth:**	151.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** N.O.	**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		Dense, with trace gravel			SS-21	9	18	20	38
95.0	-65.0	Dense, moist, brown, medium to fine grained, POORLY GRADED SAND with SILT (SP-SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=17.5 %#200=7.4		94.5	SS-22	11	21	24	45
100.0	-70.0	Medium dense		99.5	SS-23	6	7	8	15
105.0	-75.0	Undisturbed sample obtained from 104.0 to 106.0 feet. Approximately 24 inches of recovery. Moist, dark gray, with trace sand, FAT CLAY (CH, A-7-6(25)), LL=50 PL=27 PI=23 NMC=31.7 %#200=95.4		104.0	T-2				
110.0	-80.0	Firm, gray		109.5	SS-24	6	4	4	8
115.0	-85.0	Undisturbed sample obtained from 114.0 to 116.0 feet. Approximately 24 inches of recovery. Moist, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=19.0 %#200=19.4		114.0	T-3				
120.0	-90.0			119.5					

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.:	TH-07	**Boring Location:**	451+65.7	**Offset:**	LT 100.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	29.6 ft.	**Northing:**	244456.09	**Easting:**	1796465.29	**Date Started:**	10/19/2017
Total Depth:	151.0 ft.	**Soil Depth:**	151.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** N.O.	**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									
		Very dense, moist, gray and brown, fine to medium grained, CLAYEY SAND (SC)			SS-25	14	50	X	50+
125.0	-95.0	Firm, moist, black and brown, with some organics, FAT CLAY (CH)		124.5	SS-26	3	3	4	7
130.0	-100.0	Undisturbed sample obtained from 129.0 to 131.0 feet. Approximately 24 inches of recovery. Wet, bluish gray and brown, with sand		129.0	T-4				
135.0	-105.0	Very dense, moist, light tan, fine to medium grained, POORLY GRADED SAND (SP)		134.5	SS-27	11	20	32	52
140.0	-110.0	Very dense, medium to fine grained		139.5	SS-28	20	38	37	75
145.0	-115.0	Very dense, tan, fine to medium		144.5	SS-29	20	30	25	55
150.0	-120.0			149.5					

● 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.:	TH-07	**Boring Location:**	451+65.7	**Offset:**	LT 100.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	29.6 ft.	**Northing:**	244456.09	**Easting:**	1796465.29	**Date Started:**	10/19/2017
Total Depth:	151.0 ft.	**Soil Depth:**	151.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** N.O.	**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
150.0										
		Very dense, pale brown, fine grained			SS-30	10	23	38	61	
		Boring Terminated at 151.0 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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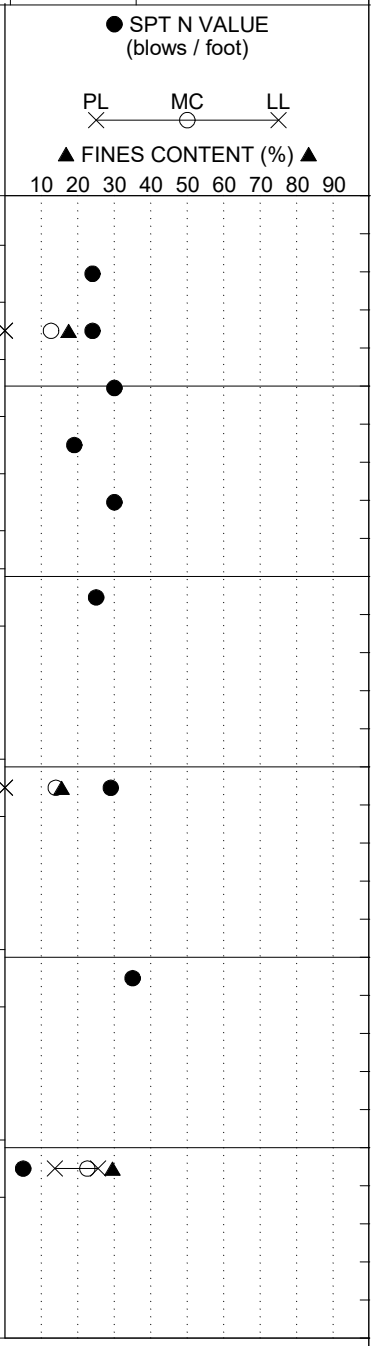
RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-08	**Boring Location:**	454+44.1	**Offset:**	LT 105.8	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	30.4 ft.	**Northing:**	244684.87	**Easting:**	1796623.99	**Date Started:**	10/18/2017
Total Depth:	151.3 ft.	**Soil Depth:**	151.3 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/19/2017
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** 33.5 ft.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0	30.0	Approximately 12.5 inches of asphalt and 2.5 inches of base material.						
		Medium dense, moist, red, fine to medium grained, SILTY SAND (SM), FILL	1.3	SS-1	9	12	12	24
		Medium dense, moist, red, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=12.6 %#200=17.5	2.8	SS-2	8	12	12	24
5.0	25.0	Dense, FILL	4.3	SS-3	8	15	15	30
		Medium dense, FILL	5.8	SS-4	9	10	9	19
		Dense, FILL	7.3	SS-5	6	16	14	30
10.0	20.0	Medium dense, FILL	9.8	SS-6	13	12	13	25
15.0	15.0	Medium dense, moist, red, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=13.9 %#200=15.5	14.8	SS-7	11	14	15	29
20.0	10.0	Dense, FILL	19.8	SS-8	12	16	19	35
25.0	5.0	Loose, moist, light gray, fine grained, CLAYEY SAND (SC, A-2-6(0)), LL=26 PL=14 PI=12 NMC=22.6 %#200=29.5	24.8	SS-9	5	3	2	5
30.0		Undisturbed sample obtained from 29.3 to 31.3 feet.	29.3					



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-08	**Boring Location:**	454+44.1	**Offset:**	LT 105.8	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	30.4 ft.	**Northing:**	244684.87	**Easting:**	1796623.99	**Date Started:**	10/18/2017
Total Depth:	151.3 ft.	**Soil Depth:**	151.3 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/19/2017
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** 33.5 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)
30.0	0.0	Approximately 24 inches of recovery. Moist, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=22.3 %#200=22.4			T-1				
35.0	-5.0	Very soft, moist, dark gray, LEAN CLAY (CL)		34.8	SS-10	0	0	1	1
40.0	-10.0	Undisturbed sample obtained from 39.3 to 41.3 feet. Approximately 24 inches of recovery.		39.3	T-2				
45.0	-15.0	Very soft, moist, dark gray, FAT CLAY (CH)		44.8	SS-11	0	0	0	0
50.0	-20.0	Undisturbed sample obtained from 49.3 to 51.3 feet. Approximately 24 inches of recovery. Moist, light gray and light brown, FAT CLAY (CH, A-7-6(61)), LL=78 PL=25 PI=53 NMC=44.5 %#200=99.5		49.3	T-3				
55.0	-25.0	Dense, moist, tan, fine grained, POORLY GRADED SAND with SILT (SP-SM)		54.8	SS-12	6	13	17	30
60.0									

● 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.:	TH-08	**Boring Location:**	454+44.1	**Offset:**	LT 105.8	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	30.4 ft.	**Northing:**	244684.87	**Easting:**	1796623.99	**Date Started:**	10/18/2017
Total Depth:	151.3 ft.	**Soil Depth:**	151.3 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/19/2017
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** 33.5 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	-30.0	Dense, brown, fine to medium grained		59.8	SS-13	12	17	21	38	●
65.0	-35.0	Medium dense, moist, tan, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=20.6 %#200=5.3		64.8	SS-14	12	13	11	24	○● ▲
70.0	-40.0	Dense		69.8	SS-15	13	20	17	37	●
75.0	-45.0	Dense		74.8	SS-16	12	14	23	37	●
80.0	-50.0	Very dense		79.8	SS-17	16	32	32	64	●
85.0	-55.0	Very dense		84.8	SS-18	8	17	21	38	●
90.0										

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

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-08	**Boring Location:**	454+44.1	**Offset:**	LT 105.8	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	30.4 ft.	**Northing:**	244684.87	**Easting:**	1796623.99	**Date Started:**	10/18/2017
Total Depth:	151.3 ft.	**Soil Depth:**	151.3 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/19/2017
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** 33.5 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	-60.0	Medium dense, moist, tan, medium to fine and coarse grained, with few gravel, POORLY GRADED SAND (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=12.5 %#200=2.8		89.8	SS-19	8	9	9	18
95.0	-65.0	Medium dense, with trace gravel		94.8	SS-20	5	8	11	19
100.0	-70.0	Dense, with trace clay		99.8	SS-21	6	21	26	47
105.0	-75.0	Medium dense		104.8	SS-22	7	5	7	12
110.0	-80.0	Dense, moist, tan, medium to fine grained, POORLY GRADED SAND (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=20.3 %#200=3.2		109.8	SS-23	11	17	23	40
115.0	-85.0	Top of spoon: Loose Bottom of spoon: Firm, moist, gray, SANDY LEAN CLAY (CL)		114.8	SS-24	9	6	5	11
120.0		Undisturbed sample obtained from 119.3 to 121.3		119.3					

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.:	TH-08	**Boring Location:**	454+44.1	**Offset:**	LT 105.8	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	30.4 ft.	**Northing:**	244684.87	**Easting:**	1796623.99	**Date Started:**	10/18/2017
Total Depth:	151.3 ft.	**Soil Depth:**	151.3 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/19/2017
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** 33.5 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	-90.0	feet. Approximately 20 inches of recovery. Moist, gray, SANDY LEAN CLAY (CL, A-6(5)), LL=28 PL=15 PI=13 NMC=23.1 %#200=57.6			T-4				
125.0	-95.0	Dense, moist, light gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=24.2 %#200=8.5		124.8	SS-25	16	21	20	41
130.0	-100.0	Top of spoon: Medium dense Bottom of spoon: Stiff, moist, gray, SANDY LEAN CLAY (CL)		129.8	SS-26	9	8	8	16
135.0	-105.0	Very dense, moist, light gray, fine grained, SILTY SAND (SM)		134.8	SS-27	13	36	49	85
140.0	-110.0	Very dense, moist, light gray, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=18.7 %#200=13.1		139.8	SS-28	17	49	50/3	100+
145.0	-115.0	Very dense, pale brown		144.8	SS-29	39	50/4	X	50+
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

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-08	**Boring Location:**	454+44.1	**Offset:**	LT 105.8	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	30.4 ft.	**Northing:**	244684.87	**Easting:**	1796623.99	**Date Started:**	10/18/2017
Total Depth:	151.3 ft.	**Soil Depth:**	151.3 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/19/2017
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** 33.5 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
150.0										
	-120.0	Very dense, pale brown and gray		149.8	SS-30	24	32	50/5	50+	>>
		Boring terminated at 151.3 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.:	TH-09	**Boring Location:**	3021+38.7	**Offset:**	LT 109.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	9.2 ft.	**Northing:**	244434.75	**Easting:**	1796750.35	**Date Started:**	10/1/2017
Total Depth:	40.0 ft.	**Soil Depth:**	40.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/1/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	92%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**Delayed:**	12.7 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0									
	5.0	Approximately 4 inches of topsoil. Medium dense, moist, black and dark gray, fine to medium grained, with trace organics and trace gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=9.4 %#200=21.4		0.0	SS-1	5	16	13	29
				1.5	SS-2	8	13	17	30
5.0		Medium dense, wet, black and reddish brown, fine grained, with few gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=15.6 %#200=25.8		3.0	SS-3	5	3	3	6
		Loose, wet, black, fine grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=20.8 %#200=24.7		4.5	SS-4	1	1	2	3
		Very loose, gray, FILL		6.0	SS-5	0	1	1	2
	0.0	Very loose, wet, gray, fine grained, with trace gravel, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=31.3 %#200=45.3		8.5	SS-6	0	0	0	0
10.0		Very soft, wet, gray, SANDY FAT CLAY (CH)							
	-5.0	Undisturbed sample obtained from 13.5 to 15.5 feet. Approximately 24 inches of recovery. Wet, gray and black, with trace organics and trace gravel, SANDY FAT CLAY (CH, A-7-5(24)), LL=70 PL=33 PI=37 NMC=50.7 %#200=64.6		13.5	T-1				
15.0									
	-10.0	Very soft		18.5	SS-7	0	0	2	2
20.0									
	-15.0	Undisturbed sample obtained from 23.5 to 25.5 feet. Approximately 24 inches of recovery. Wet, gray, SANDY FAT CLAY with GRAVEL (CH, A-7-6(12)), LL=53 PL=24 PI=29 NMC=61.5 %#200=52.5		23.5	T-2				
25.0									
	-20.0	Medium dense, wet, reddish brown, fine grained, SILTY SAND (SM)		28.5	SS-8	5	7	10	17
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

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-09	**Boring Location:**	3021+38.7	**Offset:**	LT 109.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	9.2 ft.	**Northing:**	244434.75	**Easting:**	1796750.35	**Date Started:**	10/1/2017
Total Depth:	40.0 ft.	**Soil Depth:**	40.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/1/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**		AASHTO T206 & T207			
Drill Machine:	CME45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	92%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**Delayed:**	12.7 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										
35.0	-25.0	Dense, wet, brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=21.8 %#200=14.6		33.5	SS-9	10	17	19	36	
40.0	-30.0	Medium dense, reddish brown		38.5	SS-10	10	12	17	29	
		Boring Terminated at 40.0								

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-10	**Boring Location:**	5984+79.6	**Offset:**	RT 33.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	13.0 ft.	**Northing:**	245991.07	**Easting:**	1797616.6	**Date Started:**	9/7/2017
Total Depth:	180.0 ft.	**Soil Depth:**	180.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/8/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME 45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	86%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 1.8 ft.	**Delayed:**	20.0 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	13.0	Approximately 8 inches of topsoil.		0.0	SS-1	2	4	6	10	
		Loose, dry, light blue and brown, fine grained, with trace gravel and wood, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=17.8 %#200=18.3		1.5	SS-2	4	8	7	15	
	10.0	Medium dense, reddish brown, fine grained, POORLY GRADED SAND with SILT (SP-SM)		3.0	SS-3	5	8	6	14	
5.0		Medium dense, dry, pale brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=21.1 %#200=10.9		4.5	SS-4	5	6	6	12	
		Medium dense, moist, gray		6.0	SS-5	3	4	3	7	
	5.0	Loose								
		Very loose		8.5	SS-6	1	2	1	3	
10.0										
	0.0									
		Very soft, moist, dark gray, with trace gravel, SANDY FAT CLAY (CH, A-7-6(14)), LL=55 PL=23 PI=32 NMC=51.7 %#200=54.0		13.5	SS-7	0	0	1	1	
15.0										
	-5.0			18.0	T-1					
20.0		Undisturbed sample obtained from 18.0 to 20.0 feet. Approximately 24 inches of recovery. Soft, moist, dark gray and reddish brown, LEAN CLAY with SAND (CL, A-6(15)), LL=39 PL=16 PI=23 NMC=48.7 %#200=73.8								
	-10.0									
		Medium dense, moist, white, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=26.4 %#200=5.6		23.5	SS-8	9	14	15	29	
25.0										
	-15.0									
		Medium dense, moist, white and pale brown, fine grained, POORLY GRADED SAND with SILT		28.5	SS-9	8	10	13	23	
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.:	TH-10	**Boring Location:**	5984+79.6	**Offset:**	RT 33.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	13.0 ft.	**Northing:**	245991.07	**Easting:**	1797616.6	**Date Started:**	9/7/2017
Total Depth:	180.0 ft.	**Soil Depth:**	180.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/8/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME 45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	86%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 1.8 ft.	**Delayed:**	20.0 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		(SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=23.7 %#200=6.9								
	-20.0									
		Dense, reddish brown		33.5	SS-10	8	17	18	35	
35.0										
	-25.0									
		Dense, reddish brown and pale brown		38.5	SS-11	9	15	18	33	
40.0										
	-30.0									
		Dense, moist, red and pale brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=22.4 %#200=5.6		43.5	SS-12	9	16	15	31	
45.0										
	-35.0									
		Medium dense		48.5	SS-13	7	13	16	29	
50.0										
	-40.0									
		Medium dense, fine grained		53.5	SS-14	12	12	15	27	
55.0										
	-45.0									
		Medium dense, moist, red and pale brown, fine to medium grained, POORLY GRADED SAND with SILT		58.5	SS-15	6	6	5	11	
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-10	**Boring Location:**	5984+79.6	**Offset:**	RT 33.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	13.0 ft.	**Northing:**	245991.07	**Easting:**	1797616.6	**Date Started:**	9/7/2017
Total Depth:	180.0 ft.	**Soil Depth:**	180.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/8/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME 45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	86%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 1.8 ft.	**Delayed:**	20.0 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										
	-50.0	(SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=22.8 %#200=5.2								
		Dense, fine grained		63.5	SS-16	7	15	19	34	
65.0										
	-55.0									
		Medium dense		68.5	SS-17	4	8	8	16	
70.0										
	-60.0									
		Medium dense, moist, red and pale brown, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=19.9 %#200=3.7		73.5	SS-18	10	10	14	24	
75.0										
	-65.0									
		Dense		78.5	SS-19	12	14	17	31	
80.0										
	-70.0									
		Medium dense, pale brown and reddish brown, with trace gravel		83.5	SS-20	6	7	10	17	
85.0										
	-75.0									
		Medium dense, moist, pale brown and reddish brown, fine to medium grained, POORLY GRADED SAND		88.5	SS-21	6	6	7	13	
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.:	TH-10	**Boring Location:**	5984+79.6	**Offset:**	RT 33.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	13.0 ft.	**Northing:**	245991.07	**Easting:**	1797616.6	**Date Started:**	9/7/2017
Total Depth:	180.0 ft.	**Soil Depth:**	180.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/8/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME 45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	86%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 1.8 ft.	**Delayed:**	20.0 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										
	-80.0	(SP, A-3(0)), LL=NP PL=NP PI=NP NMC=24.0 %#200=4.7								
95.0		Dense		93.5	SS-22	8	16	21	37	●
	-85.0									
100.0		Dense		98.5	SS-23	16	22	24	46	●
	-90.0									
105.0		Firm, moist, dark gray, FAT CLAY (CH)		103.5	SS-24	2	3	4	7	●
	-95.0									
110.0		Undisturbed sample obtained from 108.0 to 110.0 feet. Approximately 24 inches of recovery. Stiff, moist, greenish gray, with few sand, FAT CLAY (CH, A-7-6(66)), LL=85 PL=23 PI=62 NMC=39.5 %#200=93.7		108.0	T-2					× ○ × ▲
	-100.0									
115.0		Stiff, moist, greenish gray, LEAN CLAY with SAND (CL)		113.5	SS-25	2	5	8	13	●
	-105.0									
120.0		Undisturbed sample obtained from 118.0 to 120.0 feet. Approximately 24 inches of recovery. Stiff, moist, greenish gray, LEAN CLAY with SAND		118.0	T-3					× ○ ▲

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-10	**Boring Location:**	5984+79.6	**Offset:**	RT 33.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	13.0 ft.	**Northing:**	245991.07	**Easting:**	1797616.6	**Date Started:**	9/7/2017
Total Depth:	180.0 ft.	**Soil Depth:**	180.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/8/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME 45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	86%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 1.8 ft.	**Delayed:**	20.0 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		(CL, A-6(12)), LL=33 PL=17 PI=16 NMC=30.4 %#200=83.4								
	-110.0									
125.0		Dense, moist, pale brown, fine to medium grained, with trace gravel, POORLY GRADED SAND (SP)		123.5	SS-26	9	16	15	31	
	-115.0									
130.0		Dense		128.5	SS-27	9	19	18	37	
	-120.0									
135.0		Very dense, moist, pale brown, fine to medium grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=16.9 %#200=13.5		133.5	SS-28	16	37	39	76	
	-125.0									
140.0		Dense		138.5	SS-29	13	20	22	42	
	-130.0									
145.0		Very dense, with trace gravel		143.5	SS-30	16	28	31	59	
	-135.0									
150.0		Very stiff, moist, bluish gray, SANDY LEAN CLAY (CL, A-6(8)), LL=32 PL=14 PI=18 NMC=22.8		148.5	SS-31	8	11	12	23	

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-10	**Boring Location:**	5984+79.6	**Offset:**	RT 33.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	13.0 ft.	**Northing:**	245991.07	**Easting:**	1797616.6	**Date Started:**	9/7/2017
Total Depth:	180.0 ft.	**Soil Depth:**	180.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/8/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME 45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	86%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 1.8 ft.	**Delayed:**	20.0 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		%#200=62.6								
	-140.0									
155.0										
	-145.0			158.5						
160.0		Hard, moist, bluish gray, with few sand, FAT CLAY (CH, A-7-6(42)), LL=57 PL=14 PI=43 NMC=18.1 %#200=92.3			SS-32	9	17	22	39	
	-150.0									
165.0										
	-155.0			168.5						
170.0		Dense, moist, grayish brown, fine to medium grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=15.1 %#200=19.5			SS-33	6	18	27	45	
	-160.0									
175.0										
	-165.0			178.5						
180.0		Very dense, wet, brownish gray, fine grained, POORLY GRADED SAND with SILT (SP-SM)			SS-34	30	50	X	50+	>>

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-10	**Boring Location:**	5984+79.6	**Offset:**	RT 33.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	13.0 ft.	**Northing:**	245991.07	**Easting:**	1797616.6	**Date Started:**	9/7/2017
Total Depth:	180.0 ft.	**Soil Depth:**	180.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/8/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME 45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	86%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 1.8 ft.	**Delayed:**	20.0 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
		Boring Terminated at 180.0 feet. *Groundwater depth TOB most likely influenced by drilling method.								

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-11	**Boring Location:**	141+91.2	**Offset:**	LT 7.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C. Tisher
Elev.:	11.8 ft.	**Northing:**	249086.98	**Easting:**	1797872.95	**Date Started:**	9/22/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/24/2017
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** 19.1 ft.	**Delayed:**	8.4 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										
	10.0	Approximately 3 inches of topsoil.		0.0						
		Medium dense, dark brown, fine grained, SILTY SAND (SM)		1.5	SS-1	5	6	9	15	●
		Medium dense, reddish brown and pale brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=12.8 %#200=18.1		3.0	SS-2	9	12	17	29	×○▲●
5.0		Medium dense, moist, pale brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=24.6 %#200=10.5		4.5	SS-3	5	6	5	11	×●○
	5.0	Loose, wet, gray, fine grained		6.0	SS-4	4	4	3	7	●
		Very loose, wet, gray, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=29.3 %#200=36.4			SS-5	1	0	0	0	●○▲
▽ 10.0		Very loose		8.5	SS-6	0	0	0	0	●
	0.0									
		Very soft, moist, gray, with trace wood, SANDY LEAN CLAY (CL, A-7-6(14)), LL=46 PL=24 PI=22 NMC=76.4 %#200=69.2		13.5	SS-7	0	0	2	2	●×—×▲○
15.0	-5.0									
▼ 20.0		Undisturbed sample obtained from 18.0 to 20.0 feet. Approximately 12 inches of recovery. Moist, reddish brown, SANDY LEAN CLAY (CL, A-6(6)), LL=33 PL=14 PI=19 NMC=75.4 %#200=50.0		18.0	T-1					×—×▲○
	-10.0									
		Dense, moist, white, fine to medium grained, POORLY GRADED SAND (SP)		23.5	SS-8	12	14	17	31	●
25.0	-15.0									
		Medium dense, moist, white, fine grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP		28.5	SS-9	9	13	16	29	×▲○●
30.0										

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

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-11	**Boring Location:**	141+91.2	**Offset:**	LT 7.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C. Tisher
Elev.:	11.8 ft.	**Northing:**	249086.98	**Easting:**	1797872.95	**Date Started:**	9/22/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/24/2017
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** 19.1 ft.	**Delayed:**	8.4 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		NMC=25.0 %#200=4.6								
	-20.0			33.5						
		Medium dense			SS-10	9	12	14	26	●
35.0										
	-25.0									
				38.5						
		Medium dense, moist, pale brown, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=21.5 %#200=3.5			SS-11	8	12	18	30	▲ ○ ●
40.0										
	-30.0									
				43.5						
		Dense, pale brown and white			SS-12	11	14	19	33	●
45.0										
	-35.0									
				48.5						
		Medium dense, white			SS-13	9	13	17	30	●
50.0										
	-40.0									
				53.5						
		Drilled through sample depth. Sample not obtained.			SS-14					
55.0										
	-45.0									
				58.5						
		Dense, tan			SS-15	12	20	25	45	●
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	

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RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-11	**Boring Location:**	141+91.2	**Offset:**	LT 7.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C. Tisher
Elev.:	11.8 ft.	**Northing:**	249086.98	**Easting:**	1797872.95	**Date Started:**	9/22/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/24/2017
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** 19.1 ft.	**Delayed:**	8.4 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										
	-50.0									
		Medium dense, moist, tan, 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=20.2 %#200=7.3		63.5	SS-16	6	6	8	14	
65.0	-55.0									
		Dense, fine to medium grained		68.5	SS-17	13	18	21	39	
70.0	-60.0									
		Medium dense, reddish brown		73.5	SS-18	7	11	12	23	
75.0	-65.0									
		Medium dense		78.5	SS-19	12	13	15	28	
80.0	-70.0									
		Stiff, moist, gray, FAT CLAY with SAND (CH, A-7-6(34)), LL=60 PL=16 PI=44 NMC=34.9 %#200=77.1		83.5	SS-20	2	6	8	14	
85.0	-75.0									
		Undisturbed sample attempted from 88.0 to 90.0 feet. Refusal encountered at 88.0 feet. No Recovery.		88.0	SS-21	20	21	28	49	
90.0		Dense, moist, reddish brown, fine to medium grained,								

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-11	**Boring Location:**	141+91.2	**Offset:**	LT 7.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C. Tisher
Elev.:	11.8 ft.	**Northing:**	249086.98	**Easting:**	1797872.95	**Date Started:**	9/22/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/24/2017
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** 19.1 ft.	**Delayed:**	8.4 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										
	-80.0	POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=23.6 %#200=9.1								
		Undisturbed sample obtained from 93.0 to 95.0 feet. Approximately 24 inches of recovery. Stiff, moist, light gray, with few sand, FAT CLAY (CH, A-7-6(36)), LL=59 PL=24 PI=35 NMC=41.9 %#200=92.5		93.0	T-3					
95.0	-85.0									
		Firm, moist, light gray, with trace sand, FAT CLAY (CH, A-7-5(86)), LL=110 PL=35 PI=75 NMC=65.9 %#200=95.9		98.5	SS-22	0	0	5	5	
100.0	-90.0									
		Medium dense, moist, dark brown, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=22.7 %#200=35.8		103.5	SS-23	0	5	14	19	
105.0	-95.0									
		Dense, moist, brown, fine grained, POORLY GRADED SAND with SILT (SP-SM)		108.5	SS-24	12	14	18	32	
110.0	-100.0									
		Dense, moist, brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=25.0 %#200=10.1		113.5	SS-25	16	18	25	43	
115.0	-105.0									
		Dense, moist, reddish brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP		118.5	SS-26	7	15	22	37	
120.0										

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-11	**Boring Location:**	141+91.2	**Offset:**	LT 7.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C. Tisher
Elev.:	11.8 ft.	**Northing:**	249086.98	**Easting:**	1797872.95	**Date Started:**	9/22/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/24/2017
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** 19.1 ft.	**Delayed:**	8.4 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										
	-110.0	NMC=29.6 %#200=24.5								
125.0		Dense, moist, gray, fine grained, with trace clay, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=26.2 %#200=18.8		123.5	SS-27	9	14	22	36	▲ ○ ●
	-115.0									
130.0		Very dense, moist, pale brown, fine grained, POORLY GRADED SAND with SILT (SP-SM)		128.5	SS-28	27	31	38	69	●
	-120.0									
135.0		Very dense, moist, gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=21.6 %#200=5.1		133.5	SS-29	44	50/3	X	50+	▲ ○ >>●
	-125.0									
140.0		Very dense, pale brown		138.5	SS-30	28	50	X	50+	>>●
	-130.0									
145.0		Very dense, moist, pale brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=20.9 %#200=6.4		143.5	SS-31	20	24	47	71	▲ ○ ●
	-135.0									
150.0		Dense		148.5	SS-32	10	7	32	39	●

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-11	**Boring Location:**	141+91.2	**Offset:**	LT 7.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C. Tisher
Elev.:	11.8 ft.	**Northing:**	249086.98	**Easting:**	1797872.95	**Date Started:**	9/22/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/24/2017
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** 19.1 ft.	**Delayed:**	8.4 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	

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-12	**Boring Location:**	1206+11.1	**Offset:**	LT 2.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	B.Ellis/C.Tisher
Elev.:	23.8 ft.	**Northing:**	249538.16	**Easting:**	1798051.71	**Date Started:**	9/21/2017
Total Depth:	100.0 ft.	**Soil Depth:**	100.0 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** 44.3 ft.	**Delayed:**	21.1 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		Approximately 2 inches of topsoil.		0.0					
	20.0	Medium dense, dry, red, fine to medium grained, SILTY SAND (SM), FILL		1.5	SS-1	8	6	7	13
		Medium dense, dry, red, fine grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=12.8 %#200=20.9		3.0	SS-2	8	11	16	27
5.0		Medium dense, FILL		4.5	SS-3	8	8	8	16
		Medium dense, FILL		6.0	SS-4	3	7	10	17
	15.0	Medium dense, dry, red, fine grained, with trace gravel, SILTY, CLAYEY SAND (SC-SM, A-2-4(0)), FILL, LL=18 PL=13 PI=5 NMC=16.1 %#200=25.1		8.5	SS-5	5	5	6	11
10.0		Dense, gray and black, fine grained, with trace gravel			SS-6	14	18	27	45
	10.0	Dense, gray		13.5	SS-7	15	17	21	38
15.0									
	5.0	Very loose, moist, light gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=28.8 %#200=26.9		18.5	SS-8	0	0	1	1
20.0									
	0.0	Very loose, gray		23.5	SS-9	0	0	0	0
25.0									
	-5.0	Undisturbed sample obtained from 28.0 to 30.0 feet. Approximately 12 inches of recovery. Moist, dark gray, FAT CLAY (CH, A-7-5(89)), LL=111		28.0	T-1				
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.:	TH-12	**Boring Location:**	1206+11.1	**Offset:**	LT 2.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	B.Ellis/C.Tisher
Elev.:	23.8 ft.	**Northing:**	249538.16	**Easting:**	1798051.71	**Date Started:**	9/21/2017
Total Depth:	100.0 ft.	**Soil Depth:**	100.0 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** 44.3 ft.	**Delayed:**	21.1 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
30.0		PL=37 PI=74 NMC=73.6 %#200=99.0						
35.0	-10.0	Medium dense, moist, light gray and tan, fine grained, POORLY GRADED SAND (SP)	33.5	SS-10	4	13	17	30
40.0	-15.0	Medium dense, moist, tan and reddish brown, fine grained, with trace clay, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=27.9 %#200=19.2	38.5	SS-11	5	5	7	12
45.0	-20.0	Medium dense, moist, reddish brown and tan, fine grained, POORLY GRADED SAND with SILT (SP-SM)	43.5	SS-12	11	13	13	26
50.0	-25.0	Dense, white	48.5	SS-13	10	18	22	40
55.0	-30.0	Medium dense, moist, reddish brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=24.0 %#200=5.9	53.5	SS-14	14	9	21	30
60.0	-35.0	Dense, white	58.5	SS-15	12	15	16	31

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.:	TH-12	**Boring Location:**	1206+11.1	**Offset:**	LT 2.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	B.Ellis/C.Tisher
Elev.:	23.8 ft.	**Northing:**	249538.16	**Easting:**	1798051.71	**Date Started:**	9/21/2017
Total Depth:	100.0 ft.	**Soil Depth:**	100.0 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** 44.3 ft.	**Delayed:**	21.1 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 (%) ▲
60.0										10 20 30 40 50 60 70 80 90
	-40.0	Dense		63.5	SS-16	16	21	28	49	
65.0										
	-45.0	Very dense, pale brown		68.5	SS-17	17	25	33	58	
70.0										
	-50.0	Dense, moist, pale brown, fine to medium grained, with little gravel, WELL-GRADED SAND with SILT (SW-SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=23.8 %#200=8.8		73.5	SS-18	11	14	20	34	
75.0										
	-55.0	Dense, tan		78.5	SS-19	12	18	21	39	
80.0										
	-60.0	Dense, moist, tan, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=23.3 %#200=4.3		83.5	SS-20	13	17	20	37	
85.0										
	-65.0	Dense, reddish brown		88.5	SS-21	13	16	20	36	
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.:	TH-12	**Boring Location:**	1206+11.1	**Offset:**	LT 2.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	B.Ellis/C.Tisher
Elev.:	23.8 ft.	**Northing:**	249538.16	**Easting:**	1798051.71	**Date Started:**	9/21/2017
Total Depth:	100.0 ft.	**Soil Depth:**	100.0 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** 44.3 ft.	**Delayed:**	21.1 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										
95.0	-70.0	Dense, moist, tan, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=25.0 %#200=5.0		93.5	SS-22	14	16	18	34	
100.0	-75.0	Very dense		98.5	SS-23	15	25	27	52	
		Boring Terminated 100.0 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	

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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
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	

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
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	

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	TH-24	**Boring Location:**	9014+62.1	**Offset:**	LT 4.9	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	10.0 ft.	**Northing:**	244439.56	**Easting:**	1796292.26	**Date Started:**	9/30/2017
Total Depth:	20.0 ft.	**Soil Depth:**	20.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/30/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**		AASHTO T206			
Drill Machine:	D50	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**Delayed:**	6.2 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 6 inches of topsoil. Medium dense, dry, brown, fine grained, SILTY SAND (SM)		0.0	SS-1	6	8	14	22
		Dense, dry, reddish brown, fine to medium grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=11.5 %#200=19.9		1.5	SS-2	12	16	21	37
				3.0	SS-3	3	4	5	9
5.0	5.0	Loose, moist, reddish brown, fine grained, CLAYEY SAND (SC)		4.5	SS-4	3	4	6	10
▽		Loose, moist, brown, fine grained, CLAYEY SAND with GRAVEL (SC, A-2-6(0)), LL=27 PL=16 PI=11 NMC=22.1 %#200=19.8		6.0	SS-5	3	2	3	5
		Loose							
				8.5	SS-6	3	2	3	5
10.0	0.0	Loose, moist, brown, fine grained, POORLY GRADED SAND with SILT (SP-SM)							
				13.5	SS-7	2	2	2	4
15.0	-5.0	Very loose, moist, brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=23.4 %#200=23.9							
				18.5	SS-8	7	6	5	11
20.0	-10.0	Medium dense							
		Boring Terminated at 20.0 feet.							

● 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.:	W-01	**Boring Location:**	4233+05.5	**Offset:**	LT 83.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	B.Ralph
Elev.:	14.6 ft.	**Northing:**	242232.93	**Easting:**	1794722.93	**Date Started:**	10/21/2017
Total Depth:	31.0 ft.	**Soil Depth:**	31 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/21/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME 550X	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	90%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 12 inches of asphalt.						
		Medium dense, moist, red, dark brown and tan, fine to medium grained, with few gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=14.8 %#200=20.8	1.0	SS-1	4	8	14	22
			2.5	SS-2	2	17	27	44
5.0	10.0	Dense, moist, reddish brown, fine grained, with few gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=21.8 %#200=21.8	4.0	SS-3	14	21	24	45
		Dense, dry, light gray	5.5	SS-4	10	12	14	26
		Medium dense, moist, light gray and white, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=16.7 %#200=19.8	7.0	SS-5	6	7	5	12
10.0	5.0	Medium dense, moist, light gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=20.0 %#200=17.0	9.5	SS-6	1	2	2	4
		Very loose, wet						
15.0	0.0	Very loose, wet, dark gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=25.9 %#200=29.0	14.5	SS-7	0	0	0	0
20.0	-5.0	Very soft, wet, tan and gray, SANDY LEAN CLAY (CL, A-6(3)), LL=27 PL=15 PI=12 NMC=28.8 %#200=50.6	19.5	SS-8	0	0	0	0
25.0	-10.0	Very soft, No Recovery	24.5	SS-9	0	0	0	0
30.0	-15.0		29.5					

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.:	W-01	**Boring Location:**	4233+05.5	**Offset:**	LT 83.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	B.Ralph
Elev.:	14.6 ft.	**Northing:**	242232.93	**Easting:**	1794722.93	**Date Started:**	10/21/2017
Total Depth:	31.0 ft.	**Soil Depth:**	31 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/21/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME 550X	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	90%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**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
		Loose, wet, gray, fine grained, CLAYEY SAND (SC, A-2-6(0)), LL=26 PL=14 PI=12 NMC=27.5 %#200=29.8			SS-10	2	3	4	7	● ▲
30.0		Boring Terminated at 31.0 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.:	W-02	**Boring Location:**	426+21.8	**Offset:**	LT 88.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	14.8 ft.	**Northing:**	242433.87	**Easting:**	1794955.06	**Date Started:**	10/2/2017
Total Depth:	30.0 ft.	**Soil Depth:**	30.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/2/2017
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** N.O.	**Delayed:**	10.2 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				0.0	SS-1	2	8	5	13
		Approximately 12 inches of topsoil. Medium dense, moist, reddish brown, fine to medium grained, with trace organics and little gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=7.7 %#200=24.0		1.5	SS-2	5	7	10	17
		Medium dense, fine grained, FILL		3.0	SS-3	6	11	13	24
5.0	10.0	Medium dense, moist, gray, fine grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=13.7 %#200=19.4		4.5	SS-4	11	13	16	29
		Medium dense, FILL		6.0	SS-5	7	10	9	19
		Medium dense, moist, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=19.2 %#200=17.7		8.5	SS-6	1	1	1	2
10.0 ▽	5.0	Very loose, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=27.8 %#200=21.5							
				13.5	SS-7	0	0	0	0
15.0	0.0	Very soft, wet, gray, SANDY LEAN CLAY (CL)							
				18.0	T-1				
20.0	-5.0	Undisturbed sample obtained from 18.0 to 20.0 feet. Approximately 24 inches of recovery. Wet, gray, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=31.2 %#200=36.0							
				23.5	SS-9	2	4	4	8
25.0	-10.0	Loose, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM)							
				28.5	SS-10	2	4	5	9
30.0	-15.0	Loose, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP							

● 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.:	W-02	**Boring Location:**	426+21.8	**Offset:**	LT 88.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	14.8 ft.	**Northing:**	242433.87	**Easting:**	1794955.06	**Date Started:**	10/2/2017
Total Depth:	30.0 ft.	**Soil Depth:**	30.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/2/2017
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** N.O.	**Delayed:**	10.2 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
		PI=NP NMC=28.8 %#200=7.3 Boring Terminated at 30.0 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.:	W-03	**Boring Location:**	429+22.8	**Offset:**	LT 88.9	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	18.9 ft.	**Northing:**	242644.36	**Easting:**	1795156.58	**Date Started:**	10/1/2017
Total Depth:	30.0 ft.	**Soil Depth:**	30.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/1/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	92%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**Delayed:**	15.3 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 4 inches of topsoil.	0.0	SS-1	3	6	5	11
		Loose, wet, dark gray and reddish brown, fine grained, with trace organics, SILTY SAND (SM), FILL	1.5	SS-2	4	7	9	16
		Medium dense, wet, gray, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=17.0 %#200=27.4	3.0	SS-3	5	7	10	17
	15.0	Medium dense, FILL	4.5	SS-4	7	9	15	24
5.0		Medium dense, reddish brown and gray, FILL	6.0	SS-5	8	12	9	21
		Medium dense, wet, reddish brown and gray, fine to medium grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=16.6 %#200=17.8	8.5	SS-6	8	10	8	18
	10.0	Medium dense, wet, gray, fine grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=14.5 %#200=23.8						
10.0								
	5.0	Very soft, wet, gray, SANDY LEAN CLAY (CL, A-6(4)), LL=36 PL=22 PI=14 NMC=32.9 %#200=50.2	13.5	SS-7	0	0	0	0
15.0								
	0.0	Very loose, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM)	18.5	SS-8	1	3	1	4
20.0								
	-5.0	Medium dense	23.5	SS-9	6	7	10	17
25.0								
	-10.0	Medium dense, wet, gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)),	28.5	SS-10	14	22	26	48
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.:	W-03	**Boring Location:**	429+22.8	**Offset:**	LT 88.9	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	18.9 ft.	**Northing:**	242644.36	**Easting:**	1795156.58	**Date Started:**	10/1/2017
Total Depth:	30.0 ft.	**Soil Depth:**	30.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/1/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	92%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**Delayed:**	15.3 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
		LL=NP PL=NP PI=NP NMC=18.4 %#200=10.0 Boring Terminated at 30.0 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.:	W-04	**Boring Location:**	432+27.9	**Offset:**	LT 81.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	29.3 ft.	**Northing:**	242874.72	**Easting:**	1795345.27	**Date Started:**	10/20/2017
Total Depth:	36.3 ft.	**Soil Depth:**	36.3 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.5 ft.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 8 inches of asphalt and 7 inches of base material.						
		Medium dense, wet, gray, fine to medium grained, with trace organics and little gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=12.2 %#200=16.5	1.3	SS-1	4	7	8	15
			2.8	SS-2	5	9	14	23
5.0	25.0	Medium dense, FILL	4.3	SS-3	5	8	10	18
		Medium dense, FILL	5.8	SS-4	4	5	14	19
		Medium dense, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=13.3 %#200=28.7	7.3	SS-5	14	17	19	36
10.0	20.0	Dense, FILL						
		Medium dense, FILL	9.8	SS-6	9	10	15	25
15.0	15.0	Dense, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=15.6 %#200=23.4	14.8	SS-7	14	14	17	31
20.0	10.0	Medium dense, wet, gray, fine grained, with few gravel, SILTY, CLAYEY SAND (SC-SM, A-2-4(0)), LL=20 PL=13 PI=7 NMC=12.1 %#200=18.5	19.8	SS-8	16	14	15	29
25.0	5.0	Very loose, wet, gray, fine grained, CLAYEY SAND (SC, A-2-6(0)), LL=26 PL=14 PI=12 NMC=20.3 %#200=33.5	24.8	SS-9	2	3	2	5
		Undisturbed sample attempted from 26.8 to 28.8 feet. No Recovery.	26.8	T-1				
30.0	0.0							

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.:	W-04	**Boring Location:**	432+27.9	**Offset:**	LT 81.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	29.3 ft.	**Northing:**	242874.72	**Easting:**	1795345.27	**Date Started:**	10/20/2017
Total Depth:	36.3 ft.	**Soil Depth:**	36.3 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
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** 23.5 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		Loose		29.8	SS-10	1	2	6	8	●
		Undisturbed sample attempted from 31.8 to 33.8 feet. Refusal encountered at approximately 32.0 feet. No Recovery.		31.8	T-2					
35.0	-5.0	Medium dense, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=23.3 %#200=22.4		34.8	SS-11	6	12	14	26	●
		Boring Terminated 36.3 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.:	W-05	**Boring Location:**	435+07.2	**Offset:**	LT 83.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	38.2 ft.	**Northing:**	243102.18	**Easting:**	1795507.25	**Date Started:**	10/20/2017
Total Depth:	30.8 ft.	**Soil Depth:**	30.8 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	D50	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 23.3 ft.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 9 inches of asphalt and 6 inches of base material.	0.8					
	35.0	Medium dense, moist, reddish brown, fine to medium grained, with trace gravel, SILTY SAND (SM), FILL		SS-1	X	7	7	14
		Medium dense, wet, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=10.6 %#200=16.9	2.3	SS-2	7	11	15	26
5.0		Medium dense, FILL	3.8	SS-3	8	9	12	21
		Medium dense, FILL	5.3	SS-4	10	12	10	22
	30.0	Loose, moist, gray, fine to medium grained, with few gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=14.5 %#200=18.0	6.8	SS-5	5	6	5	11
10.0		Medium dense, wet, reddish brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM), FILL	9.3	SS-6	4	7	15	22
	25.0							
15.0		Dense, wet, reddish brown, fine to medium grained, with trace gravel, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), FILL, LL=NP PL=NP PI=NP NMC=13.2 %#200=8.6	14.3	SS-7	11	26	20	46
	20.0							
20.0		Dense, brown, FILL	19.3	SS-8	14	16	21	37
▼	15.0							
25.0		Medium dense, wet, brown, fine grained, SILTY SAND (SM)	24.3	SS-9	15	17	12	29
	10.0							
30.0		Very dense, wet, gray, fine grained, SILTY SAND	29.3					

● 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.:	W-05	**Boring Location:**	435+07.2	**Offset:**	LT 83.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	38.2 ft.	**Northing:**	243102.18	**Easting:**	1795507.25	**Date Started:**	10/20/2017
Total Depth:	30.8 ft.	**Soil Depth:**	30.8 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/20/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	D50	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 23.3 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)
30.0		(SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=15.2 %#200=20.7			SS-10	9	16	50/3	50+
		Boring Terminated at 30.8 feet.							

● 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.:	W-06	**Boring Location:**	2006+00.6	**Offset:**	LT 3.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	30.4 ft.	**Northing:**	245144.2	**Easting:**	1796915.43	**Date Started:**	10/24/2017
Total Depth:	35.5 ft.	**Soil Depth:**	35.5 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/24/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME 550X	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	90%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 3.9 ft.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0	30.0	Approximately 5.5 inches of asphalt.	0.5					
		Medium dense, wet, reddish brown, fine to coarse grained, with trace gravel, SILTY SAND (SM), FILL	2.0	SS-1	6	8	5	13
		Medium dense, wet, reddish brown, fine to medium grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=11.1 %#200=19.5	3.5	SS-2	7	11	16	27
5.0	25.0	Medium dense, moist, FILL	5.0	SS-3	5	9	9	18
		Dense, FILL	6.5	SS-4	12	15	23	38
		Medium dense, moist, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=12.6 %#200=18.2		SS-5	6	8	14	22
10.0	20.0	Medium dense, FILL	9.0	SS-6	6	12	15	27
15.0	15.0	Very dense, moist, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=11.4 %#200=22.4	14.0	SS-7	23	26	31	57
20.0	10.0	Dense, brown, with trace organics	19.0	SS-8	10	17	29	46
25.0	5.0	Medium dense, wet, brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=22.4 %#200=20.2	24.0	SS-9	5	7	5	12
30.0		Very loose, wet, brown, fine grained, SILTY SAND	29.0	SS-10	0	0	0	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.:	W-06	**Boring Location:**	2006+00.6	**Offset:**	LT 3.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	30.4 ft.	**Northing:**	245144.2	**Easting:**	1796915.43	**Date Started:**	10/24/2017
Total Depth:	35.5 ft.	**Soil Depth:**	35.5 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/24/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME 550X	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	90%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 3.9 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	0.0	(SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=24.0 %#200=32.3								
				34.0						
35.0	-5.0	Medium dense, wet, brown, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=24.2 %#200=41.3			SS-11	5	11	12	23	
		Boring Terminated at 35.5 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.:	W-07	**Boring Location:**	2010+90.0	**Offset:**	LT 6.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	31.2 ft.	**Northing:**	245382.23	**Easting:**	1797078.41	**Date Started:**	10/24/2017
Total Depth:	60.0 ft.	**Soil Depth:**	60.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/24/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME 550X	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	90%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 3.0 ft.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0	31.2	Approximately 4.5 inches of asphalt.	0.4					
	30.0	Medium dense, moist, reddish brown, fine to medium grained, with little gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=9.7 %#200=17.6	1.9	SS-1	5	7	8	15
		Medium dense, FILL	3.4	SS-2	4	4	9	13
5.0		Medium dense, FILL	4.9	SS-3	4	8	10	18
	25.0	Dense, moist, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=11.0 %#200=15.1	6.4	SS-4	13	14	17	31
		Medium dense, FILL		SS-5	5	11	15	26
10.0		Dense, moist, reddish brown, fine to medium grained, with few gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=14.8 %#200=17.5	8.9	SS-6	7	13	18	31
	20.0							
15.0		Dense, FILL	13.9	SS-7	10	15	20	35
	15.0							
20.0		Very dense, moist, reddish browm, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=12.6 %#200=18.8	18.9	SS-8	11	21	33	54
	10.0							
25.0		Loose, wet, brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=20.4 %#200=17.9	23.9	SS-9	3	3	4	7
	5.0							
30.0		Loose, wet, brown, fine grained, SILTY SAND (SM,	28.9	SS-10	2	4	3	7

Graphic Log

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.:	W-07	**Boring Location:**	2010+90.0	**Offset:**	LT 6.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	31.2 ft.	**Northing:**	245382.23	**Easting:**	1797078.41	**Date Started:**	10/24/2017
Total Depth:	60.0 ft.	**Soil Depth:**	60.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/24/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME 550X	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	90%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 3.0 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										
	0.0	A-2-4(0)), LL=NP PL=NP PI=NP NMC=22.3 %#200=33.4								
35.0		Medium dense, moist		33.9	SS-11	3	6	14	20	●
	-5.0									
40.0		Dense, wet, light gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=20.1 %#200=9.8		38.9	SS-12	9	17	21	38	▲ ○ ●
	-10.0									
45.0		Dense, fine to medium grained		43.9	SS-13	11	13	20	33	●
	-15.0									
50.0		Very dense, gray and brown		48.9	SS-14	17	26	30	56	●
	-20.0									
55.0		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=20.9 %#200=8.2		53.9	SS-15	10	17	23	40	▲ ○ ●
	-25.0									
60.0		Dense, light gray		58.9	SS-16	6	12	19	31	●

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.:	W-07	**Boring Location:**	2010+90.0	**Offset:**	LT 6.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	31.2 ft.	**Northing:**	245382.23	**Easting:**	1797078.41	**Date Started:**	10/24/2017
Total Depth:	60.0 ft.	**Soil Depth:**	60.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/24/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME 550X	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	90%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 3.0 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 60.4 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.:	W-08	**Boring Location:**	5980+84.2	**Offset:**	LT 65.4	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	13.3 ft.	**Northing:**	245678.97	**Easting:**	1797174.73	**Date Started:**	9/27/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/29/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME45C	**Drill Method:**	HSA/MR	**Hammer Type:**	Automatic	**Energy Ratio:**	92%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**Delayed:**	7.0 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 3 inches of topsoil.	0.0					
		Loose, dry, dark gray, fine grained, with trace organics, SILTY SAND (SM), FILL	1.5	SS-1	3	5	5	10
	10.0	Medium dense, moist, dark gray, fine grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=17.4 %#200=20.6	3.0	SS-2	7	13	17	30
		Note: Switched to Mud Rotary at 3.0 ft.	4.5	SS-3	8	16	18	34
5.0		Dense, dark gray and gray, FILL						
		Medium dense, wet, reddish brown, fine grained, few gravel and trace organics, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=18.8 %#200=15.4	6.0	SS-4	4	8	8	16
▽				SS-5	4	5	6	11
	5.0	Loose	8.5					
10.0		Loose		SS-6	2	2	2	4
	0.0		13.5	SS-7	1	0	0	0
15.0		Very loose, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=30.1 %#200=29.6						
	-5.0		18.5	SS-8	1	0	1	1
20.0		Very soft, wet, gray and reddish brown, SANDY LEAN CLAY (CL, A-6(9)), LL=38 PL=20 PI=18 NMC=29.5 %#200=61.4						
	-10.0		23.5	SS-9	8	11	13	24
25.0		Medium dense, wet, gray and brown, fine grained, POORLY GRADED SAND with SILT (SP-SM)						
	-15.0		28.5	SS-10	8	23	27	50
30.0		Dense, brown						

● 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.:	W-08	**Boring Location:**	5980+84.2	**Offset:**	LT 65.4	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	13.3 ft.	**Northing:**	245678.97	**Easting:**	1797174.73	**Date Started:**	9/27/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/29/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME45C	**Drill Method:**	HSA/MR	**Hammer Type:**	Automatic	**Energy Ratio:**	92%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**Delayed:**	7.0 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	-20.0	Very dense, wet, pale brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=22.2 %#200=5.5		33.5	SS-11	14	20	31	51	
40.0	-25.0	Dense		38.5	SS-12	9	15	22	37	
45.0	-30.0	Very soft, wet, gray, with trace sand, FAT CLAY (CH, A-7-6(69)), LL=90 PL=29 PI=61 NMC=54.0 %#200=95.5		43.5	SS-13	0	0	2	2	
50.0	-35.0	Undisturbed sample attempted from 48.5 to 50.5 feet. No Recovery		48.5	T-1					
		Medium dense, wet, pale brown, fine grained, POORLY GRADED SAND with SILT (SP-SM)		50.5	SS-14	6	13	14	27	
55.0	-40.0	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=20.3 %#200=6.0		53.5	SS-15	8	14	20	34	
60.0	-45.0	Dense, reddish brown		58.5	SS-16	8	15	20	35	

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.:	W-08	**Boring Location:**	5980+84.2	**Offset:**	LT 65.4	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	13.3 ft.	**Northing:**	245678.97	**Easting:**	1797174.73	**Date Started:**	9/27/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/29/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME45C	**Drill Method:**	HSA/MR	**Hammer Type:**	Automatic	**Energy Ratio:**	92%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**Delayed:**	7.0 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
60.0								
	-50.0	Dense	63.5	SS-17	12	17	17	34
65.0								
	-55.0	Medium dense, wet, reddish brown, medium to fine grained, WELL GRADED SAND with SILT and GRAVEL (SW-SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=18.4 %#200=9.6	68.5	SS-18	8	9	14	23
70.0								
	-60.0	Medium dense, reddish brown and gray	73.5	SS-19	7	12	13	25
75.0								
	-65.0	Dense, fine to coarse grained	78.5	SS-20	14	17	20	37
80.0								
	-70.0	Dense, wet, reddish brown and gray, medium to coarse and fine grained, with few gravel, POORLY GRADED SAND (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=14.5 %#200=5.0	83.5	SS-21	10	17	20	37
85.0								
	-75.0	Very dense, fine to coarse grained	88.5	SS-22	17	27	26	53
90.0								

● 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.:	W-08	**Boring Location:**	5980+84.2	**Offset:**	LT 65.4	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	13.3 ft.	**Northing:**	245678.97	**Easting:**	1797174.73	**Date Started:**	9/27/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/29/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME45C	**Drill Method:**	HSA/MR	**Hammer Type:**	Automatic	**Energy Ratio:**	92%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**Delayed:**	7.0 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
90.0									
	-80.0	Dense, fine to medium grained		93.5	SS-23	18	28	32	60
95.0									
	-85.0	Loose, light gray, with trace gravel		98.5	SS-24	5	3	5	8
100.0									
	-90.0	Firm, wet, gray, with little sand, FAT CLAY (CH, A-7-5(61)), LL=95 PL=35 PI=60 NMC=38.4 %#200=86.9		103.5	SS-25	4	5	5	10
105.0									
	-95.0	Medium dense, wet, gray, fine grained, with trace clay, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=23.3 %#200=25.8		108.5	SS-26	4	5	9	14
110.0									
	-100.0	Dense		113.5	SS-27	15	12	19	31
115.0									
	-105.0	Dense, wet, gray, fine grained, POORLY GRADED SAND (SP)		118.5	SS-28	16	19	25	44
120.0									

● 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.:	W-08	**Boring Location:**	5980+84.2	**Offset:**	LT 65.4	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	13.3 ft.	**Northing:**	245678.97	**Easting:**	1797174.73	**Date Started:**	9/27/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/29/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME45C	**Drill Method:**	HSA/MR	**Hammer Type:**	Automatic	**Energy Ratio:**	92%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**Delayed:**	7.0 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										
	-110.0									
125.0		Dense, wet, gray, fine grained, with trace gravel, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=22.9 %#200=8.6		123.5	SS-29	10	16	16	32	
	-115.0									
130.0		Dense, with trace gravel		128.5	SS-30	20	20	22	42	
	-120.0									
135.0		Very dense, fine to medium grained, with trace gravel		133.5	SS-31	22	37	36	73	
	-125.0									
140.0		Dense, wet, gray, fine grained, SANDY LEAN CLAY (CL, A-6(9)), LL=39 PL=17 PI=22 NMC=30.1 %#200=55.7		138.5	SS-32	11	18	16	34	
	-130.0									
145.0		Stiff		143.5	SS-33	4	7	7	14	
	-135.0									
150.0		Very stiff, brown		148.5	SS-34	10	14	18	32	

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.:	W-08	**Boring Location:**	5980+84.2	**Offset:**	LT 65.4	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	13.3 ft.	**Northing:**	245678.97	**Easting:**	1797174.73	**Date Started:**	9/27/2017
Total Depth:	150.0 ft.	**Soil Depth:**	150.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/29/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206 & T207				
Drill Machine:	CME45C	**Drill Method:**	HSA/MR	**Hammer Type:**	Automatic	**Energy Ratio:**	92%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** N.O.	**Delayed:**	7.0 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
		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	

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-09	**Boring Location:**	5973+22.7	**Offset:**	LT 43.6	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	31.2 ft.	**Northing:**	245019.84	**Easting:**	1796839.67	**Date Started:**	9/30/2017
Total Depth:	20.0 ft.	**Soil Depth:**	20.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/30/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	D50	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 3.3 ft.	**Delayed:**	12.3 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0	30.0	Approximately 4 inches of topsoil. Medium dense, moist, reddish brown, fine to medium grained, with few gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=13.0 %#200=22.4	0.0	SS-1	4	5	15	20
			1.5	SS-2	15	23	25	48
		Dense	3.0	SS-3	7	9	12	21
5.0	25.0	Medium dense, moist, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=15.3 %#200=17.5	4.5	SS-4	12	16	24	40
		Dense	6.0	SS-5	9	10	17	27
		Medium dense						
10.0	20.0	Dense, moist, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=13.1 %#200=21.8	8.5	SS-6	10	15	19	34
15.0	15.0	Dense	13.5	SS-7	12	21	28	49
20.0		Dense, white and black	18.5	SS-8	17	16	23	39
		Boring Terminated at 20.0 feet.						

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.:	W-10	**Boring Location:**	2009+41.3	**Offset:**	LT 0.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	30.8 ft.	**Northing:**	245254.28	**Easting:**	1797002.94	**Date Started:**	10/24/2017
Total Depth:	20.5 ft.	**Soil Depth:**	20.5 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/24/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME 550X	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	90%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 4.0 ft.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0	30.0	Approximately 6 inches of asphalt.	0.5					
		Medium dense, wet, reddish brown, fine to medium grained, with little gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=11.3 %#200=18.6		SS-1	5	7	9	16
		Medium dense, fine grained, FILL	2.0	SS-2	7	11	17	28
▼ 5.0		Medium dense, wet, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=12.0 %#200=13.9	3.5	SS-3	9	11	13	24
	25.0	Medium dense, fine to medium grained, with trace gravel, FILL	5.0	SS-4	3	9	13	22
		Dense, FILL	6.5	SS-5	9	13	21	34
10.0		Medium dense, wet, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=16.2 %#200=13.1	9.0	SS-6	11	13	16	29
	20.0							
15.0		Dense, with trace organics, FILL	14.0	SS-7	12	20	26	46
	15.0							
20.0		Medium dense, moist, gray, fine to medium grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=17.0 %#200=15.1	19.0	SS-8	10	10	20	30
		Boring Terminated at 20.5 feet.						

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.:	W-11	**Boring Location:**	2012+46.9	**Offset:**	LT 6.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	31.5 ft.	**Northing:**	245519.48	**Easting:**	1797153.34	**Date Started:**	10/24/2017
Total Depth:	45.0 ft.	**Soil Depth:**	45 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/24/2017
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** 8.3 ft.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 4 inches of asphalt.	0.3					
	30.0	Loose, wet, reddish brown, fine grained, SILTY SAND (SM), FILL	1.8	SS-1	5	5	6	11
		Loose, wet, reddish brown, fine grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=15.2 %#200=21.9	3.3	SS-2	4	4	4	8
5.0		Loose, FILL	4.8	SS-3	3	3	4	7
	25.0	Medium dense, fine to medium grained, FILL	6.3	SS-4	4	8	12	20
		Dense, moist, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=10.4 %#200=16.1		SS-5	7	13	20	33
10.0		Dense, FILL	8.8	SS-6	7	14	17	31
	20.0							
15.0		Medium dense, moist, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=13.6 %#200=17.0	13.5	SS-7	9	14	16	30
	15.0							
20.0		Medium dense, moist, brown and gray, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=16.5 %#200=14.1	18.5	SS-8	7	13	16	29
	10.0							
25.0		Very loose, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=20.5 %#200=29.7	23.5	SS-9	2	2	2	4
	5.0							
30.0		Medium dense, moist, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP	28.5	SS-10	6	7	6	13

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.:	W-11	**Boring Location:**	2012+46.9	**Offset:**	LT 6.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	31.5 ft.	**Northing:**	245519.48	**Easting:**	1797153.34	**Date Started:**	10/24/2017
Total Depth:	45.0 ft.	**Soil Depth:**	45 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/24/2017
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** 8.3 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										
	0.0	NMC=25.6 %#200=21.8								
35.0		Undisturbed sample obtained from 33.5 to 35.5 feet. Approximately 24 inches of recovery. Moist, gray and brown, SANDY LEAN CLAY (CL, A-6(5)), LL=25 PL=12 PI=13 NMC=26.9 %#200=64.0		33.5	T-1					
	-5.0									
40.0		Loose, wet, gray, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=20.0 %#200=35.7		38.5	SS-11	3	3	4	7	
	-10.0									
45.0		Medium dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=19.9 %#200=10.2		43.5	SS-12	7	10	20	30	
		Boring Terminated at 45.0 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.:	W-12	**Boring Location:**	460+23.4	**Offset:**	LT 53.8	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	32.1 ft.	**Northing:**	245123.34	**Easting:**	1797004.46	**Date Started:**	10/21/2017
Total Depth:	21.3 ft.	**Soil Depth:**	21.3 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/21/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	D50	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 13.3 ft.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 10 inches of asphalt and 6 inches of base material.	1.3					
	30.0	Medium dense, wet, reddish brown, fine to medium grained, SILTY SAND (SM), FILL		SS-1	4	7	9	16
		Medium dense, wet, reddish brown, fine to medium grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=11.9 %#200=19.3	2.8	SS-2	8	10	12	22
5.0		Medium dense, FILL	4.3	SS-3	6	11	13	24
	25.0	Medium dense, FILL	5.8	SS-4	8	14	9	23
		Medium dense, wet, reddish brown, fine to medium grained, CLAYEY SAND (SC, A-2-6(0)), FILL, LL=24 PL=12 PI=12 NMC=14.3 %#200=23.7	7.3	SS-5	5	10	15	25
10.0		Medium dense, FILL	9.8	SS-6	9	11	15	26
	20.0							
15.0		Dense, wet, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=9.7 %#200=16.3	14.8	SS-7	12	20	24	44
	15.0							
20.0		Dense, gray, fine grained	19.8	SS-8	5	14	18	32
		Boring Terminated at 21.3 feet.						

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.:	W-13	**Boring Location:**	463+23.9	**Offset:**	LT 57.9	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	33.0 ft.	**Northing:**	245375.65	**Easting:**	1797157.88	**Date Started:**	10/21/2017
Total Depth:	31.2 ft.	**Soil Depth:**	31.2 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/21/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	D50	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 13.3 ft.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 8 inches of asphalt and 6 inches of base material.	1.2					
	30.0	Medium dense, wet, reddish brown, fine to medium grained, with little gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=9.9 %#200=17.7	2.7	SS-1	12	14	11	25
		Medium dense, wet, black and reddish brown, medium to coarse grained, with few gravel, WELL-GRADED SAND (SW, A-1-b(0)), FILL, LL=NP PL=NP PI=NP NMC=20.8 %#200=2.7	4.2	SS-2	4	8	11	19
5.0		Dense, wet, reddish brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM), FILL	5.7	SS-3	9	14	17	31
	25.0	Medium dense, wet, reddish brown, coarse grained, POORLY GRADED SAND with SILT and GRAVEL (SP-SM, A-1-a(0)), FILL, LL=NP PL=NP PI=NP NMC=17.7 %#200=6.5	7.2	SS-4	15	14	16	30
10.0		Medium dense, wet, reddish brown, fine to medium grained, SILTY SAND (SM), FILL	9.7	SS-5	8	12	15	27
	20.0	Dense, wet, reddish brown, fine to medium grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=11.8 %#200=16.0		SS-6	7	14	21	35
15.0		Dense, FILL	14.7	SS-7	12	15	18	33
	15.0							
20.0		Dense, wet, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=13.7 %#200=14.3	19.7	SS-8	14	19	28	47
	10.0							
25.0		Loose, gray and black, fine grained, with trace organics	24.7	SS-9	5	4	4	8
	5.0							
30.0			29.7					

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.:	W-13	**Boring Location:**	463+23.9	**Offset:**	LT 57.9	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	33.0 ft.	**Northing:**	245375.65	**Easting:**	1797157.88	**Date Started:**	10/21/2017
Total Depth:	31.2 ft.	**Soil Depth:**	31.2 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/21/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	D50	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 13.3 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										
		Loose, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=23.3 %#200=35.2			SS-10	5	5	5	10	
		Boring Terminated at 31.2 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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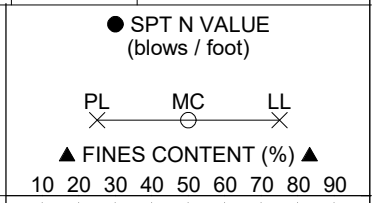
RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-14	**Boring Location:**	465+71.1	**Offset:**	LT 57.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar/B.Ralph
Elev.:	33.9 ft.	**Northing:**	245591.06	**Easting:**	1797269.88	**Date Started:**	10/21/2017
Total Depth:	201.4 ft.	**Soil Depth:**	201.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/23/2017
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** 27.0 ft.	**Delayed:**	N.O.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 12 inches of asphalt and 5 inches of base material.						
		Medium dense, dry, brown and red, fine to medium grained, with few gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=12.1 %#200=19.4	1.4	SS-1	10	10	13	23
	30.0	Medium dense, moist, red and tan, fine grained	2.9	SS-2	11	13	14	27
5.0		Medium dense, moist, red and tan, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=15.2 %#200=14.9	4.4	SS-3	10	11	11	22
		Medium dense, tan and light brown	5.9	SS-4	8	12	16	28
	25.0	Dense, moist, pink, white, tan, and red, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=14.4 %#200=13.5	7.4	SS-5	9	14	19	33
10.0		Medium dense, tan and red	9.9	SS-6	8	10	16	26
	20.0							
15.0		Medium dense, moist, reddish brown and yellow, fine to medium grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=11.8 %#200=16.8	14.9	SS-7	10	16	14	30
	15.0							
20.0		Medium dense, reddish brown	19.9	SS-8	7	10	17	27
	10.0							
25.0		Medium dense, wet, light brown and black, with trace shell fragments and trace organics	24.9	SS-9	11	9	6	15
	5.0							
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.:	W-14	**Boring Location:**	465+71.1	**Offset:**	LT 57.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar/B.Ralph
Elev.:	33.9 ft.	**Northing:**	245591.06	**Easting:**	1797269.88	**Date Started:**	10/21/2017
Total Depth:	201.4 ft.	**Soil Depth:**	201.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/23/2017
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** 27.0 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										
35.0	0.0	Medium dense, wet, tan, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=24.8 %#200=16.2		29.9	SS-10	6	9	7	16	
		Very loose, wet, tan, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=25.5 %#200=31.1		34.9	SS-11	1	2	1	3	
40.0	-5.0	Medium dense, wet, white, fine grained, POORLY GRADED SAND (SP)		39.9	SS-12	4	9	10	19	
45.0	-10.0	Very dense, white and brown		44.9	SS-13	11	24	30	54	
50.0	-15.0	Medium dense, wet, white, fine grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=33.3 %#200=4.5		49.9	SS-14	7	7	13	20	
55.0	-20.0	Dense		54.9	SS-15	9	15	23	38	
60.0	-25.0									

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.:	W-14	**Boring Location:**	465+71.1	**Offset:**	LT 57.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar/B.Ralph
Elev.:	33.9 ft.	**Northing:**	245591.06	**Easting:**	1797269.88	**Date Started:**	10/21/2017
Total Depth:	201.4 ft.	**Soil Depth:**	201.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/23/2017
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** 27.0 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										
		Dense, medium to fine grained, with trace shell fragments		59.9	SS-16	10	17	18	35	
	-30.0									
65.0		Medium dense, wet, white, fine grained, CLAYEY SAND (SC, A-4(0)), LL=23 PL=13 PI=10 NMC=26.5 %#200=38.7		64.9	SS-17	4	8	13	21	
	-35.0									
70.0		Undisturbed sample obtained from 69.9 to 71.9 feet. Approximately 9 inches of recovery. Wet, gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=21.2 %#200=6.6		69.9	T-1A					
	-40.0									
75.0		Medium dense, wet, white, fine grained		74.9	SS-18	9	13	16	29	
	-45.0									
80.0		Medium dense		79.9	SS-19	10	13	13	26	
	-50.0									
85.0		Dense, wet, white, medium to fine grained, with few gravel, POORLY GRADED SAND (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=18.0 %#200=1.4		84.9	SS-20	16	19	24	43	
	-55.0									
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.:	W-14	**Boring Location:**	465+71.1	**Offset:**	LT 57.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar/B.Ralph
Elev.:	33.9 ft.	**Northing:**	245591.06	**Easting:**	1797269.88	**Date Started:**	10/21/2017
Total Depth:	201.4 ft.	**Soil Depth:**	201.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/23/2017
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** 27.0 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		Very Dense, No Recovery		89.9	SS-21	50/2	X	X	100+
	-60.0								
95.0		Medium dense, brown, fine to coarse grained, with trace gravel		94.9	SS-22	12	14	15	29
	-65.0								
100.0		Medium dense, brown and reddish brown, with trace gravel		99.9	SS-23	16	19	8	27
	-70.0								
105.0		Undisturbed sample obtained from 104.4 to 106.4 feet. Approximately 24 inches of recovery. Wet, dark gray and brown, with few sand, FAT CLAY (CH, A-7-6(61)), LL=84 PL=27 PI=57 NMC=47.6 %#200=93.2		104.4	T-1B				
	-75.0								
110.0		Very dense, wet, brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=21.4 %#200=7.9		109.9	SS-25	12	26	29	55
	-80.0								
115.0		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=20.3 %#200=5.7		114.9	SS-26	20	29	41	70
	-85.0								
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

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-14	**Boring Location:**	465+71.1	**Offset:**	LT 57.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar/B.Ralph
Elev.:	33.9 ft.	**Northing:**	245591.06	**Easting:**	1797269.88	**Date Started:**	10/21/2017
Total Depth:	201.4 ft.	**Soil Depth:**	201.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/23/2017
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** 27.0 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		Dense		119.9	SS-27	24	21	22	43
	-90.0								
125.0		Undisturbed sample obtained from 124.9 to 126.9 feet. Approximately 24 inches of recovery. Moist, brown and gray, with trace sand, FAT CLAY (CH, A-7-6(72)), LL=90 PL=28 PI=62 NMC=50.1 %#200=97.9		124.9	T-2				
	-95.0								
130.0		Stiff, wet, gray		129.9	SS-28	4	5	7	12
	-100.0								
135.0		Undisturbed sample obtained from 134.9 to 136.9 feet. Approximately 24 inches of recovery. Moist, olive gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=24.0 %#200=21.1		134.9	T-3				
	-105.0								
140.0		Dense, wet, olive gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=22.9 %#200=16.5		139.9	SS-29	8	20	28	48
	-110.0								
145.0		Very dense, wet, gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM)		144.9	SS-30	22	39	44	83
	-115.0								
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

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-14	**Boring Location:**	465+71.1	**Offset:**	LT 57.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar/B.Ralph
Elev.:	33.9 ft.	**Northing:**	245591.06	**Easting:**	1797269.88	**Date Started:**	10/21/2017
Total Depth:	201.4 ft.	**Soil Depth:**	201.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/23/2017
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** 27.0 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
150.0										
		Very dense, wet, gray, medium to fine grained, with few gravel, POORLY GRADED SAND with SILT (SP-SM. A-1-b(0)), LL=NP PL=NP PI=NP NMC=15.3 %#200=5.2		149.9	SS-31	31	45	50	95	
	-120.0									
155.0										
	-125.0									
160.0		Stiff, wet, gray, with few sand, FAT CLAY (CH, A-7-6(46)), LL=68 PL=24 PI=44 NMC=40.9 %#200=92.6		159.9	SS-32	2	4	7	11	
	-130.0									
165.0										
	-135.0									
170.0		Undisturbed sample obtained from 169.9 to 171.9 feet. Approximately 24 inches of recovery. Moist, bluish gray and brown, with few sand, FAT CLAY (CH, A-7-6(49), LL=64 PL=16 PI=48 NMC=21.7 %#200=93.9		169.9	T-4					
	-140.0									
175.0										
	-145.0									
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.:	W-14	**Boring Location:**	465+71.1	**Offset:**	LT 57.3	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar/B.Ralph
Elev.:	33.9 ft.	**Northing:**	245591.06	**Easting:**	1797269.88	**Date Started:**	10/21/2017
Total Depth:	201.4 ft.	**Soil Depth:**	201.4 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/23/2017
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** 27.0 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										
		Stiff, wet, gray		179.9	SS-33	5	6	10	16	
	-150.0									
185.0										
	-155.0									
190.0		Very stiff, wet, gray, LEAN CLAY with SAND (CL, A-7-6(24)), LL=49 PL=17 PI=32 NMC=31.2 %#200=77.3		189.9	SS-34	0	6	19	25	
	-160.0									
195.0										
	-165.0									
200.0		Very dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=22.8 %#200=8.6		199.9	SS-35	27	43	45	88	
		Boring Terminated at 200.0 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.:	W-15	**Boring Location:**	5968+86.8	**Offset:**	RT 97.8	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	10.3 ft.	**Northing:**	244568.05	**Easting:**	1796891.65	**Date Started:**	10/6/2017
Total Depth:	50.0 ft.	**Soil Depth:**	50.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/6/2017
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** 10.0 ft.	**Delayed:**	3.2 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	10.0	Approximately 5 inches of topsoil. Medium dense, moist, black and dark gray, fine grained, with trace organics and trace gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=12.5 %#200=35.3		0.0	SS-1	3	6	7	13	
				1.5	SS-2	3	6	4	10	
5.0	5.0	Loose, moist, reddish brown, fine grained, with few gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=18.0 %#200=26.9		3.0	SS-3	2	2	2	4	
		Very loose, wet, fine to medium grained		4.5	SS-4	2	1	1	2	
		Very loose, fine grained		6.0	SS-5	0	0	0	0	
		Very soft, wet, gray, SANDY SILT (ML, A-4(0), LL=NP PL=NP PI=NP NMC=32.0 %#200=51.9								
10.0	0.0	Undisturbed sample obtained from 8.0 to 10.0 feet. Approximately 24 inches of recovery. Moist, gray, SANDY SILT (ML, A-4(0)), LL=NP PL=NP PI=NP NMC=34.2 %#200=52.4		8.0	T-1					
		Very soft		13.5	SS-7	0	0	0	0	
15.0	-5.0									
20.0	-10.0	Medium dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=25.7 %#200=7.6		18.5	SS-8	10	10	5	15	
		Very soft, wet, gray, FAT CLAY (CH)		23.5	SS-9	0	0	2	2	
25.0	-15.0									
		Undisturbed sample obtained from 28.0 to 30.0 feet. Approximately 24 inches of recovery. Moist, light gray and light brown, FAT CLAY with		28.0	T-2					
30.0										

LEGEND

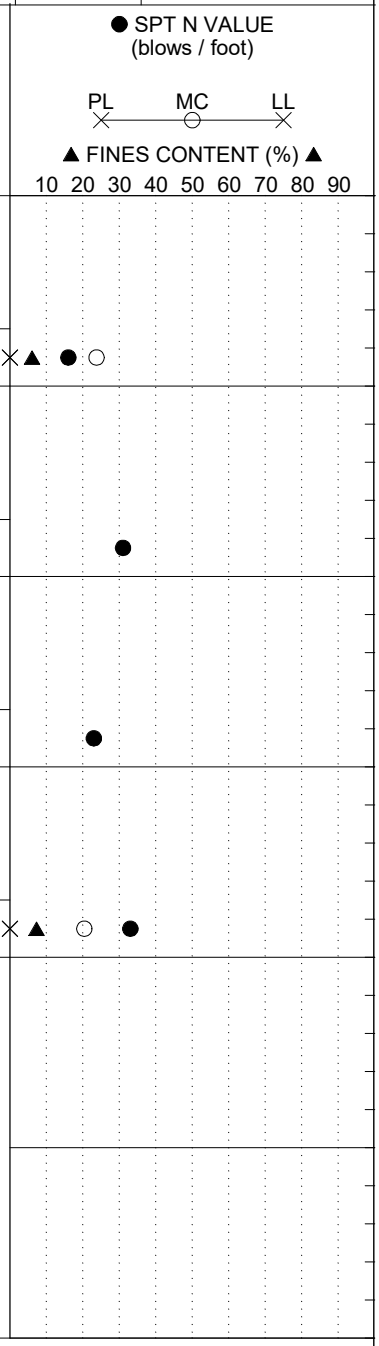
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	AC - Auger Cuttings	HSA - Hollow Stem Augers	MR - Mud Rotary Wash
T - Shelby Tube	GB - Grab Bag	SSA - Solid Stem Augers	RC - Rock Coring
DCP - Dynamic Cone Penetrometer	NQ - Rock Core	HA - Hand Auger	

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-15	**Boring Location:**	5968+86.8	**Offset:**	RT 97.8	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	10.3 ft.	**Northing:**	244568.05	**Easting:**	1796891.65	**Date Started:**	10/6/2017
Total Depth:	50.0 ft.	**Soil Depth:**	50.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/6/2017
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** 10.0 ft.	**Delayed:**	3.2 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
30.0	-20.0	SAND (CH, A-7-6(50)), LL=82 PL=28 PI=54 NMC=121.6 %#200=83.1							
				33.5	SS-11	7	7	9	16
35.0	-25.0	Medium dense, wet, reddish brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=23.7 %#200=6.1							
				38.5	SS-12	11	14	17	31
40.0	-30.0	Dense							
				43.5	SS-13	7	9	14	23
45.0	-35.0	Medium dense, fine to medium grained							
				48.5	SS-14	9	16	17	33
50.0		Dense, wet, reddish 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=20.4 %#200=7.3							
		Boring Terminated at 50.0 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.:	W-16	**Boring Location:**	8003+54.9	**Offset:**	RT 8.9	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	13.5 ft.	**Northing:**	244784.85	**Easting:**	1797110.89	**Date Started:**	10/6/2017
Total Depth:	40.0 ft.	**Soil Depth:**	40.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/6/2017
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** 3.1 ft.	**Delayed:**	4.3 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 5 inches of topsoil.	0.0	SS-1	12	8	13	21
		Medium dense, moist, dark gray, fine to medium grained, with trace organics, SILTY SAND (SM)	1.5	SS-2	4	8	9	17
	10.0	Medium dense, wet, dark gray, fine grained, with trace organics, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=13.6 %#200=22.3	3.0	SS-3	3	7	6	13
5.0		Medium dense, reddish brown and gray, fine grained	4.5	SS-4	4	7	7	14
		Medium dense, gray	6.0	SS-5	3	2	3	5
	5.0	Loose, wet, gray and dark gray, fine grained, with few gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=26.5 %#200=14.1						
10.0		Very loose, gray	8.5	SS-6	1	0	1	1
	0.0	Very loose	13.5	SS-7	0	0	0	0
15.0								
	-5.0	Very loose, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=27.9 %#200=15.7	18.5	SS-8	1	1	1	2
20.0								
	-10.0	Very soft, wet, gray, with trace organics, FAT CLAY with SAND (CH, A-7-6(24)), LL=56 PL=22 PI=34 NMC=49.9 %#200=71.0	23.5	SS-9	0	0	0	0
25.0								
	-15.0	Undisturbed sample obtained from 28.5 to 30.5 feet. Approximately 24 inches of recovery.	28.5	T-1				
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.:	W-16	**Boring Location:**	8003+54.9	**Offset:**	RT 8.9	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	13.5 ft.	**Northing:**	244784.85	**Easting:**	1797110.89	**Date Started:**	10/6/2017
Total Depth:	40.0 ft.	**Soil Depth:**	40.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/6/2017
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** 3.1 ft.	**Delayed:**	4.3 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										
		Wet, gray, with trace silt, FAT CLAY with SAND (CH, A-7-6(37)), LL=63 PL=20 PI=43 NMC=48.5 %#200=82.5								
	-20.0			33.5						
35.0		Medium dense, wet, brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=21.1 %#200=10.7			SS-11	8	9	11	20	
	-25.0			38.5						
40.0		Dense, wet, gray, fine to medium grained, POORLY GRADED SAND (SP)			SS-12	11	15	17	32	
		Boring Terminated at 40.0 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.:	W-17	**Boring Location:**	5974+90.5	**Offset:**	RT 42.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	12.4 ft.	**Northing:**	245068.95	**Easting:**	1797236.24	**Date Started:**	11/9/2017
Total Depth:	60.0 ft.	**Soil Depth:**	60.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	11/9/2017
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** 6.7 ft.	**Delayed:**	6.3 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0	12.4	Approximately 12 inches of topsoil.	0.0					
	10.0	Loose, wet, gray, fine grained, with few gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=7.6 %#200=22.1	1.5	SS-1	5	3	3	6
		Loose, moist	3.0	SS-2	3	5	6	11
		Loose	4.5	SS-3	4	6	5	11
5.0		Very loose, wet, gray, fine grained, with few gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=25.4 %#200=18.1	6.0	SS-4	1	1	1	2
	5.0	Very loose		SS-5	3	1	1	2
			8.5	SS-6	0	0	0	0
10.0		Very loose						
	0.0		13.5	SS-7	0	0	1	1
15.0		Very soft, wet, gray, FAT CLAY (CH)	16.0	T-1				
	-5.0	Undisturbed sample obtained from 16.0 to 18.0 feet. Approximately 24 inches of recovery. Top of tube: Moist, gray and reddish brown, FAT CLAY with SAND (CH, A-7-6(29)), LL=50 PL=16 PI=34 NMC=42.1 %#200=84.4	18.5	SS-8	12	14	25	39
20.0		Bottom of tube: Wet, reddish brown, fine grained, SILTY SAND (SM) Dense, gray						
	-10.0		23.5	SS-9	11	13	17	30
25.0		Medium dense, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=26.1 %#200=25.8						
	-15.0		28.5	SS-10	9	11	17	28
30.0		Medium dense						

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.:	W-17	**Boring Location:**	5974+90.5	**Offset:**	RT 42.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	12.4 ft.	**Northing:**	245068.95	**Easting:**	1797236.24	**Date Started:**	11/9/2017
Total Depth:	60.0 ft.	**Soil Depth:**	60.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	11/9/2017
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** 6.7 ft.	**Delayed:**	6.3 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										
	-20.0	Medium dense		33.5	SS-11	7	10	15	25	●
35.0										
	-25.0	Dense, wet, gray, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=23.0 %#200=4.1		38.5	SS-12	13	15	18	33	▲ ○ ●
40.0										
	-30.0	Medium dense, gray and reddish brown		43.5	SS-13	5	6	5	11	●
45.0										
	-35.0	Dense, gray		48.5	SS-14	20	10	23	33	●
50.0										
	-40.0	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=20.9 %#200=6.2		53.5	SS-15	11	18	17	35	▲ ○ ●
55.0										
	-45.0	Dense		58.5	SS-16	11	17	17	34	●
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.:	W-17	**Boring Location:**	5974+90.5	**Offset:**	RT 42.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	12.4 ft.	**Northing:**	245068.95	**Easting:**	1797236.24	**Date Started:**	11/9/2017
Total Depth:	60.0 ft.	**Soil Depth:**	60.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	11/9/2017
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** 6.7 ft.	**Delayed:**	6.3 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 60.0 feet.								

LEGEND

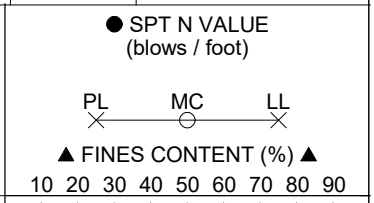
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	AC - Auger Cuttings	HSA - Hollow Stem Augers	MR - Mud Rotary Wash
T - Shelby Tube	GB - Grab Bag	SSA - Solid Stem Augers	RC - Rock Coring
DCP - Dynamic Cone Penetrometer	NQ - Rock Core	HA - Hand Auger	

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-18	**Boring Location:**	5978+23.1	**Offset:**	RT 16.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	11.0 ft.	**Northing:**	245366.46	**Easting:**	1797397.23	**Date Started:**	11/7/2017
Total Depth:	70.3 ft.	**Soil Depth:**	70.3 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	11/7/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	D50	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 7.3 ft.	**Delayed:**	6.2 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0	10.0	Approximately 3 inches of asaphalt and base material.	0.3					
		Medium dense, moist, brown, fine grained, with trace gravel, SILTY SAND (SM)	1.8	SS-1	11	7	4	11
		Medium dense, moist, brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=18.4 %#200=22.5	3.3	SS-2	3	3	9	12
5.0		Very loose	4.8	SS-3	2	1	1	2
	5.0	Very loose, moist, brown, fine grained, CLAYEY SAND (SC, A-6(6)), LL=37 PL=11 PI=26 NMC=22.1 %#200=42.0	6.3	SS-4	1	1	3	4
		Loose		SS-5	2	3	3	6
10.0		Very loose, moist, brown, fine grained, CLAYEY SAND (SC, A-6(4)), LL=32 PL=12 PI=20 NMC=21.8 %#200=41.9	8.8	SS-6	2	2	2	4
	0.0							
15.0		Medium dense, moist, brown, fine grained, POORLY GRADED SAND with SILT (SP-SM)	13.8	SS-7	5	5	9	14
	-5.0							
20.0		Medium dense, moist, brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=26.6 %#200=5.3	18.8	SS-8	9	12	17	29
	-10.0							
25.0		Dense	23.8	SS-9	11	15	18	33
	-15.0							
30.0		Medium dense, light brown	28.8	SS-10	10	12	15	27



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.:	W-18	**Boring Location:**	5978+23.1	**Offset:**	RT 16.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	11.0 ft.	**Northing:**	245366.46	**Easting:**	1797397.23	**Date Started:**	11/7/2017
Total Depth:	70.3 ft.	**Soil Depth:**	70.3 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	11/7/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	D50	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 7.3 ft.	**Delayed:**	6.2 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										
	-20.0									
35.0		Dense, moist, brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=24.6 %#200=7.7		33.8	SS-11	10	17	23	40	
	-25.0									
40.0		Medium dense		38.8	SS-12	9	11	14	25	
	-30.0									
45.0		Dense		43.8	SS-13	12	20	24	44	
	-35.0									
50.0		Dense		48.8	SS-14	12	18	15	33	
	-40.0									
55.0		Medium dense, moist, brown, fine to medium grained, with trace gravel, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=21.9 %#200=3.2		53.8	SS-15	9	12	18	30	
	-45.0									
60.0		Medium dense		58.8	SS-16	9	11	12	23	

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.:	W-18	**Boring Location:**	5978+23.1	**Offset:**	RT 16.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	11.0 ft.	**Northing:**	245366.46	**Easting:**	1797397.23	**Date Started:**	11/7/2017
Total Depth:	70.3 ft.	**Soil Depth:**	70.3 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	11/7/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**		AASHTO T206			
Drill Machine:	D50	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 7.3 ft.	**Delayed:**	6.2 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										
	-50.0									
65.0		Medium dense, with trace gravel		63.8	SS-17	8	6	7	13	●
	-55.0									
70.0		Dense, moist, 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=19.7 %#200=6.8		68.8	SS-18	14	20	16	36	▲ ○ ●
		Boring Terminated at 70.3 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.:	W-19	**Boring Location:**	5984+86.8	**Offset:**	LT 76.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	14.1 ft.	**Northing:**	246053.44	**Easting:**	1797301.63	**Date Started:**	9/27/2017
Total Depth:	60.0 ft.	**Soil Depth:**	60.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/27/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 2.0 ft.	**Delayed:**	2.0 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 3 inches of topsoil.		0.0	SS-1	2	3	3	6
		Loose, wet, brown, fine grained, with trace organics, SILTY SAND (SM), FILL		1.5	SS-2	8	13	15	28
	10.0	Medium dense, wet, brown and gray, fine grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=19.0 %#200=16.8		3.0	SS-3	8	9	8	17
5.0		Medium dense, gray, FILL		4.5	SS-4	6	6	7	13
		Medium dense, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=23.6 %#200=16.4		6.0	SS-5	2	3	3	6
		Loose							
	5.0	Very loose		8.5	SS-6	1	2	1	3
10.0									
	0.0	Very loose, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=30.0 %#200=34.1		13.5	SS-7	0	0	0	0
15.0									
	-5.0	Very loose, wet, dark gray, fine grained, CLAYEY SAND (SC, A-6(3)), LL=33 PL=17 PI=16 NMC=35.2 %#200=45.3		18.5	SS-8	0	0	2	2
20.0									
	-10.0	Medium dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM)		23.5	SS-9	3	11	16	27
25.0									
	-15.0	Dense, fine to medium grained		28.5	SS-10	15	23	25	48
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

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-19	**Boring Location:**	5984+86.8	**Offset:**	LT 76.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	14.1 ft.	**Northing:**	246053.44	**Easting:**	1797301.63	**Date Started:**	9/27/2017
Total Depth:	60.0 ft.	**Soil Depth:**	60.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/27/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 2.0 ft.	**Delayed:**	2.0 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	-20.0	Dense, wet, brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=23.1 %#200=6.9		33.5	SS-11	10	21	22	43	
40.0	-25.0	Dense		38.5	SS-12	14	19	19	38	
45.0	-30.0	Medium dense, wet, gray, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=20.3 %#200=13.0		43.5	SS-13	9	7	14	21	
50.0	-35.0	Dense, wet, gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM)		48.5	SS-14	13	16	20	36	
55.0	-40.0	Medium dense, fine grained		53.5	SS-15	8	8	8	16	
60.0	-45.0	Medium dense, wet, brown and reddish brown, fine to medium grained, POORLY GRADED SAND with SILT		58.5	SS-16	4	6	8	14	

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.:	W-19	**Boring Location:**	5984+86.8	**Offset:**	LT 76.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	14.1 ft.	**Northing:**	246053.44	**Easting:**	1797301.63	**Date Started:**	9/27/2017
Total Depth:	60.0 ft.	**Soil Depth:**	60.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/27/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	CME45C	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 2.0 ft.	**Delayed:**	2.0 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
		(SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=24.1 %#200=6.7 Boring Terminated at 60.0 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.:	W-20	**Boring Location:**	5987+82.5	**Offset:**	LT 30.9	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	23.0 ft.	**Northing:**	246323.05	**Easting:**	1797421.81	**Date Started:**	10/13/2017
Total Depth:	35.0 ft.	**Soil Depth:**	35.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/13/2017
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** 19.6 ft.	**Delayed:**	11.9 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0		Approximately 12 inches of topsoil.	0.0					
		Very loose, wet, black and dark gray, fine grained, with trace organics, SILTY SAND (SM), FILL	1.5	SS-1	2	2	2	4
	20.0	Medium dense, wet, reddish brown, fine to medium grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=16.7 %#200=20.9	3.0	SS-2	4	6	10	16
5.0		Medium dense, FILL	4.5	SS-3	7	9	11	20
		Medium dense, FILL	6.0	SS-4	8	8	10	18
		Medium dense, wet, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=15.7 %#200=13.1		SS-5	8	8	8	16
	15.0		8.5					
10.0		Medium dense, FILL		SS-6	5	12	16	28
▽	10.0							
		Medium dense, gray	13.5	SS-7	5	4	11	15
15.0								
	5.0		18.5					
20.0		Very loose, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=24.0 %#200=15.2		SS-8	3	1	1	2
		Undisturbed sample attempted from 20.0 to 22.0 feet. No Recovery.	20.0	T-1				
	0.0							
		Very loose, wet, gray, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=30.1 %#200=39.9	23.5	SS-9	0	0	2	2
25.0								
	-5.0							
		Undisturbed sample obtained from 28.5 to 30.5 feet. Approximately 24 inches of recovery.	28.5	T-2				
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

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RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-20	**Boring Location:**	5987+82.5	**Offset:**	LT 30.9	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	D.Sikdar
Elev.:	23.0 ft.	**Northing:**	246323.05	**Easting:**	1797421.81	**Date Started:**	10/13/2017
Total Depth:	35.0 ft.	**Soil Depth:**	35.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	10/13/2017
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** 19.6 ft.	**Delayed:**	11.9 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		Moist, tan and light gray, SANDY LEAN CLAY (CL, A-6(8)), LL=33 PL=13 PI=20 NMC=29.9 %#200=57.1								
	-10.0			33.5						
35.0		Dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=23.7 %#200=7.2			SS-10	10	17	18	35	
		Boring Terminated at 35.0 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.:	W-21	**Boring Location:**	5990+98.8	**Offset:**	LT 64.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	13.0 ft.	**Northing:**	246636.2	**Easting:**	1797447.37	**Date Started:**	9/27/2017
Total Depth:	30.0 ft.	**Soil Depth:**	30.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/27/2017
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** 2.0 ft.	**Delayed:**	4.3 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0									
	10.0	Approximately 4 inches of topsoil. Medium dense, reddish brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), FILL, LL=NP PL=NP PI=NP NMC=9.6 %#200=14.7		0.0	SS-1	2	5	8	13
		Medium dense, brown, FILL		1.5	SS-2	8	10	14	24
		Medium dense, moist, fine grained		3.0	SS-3	9	10	10	20
5.0		Medium dense, moist, brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=23.0 %#200=17.7		4.5	SS-4	4	4	9	13
		Very loose		6.0	SS-5	4	1	1	2
	5.0								
		Very loose		8.5	SS-6	1	1	1	2
10.0									
	0.0								
		Soft, moist, brown, FAT CLAY (CH)		13.5	SS-7	0	1	2	3
15.0									
	-5.0								
		Undisturbed sample obtained from 18.0 to 20.0 feet. Approximately 24 inches of recovery. Wet, tan and dark gray		18.0	T-1				
20.0									
	-10.0								
		Medium dense, moist, brown, fine grained, SILTY SAND (SM)		23.5	SS-8	4	5	6	11
25.0									
	-15.0								
		Medium dense, moist, brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP		28.5	SS-9	5	6	10	16
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.:	W-21	**Boring Location:**	5990+98.8	**Offset:**	LT 64.5	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	13.0 ft.	**Northing:**	246636.2	**Easting:**	1797447.37	**Date Started:**	9/27/2017
Total Depth:	30.0 ft.	**Soil Depth:**	30.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/27/2017
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** 2.0 ft.	**Delayed:**	4.3 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
		NMC=23.2 %#200=13.8 Boring Terminated at 30.0 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.:	W-22	**Boring Location:**	5993+97.3	**Offset:**	LT 48.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	11.3 ft.	**Northing:**	246928.94	**Easting:**	1797503.35	**Date Started:**	9/25/2017
Total Depth:	200.0 ft.	**Soil Depth:**	200.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/28/2017
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** 21.8 ft.	**Delayed:**	9.1 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0	10.0	Approximately 12 inches of topsoil. Loose, dry, dark brown and pale brown, fine grained, SILTY SAND (SM)	0.0	SS-1	2	3	7	10
		Medium dense, dry, tan, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=14.3 %#200=17.9	1.5	SS-2	7	9	10	19
		Loose, moist, tan and reddish brown	3.0	SS-3	3	5	4	9
5.0		Loose, moist, reddish brown and light gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=21.9 %#200=25.5	4.5	SS-4	2	3	2	5
	5.0	Very loose, gray	6.0	SS-5	2	1	1	2
▽ 10.0		Very loose	8.5	SS-6	1	0	0	0
	0.0							
		Very soft, moist, light gray, SANDY LEAN CLAY (CL, A-6(4)), LL=30 PL=18 PI=12 NMC=19.6 %#200=54.5	13.5	SS-7	0	0	0	0
15.0	-5.0							
		Undisturbed sample attempted from 18.0 to 20.0 feet. No Recovery.	18.0	T-1				
20.0			20.0					
▼	-10.0	Loose, moist, reddish brown and light gray, fine grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=26.8 %#200=33.9		SS-8	0	3	3	6
		Medium dense, moist, pale brown, fine grained, POORLY GRADED SAND with SILT (SP-SM)	23.5	SS-9	9	11	13	24
25.0	-15.0							
		Medium dense, tan	28.5	SS-10	8	10	13	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

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.:	W-22	**Boring Location:**	5993+97.3	**Offset:**	LT 48.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	11.3 ft.	**Northing:**	246928.94	**Easting:**	1797503.35	**Date Started:**	9/25/2017
Total Depth:	200.0 ft.	**Soil Depth:**	200.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/28/2017
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** 21.8 ft.	**Delayed:**	9.1 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										
	-20.0									
		Medium dense, light gray		33.5	SS-11	7	13	11	24	●
35.0										
	-25.0									
		Dense, moist, white, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=22.8 %#200=5.6		38.5	SS-12	11	15	17	32	▲ ○ ●
40.0										
	-30.0									
		Dense, reddish brown		43.5	SS-13	13	15	20	35	●
45.0										
	-35.0									
		Dense, pale brown		48.5	SS-14	10	15	19	34	●
50.0										
	-40.0									
		Medium dense, moist, white, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=18.8 %#200=7.7		53.5	SS-15	10	13	15	28	▲ ○ ●
55.0										
	-45.0									
		Soft, moist, tan, SANDY LEAN CLAY (CL)		58.5	SS-16	3	2	2	4	●
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	

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RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-22	**Boring Location:**	5993+97.3	**Offset:**	LT 48.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	11.3 ft.	**Northing:**	246928.94	**Easting:**	1797503.35	**Date Started:**	9/25/2017
Total Depth:	200.0 ft.	**Soil Depth:**	200.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/28/2017
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** 21.8 ft.	**Delayed:**	9.1 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										
	-50.0									
		Undisturbed sample attempted from 63.0 to 65.0 feet. No Recovery.		63.0	T-2					
65.0				65.0						
	-55.0	Medium dense, moist, tan, fine grained, POORLY GRADED SAND (SP)			SS-17	13	12	17	29	
		Medium dense, moist, reddish brown, medium to fine grained, POORLY GRADED SAND (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=19.0 %#200=3.8		68.5	SS-18	11	13	17	30	
70.0										
	-60.0									
		Dense		73.5	SS-19	10	17	25	42	
75.0										
	-65.0									
		Dense, pale brown, with trace gravel		78.5	SS-20	12	14	17	31	
80.0										
	-70.0									
		Very dense, reddish brown		83.5	SS-21	24	25	32	57	
85.0										
	-75.0									
		Very dense, moist, tan, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)),		88.5	SS-22	17	27	26	53	
90.0										

LEGEND

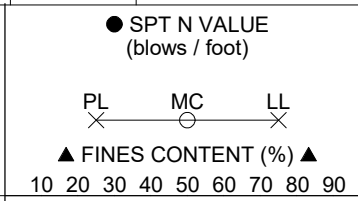
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	AC - Auger Cuttings	HSA - Hollow Stem Augers	MR - Mud Rotary Wash
T - Shelby Tube	GB - Grab Bag	SSA - Solid Stem Augers	RC - Rock Coring
DCP - Dynamic Cone Penetrometer	NQ - Rock Core	HA - Hand Auger	

thompson ENGINEERING

RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-22	**Boring Location:**	5993+97.3	**Offset:**	LT 48.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	11.3 ft.	**Northing:**	246928.94	**Easting:**	1797503.35	**Date Started:**	9/25/2017
Total Depth:	200.0 ft.	**Soil Depth:**	200.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/28/2017
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** 21.8 ft.	**Delayed:**	9.1 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
90.0	-80.0	LL=NP PL=NP PI=NP NMC=20.2 %#200=6.8						
95.0	-85.0	Medium dense, moist, dark gray, fine grained, CLAYEY SAND (SC)	93.5	SS-23	2	5	6	11
100.0	-90.0	Undisturbed sample attempted from 98.0 to 100.0 feet. No Recovery.	98.0	T-3				
		Medium dense, moist, gray, fine grained, CLAYEY SAND (SC, A-6(4)), LL=31 PL=15 PI=16 NMC=27.3 %#200=45.9	100.0	SS-24	5	7	16	23
105.0	-95.0	Medium dense, moist, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=23.7 %#200=16.5	103.5	SS-25	10	9	13	22
110.0	-100.0	Dense	108.5	SS-26	12	16	19	35
115.0	-105.0	Dense	113.5	SS-27	17	23	24	47
120.0		Dense, moist, brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM)	118.5	SS-28	17	21	20	41



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.:	W-22	**Boring Location:**	5993+97.3	**Offset:**	LT 48.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	11.3 ft.	**Northing:**	246928.94	**Easting:**	1797503.35	**Date Started:**	9/25/2017
Total Depth:	200.0 ft.	**Soil Depth:**	200.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/28/2017
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** 21.8 ft.	**Delayed:**	9.1 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									
	-110.0								
		Very dense, tan, with trace gravel		123.5	SS-29	26	26	32	58
125.0									
	-115.0								
		Very dense, pale brown, with trace gravel		128.5	SS-30	20	30	35	65
130.0									
	-120.0								
		Very dense		133.5	SS-31	22	44	50/4	100+
135.0									
	-125.0								
		Very dense, moist, pale brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=18.6 %#200=7.5		138.5	SS-32	20	29	41	70
140.0									
	-130.0								
		Dense		143.5	SS-33	17	18	19	37
145.0									
	-135.0								
		Very dense		148.5	SS-34	24	34	17	51
150.0									

● 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

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-22	**Boring Location:**	5993+97.3	**Offset:**	LT 48.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	11.3 ft.	**Northing:**	246928.94	**Easting:**	1797503.35	**Date Started:**	9/25/2017
Total Depth:	200.0 ft.	**Soil Depth:**	200.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/28/2017
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** 21.8 ft.	**Delayed:**	9.1 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 (%)
150.0	-140.0									
155.0	-145.0									
		Very stiff, gray, LEAN CLAY with SAND (CL, A-7-6(21)), LL=43 PL=17 PI=26 NMC=18.7 %#200=82.2		158.5	SS-35	7	10	15	25	
160.0	-150.0									
165.0	-155.0									
		Dense, moist, brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM)		168.5	SS-36	14	16	30	46	
170.0	-160.0									
175.0	-165.0									
		Very dense		178.5	SS-37	28	41	50/4	100+	
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	

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RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-22	**Boring Location:**	5993+97.3	**Offset:**	LT 48.7	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.Tisher
Elev.:	11.3 ft.	**Northing:**	246928.94	**Easting:**	1797503.35	**Date Started:**	9/25/2017
Total Depth:	200.0 ft.	**Soil Depth:**	200.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/28/2017
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** 21.8 ft.	**Delayed:**	9.1 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
180.0										
	-170.0									
185.0										
	-175.0									
		Very dense, moist, brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=19.7 %#200=9.9		188.5	SS-38	39	44	50/5	100+	▲ ○ >>
190.0										
	-180.0									
195.0										
	-185.0									
		Very dense		198.5	SS-39	50/5	X	X	50+	>>
200.0										
		Boring Terminated at 200.0 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.:	W-23	**Boring Location:**	5985+72.6	**Offset:**	LT 3.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	32.6 ft.	**Northing:**	246113.82	**Easting:**	1797396	**Date Started:**	9/28/2017
Total Depth:	40.0 ft.	**Soil Depth:**	40.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/28/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	D50	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 21.8 ft.	**Delayed:**	18.6 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
0.0	32.6	Approximately 3 inches of topsoil. Medium dense, dry, reddish brown, fine to medium grained, CLAYEY SAND (SC), FILL	0.0	SS-1	3	4	7	11
	30.0	Medium dense, dry, reddish brown, fine to medium grained, CLAYEY SAND (SC, A-2-4(0)), FILL, LL=22 PL=14 PI=8 NMC=8.8 %#200=25.9	1.5	SS-2	10	8	9	17
			3.0	SS-3	4	3	6	9
5.0		Loose, moist, brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM)	4.5	SS-4	5	6	14	20
		Medium dense, moist, brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=13.0 %#200=10.8	6.0	SS-5	10	16	19	35
	25.0	Dense						
			8.5	SS-6	14	18	19	37
10.0		Dense						
	20.0							
		Dense, moist, brown, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=14.5 %#200=15.8	13.5	SS-7	10	14	17	31
15.0								
	15.0							
		Medium dense	18.5	SS-8	10	12	15	27
20.0								
	10.0							
		Medium dense, moist, brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=23.5 %#200=14.3	23.5	SS-9	10	8	9	17
25.0								
	5.0							
		Very loose	28.5	SS-10	1	1	1	2
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.:	W-23	**Boring Location:**	5985+72.6	**Offset:**	LT 3.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C.LaFroscia
Elev.:	32.6 ft.	**Northing:**	246113.82	**Easting:**	1797396	**Date Started:**	9/28/2017
Total Depth:	40.0 ft.	**Soil Depth:**	40.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/28/2017
Bore Hole Diameter (in):	4-inch	**AASHTO / ASTM Sampling Methods:**	AASHTO T206				
Drill Machine:	D50	**Drill Method:**	MR	**Hammer Type:**	Automatic	**Energy Ratio:**	94%
Core Size:	N/A	**Driller:**	Thompson Eng	**Groundwater:**	**TOB** 21.8 ft.	**Delayed:**	18.6 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										
	0.0									
35.0		Firm, moist, gray, SANDY LEAN CLAY (CL, A-6(5)), LL=29 PL=16 PI=13 NMC=27.9 %#200=62.0		33.5	SS-11	1	1	4	5	
	-5.0									
40.0		Dense, moist, fine grained, light brown, POORLY GRADED SAND (SP)		38.5	SS-12	8	14	17	31	
		Boring Terminated at 40.0 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.:	W-24	**Boring Location:**	701+61.6	**Offset:**	LT 24.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C. Tisher
Elev.:	13.2 ft.	**Northing:**	248216.65	**Easting:**	1797674.49	**Date Started:**	9/24/2017
Total Depth:	50.0 ft.	**Soil Depth:**	50.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/24/2017
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** N.O.	**Delayed:**	8.2 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 4 inches of topsoil.		0.0	SS-1	3	5	9	14
	10.0	Medium dense, dry, black, fine grained, SILTY SAND (SM)		1.5	SS-2	9	12	14	26
		Medium dense, dry, reddish brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=12.1 %#200=19.2		3.0	SS-3	9	10	9	19
5.0		Medium dense, wet, pale brown		4.5	SS-4	6	7	5	12
		Medium dense		6.0	SS-5	3	1	1	2
	5.0	Very loose, moist, dark gray, fine grained, SILTY SAND (SM, A-7-5(3)), LL=47 PL=30 PI=17 NMC=143.1 %#200=41.4		8.5	SS-6	1	1	1	2
10.0		Very loose, moist, dark gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=26.3 %#200=30.1							
	0.0	Very loose, gray, with trace clay		13.5	SS-7	0	0	0	0
15.0									
	-5.0	Undisturbed sample obtained from 18.5 to 20.5 feet. Approximately 24 inches of recovery. Wet, dark gray and black, with organics and with few sand, FAT CLAY (CH, A-7-5(59)), LL=89 PL=37 PI=52 NMC=109.5 %#200=92.8		18.5	T-1				
20.0									
	-10.0	Medium dense, moist, reddish brown, fine grained, POORLY GRADED SAND with SILT (SP-SM)		23.5	SS-8	6	9	11	20
25.0									
	-15.0	Medium dense		28.5	SS-9	8	9	14	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	

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RECORD OF TEST BORING

Site Description:	I-10 Mobile River Bridge and Bayway					**County:**	Mobile
Boring No.:	W-24	**Boring Location:**	701+61.6	**Offset:**	LT 24.2	**Alignment:**	West Area
ALDOT PE No.:	DPI-0030(005)	**TE Project No.:**	15-1101-0228			**Eng./Geo.:**	C. Tisher
Elev.:	13.2 ft.	**Northing:**	248216.65	**Easting:**	1797674.49	**Date Started:**	9/24/2017
Total Depth:	50.0 ft.	**Soil Depth:**	50.0 ft.	**Core Depth:**	0.0 ft.	**Date Completed:**	9/24/2017
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** N.O.	**Delayed:**	8.2 ft.

Depth (ft)	Elevation (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft.)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	N Value (Field)
30.0									
	-20.0								
		Medium dense, moist, pale brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=23.0 %#200=7.3		33.5	SS-10	6	9	14	23
35.0									
	-25.0								
		Medium dense,white		38.5	SS-11	7	9	9	18
40.0									
	-30.0								
		Medium dense, fine to medium grained		43.5	SS-12	8	10	16	26
45.0									
	-35.0								
		Dense, moist, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=25.3 %#200=5.1		48.5	SS-13	12	15	19	34
50.0		Boring Terminated at 50.0 feet.							

● 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	

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:38 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

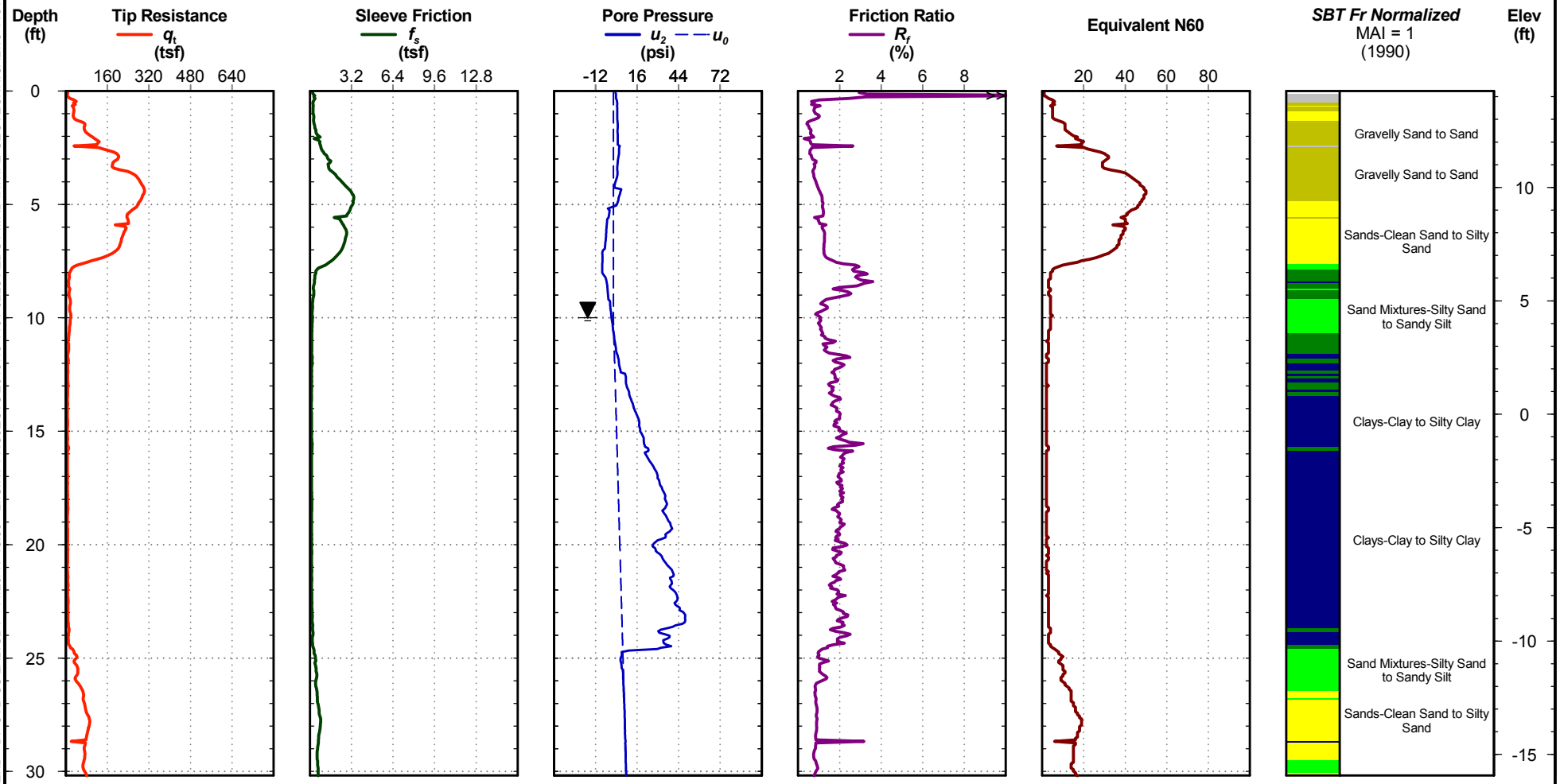
Cone Penetration Test

TC-01

Project #: 17-1101-0145
Date: Oct. 31, 2017

Northing: 239048.6
Easting: 1839928.7

Elevation: 14.25
Filename: TC-1.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-01

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:38 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

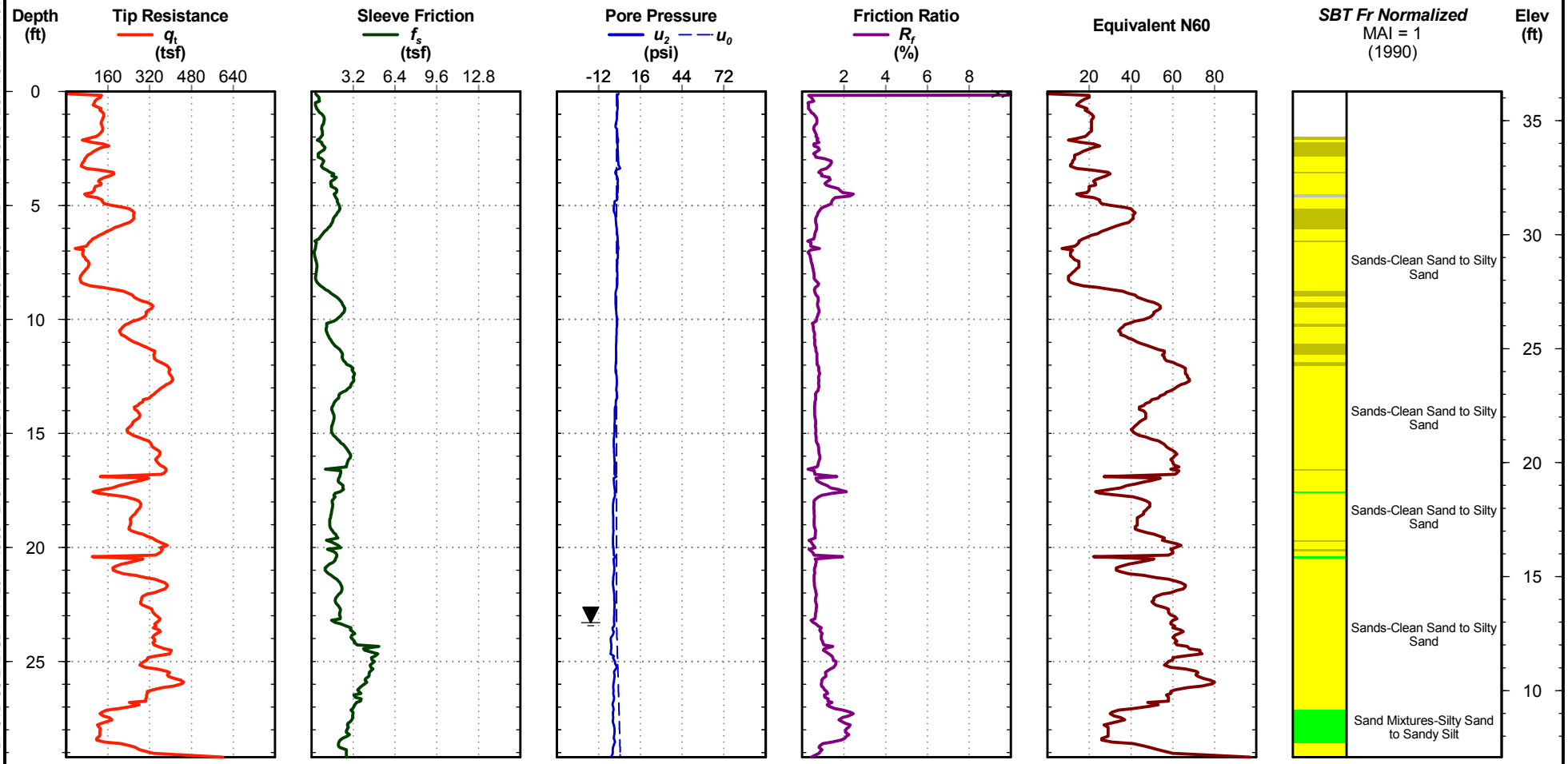
Cone Penetration Test

TC-02

Project #: 17-1101-0145
Date: Nov. 15, 2017

Northing: 243122.5
Easting: 1795507.6

Elevation: 36.28
Filename: TC-2.cpt



*Water level measured from adjacent boring W-5

1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-02

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:39 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

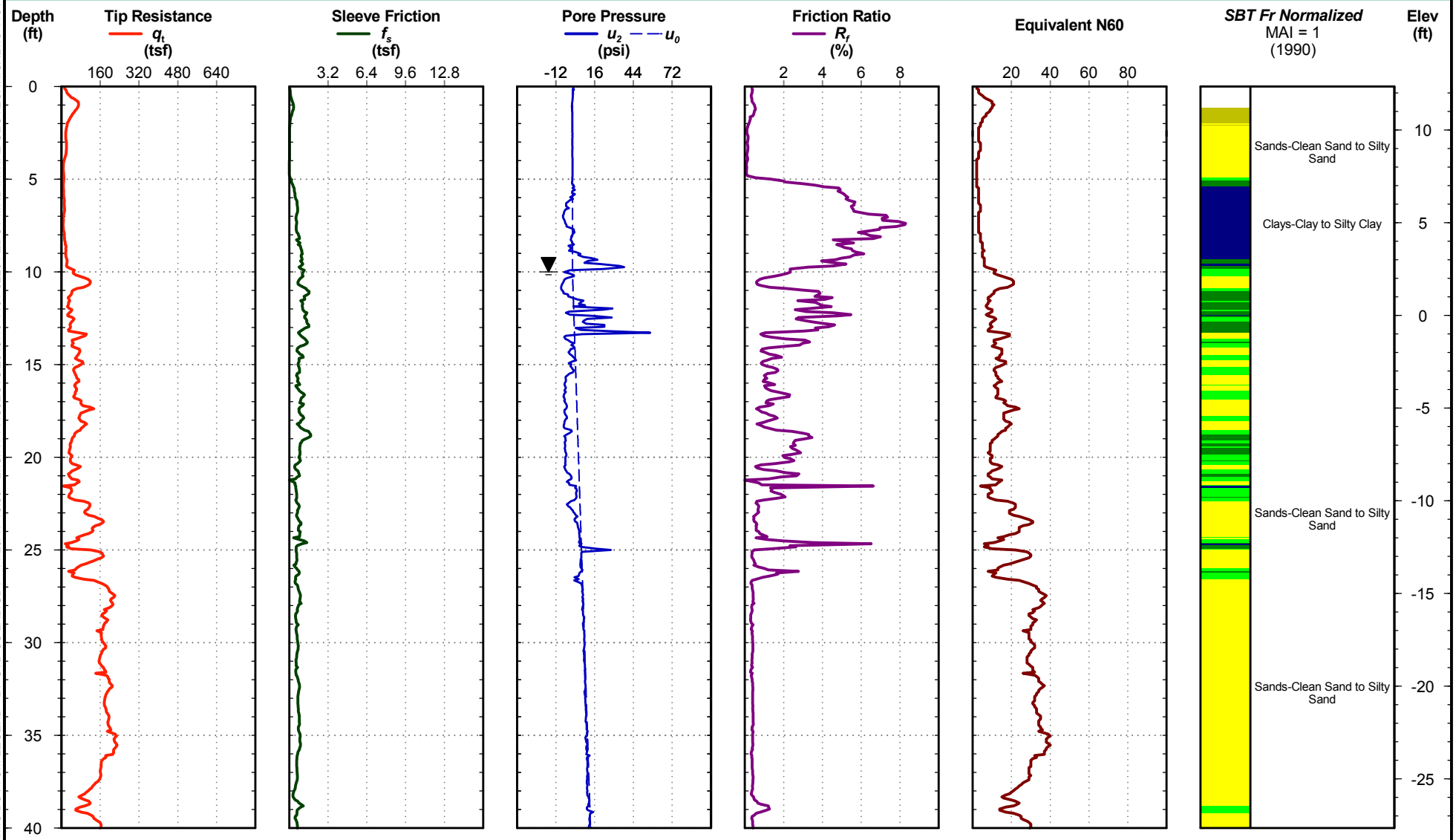
Cone Penetration Test

TC-03

Project #: 17-1101-0145
Date: Nov. 3, 2017

Northing: 243514.4
Easting: 1796069.0

Elevation: 12.35
Filename: TC-03C.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-03

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:39 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

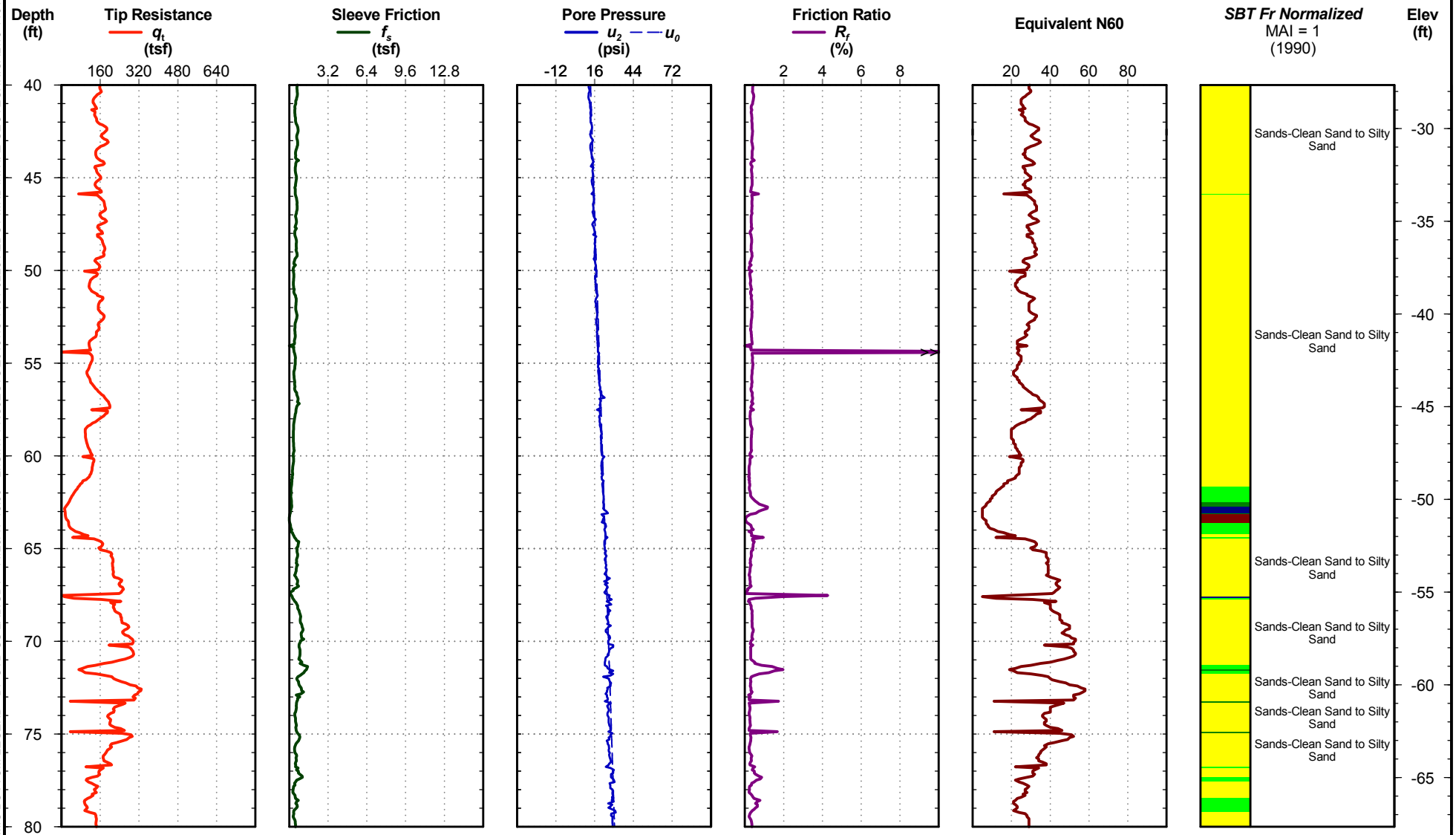
Cone Penetration Test

TC-03

Project #: 17-1101-0145
Date: Nov. 3, 2017

Northing: 243514.4
Easting: 1796069.0

Elevation: 12.35
Filename: TC-03C.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-03

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:39 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

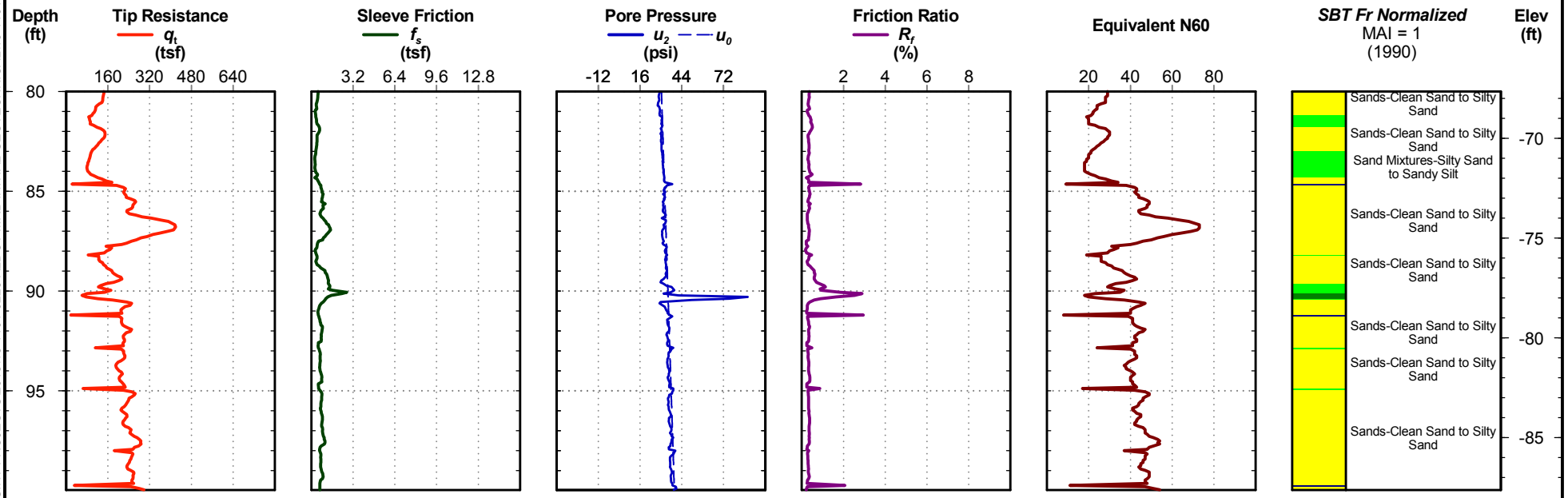
Cone Penetration Test

TC-03

Project #: 17-1101-0145
Date: Nov. 3, 2017

Northing: 243514.4
Easting: 1796069.0

Elevation: 12.35
Filename: TC-03C.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-03

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:39 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

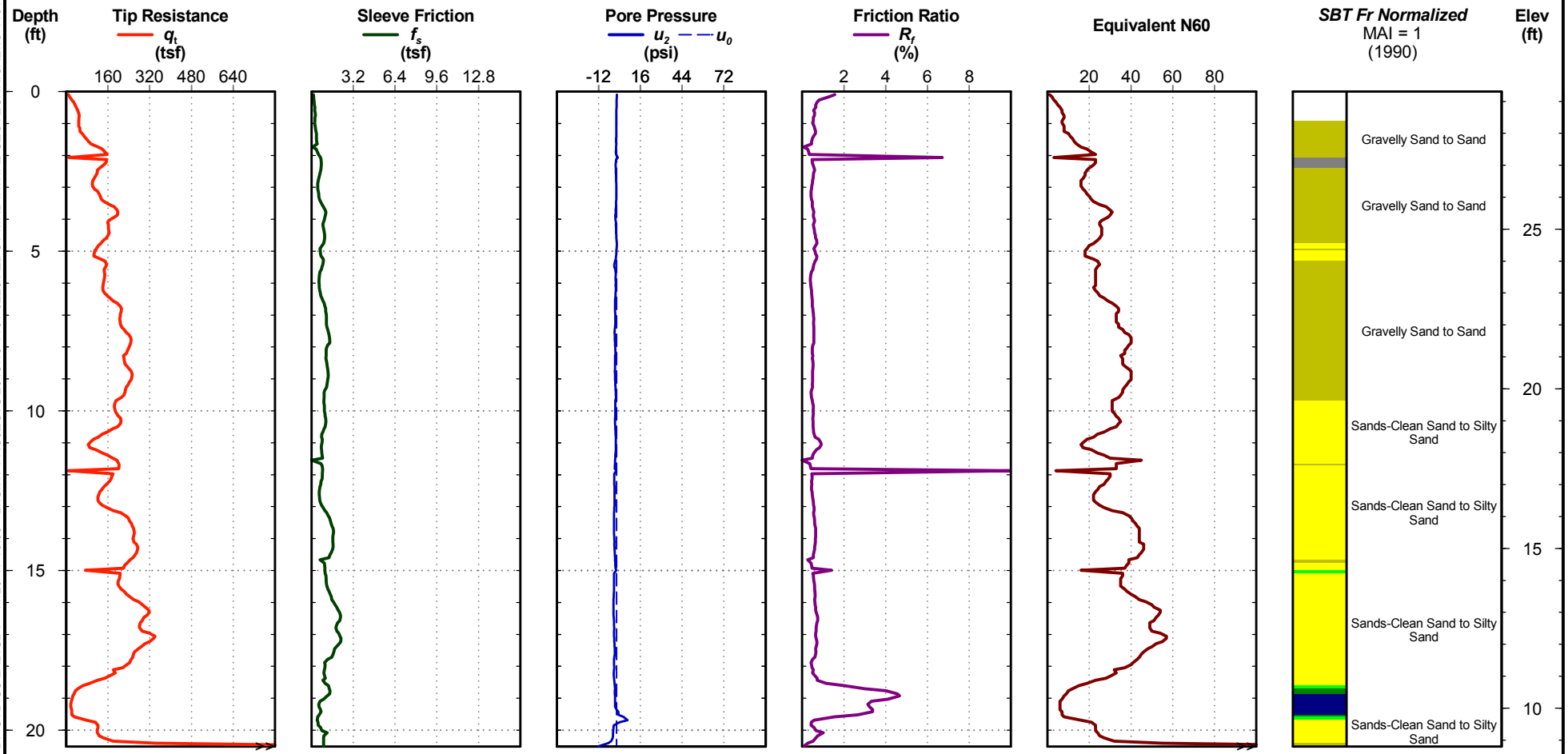
Cone Penetration Test

TC-04

Project #: 17-1101-0145
Date: Nov. 15, 2017

Northing: 244468.7
Easting: 1796486.0

Elevation: 29.31
Filename: TC-4.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-04

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:39 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

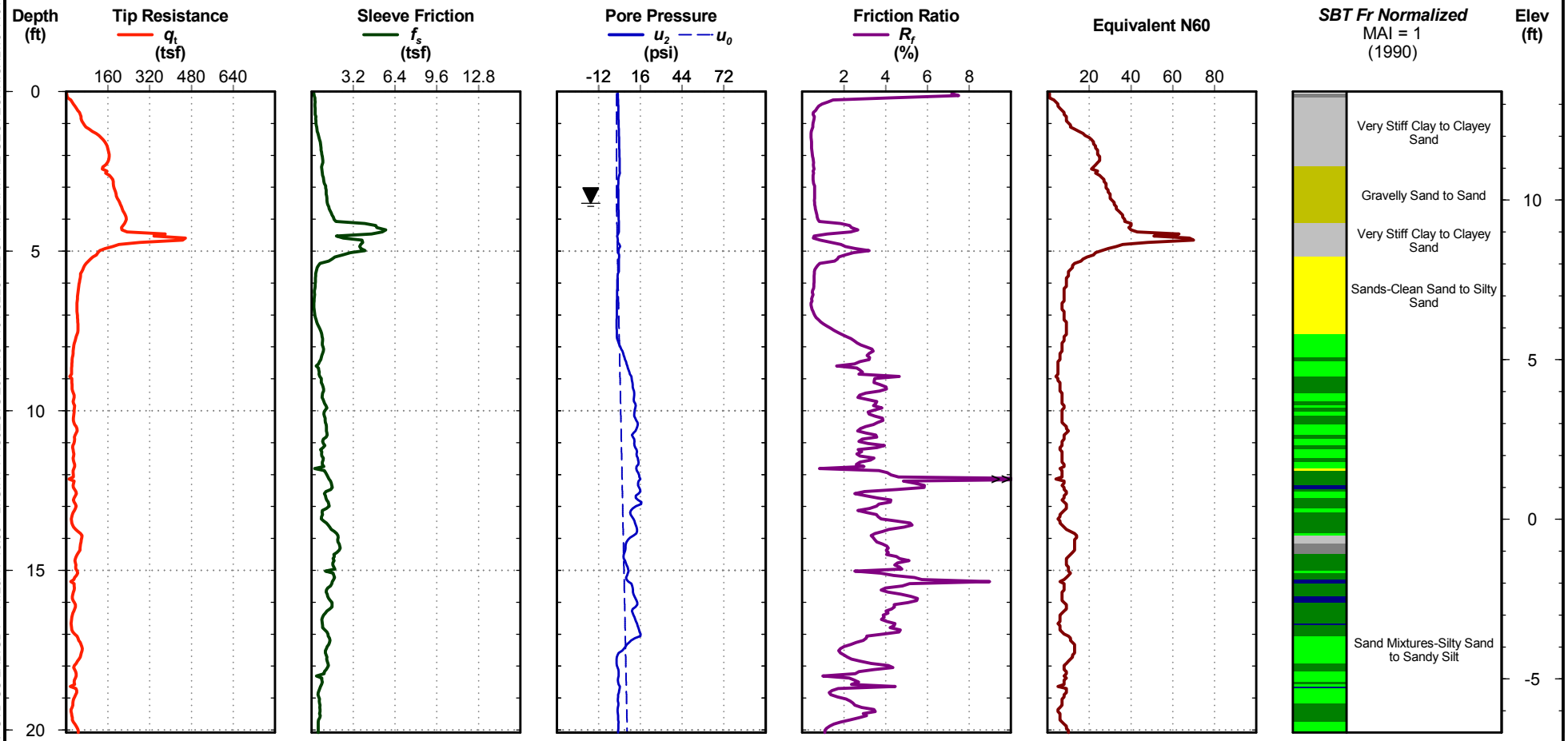
Cone Penetration Test

TC-05

Project #: 17-1101-0145
Date: Oct. 31, 2017

Northing: 244195.7
Easting: 1796571.4

Elevation: 13.40
Filename: TC-5.cpt



*Water level measured from adjacent boring TH-6

1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-05

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:40 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

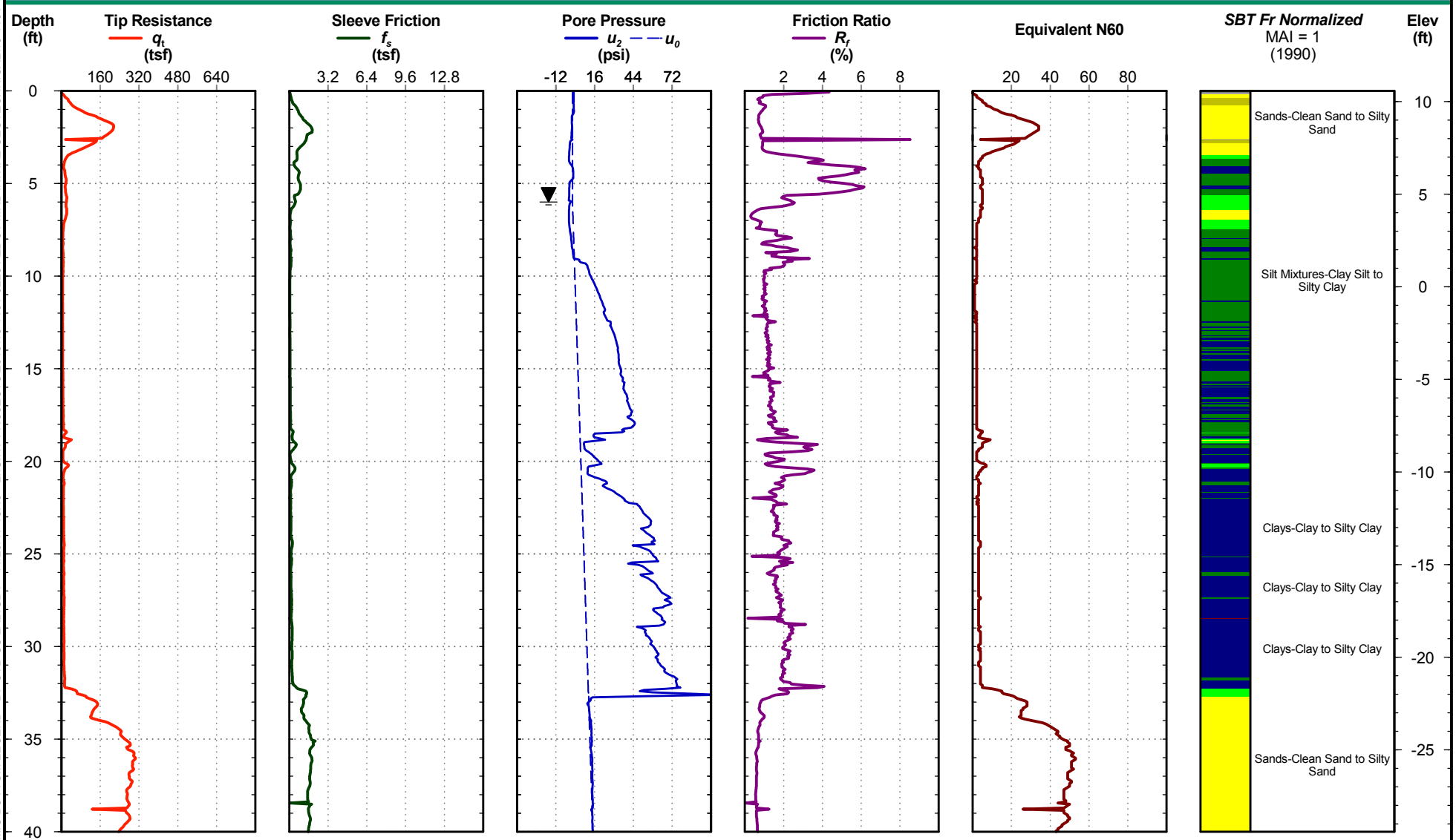
Cone Penetration Test

TC-06

Project #: 17-1101-0145
Date: Oct. 31, 2017

Northing: 244589.0
Easting: 1796880.3

Elevation: 10.58
Filename: TC-6.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-06

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:40 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

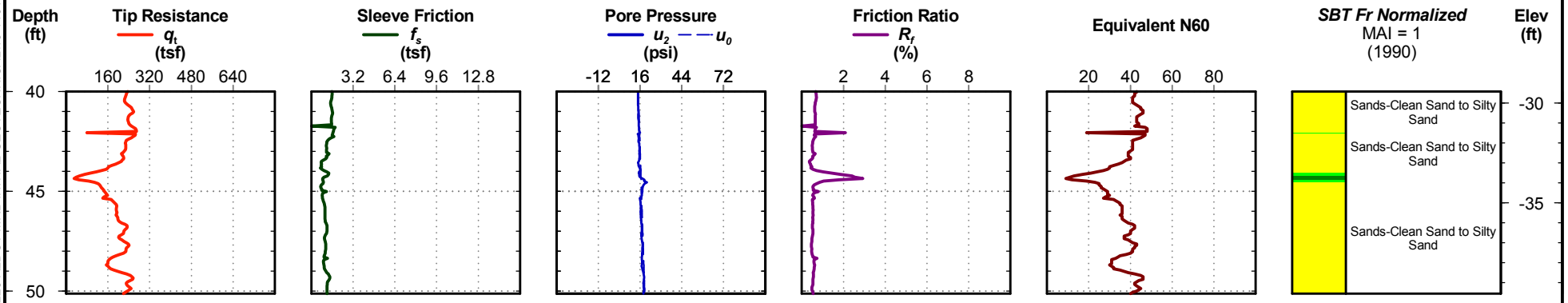
Cone Penetration Test

TC-06

Project #: 17-1101-0145
Date: Oct. 31, 2017

Northing: 244589.0
Easting: 1796880.3

Elevation: 10.58
Filename: TC-6.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-06

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:40 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

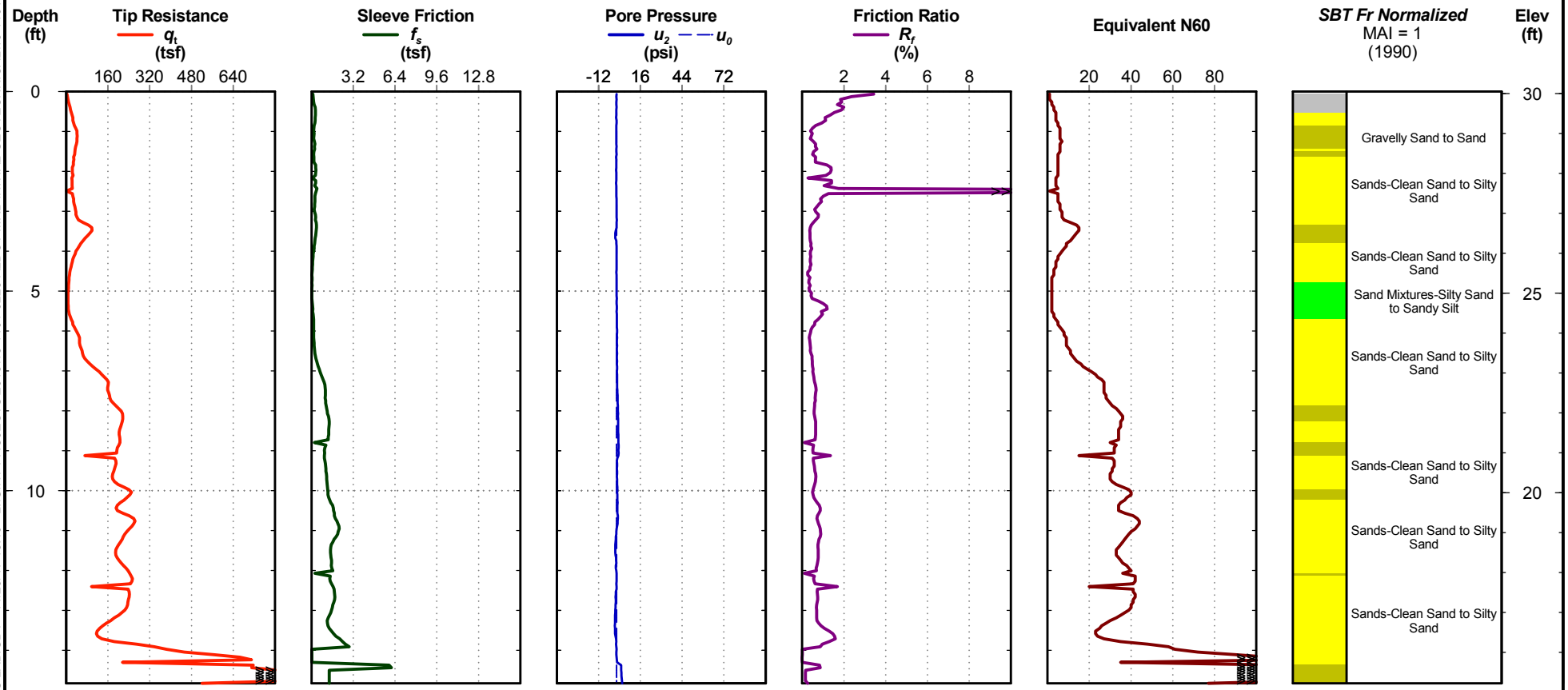
Cone Penetration Test

TC-07

Project #: 17-1101-0145
Date: Oct. 31, 2017

Northing: 245154.1
Easting: 1796887.8

Elevation: 30.05
Filename: TC-7A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-07

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:40 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

thompson ENGINEERING

Mobile River Bridge CPT Investigation
Mobile, Alabama

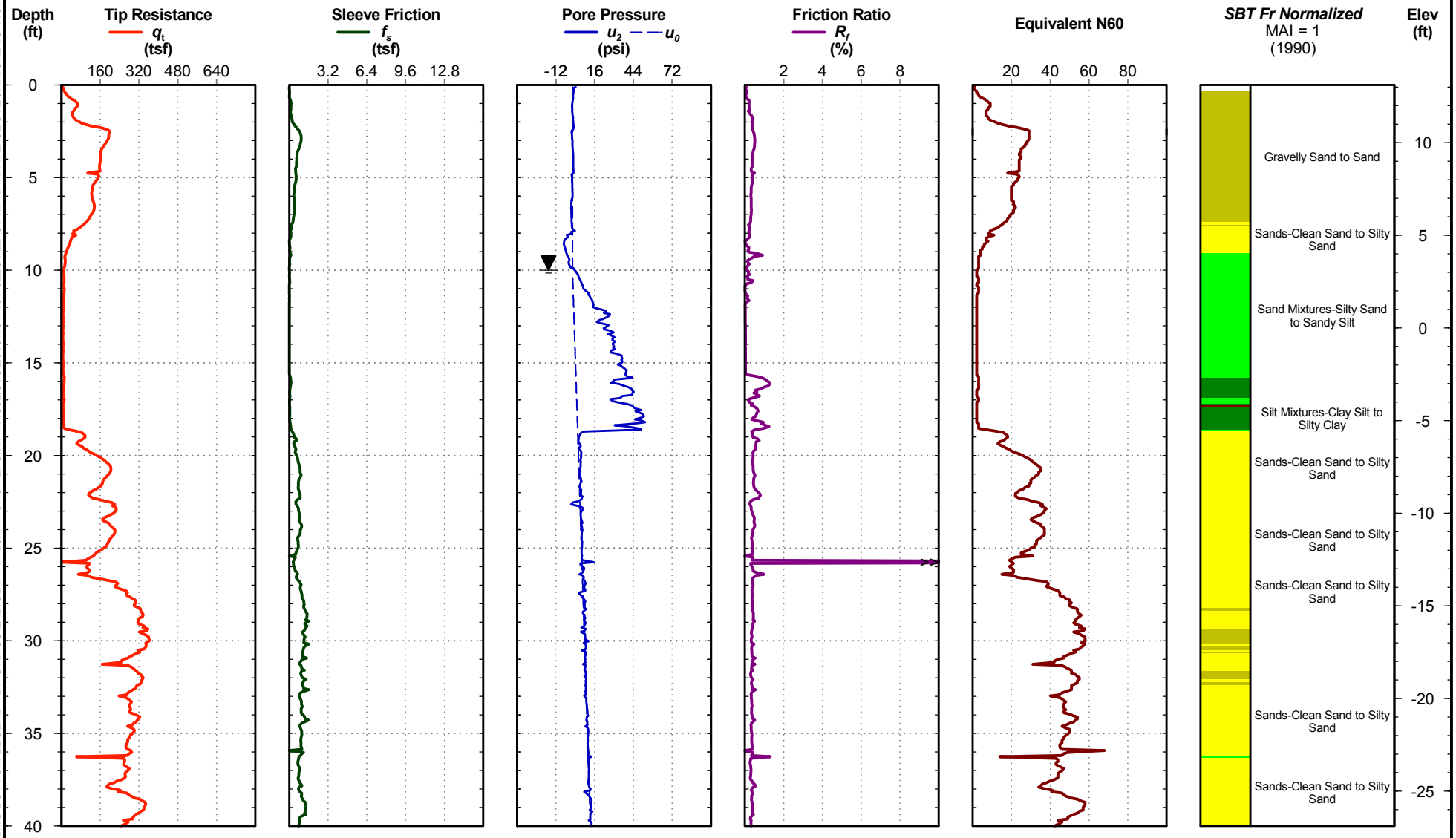
Cone Penetration Test

TC-08

Project #: 17-1101-0145
Date: Nov. 3, 2017

Northing: 245680.0
Easting: 1797174.6

Elevation: 13.12
Filename: TC-8.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-08

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:40 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile, Alabama

Cone Penetration Test

TC-08

Project #: 17-1101-0145
Date: Nov. 3, 2017

Northing: 245680.0
Easting: 1797174.6

Elevation: 13.12
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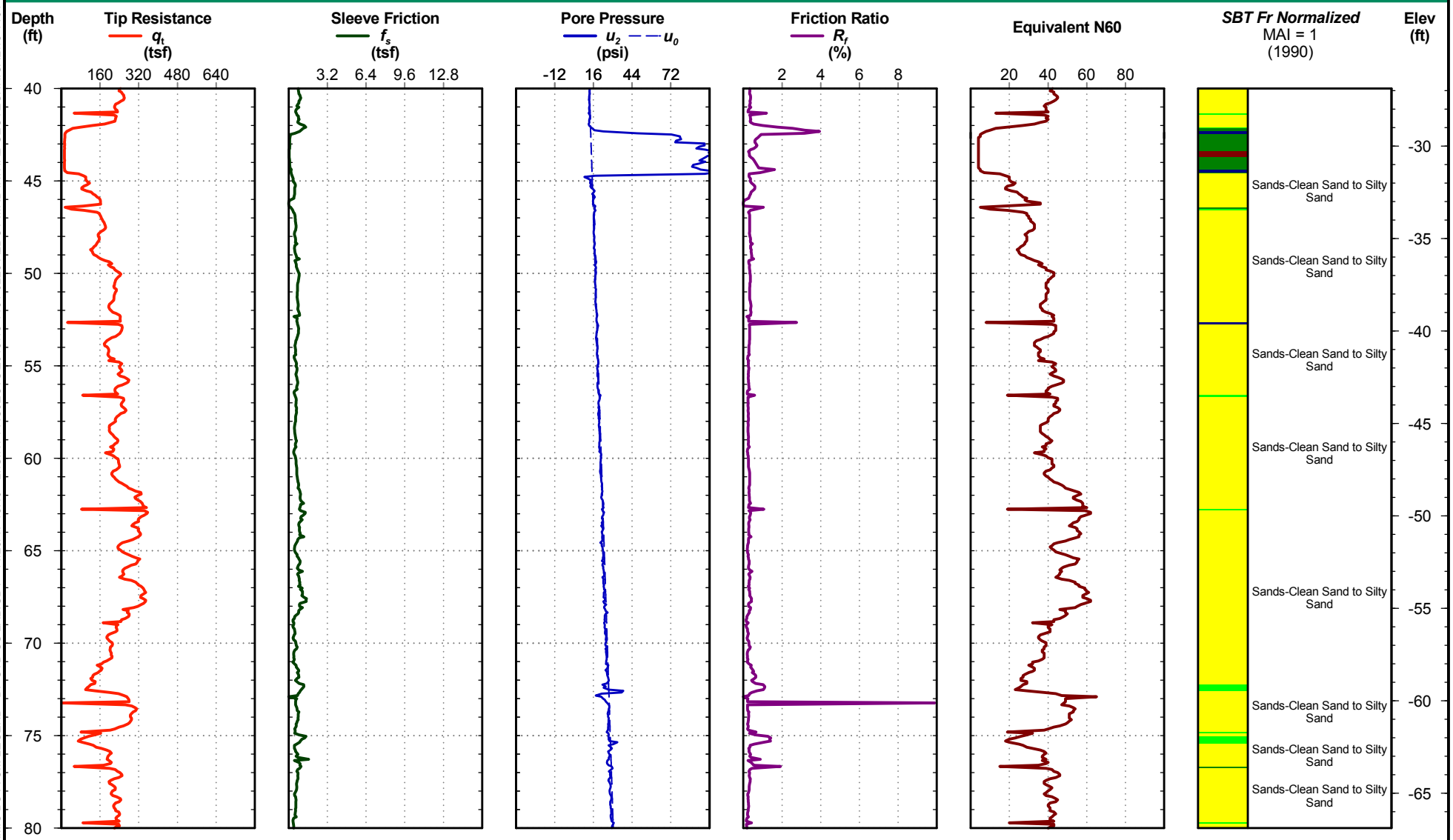

1 - Sensitive, Fine Grained Soils
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5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-08

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:40 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Cone Penetration Test

TC-08

Project #: 17-1101-0145
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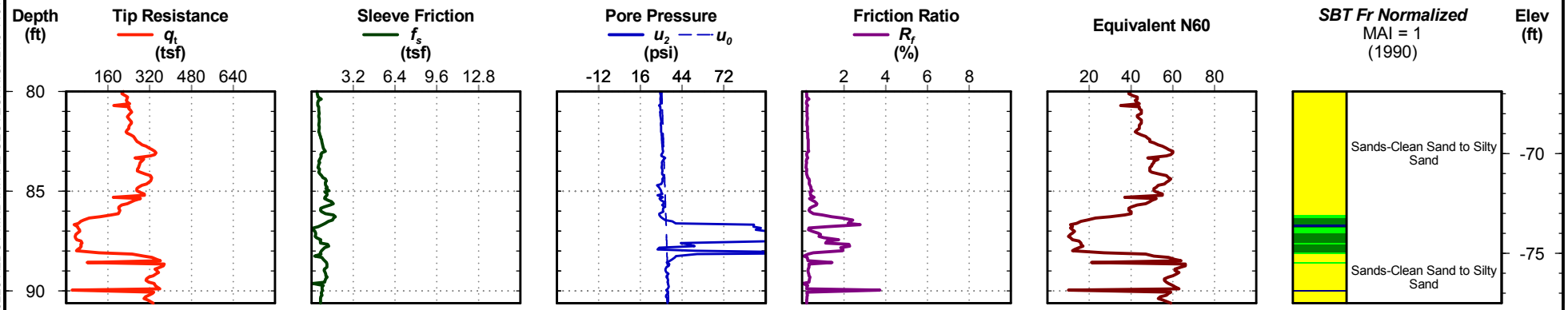

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5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-08

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:41 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

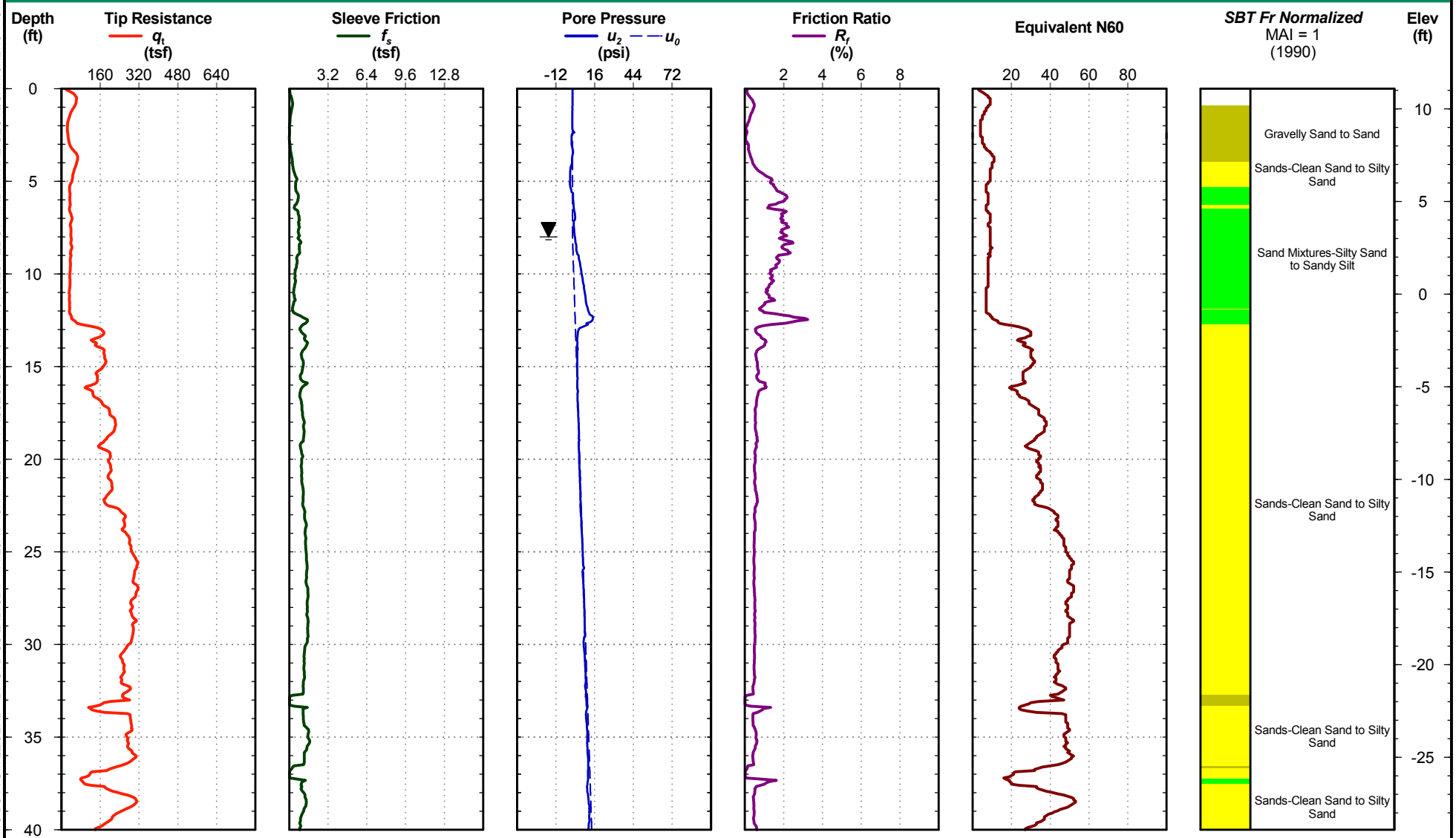
Cone Penetration Test

TC-09

Project #: 17-1101-0145
Date: Oct. 31, 2017

Northing: 245278.9
Easting: 1797378.2

Elevation: 11.09
Filename: TC-9.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-09

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:41 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

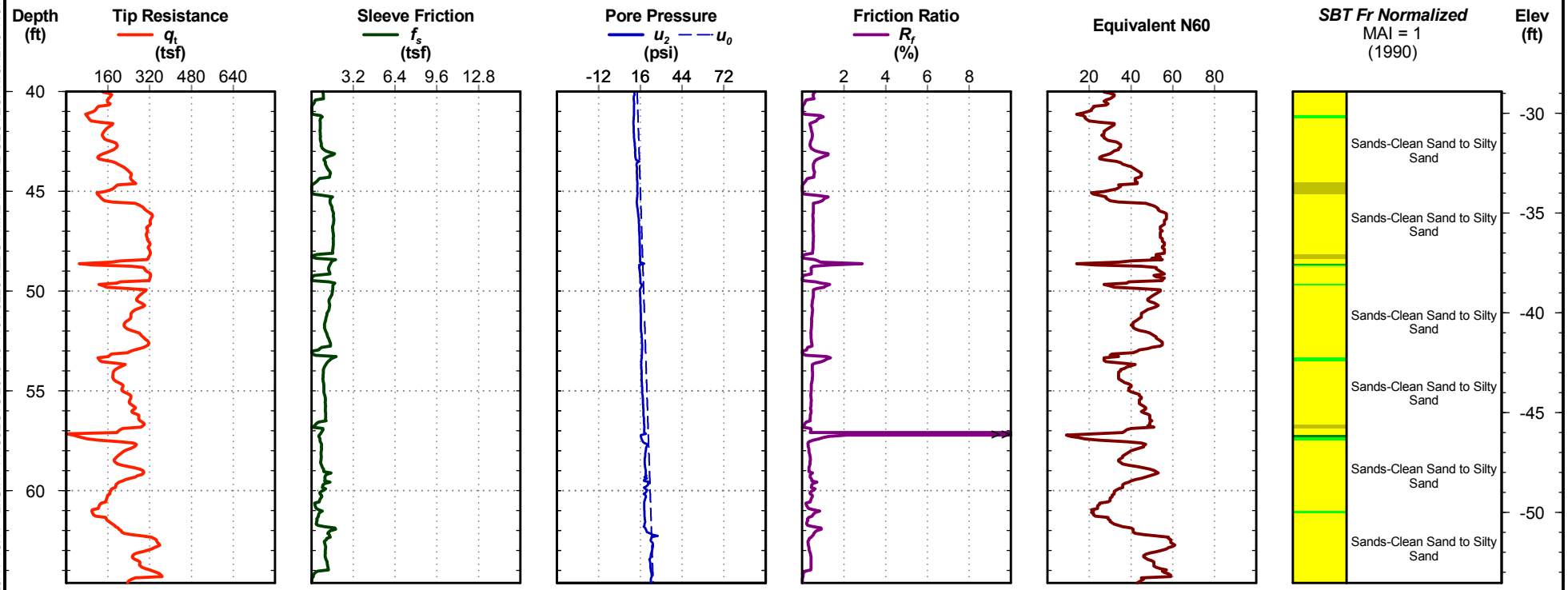
Cone Penetration Test

TC-09

Project #: 17-1101-0145
Date: Oct. 31, 2017

Northing: 245278.9
Easting: 1797378.2

Elevation: 11.09
Filename: TC-9.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-09

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:41 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

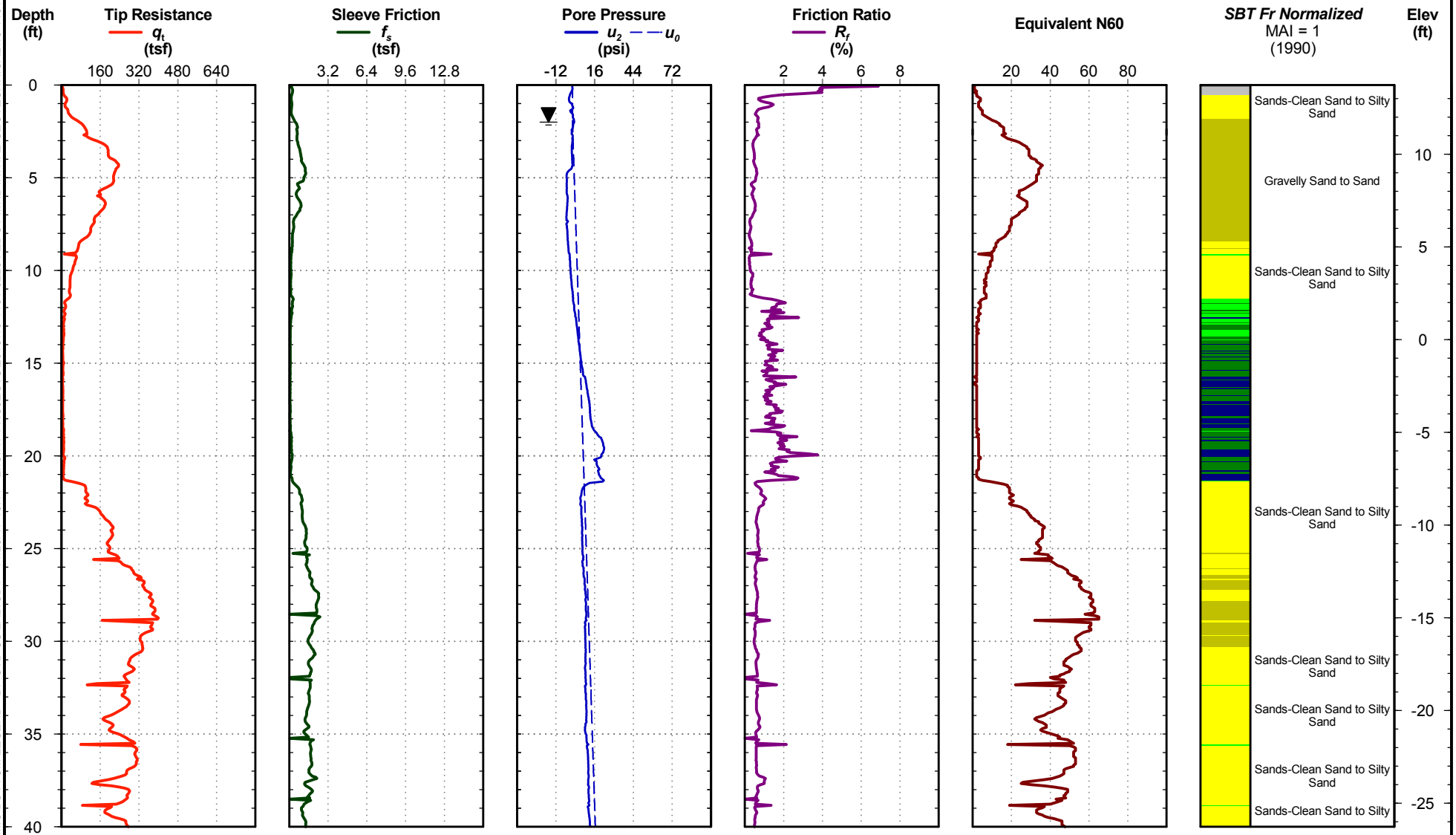
Cone Penetration Test

TC-10

Project #: 17-1101-0145
Date: Oct. 31, 2017

Northing: 246045.2
Easting: 1797326.6

Elevation: 13.73
Filename: TC-10.cpt



*Water level measured from adjacent boring W-19

1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-10

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:41 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

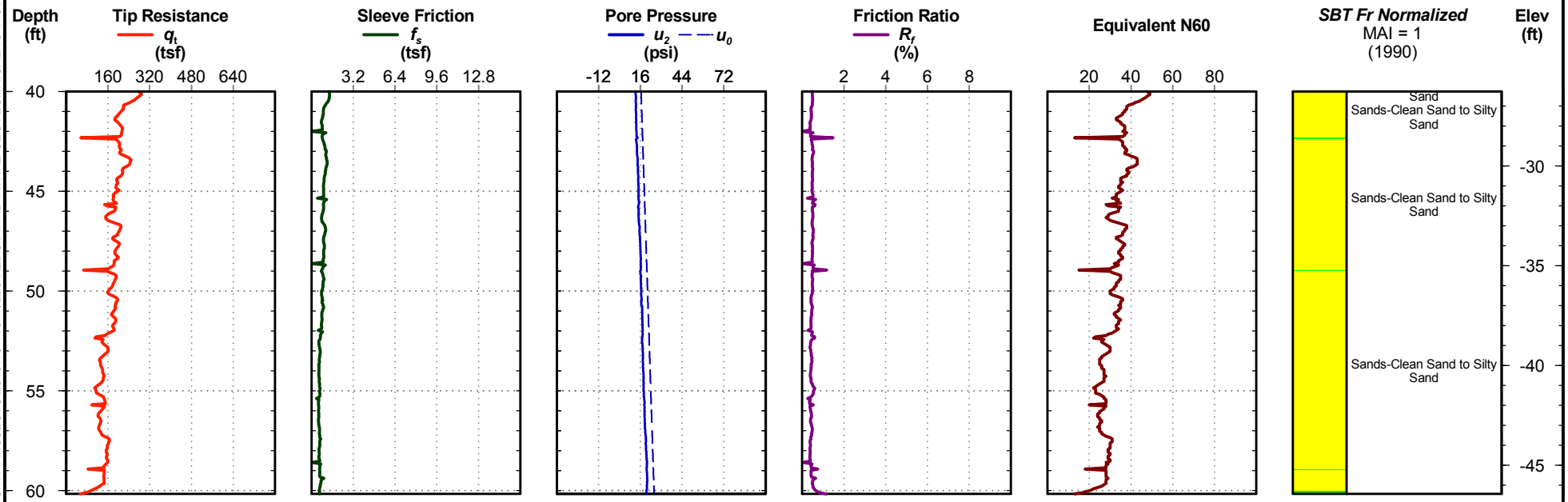
Cone Penetration Test

TC-10

Project #: 17-1101-0145
Date: Oct. 31, 2017

Northing: 246045.2
Easting: 1797326.6

Elevation: 13.73
Filename: TC-10.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-10

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:42 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile, Alabama

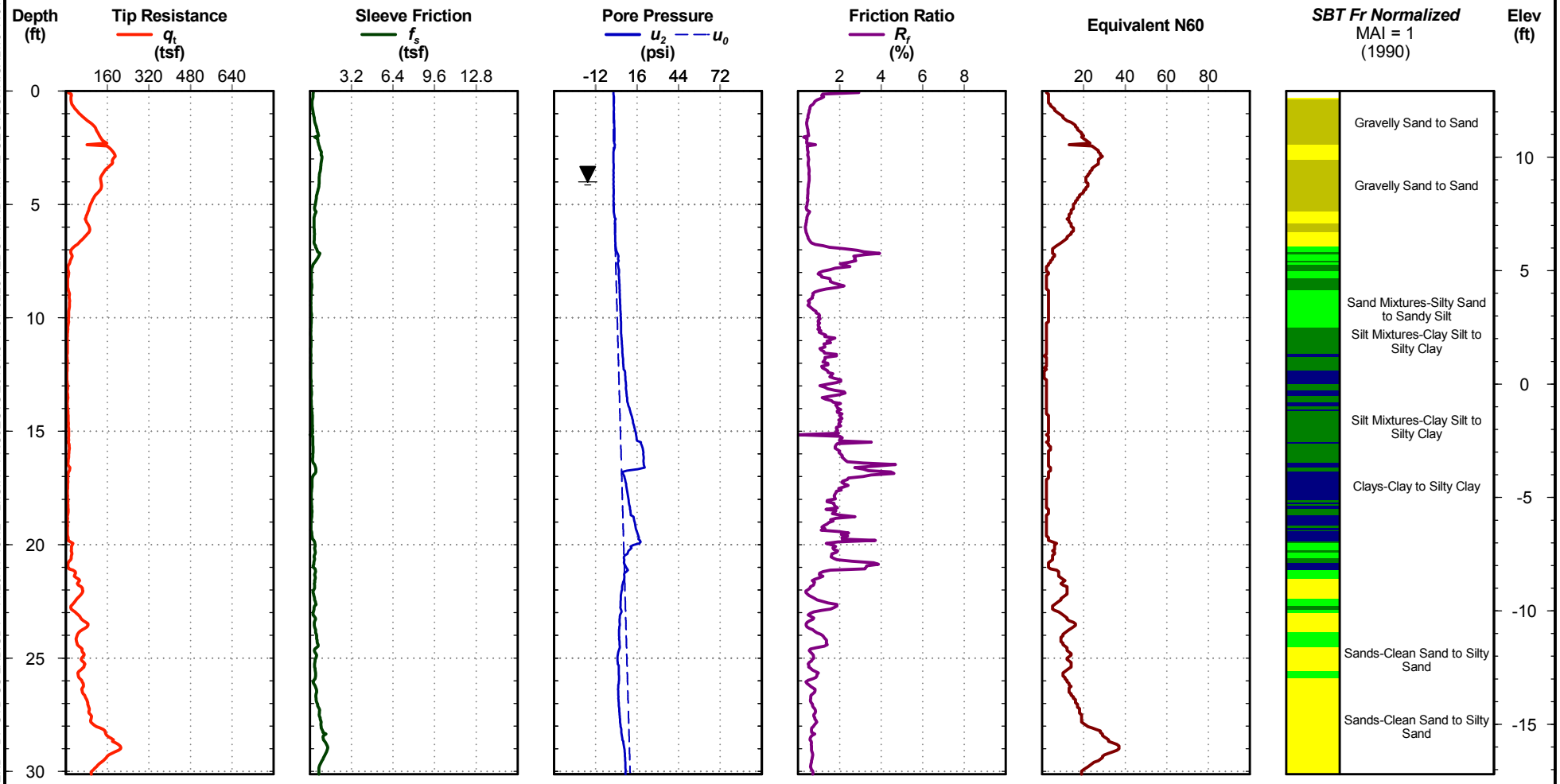
Cone Penetration Test

TC-11

Project #: 17-1101-0145
Date: Oct. 31, 2017

Northing: 246632.5
Easting: 1797448.6

Elevation: 12.92
Filename: TC-11.cpt



*Water level measured from adjacent boring W-21

1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-11

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:42 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

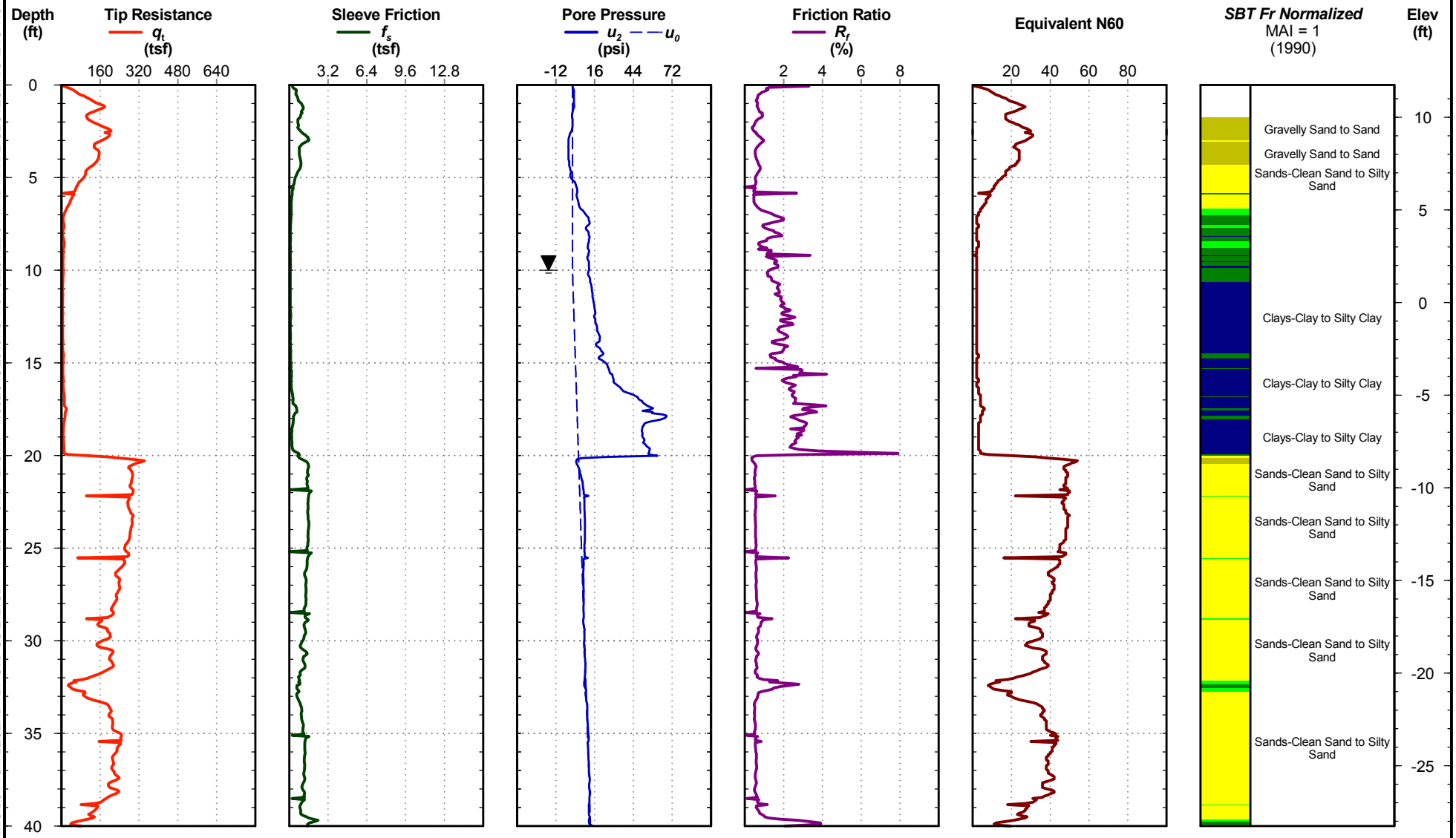
Cone Penetration Test

TC-12

Project #: 17-1101-0145
Date: Nov. 15, 2017

Northing: 249094.7
Easting: 1797881.4

Elevation: 11.74
Filename: TC-12.cpt



1 - Sensitive, Fine Grained Soils
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3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-12

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:42 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile, Alabama

Cone Penetration Test

TC-12

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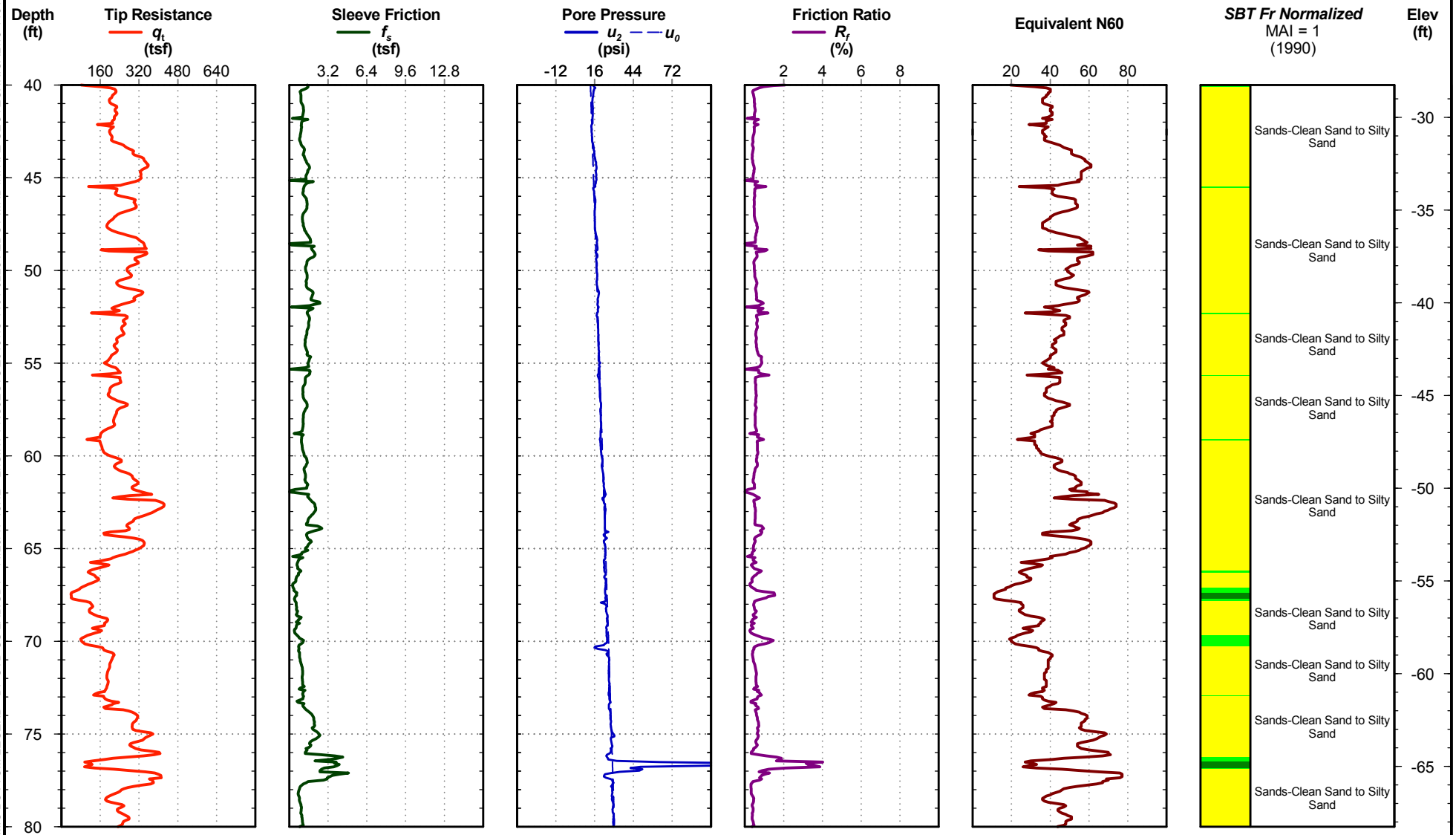

TC-12

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:42 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

Cone Penetration Test

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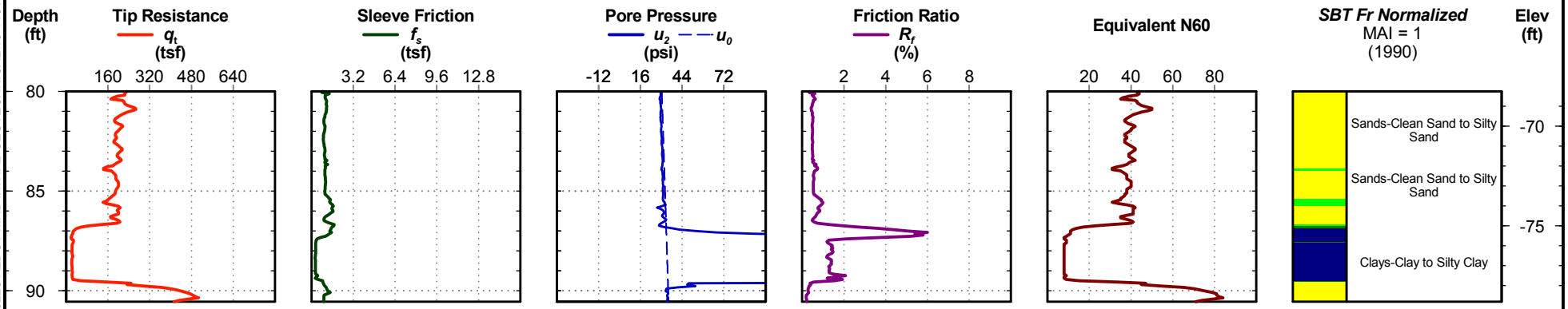

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5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-12

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:43 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

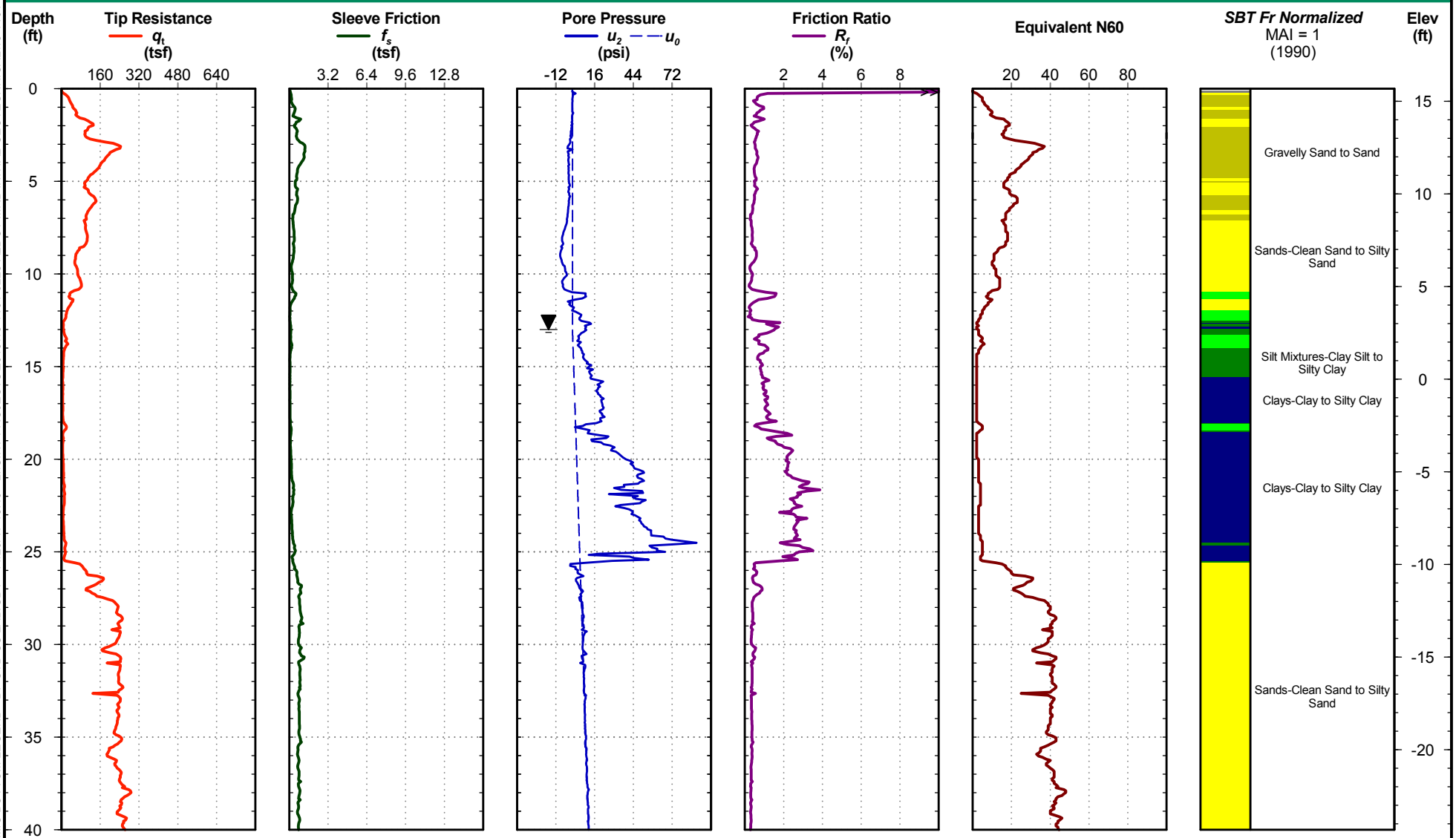
Cone Penetration Test

TC-13

Project #: 17-1101-0145
Date: Nov. 3, 2017

Northing: 249877.7
Easting: 1798319.7

Elevation: 15.68
Filename: TC-13.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
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5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-13

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:43 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

thompson ENGINEERING

Mobile River Bridge CPT Investigation
Mobile, Alabama

Cone Penetration Test

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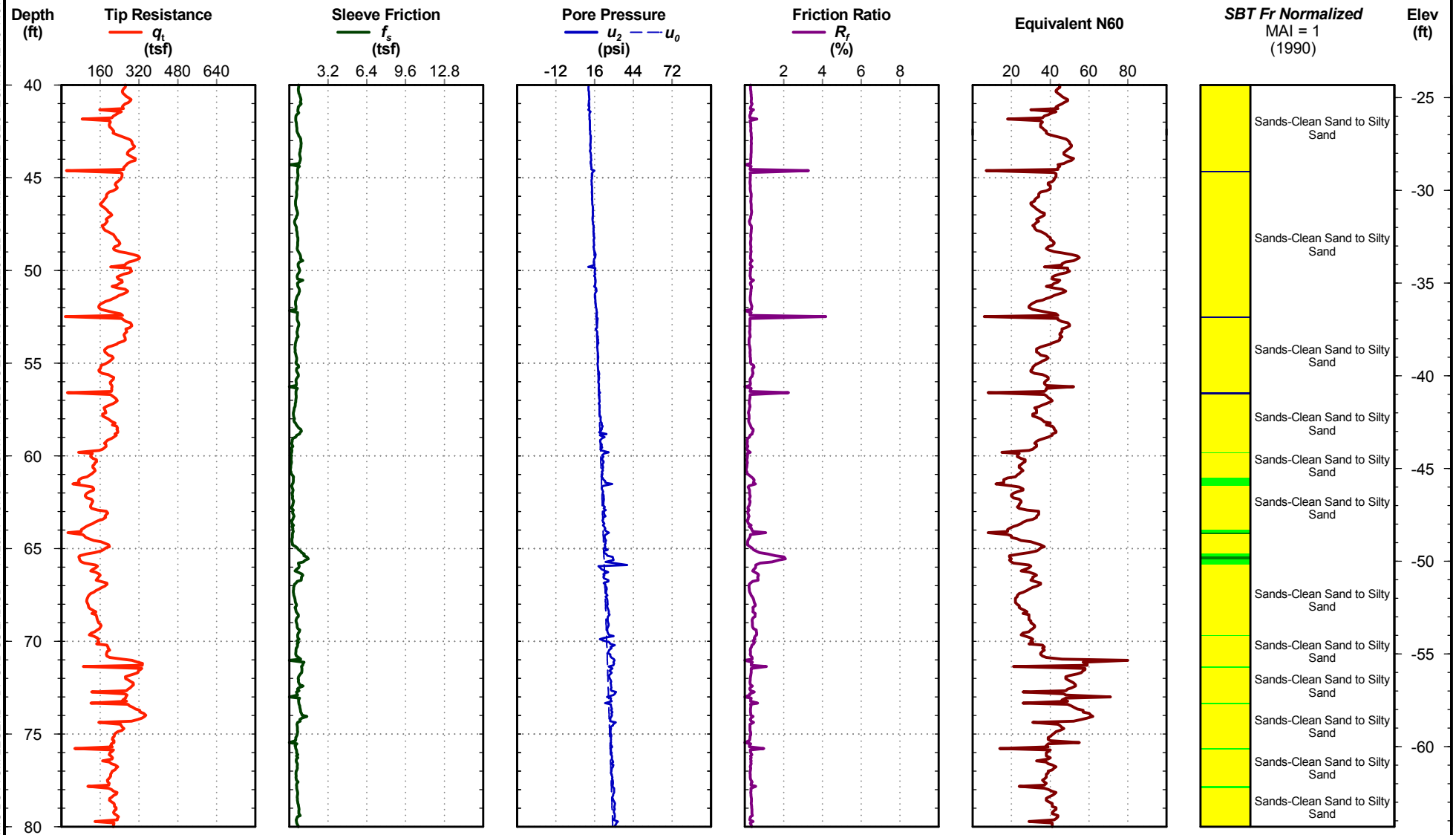
Project #: 17-1101-0145
Date: Nov. 3, 2017

Northing: 249877.7
Easting: 1798319.7

Elevation: 15.68
Filename: TC-13.cpt



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5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-13

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:43 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile, Alabama

Cone Penetration Test

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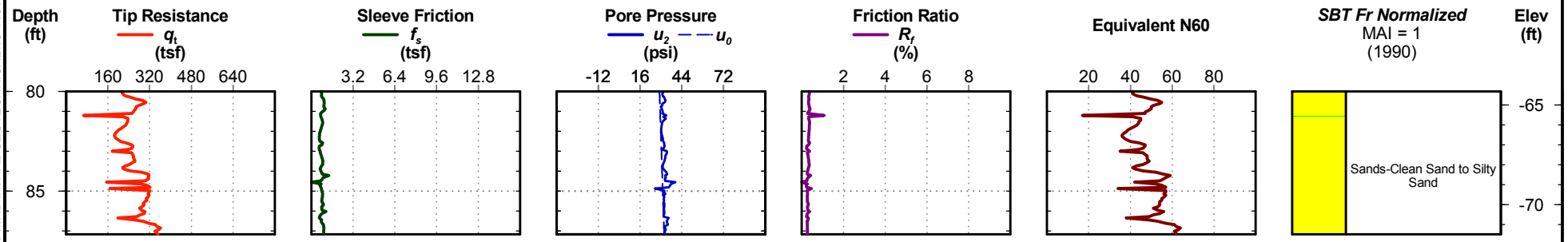

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6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-13

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:44 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

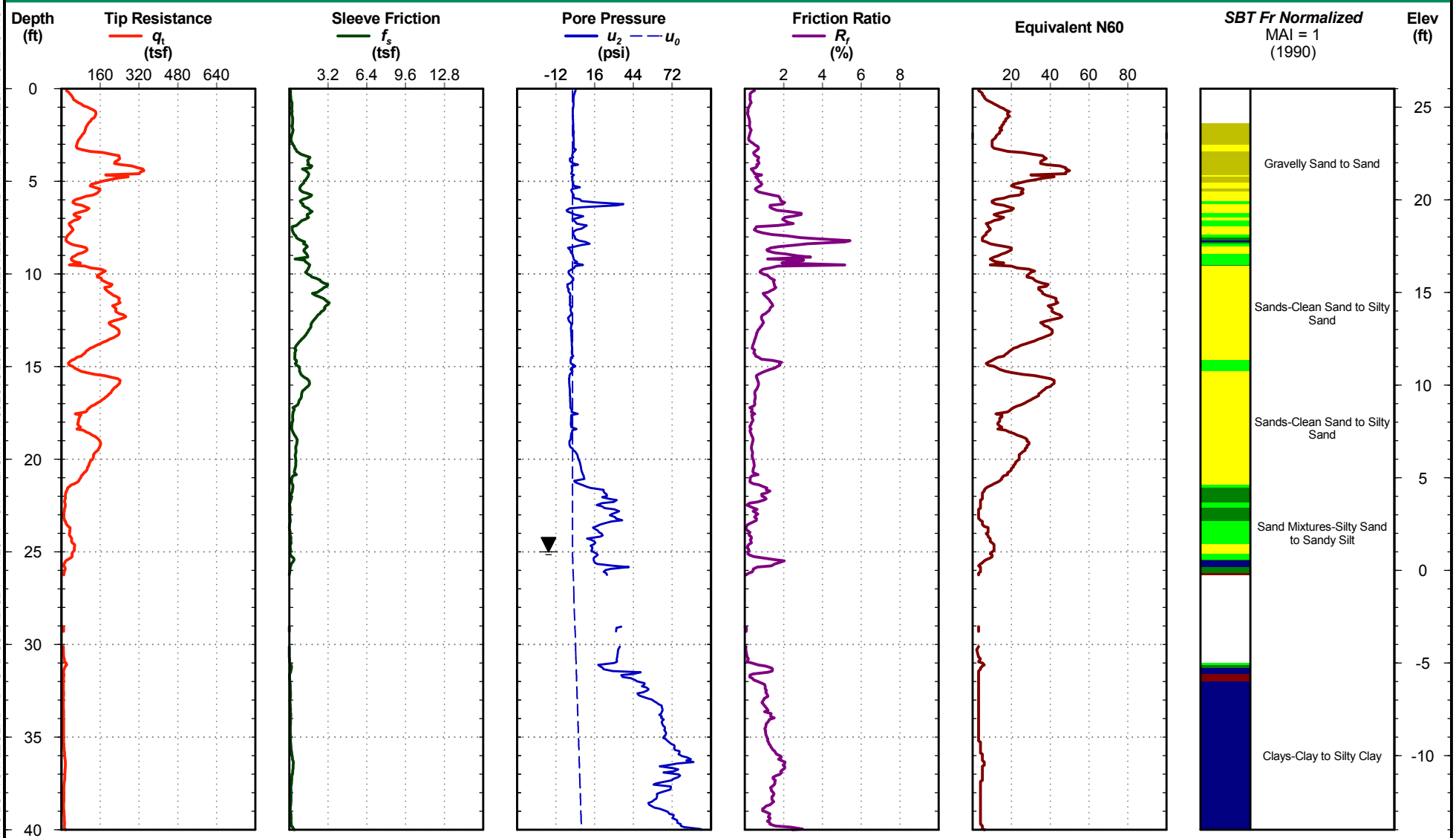
Cone Penetration Test

TC-14

Project #: 17-1101-0145
Date: Nov. 15, 2017

Northing: 250026.0
Easting: 1798083.2

Elevation: 26.00
Filename: TC-14.cpt



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4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-14

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:44 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

thompson ENGINEERING

Mobile River Bridge CPT Investigation
Mobile, Alabama

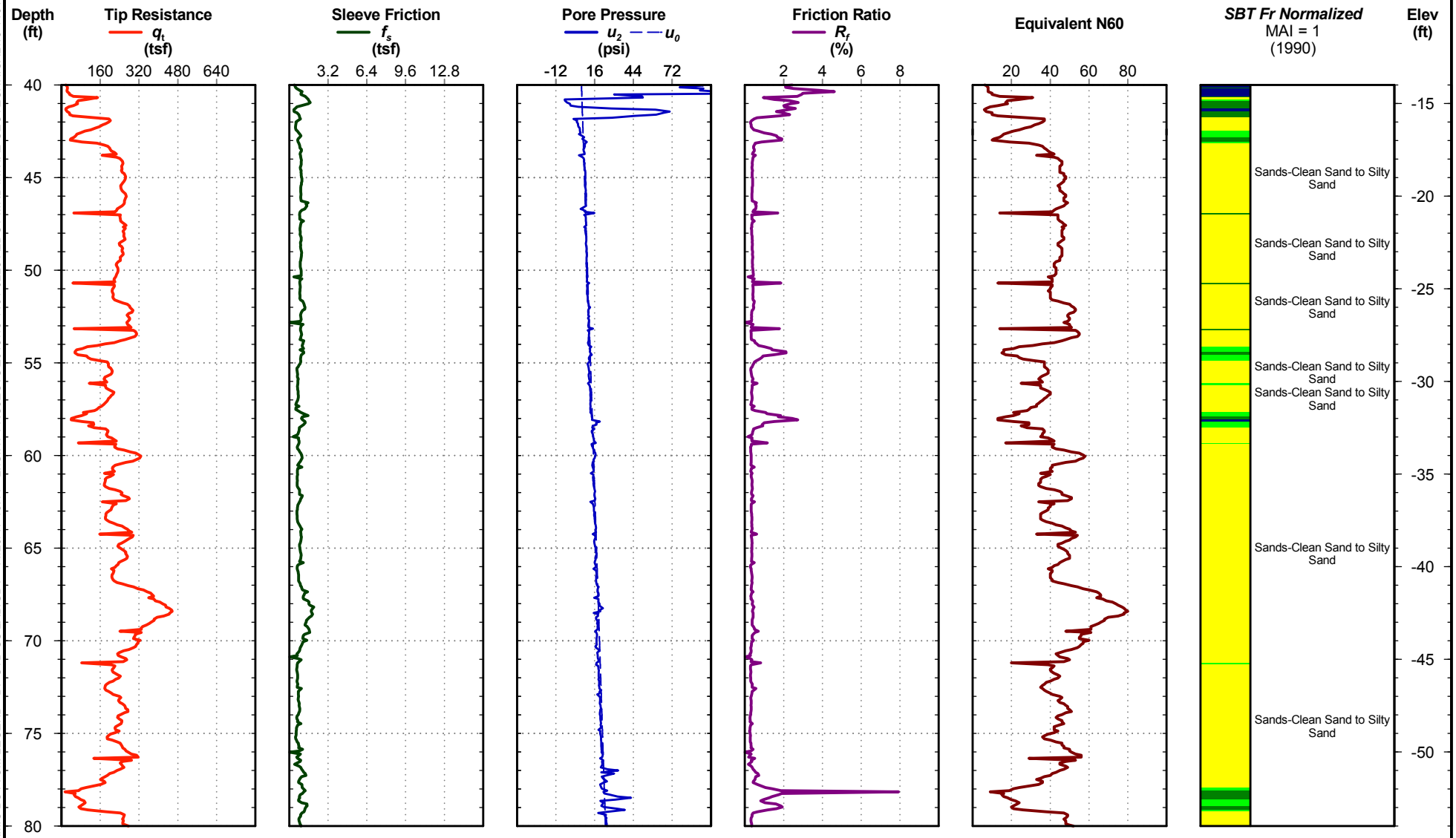
Cone Penetration Test

TC-14

Project #: 17-1101-0145
Date: Nov. 15, 2017

Northing: 250026.0
Easting: 1798083.2

Elevation: 26.00
Filename: TC-14.cpt



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5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-14

CPT REPORT - DYNAMIC BOTTOM LEGEND - DF STD US LAB.GDT - 11/29/17 15:44 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 CPT INVESTIGATIONS.GP

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Mobile River Bridge CPT Investigation
Mobile, Alabama

Cone Penetration Test

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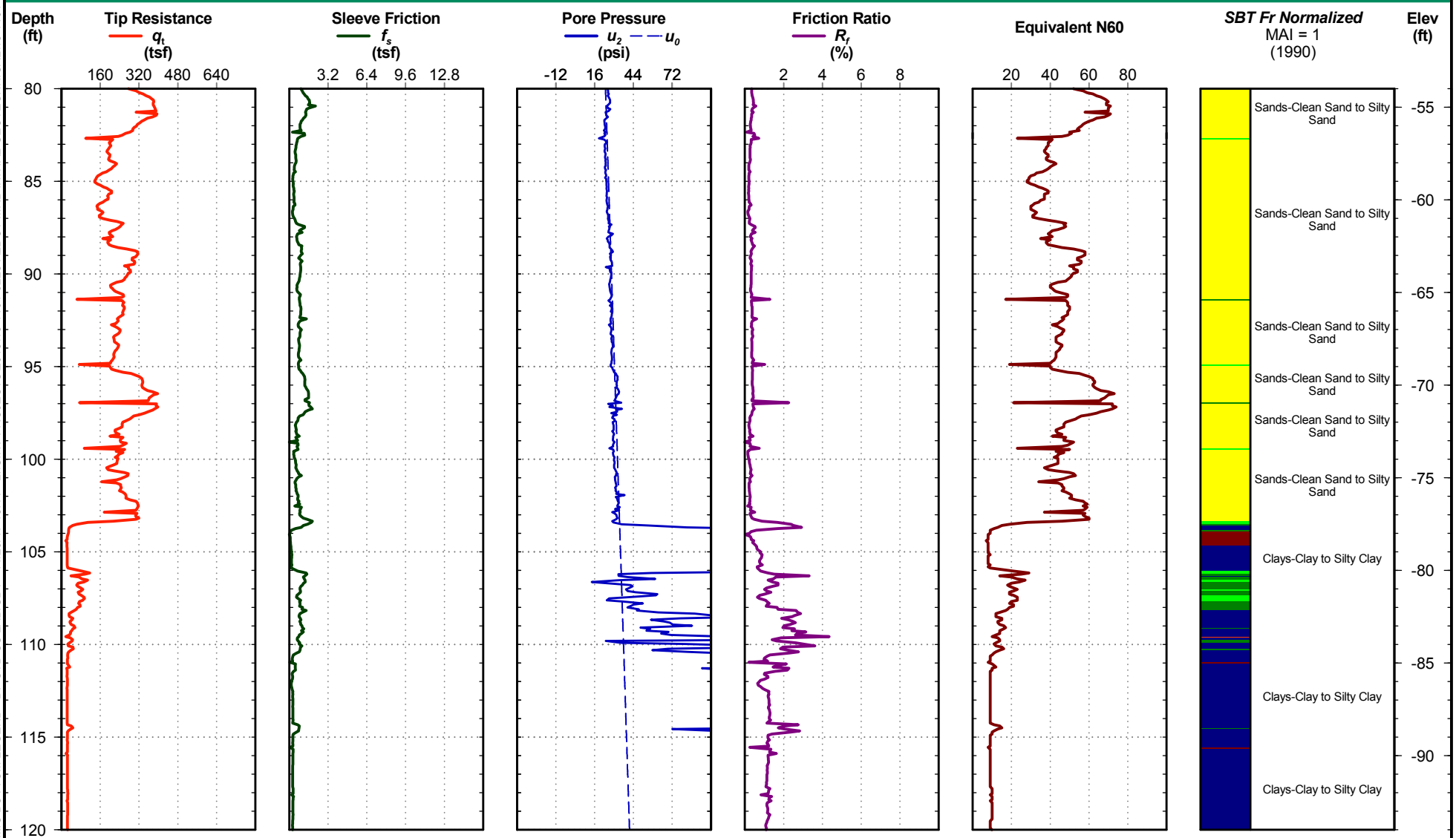

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5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-14

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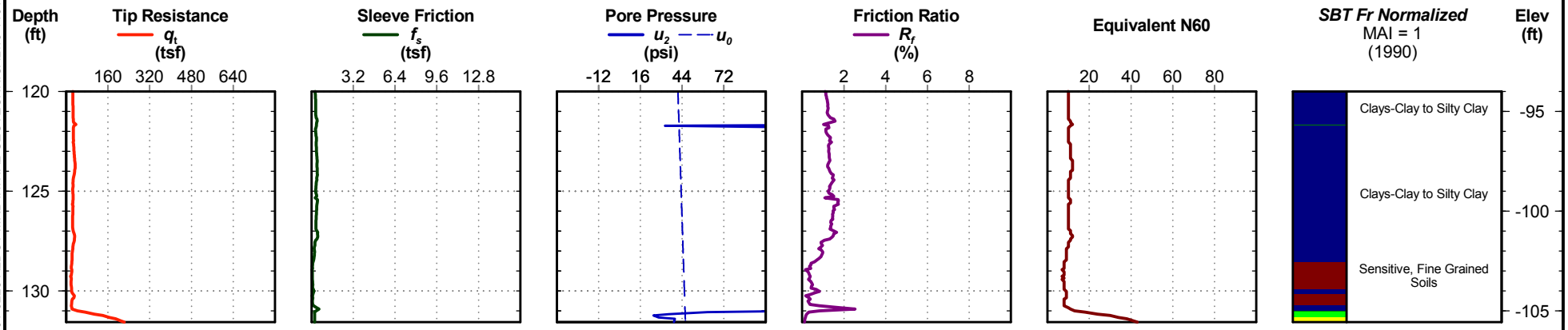

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6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

TC-14

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		

ALDOT MRB LEGEND - GINT STD US LAB.GDT - 11/16/17 10:42 - L:\GINT PROJECTS\2015\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL\15-1101-0228 ALDOT MRB INITIAL GEOTECHNICAL.GPJ

APPENDIX C

- **Laboratory Summary**
- **BMT-5's**
- **Consolidated Undrained (C.U.) Triaxial Shear Tests**
- **Unconsolidated Undrained (U.U.) Triaxial Shear Test Results**
- **Direct Shear Tests**
- **One Dimensional Consolidation Tests**

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			
437+20.8 RT 91.7	TH-01	SS-1	0.9	13.6	NP	NP	NP	0.0	77.3	22.7		0.2154	SM	A-2-4(0)
437+20.8 RT 91.7	TH-01	SS-2	2.4	14.9	33	18	15	0.3	63.5	36.2		0.1397	SC	A-6(1)
437+20.8 RT 91.7	TH-01	SS-4	5.4	22.1	NP	NP	NP	0.1	71.1	28.8		0.1340	SM	A-2-4(0)
437+20.8 RT 91.7	TH-01	SS-6	9.4	26.9	41	17	24	1.1	29.1	69.9			CL	A-7-6(15)
437+20.8 RT 91.7	TH-01	SS-7	13.5	25.1	NP	NP	NP	0.0	92.7	7.3		0.3165	SP-SM	A-3(0)
437+20.8 RT 91.7	TH-01	SS-8	18.5	30.6	NP	NP	NP	0.0	62.7	37.3		0.0934	SM	A-4(0)
437+20.8 RT 91.7	TH-01	SS-12	38.5	21.2	NP	NP	NP	0.4	95.5	4.1		0.3220	SP	A-3(0)
437+20.8 RT 91.7	TH-01	SS-14	48.5	16.1	NP	NP	NP	0.6	94.0	5.4		0.3335	SP-SM	A-3(0)
437+20.8 RT 91.7	TH-01	SS-18	68.5	19.0	NP	NP	NP	4.5	91.5	3.9		0.5391	SP	A-1-b(0)
437+20.8 RT 91.7	TH-01	SS-19	73.5	15.4	NP	NP	NP	20.9	76.4	2.7		2.0001	SP	A-1-a(0)
437+20.8 RT 91.7	TH-01	SS-23	93.5	22.9	NP	NP	NP	0.1	95.9	4.1		0.3897	SP	A-3(0)
437+20.8 RT 91.7	TH-01	T-2	108.0	32.0	52	17	35	0.0	3.5	52.9	43.6	0.0091	CH	A-7-6(37)
437+20.8 RT 91.7	TH-01	SS-28	128.5	20.0	NP	NP	NP	0.9	94.0	5.0		0.3268	SP-SM	A-3(0)
437+20.8 RT 91.7	TH-01	SS-31	143.5	25.1	32	18	14	0.0	76.9	23.1		0.1132	SC	A-2-6(0)
437+20.8 RT 91.7	TH-01	SS-32	148.5	22.7	59	15	44	0.0	9.9	90.1			CH	A-7-6(42)
441+41.1 LT 95.6	TH-02	SS-1	0.4	9.2	NP	NP	NP	10.8	70.5	18.7		0.2524	SM	A-2-4(0)
441+41.1 LT 95.6	TH-02	SS-5	6.4	16.5	NP	NP	NP	3.7	77.6	18.7		0.2826	SM	A-2-4(0)
441+41.1 LT 95.6	TH-02	SS-8	18.9	17.5	NP	NP	NP	0.0	83.2	16.8		0.3104	SM	A-2-4(0)
441+41.1 LT 95.6	TH-02	SS-9	23.9	16.9	NP	NP	NP	0.0	64.3	35.7		0.1277	SM	A-4(0)
441+41.1 LT 95.6	TH-02	T-1	28.9	23.7	37	17	20	0.0	44.5	55.5			CL	A-6(8)
441+41.1 LT 95.6	TH-02	SS-12	43.9	21.5	NP	NP	NP	0.0	92.4	7.6		0.2876	SP-SM	A-3(0)
441+41.1 LT 95.6	TH-02	SS-16	63.9	23.2	NP	NP	NP	0.0	95.0	5.0		0.3000	SP-SM	A-3(0)
441+41.1 LT 95.6	TH-02	SS-18	73.9	22.1	NP	NP	NP	0.0	93.6	6.4		0.3339	SP-SM	A-3(0)
441+41.1 LT 95.6	TH-02	SS-23	98.9	17.3	NP	NP	NP	8.2	85.7	6.1		0.6064	SP-SM	A-1-b(0)
441+41.1 LT 95.6	TH-02	SS-28	123.9	18.6	NP	NP	NP	0.0	93.7	6.3		0.4523	SP-SM	A-1-b(0)
441+41.1 LT 95.6	TH-02	SS-32	148.9	25.5	NP	NP	NP	0.4	90.6	9.0		0.3405	SP-SM	A-3(0)
443+80.7 LT 100.5	TH-03	SS-2	2.4	12.2	NP	NP	NP	0.0	81.5	18.5		0.2779	SM	A-2-4(0)
443+80.7 LT 100.5	TH-03	SS-5	6.9	13.9	NP	NP	NP	0.0	82.5	17.5		0.3065	SM	A-2-4(0)
443+80.7 LT 100.5	TH-03	SS-8	19.4	17.5	NP	NP	NP	0.5	68.7	30.8		0.1329	SM	A-2-4(0)
443+80.7 LT 100.5	TH-03	T-1	24.4	21.6	34	15	19	0.0	48.5	51.5			CL	A-6(6)

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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			
443+80.7 LT 100.5	TH-03	SS-10	29.4	26.3	26	17	9	0.0	55.8	44.2		0.0980	SC	A-4(1)
443+80.7 LT 100.5	TH-03	SS-13	44.4	28.5	NP	NP	NP	0.0	93.1	6.9		0.1699	SP-SM	A-3(0)
443+80.7 LT 100.5	TH-03	SS-17	64.4	21.8	NP	NP	NP	0.0	93.2	6.8		0.3298	SP-SM	A-3(0)
443+80.7 LT 100.5	TH-03	SS-20	79.4	14.6	NP	NP	NP	0.3	93.1	6.6		0.4989	SP-SM	A-1-b(0)
443+80.7 LT 100.5	TH-03	SS-23	94.4	26.2	39	16	23	12.2	47.2	40.6		0.1965	SC	A-6(5)
443+80.7 LT 100.5	TH-03	SS-24	99.4	19.1	NP	NP	NP	2.1	91.7	6.2		0.4159	SP-SM	A-3(0)
443+80.7 LT 100.5	TH-03	SS-28	119.4	19.6	NP	NP	NP	0.4	90.9	8.7		0.4637	SP-SM	A-1-b(0)
443+80.7 LT 100.5	TH-03	T-2	129.4	84.6	47	22	25	0.0	66.9	33.1		0.3625	SC	A-2-7(3)
441+98.6 RT 140.5	TH-04	SS-6	8.5	31.2	38	16	22	0.4	57.1	42.5		0.0904	SC	A-6(5)
441+98.6 RT 140.5	TH-04	SS-8	18.5	27.5	NP	NP	NP	0.0	46.9	53.1			ML	A-4(0)
441+98.6 RT 140.5	TH-04	SS-9	23.5	23.8	NP	NP	NP	0.0	84.1	15.9		0.2225	SM	A-2-4(0)
441+98.6 RT 140.5	TH-04	SS-10	28.5	25.4	NP	NP	NP	0.0	95.7	4.3		0.2939	SP	A-3(0)
441+98.6 RT 140.5	TH-04	SS-13	43.5	21.6	NP	NP	NP	0.0	96.6	3.4		0.3503	SP	A-3(0)
441+98.6 RT 140.5	TH-04	SS-18	68.5	20.1	NP	NP	NP	15.4	77.3	7.4		0.6471	SP-SM	A-1-b(0)
441+98.6 RT 140.5	TH-04	SS-22	88.5	24.1	NP	NP	NP	0.0	91.9	8.1		0.2151	SP-SM	A-3(0)
441+98.6 RT 140.5	TH-04	SS-26	108.5	24.4	51	16	35	0.0	11.4	88.6			CH	A-7-6(32)
441+98.6 RT 140.5	TH-04	SS-29	123.5	21.4	NP	NP	NP	0.0	90.8	9.2		0.2941	SP-SM	A-3(0)
441+98.6 RT 140.5	TH-04	T-1	143.0	18.5	51	17	34	0.0	17.2	82.8			CH	A-7-6(29)
441+98.6 RT 140.5	TH-04	SS-33	148.5	21.0	61	13	48	0.0	6.9	93.1			CH	A-7-6(47)
443+30.5 RT 137.3	TH-05	SS-2	1.5	13.3	NP	NP	NP	0.0	74.4	25.6		0.1422	SM	A-2-4(0)
443+30.5 RT 137.3	TH-05	SS-5	6.0	23.6	NP	NP	NP	0.0	60.8	39.2		0.1067	SM	A-4(0)
443+30.5 RT 137.3	TH-05	SS-7	13.5	29.7	NP	NP	NP	0.0	68.3	31.7		0.1185	SM	A-2-4(0)
443+30.5 RT 137.3	TH-05	SS-8	18.5	28.9	NP	NP	NP	0.0	32.1	67.9			ML	A-4(0)
443+30.5 RT 137.3	TH-05	SS-14	48.5	22.6	NP	NP	NP	2.4	93.0	4.6		0.3571	SP	A-3(0)
443+30.5 RT 137.3	TH-05	SS-18	68.5	18.2	NP	NP	NP	4.8	88.5	6.7		0.5362	SP-SM	A-1-b(0)
443+30.5 RT 137.3	TH-05	SS-21	83.5	22.5	NP	NP	NP	0.4	93.2	6.3		0.3081	SP-SM	A-3(0)
443+30.5 RT 137.3	TH-05	SS-25	103.5	20.3	NP	NP	NP	0.0	95.7	4.3		0.4558	SP	A-1-b(0)
443+30.5 RT 137.3	TH-05	SS-28	118.5	22.7	NP	NP	NP	0.0	93.5	6.5		0.2859	SP-SM	A-3(0)
443+30.5 RT 137.3	TH-05	SS-30	128.5	7.1	NP	NP	NP	8.5	84.6	6.9		0.4316	SP-SM	A-1-b(0)
443+30.5 RT 137.3	TH-05	SS-32	138.5	25.2	NP	NP	NP	0.0	74.0	26.0		0.0949	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			
443+30.5 RT 137.3	TH-05	SS-33	143.5	21.1	28	17	11	0.0	28.7	71.3			CL	A-6(6)
443+30.5 RT 137.3	TH-05	T-1	145.0	18.3	56	13	43	0.0	6.1	93.9			CH	A-7-6(43)
3018+10.5 LT 20.7	TH-06	SS-1	0.0	18.2	NP	NP	NP	3.8	79.2	17.0		0.2147	SM	A-2-4(0)
3018+10.5 LT 20.7	TH-06	SS-2	1.5	15.1	NP	NP	NP	0.0	84.2	15.8		0.2381	SM	A-2-4(0)
3018+10.5 LT 20.7	TH-06	SS-5	6.0	18.5	27	13	14	0.0	60.5	39.5		0.1160	SC	A-6(2)
3018+10.5 LT 20.7	TH-06	T-1	13.5	24.4	30	13	17	0.0	60.7	14.0	25.3	0.1550	SC	A-6(2)
3018+10.5 LT 20.7	TH-06	SS-8	18.5	27.2	NP	NP	NP	0.0	80.1	19.9		0.2121	SM	A-2-4(0)
3018+10.5 LT 20.7	TH-06	SS-10	28.5	25.8	NP	NP	NP	0.0	91.8	8.2		0.2585	SP-SM	A-3(0)
451+65.7 LT 100.3	TH-07	SS-1	1.0	11.2	NP	NP	NP	7.8	75.0	17.2		0.2745	SM	A-2-4(0)
451+65.7 LT 100.3	TH-07	SS-3	4.0	16.5	NP	NP	NP	2.5	87.0	10.5		0.3003	SP-SM	A-3(0)
451+65.7 LT 100.3	TH-07	SS-6	9.5	15.2	NP	NP	NP	0.3	91.1	8.5		0.3045	SP-SM	A-3(0)
451+65.7 LT 100.3	TH-07	SS-9	24.5	15.6	NP	NP	NP	1.4	97.0	1.7		0.6796	SP	A-1-b(0)
451+65.7 LT 100.3	TH-07	SS-10	29.5	29.7	51	22	29	0.0	16.8	83.2			CH	A-7-6(25)
451+65.7 LT 100.3	TH-07	T-1	34.0	28.7	28	16	12	0.0	67.2	32.8		0.1517	SC	A-2-6(0)
451+65.7 LT 100.3	TH-07	SS-11	39.5	27.7	66	22	44	0.0	20.8	79.2			CH	A-7-6(36)
451+65.7 LT 100.3	TH-07	SS-15	59.5	19.8	NP	NP	NP	0.0	93.2	6.8		0.4742	SP-SM	A-1-b(0)
451+65.7 LT 100.3	TH-07	SS-19	79.5	21.3	NP	NP	NP	0.3	94.9	4.8		0.3068	SP	A-3(0)
451+65.7 LT 100.3	TH-07	SS-22	94.5	17.5	NP	NP	NP	0.5	92.0	7.4		0.4550	SP-SM	A-1-b(0)
451+65.7 LT 100.3	TH-07	T-2	104.0	31.7	50	27	23	0.0	4.6	95.4			CH	A-7-6(25)
451+65.7 LT 100.3	TH-07	T-3	114.0	19.0	NP	NP	NP	0.0	80.6	19.4		0.1212	SM	A-2-4(0)
454+44.1 LT 105.8	TH-08	SS-2	2.8	12.6	NP	NP	NP	0.0	82.5	17.5		0.2414	SM	A-2-4(0)
454+44.1 LT 105.8	TH-08	SS-7	14.8	13.9	NP	NP	NP	0.0	84.5	15.5		0.2951	SM	A-2-4(0)
454+44.1 LT 105.8	TH-08	SS-9	24.8	22.6	26	14	12	0.0	70.5	29.5		0.1330	SC	A-2-6(0)
454+44.1 LT 105.8	TH-08	T-1	29.3	22.3	NP	NP	NP	0.0	77.6	14.3	8.1	0.1316	SM	A-2-4(0)
454+44.1 LT 105.8	TH-08	T-3	49.3	44.5	78	25	53	0.0	0.5	25.9	73.6		CH	A-7-6(61)
454+44.1 LT 105.8	TH-08	SS-14	64.8	20.6	NP	NP	NP	0.5	94.2	5.3		0.3864	SP-SM	A-3(0)
454+44.1 LT 105.8	TH-08	SS-19	89.8	12.5	NP	NP	NP	12.4	84.8	2.8		1.0844	SP	A-1-b(0)
454+44.1 LT 105.8	TH-08	SS-23	109.8	20.3	NP	NP	NP	0.0	96.8	3.2		0.4984	SP	A-1-b(0)
454+44.1 LT 105.8	TH-08	T-4	119.3	23.1	28	15	13	0.0	42.4	57.6			CL	A-6(5)
454+44.1 LT 105.8	TH-08	SS-25	124.8	24.2	NP	NP	NP	0.0	91.5	8.5		0.1966	SP-SM	A-3(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

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			
454+44.1 LT 105.8	TH-08	SS-28	139.8	18.7	NP	NP	NP	0.0	86.9	13.1		0.3206	SM	A-2-4(0)
3021+38.7 LT 109.2	TH-09	SS-1	0.0	9.4	NP	NP	NP	3.1	75.4	21.4		0.1862	SM	A-2-4(0)
3021+38.7 LT 109.2	TH-09	SS-2	1.5	15.6	NP	NP	NP	7.2	67.0	25.8		0.1719	SM	A-2-4(0)
3021+38.7 LT 109.2	TH-09	SS-3	3.0	20.8	NP	NP	NP	1.9	73.3	24.7		0.1559	SM	A-2-4(0)
3021+38.7 LT 109.2	TH-09	SS-5	6.0	31.3	NP	NP	NP	1.2	53.5	45.3		0.0890	SM	A-4(0)
3021+38.7 LT 109.2	TH-09	T-1	13.5	50.7	70	33	37	4.3	31.1	64.6			CH	A-7-5(24)
3021+38.7 LT 109.2	TH-09	T-2	23.5	61.5	53	24	29	16.9	30.6	52.5			CH	A-7-6(12)
3021+38.7 LT 109.2	TH-09	SS-9	33.5	21.8	NP	NP	NP	0.0	85.4	14.6		0.3518	SM	A-2-4(0)
5984+79.6 RT 33.2	TH-10	SS-1	0.0	17.8	NP	NP	NP	4.0	77.7	18.3		0.1958	SM	A-2-4(0)
5984+79.6 RT 33.2	TH-10	SS-3	3.0	21.1	NP	NP	NP	0.0	89.1	10.9		0.1974	SP-SM	A-2-4(0)
5984+79.6 RT 33.2	TH-10	SS-7	13.5	51.7	55	23	32	1.2	44.8	54.0			CH	A-7-6(14)
5984+79.6 RT 33.2	TH-10	T-1	18.0	48.7	39	16	23	0.1	26.1	73.8			CL	A-6(15)
5984+79.6 RT 33.2	TH-10	SS-8	23.5	26.4	NP	NP	NP	0.0	94.4	5.6		0.2802	SP-SM	A-3(0)
5984+79.6 RT 33.2	TH-10	SS-9	28.5	23.7	NP	NP	NP	0.0	93.1	6.9		0.2429	SP-SM	A-3(0)
5984+79.6 RT 33.2	TH-10	SS-12	43.5	22.4	NP	NP	NP	0.2	94.2	5.6		0.2937	SP-SM	A-3(0)
5984+79.6 RT 33.2	TH-10	SS-15	58.5	22.8	NP	NP	NP	0.0	94.8	5.2		0.3023	SP-SM	A-3(0)
5984+79.6 RT 33.2	TH-10	SS-18	73.5	19.9	NP	NP	NP	0.8	95.4	3.7		0.3267	SP	A-3(0)
5984+79.6 RT 33.2	TH-10	SS-21	88.5	24.0	NP	NP	NP	0.3	95.0	4.7		0.3201	SP	A-3(0)
5984+79.6 RT 33.2	TH-10	T-2	108.0	39.5	85	23	62	0.0	6.3	93.7			CH	A-7-6(66)
5984+79.6 RT 33.2	TH-10	T-3	118.0	30.4	33	17	16	0.0	16.6	83.4			CL	A-6(12)
5984+79.6 RT 33.2	TH-10	SS-28	133.5	16.9	NP	NP	NP	2.1	84.4	13.5		0.3357	SM	A-2-4(0)
5984+79.6 RT 33.2	TH-10	SS-31	148.5	22.8	32	14	18	0.0	37.4	62.6			CL	A-6(8)
5984+79.6 RT 33.2	TH-10	SS-32	158.5	18.1	57	14	43	0.0	7.7	92.3			CH	A-7-6(42)
5984+79.6 RT 33.2	TH-10	SS-33	168.5	15.1	NP	NP	NP	3.5	77.0	19.5		0.2475	SM	A-2-4(0)
141+91.2 LT 7.3	TH-11	SS-2	1.5	12.8	NP	NP	NP	0.0	81.9	18.1		0.1756	SM	A-2-4(0)
141+91.2 LT 7.3	TH-11	SS-3	3.0	24.6	NP	NP	NP	0.0	89.5	10.5		0.1883	SP-SM	A-2-4(0)
141+91.2 LT 7.3	TH-11	SS-5	6.0	29.3	NP	NP	NP	0.0	63.6	36.4		0.1207	SM	A-4(0)
141+91.2 LT 7.3	TH-11	SS-7	13.5	76.4	46	24	22	0.0	30.8	69.2			CL	A-7-6(14)
141+91.2 LT 7.3	TH-11	T-1	18.0	75.4	33	14	19	0.0	50.0	50.0			CL	A-6(6)
141+91.2 LT 7.3	TH-11	SS-9	28.5	25.0	NP	NP	NP	0.0	95.4	4.6		0.2525	SP	A-3(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

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)

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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

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			
4233+05.5 LT 83.3	W-01	SS-8	19.5	28.8	27	15	12	0.0	49.4	50.6			CL	A-6(3)
4233+05.5 LT 83.3	W-01	SS-10	29.5	27.5	26	14	12	0.0	70.2	29.8		0.1629	SC	A-2-6(0)
426+21.8 LT 88.5	W-02	SS-1	0.0	7.7	NP	NP	NP	13.2	62.8	24.0		0.2161	SM	A-2-4(0)
426+21.8 LT 88.5	W-02	SS-3	3.0	13.7	NP	NP	NP	0.0	80.6	19.4		0.1601	SM	A-2-4(0)
426+21.8 LT 88.5	W-02	SS-5	6.0	19.2	NP	NP	NP	0.0	82.3	17.7		0.1583	SM	A-2-4(0)
426+21.8 LT 88.5	W-02	SS-6	8.5	27.8	NP	NP	NP	0.0	78.5	21.5		0.1468	SM	A-2-4(0)
426+21.8 LT 88.5	W-02	T-1	18.0	31.2	NP	NP	NP	0.0	64.0	22.4	13.6	0.0965	SM	A-4(0)
426+21.8 LT 88.5	W-02	SS-10	28.5	28.8	NP	NP	NP	0.0	92.7	7.3		0.1969	SP-SM	A-3(0)
429+22.8 LT 88.9	W-03	SS-2	1.5	17.0	NP	NP	NP	0.0	72.6	27.4		0.1702	SM	A-2-4(0)
429+22.8 LT 88.9	W-03	SS-5	6.0	16.6	NP	NP	NP	4.8	77.5	17.8		0.1968	SM	A-2-4(0)
429+22.8 LT 88.9	W-03	SS-6	8.5	14.5	NP	NP	NP	1.2	75.0	23.8		0.1531	SM	A-2-4(0)
429+22.8 LT 88.9	W-03	SS-7	13.5	32.9	36	22	14	0.0	49.8	50.2			CL	A-6(4)
429+22.8 LT 88.9	W-03	SS-10	28.5	18.4	NP	NP	NP	0.0	90.0	10.0		0.2759	SP-SM	A-3(0)
432+27.9 LT 81.2	W-04	SS-1	1.3	12.2	NP	NP	NP	13.9	69.7	16.5		0.3620	SM	A-2-4(0)
432+27.9 LT 81.2	W-04	SS-4	5.8	13.3	NP	NP	NP	0.5	70.8	28.7		0.1592	SM	A-2-4(0)
432+27.9 LT 81.2	W-04	SS-7	14.8	15.6	NP	NP	NP	0.6	76.0	23.4		0.1563	SM	A-2-4(0)
432+27.9 LT 81.2	W-04	SS-8	19.8	12.1	20	13	7	8.4	73.1	18.5		0.1982	SC-SM	A-2-4(0)
432+27.9 LT 81.2	W-04	SS-9	24.8	20.3	26	14	12	0.0	66.5	33.5		0.1378	SC	A-2-6(0)
432+27.9 LT 81.2	W-04	SS-11	34.8	23.3	NP	NP	NP	0.0	77.6	22.4		0.1558	SM	A-2-4(0)
435+07.2 LT 83.2	W-05	SS-2	2.3	10.6	NP	NP	NP	0.1	83.0	16.9		0.2315	SM	A-2-4(0)
435+07.2 LT 83.2	W-05	SS-5	6.8	14.5	NP	NP	NP	8.6	73.4	18.0		0.2898	SM	A-2-4(0)
435+07.2 LT 83.2	W-05	SS-7	14.3	13.2	NP	NP	NP	2.6	88.8	8.6		0.3043	SP-SM	A-3(0)
435+07.2 LT 83.2	W-05	SS-10	29.3	15.2	NP	NP	NP	0.0	79.3	20.7		0.1840	SM	A-2-4(0)
2006+00.6 LT 3.7	W-06	SS-2	2.0	11.1	NP	NP	NP	1.6	79.0	19.5		0.2439	SM	A-2-4(0)
2006+00.6 LT 3.7	W-06	SS-5	6.5	12.6	NP	NP	NP	0.6	81.2	18.2		0.2646	SM	A-2-4(0)
2006+00.6 LT 3.7	W-06	SS-7	14.0	11.4	NP	NP	NP	0.0	77.6	22.4		0.2470	SM	A-2-4(0)
2006+00.6 LT 3.7	W-06	SS-9	24.0	22.4	NP	NP	NP	0.0	79.8	20.2		0.1599	SM	A-2-4(0)
2006+00.6 LT 3.7	W-06	SS-10	29.0	24.0	NP	NP	NP	0.0	67.7	32.3		0.1260	SM	A-2-4(0)
2006+00.6 LT 3.7	W-06	SS-11	34.0	24.2	NP	NP	NP	0.0	58.7	41.3		0.1184	SM	A-4(0)
2010+90.0 LT 6.7	W-07	SS-1	0.4	9.7	NP	NP	NP	13.9	68.5	17.6		0.2726	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			
2010+90.0 LT 6.7	W-07	SS-4	4.9	11.0	NP	NP	NP	0.0	84.9	15.1		0.3059	SM	A-2-4(0)
2010+90.0 LT 6.7	W-07	SS-6	8.9	14.8	NP	NP	NP	10.0	72.5	17.5		0.2914	SM	A-2-4(0)
2010+90.0 LT 6.7	W-07	SS-8	18.9	12.6	NP	NP	NP	0.0	81.2	18.8		0.2059	SM	A-2-4(0)
2010+90.0 LT 6.7	W-07	SS-9	23.9	20.4	NP	NP	NP	0.0	82.1	17.9		0.1733	SM	A-2-4(0)
2010+90.0 LT 6.7	W-07	SS-10	28.9	22.3	NP	NP	NP	0.0	66.6	33.4		0.1302	SM	A-2-4(0)
2010+90.0 LT 6.7	W-07	SS-12	38.9	20.1	NP	NP	NP	0.0	90.2	9.8		0.2419	SP-SM	A-3(0)
2010+90.0 LT 6.7	W-07	SS-15	53.9	20.9	NP	NP	NP	2.7	89.1	8.2		0.3053	SP-SM	A-3(0)
5980+84.2 LT 65.4	W-08	SS-2	1.5	17.4	NP	NP	NP	0.0	79.4	20.6		0.1767	SM	A-2-4(0)
5980+84.2 LT 65.4	W-08	SS-4	4.5	18.8	NP	NP	NP	6.6	77.9	15.4		0.2106	SM	A-2-4(0)
5980+84.2 LT 65.4	W-08	SS-7	13.5	30.1	NP	NP	NP	0.0	70.4	29.6		0.1329	SM	A-2-4(0)
5980+84.2 LT 65.4	W-08	SS-8	18.5	29.5	38	20	18	0.0	38.6	61.4			CL	A-6(9)
5980+84.2 LT 65.4	W-08	SS-11	33.5	22.2	NP	NP	NP	0.4	94.1	5.5		0.2913	SP-SM	A-3(0)
5980+84.2 LT 65.4	W-08	SS-13	43.5	54.0	90	29	61	0.0	4.5	95.5			CH	A-7-6(69)
5980+84.2 LT 65.4	W-08	SS-15	53.5	20.3	NP	NP	NP	0.0	94.0	6.0		0.3337	SP-SM	A-3(0)
5980+84.2 LT 65.4	W-08	SS-18	68.5	18.4	NP	NP	NP	19.3	71.1	9.6		0.6454	SW-SM	A-1-b(0)
5980+84.2 LT 65.4	W-08	SS-21	83.5	14.5	NP	NP	NP	12.2	82.9	5.0		1.0921	SP	A-1-b(0)
5980+84.2 LT 65.4	W-08	SS-25	103.5	38.4	95	35	60	0.5	12.7	86.9			CH	A-7-5(61)
5980+84.2 LT 65.4	W-08	SS-26	108.5	23.3	NP	NP	NP	0.0	74.2	25.8		0.1175	SM	A-2-4(0)
5980+84.2 LT 65.4	W-08	SS-29	123.5	22.9	NP	NP	NP	3.0	88.3	8.6		0.2498	SP-SM	A-3(0)
5980+84.2 LT 65.4	W-08	SS-32	138.5	30.1	39	17	22	0.0	44.3	55.7			CL	A-6(9)
5973+22.7 LT 43.6	W-09	SS-1	0.0	13.0	NP	NP	NP	9.3	68.3	22.4		0.2463	SM	A-2-4(0)
5973+22.7 LT 43.6	W-09	SS-3	3.0	15.3	NP	NP	NP	0.0	82.5	17.5		0.2684	SM	A-2-4(0)
5973+22.7 LT 43.6	W-09	SS-6	8.5	13.1	NP	NP	NP	0.0	78.2	21.8		0.2397	SM	A-2-4(0)
2009+41.3 LT 0.3	W-10	SS-1	0.5	11.3	NP	NP	NP	13.2	68.2	18.6		0.2817	SM	A-2-4(0)
2009+41.3 LT 0.3	W-10	SS-3	3.5	12.0	NP	NP	NP	0.0	86.1	13.9		0.2878	SM	A-2-4(0)
2009+41.3 LT 0.3	W-10	SS-6	9.0	16.2	NP	NP	NP	0.2	86.7	13.1		0.3114	SM	A-2-4(0)
2009+41.3 LT 0.3	W-10	SS-8	19.0	17.0	NP	NP	NP	4.2	80.7	15.1		0.2283	SM	A-2-4(0)
2012+46.9 LT 6.7	W-11	SS-2	1.8	15.2	NP	NP	NP	0.0	78.1	21.9		0.1887	SM	A-2-4(0)
2012+46.9 LT 6.7	W-11	SS-5	6.3	10.4	NP	NP	NP	0.0	83.9	16.1		0.3184	SM	A-2-4(0)
2012+46.9 LT 6.7	W-11	SS-7	13.5	13.6	NP	NP	NP	0.0	83.0	17.0		0.2766	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			
2012+46.9 LT 6.7	W-11	SS-8	18.5	16.5	NP	NP	NP	0.0	85.9	14.1		0.2835	SM	A-2-4(0)
2012+46.9 LT 6.7	W-11	SS-9	23.5	20.5	NP	NP	NP	0.0	70.3	29.7		0.1454	SM	A-2-4(0)
2012+46.9 LT 6.7	W-11	SS-10	28.5	25.6	NP	NP	NP	0.0	78.2	21.8		0.1658	SM	A-2-4(0)
2012+46.9 LT 6.7	W-11	T-1	33.5	26.9	25	12	13	0.0	36.0	64.0			CL	A-6(5)
2012+46.9 LT 6.7	W-11	SS-11	38.5	20.0	NP	NP	NP	0.0	64.3	35.7		0.1110	SM	A-4(0)
2012+46.9 LT 6.7	W-11	SS-12	43.5	19.9	NP	NP	NP	0.0	89.8	10.2		0.2277	SP-SM	A-3(0)
460+23.4 LT 53.8	W-12	SS-2	2.8	11.9	NP	NP	NP	2.7	78.0	19.3		0.2439	SM	A-2-4(0)
460+23.4 LT 53.8	W-12	SS-5	7.3	14.3	24	12	12	0.0	76.3	23.7		0.2844	SC	A-2-6(0)
460+23.4 LT 53.8	W-12	SS-7	14.8	9.7	NP	NP	NP	0.0	83.7	16.3		0.2705	SM	A-2-4(0)
463+23.9 LT 57.9	W-13	SS-1	1.2	9.9	NP	NP	NP	12.7	69.5	17.7		0.3061	SM	A-2-4(0)
463+23.9 LT 57.9	W-13	SS-2	2.7	20.8	NP	NP	NP	9.9	87.5	2.7		1.7254	SW	A-1-b(0)
463+23.9 LT 57.9	W-13	SS-4	5.7	17.7	NP	NP	NP	42.7	50.8	6.5		3.7910	SP-SM	A-1-a(0)
463+23.9 LT 57.9	W-13	SS-6	9.7	11.8	NP	NP	NP	1.3	82.7	16.0		0.2569	SM	A-2-4(0)
463+23.9 LT 57.9	W-13	SS-8	19.7	13.7	NP	NP	NP	0.0	85.7	14.3		0.2986	SM	A-2-4(0)
463+23.9 LT 57.9	W-13	SS-10	29.7	23.3	NP	NP	NP	0.0	64.8	35.2		0.1198	SM	A-2-4(0)
465+71.1 LT 57.3	W-14	SS-1	1.4	12.1	NP	NP	NP	13.9	66.7	19.4		0.2436	SM	A-2-4(0)
465+71.1 LT 57.3	W-14	SS-3	4.4	15.2	NP	NP	NP	0.0	85.1	14.9		0.3050	SM	A-2-4(0)
465+71.1 LT 57.3	W-14	SS-5	7.4	14.4	NP	NP	NP	0.2	86.2	13.5		0.2532	SM	A-2-4(0)
465+71.1 LT 57.3	W-14	SS-7	14.9	11.8	NP	NP	NP	2.7	80.5	16.8		0.2557	SM	A-2-4(0)
465+71.1 LT 57.3	W-14	SS-10	29.9	24.8	NP	NP	NP	0.0	83.8	16.2		0.1764	SM	A-2-4(0)
465+71.1 LT 57.3	W-14	SS-11	34.9	25.5	NP	NP	NP	0.0	68.9	31.1		0.1271	SM	A-2-4(0)
465+71.1 LT 57.3	W-14	SS-14	49.9	33.3	NP	NP	NP	0.0	95.5	4.5		0.2967	SP	A-3(0)
465+71.1 LT 57.3	W-14	SS-17	64.9	26.5	23	13	10	0.0	61.3	38.7		0.1964	SC	A-4(0)
465+71.1 LT 57.3	W-14	T-1A	69.9	21.2	NP	NP	NP	0.0	93.4	6.6		0.2943	SP-SM	A-3(0)
465+71.1 LT 57.3	W-14	SS-20	84.9	18.0	NP	NP	NP	8.5	90.1	1.4		0.6173	SP	A-1-b(0)
465+71.1 LT 57.3	W-14	T-1B	104.4	47.6	84	27	57	0.0	6.8	93.2			CH	A-7-6(61)
465+71.1 LT 57.3	W-14	SS-25	109.9	21.4	NP	NP	NP	0.0	92.1	7.9		0.2693	SP-SM	A-3(0)
465+71.1 LT 57.3	W-14	SS-26	114.9	20.3	NP	NP	NP	1.6	92.7	5.7		0.2651	SP-SM	A-3(0)
465+71.1 LT 57.3	W-14	T-2	124.9	50.1	90	28	62	0.0	2.1	97.9			CH	A-7-6(72)
465+71.1 LT 57.3	W-14	T-3	134.9	24.0	NP	NP	NP	0.0	78.9	21.1		0.1274	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

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			
465+71.1 LT 57.3	W-14	SS-29	139.9	22.9	NP	NP	NP	0.8	82.7	16.5		0.1757	SM	A-2-4(0)
465+71.1 LT 57.3	W-14	SS-31	149.9	15.3	NP	NP	NP	10.2	84.6	5.2		0.4975	SP-SM	A-1-b(0)
465+71.1 LT 57.3	W-14	SS-32	159.9	40.9	68	24	44	0.0	7.4	92.6			CH	A-7-6(46)
465+71.1 LT 57.3	W-14	T-4	169.9	21.7	64	16	48	0.0	6.1	93.9			CH	A-7-6(49)
465+71.1 LT 57.3	W-14	SS-34	189.9	31.2	49	17	32	0.0	22.7	77.3			CL	A-7-6(24)
465+71.1 LT 57.3	W-14	SS-35	199.9	22.8	NP	NP	NP	0.0	91.4	8.6		0.2237	SP-SM	A-3(0)
5968+86.8 RT 97.8	W-15	SS-1	0.0	12.5	NP	NP	NP	1.5	63.2	35.3		0.1314	SM	A-2-4(0)
5968+86.8 RT 97.8	W-15	SS-2	1.5	18.0	NP	NP	NP	11.8	61.3	26.9		0.1627	SM	A-2-4(0)
5968+86.8 RT 97.8	W-15	SS-5	6.0	32.0	NP	NP	NP	7.9	40.2	51.9			ML	A-4(0)
5968+86.8 RT 97.8	W-15	T-1	8.0	34.2	NP	NP	NP	0.0	47.6	36.7	15.7	0.0705	ML	A-4(0)
5968+86.8 RT 97.8	W-15	SS-8	18.5	25.7	NP	NP	NP	0.0	92.4	7.6		0.1908	SP-SM	A-3(0)
5968+86.8 RT 97.8	W-15	T-2	28.0	121.6	82	28	54	3.1	13.7	44.9	38.2	0.0277	CH	A-7-6(50)
5968+86.8 RT 97.8	W-15	SS-11	33.5	23.7	NP	NP	NP	0.0	93.9	6.1		0.2604	SP-SM	A-3(0)
5968+86.8 RT 97.8	W-15	SS-14	48.5	20.4	NP	NP	NP	6.6	86.1	7.3		0.3638	SP-SM	A-3(0)
8003+54.9 RT 8.9	W-16	SS-2	1.5	13.6	NP	NP	NP	0.0	77.7	22.3		0.1500	SM	A-2-4(0)
8003+54.9 RT 8.9	W-16	SS-5	6.0	26.5	NP	NP	NP	5.4	80.5	14.1		0.1884	SM	A-2-4(0)
8003+54.9 RT 8.9	W-16	SS-8	18.5	27.9	NP	NP	NP	0.5	83.8	15.7		0.1964	SM	A-2-4(0)
8003+54.9 RT 8.9	W-16	SS-9	23.5	49.9	56	22	34	4.6	24.4	71.0			CH	A-7-6(24)
8003+54.9 RT 8.9	W-16	T-1	28.5	48.5	63	20	43	0.7	16.8	33.5	48.9	0.0056	CH	A-7-6(37)
8003+54.9 RT 8.9	W-16	SS-11	33.5	21.1	NP	NP	NP	0.5	88.7	10.7		0.1807	SP-SM	A-2-4(0)
5974+90.5 RT 42.5	W-17	SS-1	0.0	7.6	NP	NP	NP	12.4	65.5	22.1		0.1856	SM	A-2-4(0)
5974+90.5 RT 42.5	W-17	SS-4	4.5	25.4	NP	NP	NP	9.2	72.7	18.1		0.1784	SM	A-2-4(0)
5974+90.5 RT 42.5	W-17	T-1	16.0	42.1	50	16	34	0.0	15.6	84.4			CH	A-7-6(29)
5974+90.5 RT 42.5	W-17	SS-9	23.5	26.1	NP	NP	NP	0.0	74.2	25.8		0.1564	SM	A-2-4(0)
5974+90.5 RT 42.5	W-17	SS-12	38.5	23.0	NP	NP	NP	0.0	95.9	4.1		0.3192	SP	A-3(0)
5974+90.5 RT 42.5	W-17	SS-15	53.5	20.9	NP	NP	NP	1.0	92.8	6.2		0.2977	SP-SM	A-3(0)
5978+23.1 RT 16.7	W-18	SS-2	1.8	18.4	NP	NP	NP	0.0	77.5	22.5		0.1621	SM	A-2-4(0)
5978+23.1 RT 16.7	W-18	SS-4	4.8	22.1	37	11	26	0.0	58.0	42.0		0.0975	SC	A-6(6)
5978+23.1 RT 16.7	W-18	SS-6	8.8	21.8	32	12	20	0.0	58.1	41.9		0.1050	SC	A-6(4)
5978+23.1 RT 16.7	W-18	SS-8	18.8	26.6	NP	NP	NP	0.0	94.7	5.3		0.2598	SP-SM	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		D50 (mm)	USCS	AASHTO
										% Silt	% Clay			
5978+23.1 RT 16.7	W-18	SS-11	33.8	24.6	NP	NP	NP	0.7	91.5	7.7		0.2991	SP-SM	A-3(0)
5978+23.1 RT 16.7	W-18	SS-15	53.8	21.9	NP	NP	NP	1.4	95.4	3.2		0.3150	SP	A-3(0)
5978+23.1 RT 16.7	W-18	SS-18	68.8	19.7	NP	NP	NP	1.1	92.1	6.8		0.3172	SP-SM	A-3(0)
5984+86.8 LT 76.2	W-19	SS-2	1.5	19.0	NP	NP	NP	0.0	83.2	16.8		0.1821	SM	A-2-4(0)
5984+86.8 LT 76.2	W-19	SS-4	4.5	23.6	NP	NP	NP	0.0	83.6	16.4		0.1854	SM	A-2-4(0)
5984+86.8 LT 76.2	W-19	SS-7	13.5	30.0	NP	NP	NP	0.0	65.9	34.1		0.1135	SM	A-2-4(0)
5984+86.8 LT 76.2	W-19	SS-8	18.5	35.2	33	17	16	0.0	54.7	45.3		0.0808	SC	A-6(3)
5984+86.8 LT 76.2	W-19	SS-11	33.5	23.1	NP	NP	NP	0.0	93.1	6.9		0.2219	SP-SM	A-3(0)
5984+86.8 LT 76.2	W-19	SS-13	43.5	20.3	NP	NP	NP	0.1	86.9	13.0		0.2901	SM	A-2-4(0)
5984+86.8 LT 76.2	W-19	SS-16	58.5	24.1	NP	NP	NP	0.0	93.3	6.7		0.2734	SP-SM	A-3(0)
5987+82.5 LT 30.9	W-20	SS-2	1.5	16.7	NP	NP	NP	2.5	76.5	20.9		0.2512	SM	A-2-4(0)
5987+82.5 LT 30.9	W-20	SS-5	6.0	15.7	NP	NP	NP	0.0	86.9	13.1		0.3299	SM	A-2-4(0)
5987+82.5 LT 30.9	W-20	SS-8	18.5	24.0	NP	NP	NP	0.0	84.8	15.2		0.2051	SM	A-2-4(0)
5987+82.5 LT 30.9	W-20	SS-9	23.5	30.1	NP	NP	NP	0.0	60.1	39.9		0.1056	SM	A-4(0)
5987+82.5 LT 30.9	W-20	T-2	28.5	29.9	33	13	20	0.0	42.9	33.8	23.2	0.0594	CL	A-6(8)
5987+82.5 LT 30.9	W-20	SS-10	33.5	23.7	NP	NP	NP	0.0	92.8	7.2		0.2470	SP-SM	A-3(0)
5990+98.8 LT 64.5	W-21	SS-1	0.0	9.6	NP	NP	NP	0.5	84.8	14.7		0.2305	SM	A-2-4(0)
5990+98.8 LT 64.5	W-21	SS-4	4.5	23.0	NP	NP	NP	0.0	82.3	17.7		0.1810	SM	A-2-4(0)
5990+98.8 LT 64.5	W-21	SS-9	28.5	23.2	NP	NP	NP	0.0	86.2	13.8		0.1678	SM	A-2-4(0)
5993+97.3 LT 48.7	W-22	SS-2	1.5	14.3	NP	NP	NP	0.0	82.0	17.9		0.1779	SM	A-2-4(0)
5993+97.3 LT 48.7	W-22	SS-4	4.5	21.9	NP	NP	NP	0.0	74.5	25.5		0.1665	SM	A-2-4(0)
5993+97.3 LT 48.7	W-22	SS-7	13.5	19.6	30	18	12	0.0	45.5	54.5			CL	A-6(4)
5993+97.3 LT 48.7	W-22	SS-8	20.0	26.8	NP	NP	NP	2.3	63.9	33.9		0.1068	SM	A-2-4(0)
5993+97.3 LT 48.7	W-22	SS-12	38.5	22.8	NP	NP	NP	0.0	94.4	5.6		0.2268	SP-SM	A-3(0)
5993+97.3 LT 48.7	W-22	SS-15	53.5	18.8	NP	NP	NP	0.2	92.1	7.7		0.2978	SP-SM	A-3(0)
5993+97.3 LT 48.7	W-22	SS-18	68.5	19.0	NP	NP	NP	0.0	96.2	3.8		0.5536	SP	A-1-b(0)
5993+97.3 LT 48.7	W-22	SS-22	88.5	20.2	NP	NP	NP	0.2	93.0	6.8		0.2799	SP-SM	A-3(0)
5993+97.3 LT 48.7	W-22	SS-24	100.0	27.3	31	15	16	0.0	54.1	45.9		0.0974	SC	A-6(4)
5993+97.3 LT 48.7	W-22	SS-25	103.5	23.7	NP	NP	NP	0.0	83.5	16.5		0.1544	SM	A-2-4(0)
5993+97.3 LT 48.7	W-22	SS-32	138.5	18.6	NP	NP	NP	0.4	92.1	7.5		0.3070	SP-SM	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		D50 (mm)	USCS	AASHTO
										% Silt	% Clay			
5993+97.3 LT 48.7	W-22	SS-35	158.5	18.7	43	17	26	0.0	17.8	82.2			CL	A-7-6(21)
5993+97.3 LT 48.7	W-22	SS-38	188.5	19.7	NP	NP	NP	0.1	89.9	9.9		0.2798	SP-SM	A-3(0)
5985+72.6 LT 3.2	W-23	SS-2	1.5	8.8	22	14	8	0.5	73.6	25.9		0.1781	SC	A-2-4(0)
5985+72.6 LT 3.2	W-23	SS-4	4.5	13.0	NP	NP	NP	0.0	89.2	10.8		0.2876	SP-SM	A-2-4(0)
5985+72.6 LT 3.2	W-23	SS-7	13.5	14.5	NP	NP	NP	0.0	84.2	15.8		0.2458	SM	A-2-4(0)
5985+72.6 LT 3.2	W-23	SS-9	23.5	23.5	NP	NP	NP	0.0	85.7	14.3		0.1928	SM	A-2-4(0)
5985+72.6 LT 3.2	W-23	SS-11	33.5	27.9	29	16	13	0.0	38.0	62.0			CL	A-6(5)
701+61.6 LT 24.2	W-24	SS-2	1.5	12.1	NP	NP	NP	0.0	80.8	19.2		0.1781	SM	A-2-4(0)
701+61.6 LT 24.2	W-24	SS-5	6.0	143.1	47	30	17	0.0	58.6	41.4		0.1486	SM	A-7-5(3)
701+61.6 LT 24.2	W-24	SS-6	8.5	26.3	NP	NP	NP	0.0	69.9	30.1		0.1248	SM	A-2-4(0)
701+61.6 LT 24.2	W-24	T-1	18.5	109.5	89	37	52	0.0	7.2	92.8			CH	A-7-5(59)
701+61.6 LT 24.2	W-24	SS-10	33.5	23.0	NP	NP	NP	0.0	92.7	7.3		0.2870	SP-SM	A-3(0)
701+61.6 LT 24.2	W-24	SS-13	48.5	25.3	NP	NP	NP	0.0	94.9	5.1		0.2440	SP-SM	A-3(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: 01/15/2018

ALABAMA DEPARTMENT OF TRANSPORTATION
SOILS AND BASE COARSE ANALYSIS

Boring No.	TH-01	TH-01	TH-01	TH-01	TH-01	TH-01
Station	437+20.8	437+20.8	437+20.8	437+20.8	437+20.8	437+20.8
Offset	RT 91.7	RT 91.7	RT 91.7	RT 91.7	RT 91.7	RT 91.7
Sample ID	SS-1	SS-2	SS-4	SS-6	SS-7	SS-8
Depth (ft)	0.9	2.4	5.4	9.4	13.5	18.5
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	100.0
#4 SIEVE (4.75mm)	100.0	99.7	99.9	98.9	100.0	100.0
#10 SIEVE (2.00mm)	99.6	98.7	99.8	97.9	99.9	99.8
#20 SIEVE (0.85mm)	97.8	98.0	99.7	97.9	99.6	99.8
#40" SIEVE (425um)	84.4	94.7	99.5	97.6	73.7	99.8
#60 SIEVE (250um)	56.7	81.8	95.3	97.1	31.0	98.8
#100 SIEVE (150um)	33.7	52.4	55.7	87.3	9.7	83.0
#140 SIEVE (106um)	26.5	40.5	38.2	78.4	7.9	57.3
#200 SIEVE (75um)	22.7	36.2	28.8	69.9	7.3	37.3
Clay						
Silt						
Total Sand	77.3	63.5	71.1	29.1	92.7	62.7
Total Gravel	0.0	0.3	0.1	1.1	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	33	NP	41	NP	NP
Plastic Limit	NP	18	NP	17	NP	NP
Plasticity Index	NP	15	NP	24	NP	NP
USCS	SM	SC	SM	CL	SP-SM	SM
AASHTO	A-2-4(0)	A-6(1)	A-2-4(0)	A-7-6(15)	A-3(0)	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: 01/15/2018

ALABAMA DEPARTMENT OF TRANSPORTATION
SOILS AND BASE COARSE ANALYSIS

Boring No.	TH-01	TH-01	TH-01	TH-01	TH-01	TH-01
Station	437+20.8	437+20.8	437+20.8	437+20.8	437+20.8	437+20.8
Offset	RT 91.7	RT 91.7	RT 91.7	RT 91.7	RT 91.7	RT 91.7
Sample ID	SS-12	SS-14	SS-18	SS-19	SS-23	T-2
Depth (ft)	38.5	48.5	68.5	73.5	93.5	108.0
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	97.1	97.3	100.0	100.0
#4 SIEVE (4.75mm)	99.6	99.4	95.5	79.1	99.9	100.0
#10 SIEVE (2.00mm)	99.4	98.3	90.8	50.0	99.6	100.0
#20 SIEVE (0.85mm)	98.3	92.5	74.9	45.6	95.3	99.9
#40" SIEVE (425um)	79.7	66.5	37.0	28.6	55.7	99.8
#60 SIEVE (250um)	22.9	30.3	13.8	12.3	20.9	99.4
#100 SIEVE (150um)	7.9	13.0	6.6	5.0	7.9	99.2
#140 SIEVE (106um)	5.3	7.8	5.2	3.3	5.0	98.8
#200 SIEVE (75um)	4.1	5.4	3.9	2.7	4.1	96.5
Clay						43.6
Silt						52.9
Total Sand	95.5	94.0	91.5	76.4	95.9	3.5
Total Gravel	0.4	0.6	4.5	20.9	0.1	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	NP	NP	52
Plastic Limit	NP	NP	NP	NP	NP	17
Plasticity Index	NP	NP	NP	NP	NP	35
USCS	SP	SP-SM	SP	SP	SP	CH
AASHTO	A-3(0)	A-3(0)	A-1-b(0)	A-1-a(0)	A-3(0)	A-7-6(37)

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-01	TH-01	TH-01	TH-02	TH-02	TH-02
Station	437+20.8	437+20.8	437+20.8	441+41.1	441+41.1	441+41.1
Offset	RT 91.7	RT 91.7	RT 91.7	LT 95.6	LT 95.6	LT 95.6
Sample ID	SS-28	SS-31	SS-32	SS-1	SS-5	SS-8
Depth (ft)	128.5	143.5	148.5	0.4	6.4	18.9
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	96.9	100.0	100.0
1/2" SIEVE (12.5mm)	100.0	100.0	100.0	96.9	100.0	100.0
3/8" SIEVE (9.5mm)	100.0	100.0	100.0	95.6	100.0	100.0
#4 SIEVE (4.75mm)	99.1	100.0	100.0	89.2	96.3	100.0
#10 SIEVE (2.00mm)	98.1	99.9	100.0	83.1	94.1	100.0
#20 SIEVE (0.85mm)	94.3	99.6	99.9	78.3	91.8	95.9
#40" SIEVE (425um)	73.1	99.0	99.3	66.6	74.9	68.4
#60 SIEVE (250um)	26.4	97.2	98.7	49.7	42.5	37.3
#100 SIEVE (150um)	8.9	69.2	97.6	29.7	25.2	22.8
#140 SIEVE (106um)	6.0	45.5	94.8	22.4	21.2	19.0
#200 SIEVE (75um)	5.0	23.1	90.1	18.7	18.7	16.8
Clay						
Silt						
Total Sand	94.0	76.9	9.9	70.5	77.6	83.2
Total Gravel	0.9	0.0	0.0	10.8	3.7	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	32	59	NP	NP	NP
Plastic Limit	NP	18	15	NP	NP	NP
Plasticity Index	NP	14	44	NP	NP	NP
USCS	SP-SM	SC	CH	SM	SM	SM
AASHTO	A-3(0)	A-2-6(0)	A-7-6(42)	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-02	TH-02	TH-02	TH-02	TH-02	TH-02
Station	441+41.1	441+41.1	441+41.1	441+41.1	441+41.1	441+41.1
Offset	LT 95.6	LT 95.6	LT 95.6	LT 95.6	LT 95.6	LT 95.6
Sample ID	SS-9	T-1	SS-12	SS-16	SS-18	SS-23
Depth (ft)	23.9	28.9	43.9	63.9	73.9	98.9
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	98.3
#4 SIEVE (4.75mm)	100.0	100.0	100.0	100.0	100.0	91.8
#10 SIEVE (2.00mm)	100.0	100.0	100.0	100.0	100.0	83.3
#20 SIEVE (0.85mm)	99.8	99.6	99.1	98.8	94.8	65.0
#40" SIEVE (425um)	99.1	99.3	92.5	84.7	68.5	34.3
#60 SIEVE (250um)	90.6	96.4	34.7	31.8	27.7	17.9
#100 SIEVE (150um)	56.6	82.3	12.7	9.6	12.8	10.3
#140 SIEVE (106um)	42.4	69.4	10.1	6.5	9.1	7.8
#200 SIEVE (75um)	35.7	55.5	7.6	5.0	6.4	6.1
Clay						
Silt						
Total Sand	64.3	44.5	92.4	95.0	93.6	85.7
Total Gravel	0.0	0.0	0.0	0.0	0.0	8.2
ATTERBERG LIMITS						
Liquid Limit	NP	37	NP	NP	NP	NP
Plastic Limit	NP	17	NP	NP	NP	NP
Plasticity Index	NP	20	NP	NP	NP	NP
USCS	SM	CL	SP-SM	SP-SM	SP-SM	SP-SM
AASHTO	A-4(0)	A-6(8)	A-3(0)	A-3(0)	A-3(0)	A-1-b(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-02	TH-02	TH-03	TH-03	TH-03	TH-03
Station	441+41.1	441+41.1	443+80.7	443+80.7	443+80.7	443+80.7
Offset	LT 95.6	LT 95.6	LT 100.5	LT 100.5	LT 100.5	LT 100.5
Sample ID	SS-28	SS-32	SS-2	SS-5	SS-8	T-1
Depth (ft)	123.9	148.9	2.4	6.9	19.4	24.4
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	99.6	100.0	100.0	99.5	100.0
#10 SIEVE (2.00mm)	99.0	99.3	100.0	100.0	98.7	100.0
#20 SIEVE (0.85mm)	83.3	97.7	100.0	93.4	97.9	100.0
#40" SIEVE (425um)	46.7	71.0	77.7	66.3	96.3	99.8
#60 SIEVE (250um)	21.1	20.7	43.1	39.8	87.7	94.4
#100 SIEVE (150um)	11.1	11.5	25.1	24.3	55.8	76.6
#140 SIEVE (106um)	8.3	9.8	20.8	20.2	39.2	63.4
#200 SIEVE (75um)	6.3	9.0	18.5	17.5	30.8	51.5
Clay						
Silt						
Total Sand	93.7	90.6	81.5	82.5	68.7	48.5
Total Gravel	0.0	0.4	0.0	0.0	0.5	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	NP	NP	34
Plastic Limit	NP	NP	NP	NP	NP	15
Plasticity Index	NP	NP	NP	NP	NP	19
USCS	SP-SM	SP-SM	SM	SM	SM	CL
AASHTO	A-1-b(0)	A-3(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-6(6)

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-03	TH-03	TH-03	TH-03	TH-03	TH-03
Station	443+80.7	443+80.7	443+80.7	443+80.7	443+80.7	443+80.7
Offset	LT 100.5	LT 100.5	LT 100.5	LT 100.5	LT 100.5	LT 100.5
Sample ID	SS-10	SS-13	SS-17	SS-20	SS-23	SS-24
Depth (ft)	29.4	44.4	64.4	79.4	94.4	99.4
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	96.9	100.0
#4 SIEVE (4.75mm)	100.0	100.0	100.0	99.7	87.8	97.9
#10 SIEVE (2.00mm)	100.0	100.0	100.0	96.5	83.4	95.7
#20 SIEVE (0.85mm)	99.9	100.0	99.7	82.1	79.7	84.3
#40" SIEVE (425um)	99.5	99.3	74.8	40.3	67.0	51.2
#60 SIEVE (250um)	90.1	92.6	22.9	20.1	52.4	23.0
#100 SIEVE (150um)	89.7	36.3	11.1	11.2	47.3	10.6
#140 SIEVE (106um)	51.7	13.6	8.7	8.4	44.8	8.0
#200 SIEVE (75um)	44.2	6.9	6.8	6.6	40.6	6.2
Clay						
Silt						
Total Sand	55.8	93.1	93.2	93.1	47.2	91.7
Total Gravel	0.0	0.0	0.0	0.3	12.2	2.1
ATTERBERG LIMITS						
Liquid Limit	26	NP	NP	NP	39	NP
Plastic Limit	17	NP	NP	NP	16	NP
Plasticity Index	9	NP	NP	NP	23	NP
USCS	SC	SP-SM	SP-SM	SP-SM	SC	SP-SM
AASHTO	A-4(1)	A-3(0)	A-3(0)	A-1-b(0)	A-6(5)	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: 01/15/2018

ALABAMA DEPARTMENT OF TRANSPORTATION
SOILS AND BASE COARSE ANALYSIS

Boring No.	TH-03	TH-03	TH-04	TH-04	TH-04	TH-04
Station	443+80.7	443+80.7	441+98.6	441+98.6	441+98.6	441+98.6
Offset	LT 100.5	LT 100.5	RT 140.5	RT 140.5	RT 140.5	RT 140.5
Sample ID	SS-28	T-2	SS-6	SS-8	SS-9	SS-10
Depth (ft)	119.4	129.4	8.5	18.5	23.5	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	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)	99.6	100.0	99.6	100.0	100.0	100.0
#10 SIEVE (2.00mm)	98.6	100.0	98.1	100.0	100.0	100.0
#20 SIEVE (0.85mm)	91.4	69.2	97.7	99.9	99.9	99.2
#40" SIEVE (425um)	44.0	52.5	97.0	99.6	91.4	87.1
#60 SIEVE (250um)	20.9	44.1	90.1	97.9	57.2	33.7
#100 SIEVE (150um)	13.2	38.0	70.1	85.5	25.4	7.0
#140 SIEVE (106um)	10.8	35.4	56.5	70.0	19.2	5.2
#200 SIEVE (75um)	8.7	33.1	42.5	53.1	15.9	4.3
Clay						
Silt						
Total Sand	90.9	66.9	57.1	46.9	84.1	95.7
Total Gravel	0.4	0.0	0.4	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	47	38	NP	NP	NP
Plastic Limit	NP	22	16	NP	NP	NP
Plasticity Index	NP	25	22	NP	NP	NP
USCS	SP-SM	SC	SC	ML	SM	SP
AASHTO	A-1-b(0)	A-2-7(3)	A-6(5)	A-4(0)	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: 01/15/2018

ALABAMA DEPARTMENT OF TRANSPORTATION
SOILS AND BASE COARSE ANALYSIS

Boring No.	TH-04	TH-04	TH-04	TH-04	TH-04	TH-04
Station	441+98.6	441+98.6	441+98.6	441+98.6	441+98.6	441+98.6
Offset	RT 140.5	RT 140.5	RT 140.5	RT 140.5	RT 140.5	RT 140.5
Sample ID	SS-13	SS-18	SS-22	SS-26	SS-29	T-1
Depth (ft)	43.5	68.5	88.5	108.5	123.5	143.0
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	97.2	100.0	100.0	100.0	100.0
3/8" SIEVE (9.5mm)	100.0	95.7	100.0	100.0	100.0	100.0
#4 SIEVE (4.75mm)	100.0	84.6	100.0	100.0	100.0	100.0
#10 SIEVE (2.00mm)	100.0	76.5	100.0	100.0	99.4	100.0
#20 SIEVE (0.85mm)	98.9	62.4	99.0	99.8	97.8	100.0
#40" SIEVE (425um)	66.3	30.9	84.8	99.2	78.8	99.9
#60 SIEVE (250um)	21.5	13.8	61.4	97.6	37.3	99.8
#100 SIEVE (150um)	5.9	9.5	22.8	94.7	18.3	97.1
#140 SIEVE (106um)	4.2	8.1	11.5	92.1	12.5	89.9
#200 SIEVE (75um)	3.4	7.4	8.1	88.6	9.2	82.8
Clay						
Silt						
Total Sand	96.6	77.3	91.9	11.4	90.8	17.2
Total Gravel	0.0	15.4	0.0	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	51	NP	51
Plastic Limit	NP	NP	NP	16	NP	17
Plasticity Index	NP	NP	NP	35	NP	34
USCS	SP	SP-SM	SP-SM	CH	SP-SM	CH
AASHTO	A-3(0)	A-1-b(0)	A-3(0)	A-7-6(32)	A-3(0)	A-7-6(29)

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-04	TH-05	TH-05	TH-05	TH-05	TH-05
Station	441+98.6	443+30.5	443+30.5	443+30.5	443+30.5	443+30.5
Offset	RT 140.5	RT 137.3	RT 137.3	RT 137.3	RT 137.3	RT 137.3
Sample ID	SS-33	SS-2	SS-5	SS-7	SS-8	SS-14
Depth (ft)	148.5	1.5	6.0	13.5	18.5	48.5
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	100.0
#4 SIEVE (4.75mm)	100.0	100.0	100.0	100.0	100.0	97.6
#10 SIEVE (2.00mm)	100.0	100.0	100.0	100.0	100.0	96.7
#20 SIEVE (0.85mm)	99.9	99.9	99.6	100.0	99.8	89.8
#40" SIEVE (425um)	99.6	99.0	98.8	99.9	99.5	63.7
#60 SIEVE (250um)	98.9	90.6	93.3	96.7	96.9	21.9
#100 SIEVE (150um)	98.0	53.0	67.0	63.2	89.3	8.5
#140 SIEVE (106um)	96.7	33.4	49.7	43.7	80.2	5.8
#200 SIEVE (75um)	93.1	25.6	39.2	31.7	67.9	4.6
Clay						
Silt						
Total Sand	6.9	74.4	60.8	68.3	32.1	93.0
Total Gravel	0.0	0.0	0.0	0.0	0.0	2.4
ATTERBERG LIMITS						
Liquid Limit	61	NP	NP	NP	NP	NP
Plastic Limit	13	NP	NP	NP	NP	NP
Plasticity Index	48	NP	NP	NP	NP	NP
USCS	CH	SM	SM	SM	ML	SP
AASHTO	A-7-6(47)	A-2-4(0)	A-4(0)	A-2-4(0)	A-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: 01/15/2018

ALABAMA DEPARTMENT OF TRANSPORTATION
SOILS AND BASE COARSE ANALYSIS

Boring No.	TH-05	TH-05	TH-05	TH-05	TH-05	TH-05
Station	443+30.5	443+30.5	443+30.5	443+30.5	443+30.5	443+30.5
Offset	RT 137.3	RT 137.3	RT 137.3	RT 137.3	RT 137.3	RT 137.3
Sample ID	SS-18	SS-21	SS-25	SS-28	SS-30	SS-32
Depth (ft)	68.5	83.5	103.5	118.5	128.5	138.5
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)	99.3	100.0	100.0	100.0	100.0	100.0
#4 SIEVE (4.75mm)	95.2	99.6	100.0	100.0	91.5	100.0
#10 SIEVE (2.00mm)	89.5	98.9	100.0	99.8	84.9	100.0
#20 SIEVE (0.85mm)	72.6	93.1	98.4	97.3	73.7	99.9
#40" SIEVE (425um)	38.6	70.3	44.6	84.2	49.5	99.3
#60 SIEVE (250um)	16.2	36.9	14.3	38.4	24.7	98.3
#100 SIEVE (150um)	9.2	14.0	7.1	11.8	13.2	93.6
#140 SIEVE (106um)	7.5	8.7	5.3	8.5	9.6	61.2
#200 SIEVE (75um)	6.7	6.3	4.3	6.5	6.9	26.0
Clay						
Silt						
Total Sand	88.5	93.2	95.7	93.5	84.6	74.0
Total Gravel	4.8	0.4	0.0	0.0	8.5	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-SM	SP	SP-SM	SP-SM	SM
AASHTO	A-1-b(0)	A-3(0)	A-1-b(0)	A-3(0)	A-1-b(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-05	TH-05	TH-06	TH-06	TH-06	TH-06
Station	443+30.5	443+30.5	3018+10.5	3018+10.5	3018+10.5	3018+10.5
Offset	RT 137.3	RT 137.3	LT 20.7	LT 20.7	LT 20.7	LT 20.7
Sample ID	SS-33	T-1	SS-1	SS-2	SS-5	T-1
Depth (ft)	143.5	145.0	0.0	1.5	6.0	13.5
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	99.1	100.0	100.0	100.0
#4 SIEVE (4.75mm)	100.0	100.0	96.2	100.0	100.0	100.0
#10 SIEVE (2.00mm)	100.0	100.0	93.4	100.0	100.0	100.0
#20 SIEVE (0.85mm)	99.0	99.9	91.4	97.1	99.9	99.6
#40" SIEVE (425um)	96.7	99.9	83.0	80.6	98.0	96.6
#60 SIEVE (250um)	93.9	99.9	58.6	52.4	88.9	77.8
#100 SIEVE (150um)	90.4	99.5	29.9	27.7	60.4	48.1
#140 SIEVE (106um)	81.7	98.1	21.3	20.1	46.3	42.3
#200 SIEVE (75um)	71.3	93.9	17.0	15.8	39.5	39.3
Clay						25.3
Silt						14.0
Total Sand	28.7	6.1	79.2	84.2	60.5	60.7
Total Gravel	0.0	0.0	3.8	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	28	56	NP	NP	27	30
Plastic Limit	17	13	NP	NP	13	13
Plasticity Index	11	43	NP	NP	14	17
USCS	CL	CH	SM	SM	SC	SC
AASHTO	A-6(6)	A-7-6(43)	A-2-4(0)	A-2-4(0)	A-6(2)	A-6(2)

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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-06	TH-06	TH-07	TH-07	TH-07	TH-07
Station	3018+10.5	3018+10.5	451+65.7	451+65.7	451+65.7	451+65.7
Offset	LT 20.7	LT 20.7	LT 100.3	LT 100.3	LT 100.3	LT 100.3
Sample ID	SS-8	SS-10	SS-1	SS-3	SS-6	SS-9
Depth (ft)	18.5	28.5	1.0	4.0	9.5	24.5
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	98.7	100.0	100.0	100.0
3/8" SIEVE (9.5mm)	100.0	100.0	96.6	100.0	100.0	100.0
#4 SIEVE (4.75mm)	100.0	100.0	92.2	97.5	99.7	98.6
#10 SIEVE (2.00mm)	100.0	100.0	89.1	96.1	97.9	91.9
#20 SIEVE (0.85mm)	99.2	99.2	86.4	92.7	93.6	58.7
#40" SIEVE (425um)	92.2	93.6	72.5	70.4	73.4	31.8
#60 SIEVE (250um)	60.6	47.1	45.2	39.2	36.2	13.2
#100 SIEVE (150um)	27.6	13.6	26.2	18.3	14.2	6.3
#140 SIEVE (106um)	21.8	9.8	20.6	13.0	10.2	3.5
#200 SIEVE (75um)	19.9	8.2	17.2	10.5	8.5	1.7
Clay						
Silt						
Total Sand	80.1	91.8	75.0	87.0	91.1	97.0
Total Gravel	0.0	0.0	7.8	2.5	0.3	1.4
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	SP-SM	SM	SP-SM	SP-SM	SP
AASHTO	A-2-4(0)	A-3(0)	A-2-4(0)	A-3(0)	A-3(0)	A-1-b(0)

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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-07	TH-07	TH-07	TH-07	TH-07	TH-07
Station	451+65.7	451+65.7	451+65.7	451+65.7	451+65.7	451+65.7
Offset	LT 100.3	LT 100.3	LT 100.3	LT 100.3	LT 100.3	LT 100.3
Sample ID	SS-10	T-1	SS-11	SS-15	SS-19	SS-22
Depth (ft)	29.5	34.0	39.5	59.5	79.5	94.5
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	100.0
#4 SIEVE (4.75mm)	100.0	100.0	100.0	100.0	99.7	99.5
#10 SIEVE (2.00mm)	100.0	100.0	100.0	100.0	99.6	99.1
#20 SIEVE (0.85mm)	97.9	99.6	99.6	95.5	98.4	96.3
#40" SIEVE (425um)	96.3	99.3	99.3	41.5	84.6	44.9
#60 SIEVE (250um)	94.1	97.1	98.5	17.8	28.2	17.3
#100 SIEVE (150um)	89.1	48.9	95.8	9.2	8.0	10.6
#140 SIEVE (106um)	85.8	36.0	89.0	7.7	5.9	8.7
#200 SIEVE (75um)	83.2	32.8	79.2	6.8	4.8	7.4
Clay						
Silt						
Total Sand	16.8	67.2	20.8	93.2	94.9	92.0
Total Gravel	0.0	0.0	0.0	0.0	0.3	0.5
ATTERBERG LIMITS						
Liquid Limit	51	28	66	NP	NP	NP
Plastic Limit	22	16	22	NP	NP	NP
Plasticity Index	29	12	44	NP	NP	NP
USCS	CH	SC	CH	SP-SM	SP	SP-SM
AASHTO	A-7-6(25)	A-2-6(0)	A-7-6(36)	A-1-b(0)	A-3(0)	A-1-b(0)

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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-07	TH-07	TH-08	TH-08	TH-08	TH-08
Station	451+65.7	451+65.7	454+44.1	454+44.1	454+44.1	454+44.1
Offset	LT 100.3	LT 100.3	LT 105.8	LT 105.8	LT 105.8	LT 105.8
Sample ID	T-2	T-3	SS-2	SS-7	SS-9	T-1
Depth (ft)	104.0	114.0	2.8	14.8	24.8	29.3
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	100.0	100.0
#10 SIEVE (2.00mm)	100.0	100.0	100.0	100.0	100.0	100.0
#20 SIEVE (0.85mm)	100.0	100.0	97.5	97.2	99.8	100.0
#40" SIEVE (425um)	99.9	99.8	82.7	74.1	99.0	99.7
#60 SIEVE (250um)	99.8	96.0	51.6	39.0	92.2	95.1
#100 SIEVE (150um)	99.5	67.6	27.7	20.7	56.8	58.9
#140 SIEVE (106um)	98.8	39.0	21.1	17.4	37.3	35.2
#200 SIEVE (75um)	95.4	19.4	17.5	15.5	29.5	22.4
Clay						8.1
Silt						14.3
Total Sand	4.6	80.6	82.5	84.5	70.5	77.6
Total Gravel	0.0	0.0	0.0	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	50	NP	NP	NP	26	NP
Plastic Limit	27	NP	NP	NP	14	NP
Plasticity Index	23	NP	NP	NP	12	NP
USCS	CH	SM	SM	SM	SC	SM
AASHTO	A-7-6(25)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-6(0)	A-2-4(0)

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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-08	TH-08	TH-08	TH-08	TH-08	TH-08
Station	454+44.1	454+44.1	454+44.1	454+44.1	454+44.1	454+44.1
Offset	LT 105.8	LT 105.8	LT 105.8	LT 105.8	LT 105.8	LT 105.8
Sample ID	T-3	SS-14	SS-19	SS-23	T-4	SS-25
Depth (ft)	49.3	64.8	89.8	109.8	119.3	124.8
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	98.9	100.0	100.0	100.0
#4 SIEVE (4.75mm)	100.0	99.5	87.6	100.0	100.0	100.0
#10 SIEVE (2.00mm)	100.0	99.3	63.3	100.0	100.0	100.0
#20 SIEVE (0.85mm)	99.9	96.0	44.7	96.9	98.8	99.2
#40" SIEVE (425um)	99.9	55.6	27.2	36.0	90.2	96.9
#60 SIEVE (250um)	99.7	24.4	12.7	12.8	83.8	77.2
#100 SIEVE (150um)	99.6	8.3	5.8	6.3	79.4	19.4
#140 SIEVE (106um)	99.6	6.6	3.9	4.7	71.0	11.2
#200 SIEVE (75um)	99.5	5.3	2.8	3.2	57.6	8.5
Clay	73.6					
Silt	25.9					
Total Sand	0.5	94.2	84.8	96.8	42.4	91.5
Total Gravel	0.0	0.5	12.4	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	78	NP	NP	NP	28	NP
Plastic Limit	25	NP	NP	NP	15	NP
Plasticity Index	53	NP	NP	NP	13	NP
USCS	CH	SP-SM	SP	SP	CL	SP-SM
AASHTO	A-7-6(61)	A-3(0)	A-1-b(0)	A-1-b(0)	A-6(5)	A-3(0)

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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-08	TH-09	TH-09	TH-09	TH-09	TH-09
Station	454+44.1	3021+38.7	3021+38.7	3021+38.7	3021+38.7	3021+38.7
Offset	LT 105.8	LT 109.2	LT 109.2	LT 109.2	LT 109.2	LT 109.2
Sample ID	SS-28	SS-1	SS-2	SS-3	SS-5	T-1
Depth (ft)	139.8	0.0	1.5	3.0	6.0	13.5
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	99.0	98.9	100.0	100.0	100.0
#4 SIEVE (4.75mm)	100.0	96.9	92.8	98.1	98.8	95.7
#10 SIEVE (2.00mm)	100.0	94.1	87.2	94.0	96.3	84.8
#20 SIEVE (0.85mm)	95.4	91.2	83.7	91.9	96.1	79.0
#40" SIEVE (425um)	66.2	81.8	77.7	89.0	95.0	76.4
#60 SIEVE (250um)	35.7	65.3	66.8	79.6	87.7	74.1
#100 SIEVE (150um)	22.3	38.8	43.9	47.6	67.5	69.2
#140 SIEVE (106um)	16.7	27.6	32.2	31.8	54.7	66.2
#200 SIEVE (75um)	13.1	21.4	25.8	24.7	45.3	64.6
Clay						
Silt						
Total Sand	86.9	75.4	67.0	73.3	53.5	31.1
Total Gravel	0.0	3.1	7.2	1.9	1.2	4.3
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	NP	NP	70
Plastic Limit	NP	NP	NP	NP	NP	33
Plasticity Index	NP	NP	NP	NP	NP	37
USCS	SM	SM	SM	SM	SM	CH
AASHTO	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-4(0)	A-7-5(24)

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-09	TH-09	TH-10	TH-10	TH-10	TH-10
Station	3021+38.7	3021+38.7	5984+79.6	5984+79.6	5984+79.6	5984+79.6
Offset	LT 109.2	LT 109.2	RT 33.2	RT 33.2	RT 33.2	RT 33.2
Sample ID	T-2	SS-9	SS-1	SS-3	SS-7	T-1
Depth (ft)	23.5	33.5	0.0	3.0	13.5	18.0
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	96.7	100.0	100.0	100.0
3/8" SIEVE (9.5mm)	97.6	100.0	96.7	100.0	100.0	100.0
#4 SIEVE (4.75mm)	83.1	100.0	96.0	100.0	98.8	99.9
#10 SIEVE (2.00mm)	77.1	97.3	95.4	100.0	95.0	99.1
#20 SIEVE (0.85mm)	75.4	96.5	94.3	99.8	93.0	98.3
#40" SIEVE (425um)	73.0	62.3	88.4	96.5	92.0	97.9
#60 SIEVE (250um)	66.8	27.8	66.0	69.7	90.3	97.2
#100 SIEVE (150um)	60.4	19.1	32.5	27.1	80.7	91.5
#140 SIEVE (106um)	56.0	16.3	23.0	16.1	61.8	80.3
#200 SIEVE (75um)	52.5	14.6	18.3	10.9	54.0	73.8
Clay						
Silt						
Total Sand	30.6	85.4	77.7	89.1	44.8	26.1
Total Gravel	16.9	0.0	4.0	0.0	1.2	0.1
ATTERBERG LIMITS						
Liquid Limit	53	NP	NP	NP	55	39
Plastic Limit	24	NP	NP	NP	23	16
Plasticity Index	29	NP	NP	NP	32	23
USCS	CH	SM	SM	SP-SM	CH	CL
AASHTO	A-7-6(12)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-7-6(14)	A-6(15)

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-10	TH-10	TH-10	TH-10	TH-10	TH-10
Station	5984+79.6	5984+79.6	5984+79.6	5984+79.6	5984+79.6	5984+79.6
Offset	RT 33.2	RT 33.2	RT 33.2	RT 33.2	RT 33.2	RT 33.2
Sample ID	SS-8	SS-9	SS-12	SS-15	SS-18	SS-21
Depth (ft)	23.5	28.5	43.5	58.5	73.5	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	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	99.3	100.0
#4 SIEVE (4.75mm)	100.0	100.0	99.8	100.0	99.2	99.7
#10 SIEVE (2.00mm)	99.9	100.0	99.6	99.9	98.1	97.9
#20 SIEVE (0.85mm)	98.4	98.9	98.9	98.0	91.2	90.2
#40" SIEVE (425um)	86.9	92.7	86.3	77.3	71.0	68.4
#60 SIEVE (250um)	39.9	52.0	34.2	34.7	28.6	33.9
#100 SIEVE (150um)	10.2	16.3	13.0	13.5	10.0	12.7
#140 SIEVE (106um)	7.3	10.1	8.2	7.9	5.9	7.3
#200 SIEVE (75um)	5.6	6.9	5.6	5.2	3.7	4.7
Clay						
Silt						
Total Sand	94.4	93.1	94.2	94.8	95.4	95.0
Total Gravel	0.0	0.0	0.2	0.0	0.8	0.3
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-SM	SP-SM	SP-SM	SP	SP
AASHTO	A-3(0)	A-3(0)	A-3(0)	A-3(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: 01/15/2018

ALABAMA DEPARTMENT OF TRANSPORTATION
SOILS AND BASE COARSE ANALYSIS

Boring No.	TH-10	TH-10	TH-10	TH-10	TH-10	TH-10
Station	5984+79.6	5984+79.6	5984+79.6	5984+79.6	5984+79.6	5984+79.6
Offset	RT 33.2	RT 33.2	RT 33.2	RT 33.2	RT 33.2	RT 33.2
Sample ID	T-2	T-3	SS-28	SS-31	SS-32	SS-33
Depth (ft)	108.0	118.0	133.5	148.5	158.5	168.5
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	96.7
3/8" SIEVE (9.5mm)	100.0	100.0	100.0	100.0	100.0	96.7
#4 SIEVE (4.75mm)	100.0	100.0	97.9	100.0	100.0	96.5
#10 SIEVE (2.00mm)	99.8	99.9	93.4	99.0	100.0	96.1
#20 SIEVE (0.85mm)	99.5	99.7	83.7	97.0	100.0	92.7
#40" SIEVE (425um)	99.2	99.2	59.7	94.6	99.5	82.1
#60 SIEVE (250um)	98.9	98.2	37.9	90.2	98.0	50.4
#100 SIEVE (150um)	98.2	95.7	25.3	84.0	96.5	28.1
#140 SIEVE (106um)	96.5	93.0	17.7	76.2	95.3	22.6
#200 SIEVE (75um)	93.7	83.4	13.5	62.6	92.3	19.5
Clay						
Silt						
Total Sand	6.3	16.6	84.4	37.4	7.7	77.0
Total Gravel	0.0	0.0	2.1	0.0	0.0	3.5
ATTERBERG LIMITS						
Liquid Limit	85	33	NP	32	57	NP
Plastic Limit	23	17	NP	14	14	NP
Plasticity Index	62	16	NP	18	43	NP
USCS	CH	CL	SM	CL	CH	SM
AASHTO	A-7-6(66)	A-6(12)	A-2-4(0)	A-6(8)	A-7-6(42)	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-11	TH-11	TH-11	TH-11	TH-11	TH-11
Station	141+91.2	141+91.2	141+91.2	141+91.2	141+91.2	141+91.2
Offset	LT 7.3	LT 7.3	LT 7.3	LT 7.3	LT 7.3	LT 7.3
Sample ID	SS-2	SS-3	SS-5	SS-7	T-1	SS-9
Depth (ft)	1.5	3.0	6.0	13.5	18.0	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	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	100.0	100.0
#10 SIEVE (2.00mm)	100.0	100.0	100.0	99.9	100.0	100.0
#20 SIEVE (0.85mm)	100.0	99.9	99.7	97.7	96.7	100.0
#40" SIEVE (425um)	98.8	98.6	98.8	96.1	94.5	99.4
#60 SIEVE (250um)	81.9	77.7	87.9	92.2	89.1	49.0
#100 SIEVE (150um)	35.7	27.8	56.6	75.9	61.2	9.7
#140 SIEVE (106um)	23.3	15.1	46.0	71.1	53.1	6.0
#200 SIEVE (75um)	18.1	10.5	36.4	69.2	50.0	4.6
Clay						
Silt						
Total Sand	81.9	89.5	63.6	30.8	50.0	95.4
Total Gravel	0.0	0.0	0.0	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	46	33	NP
Plastic Limit	NP	NP	NP	24	14	NP
Plasticity Index	NP	NP	NP	22	19	NP
USCS	SM	SP-SM	SM	CL	CL	SP
AASHTO	A-2-4(0)	A-2-4(0)	A-4(0)	A-7-6(14)	A-6(6)	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: 01/15/2018

ALABAMA DEPARTMENT OF TRANSPORTATION
SOILS AND BASE COARSE ANALYSIS

Boring No.	TH-11	TH-11	TH-11	TH-11	TH-11	TH-11
Station	141+91.2	141+91.2	141+91.2	141+91.2	141+91.2	141+91.2
Offset	LT 7.3	LT 7.3	LT 7.3	LT 7.3	LT 7.3	LT 7.3
Sample ID	SS-11	SS-16	SS-20	SS-21	T-3	SS-22
Depth (ft)	38.5	63.5	83.5	88.0	93.0	98.5
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	97.7	100.0	100.0	100.0	100.0
3/8" SIEVE (9.5mm)	100.0	95.5	100.0	100.0	100.0	100.0
#4 SIEVE (4.75mm)	99.4	91.7	100.0	100.0	100.0	100.0
#10 SIEVE (2.00mm)	99.2	84.4	100.0	100.0	100.0	100.0
#20 SIEVE (0.85mm)	97.2	65.4	99.4	99.4	100.0	99.9
#40" SIEVE (425um)	64.1	30.8	97.9	85.0	99.9	99.3
#60 SIEVE (250um)	24.9	17.5	94.3	54.8	99.7	98.0
#100 SIEVE (150um)	8.0	10.1	89.0	17.9	99.4	96.6
#140 SIEVE (106um)	4.6	8.4	83.7	11.7	98.2	96.2
#200 SIEVE (75um)	3.5	7.3	77.1	9.1	92.5	95.9
Clay						
Silt						
Total Sand	95.9	84.4	22.9	90.9	7.5	4.1
Total Gravel	0.6	8.3	0.0	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	60	NP	59	110
Plastic Limit	NP	NP	16	NP	24	35
Plasticity Index	NP	NP	44	NP	35	75
USCS	SP	SP-SM	CH	SP-SM	CH	CH
AASHTO	A-3(0)	A-1-b(0)	A-7-6(34)	A-3(0)	A-7-6(36)	A-7-5(86)

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-11	TH-11	TH-11	TH-11	TH-11	TH-11
Station	141+91.2	141+91.2	141+91.2	141+91.2	141+91.2	141+91.2
Offset	LT 7.3	LT 7.3	LT 7.3	LT 7.3	LT 7.3	LT 7.3
Sample ID	SS-23	SS-25	SS-26	SS-27	SS-29	SS-31
Depth (ft)	103.5	113.5	118.5	123.5	133.5	143.5
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	100.0
#4 SIEVE (4.75mm)	100.0	100.0	100.0	100.0	99.9	99.2
#10 SIEVE (2.00mm)	100.0	99.9	100.0	100.0	98.7	98.7
#20 SIEVE (0.85mm)	100.0	99.7	99.9	99.9	96.6	97.3
#40" SIEVE (425um)	99.6	97.1	99.2	97.6	83.2	78.7
#60 SIEVE (250um)	91.4	74.9	96.1	77.9	43.7	31.7
#100 SIEVE (150um)	70.9	32.2	61.1	48.2	13.1	13.7
#140 SIEVE (106um)	52.0	15.6	37.4	29.3	7.6	8.9
#200 SIEVE (75um)	35.8	10.1	24.5	18.8	5.1	6.4
Clay						
Silt						
Total Sand	64.2	89.9	75.5	81.2	94.7	92.7
Total Gravel	0.0	0.0	0.0	0.0	0.1	0.8
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	SP-SM	SM	SM	SP-SM	SP-SM
AASHTO	A-4(0)	A-3(0)	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: 01/15/2018

ALABAMA DEPARTMENT OF TRANSPORTATION
SOILS AND BASE COARSE ANALYSIS

Boring No.	TH-12	TH-12	TH-12	TH-12	TH-12	TH-12
Station	1206+11.1	1206+11.1	1206+11.1	1206+11.1	1206+11.1	1206+11.1
Offset	LT 2.5	LT 2.5	LT 2.5	LT 2.5	LT 2.5	LT 2.5
Sample ID	SS-2	SS-5	SS-8	T-1	SS-11	SS-14
Depth (ft)	1.5	6.0	18.5	28.0	38.5	53.5
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	100.0
#4 SIEVE (4.75mm)	99.9	97.7	100.0	100.0	100.0	100.0
#10 SIEVE (2.00mm)	99.4	96.2	99.8	100.0	100.0	100.0
#20 SIEVE (0.85mm)	98.0	94.8	99.6	99.9	100.0	98.9
#40" SIEVE (425um)	89.5	88.3	98.4	99.8	99.8	78.8
#60 SIEVE (250um)	67.6	75.2	85.4	99.6	89.9	41.0
#100 SIEVE (150um)	35.6	46.4	38.5	99.4	44.7	9.9
#140 SIEVE (106um)	25.9	31.7	30.4	99.1	27.6	7.1
#200 SIEVE (75um)	20.9	25.1	26.9	99.0	19.2	5.9
Clay						
Silt						
Total Sand	79.0	72.6	73.1	1.0	80.8	94.1
Total Gravel	0.1	2.3	0.0	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	18	NP	111	NP	NP
Plastic Limit	NP	13	NP	37	NP	NP
Plasticity Index	NP	5	NP	74	NP	NP
USCS	SM	SC-SM	SM	CH	SM	SP-SM
AASHTO	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-7-5(89)	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: 01/15/2018

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)

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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-24	TH-24	TH-25	TH-25	TH-25	TH-25
Station	9014+62.1	9014+62.1	906+09.3	906+09.3	906+09.3	906+09.3
Offset	LT 4.9	LT 4.9	LT 1.4	LT 1.4	LT 1.4	LT 1.4
Sample ID	SS-4	SS-7	SS-2	SS-4	SS-7	SS-9
Depth (ft)	4.5	13.5	2.6	5.6	14.6	24.6
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)	94.2	100.0	97.8	100.0	100.0	100.0
#4 SIEVE (4.75mm)	83.9	100.0	89.0	100.0	100.0	99.8
#10 SIEVE (2.00mm)	76.0	99.8	79.5	99.6	100.0	99.8
#20 SIEVE (0.85mm)	72.3	99.0	72.3	98.9	99.2	99.7
#40" SIEVE (425um)	65.4	94.1	60.5	94.9	93.0	95.8
#60 SIEVE (250um)	52.1	67.2	42.4	77.5	61.7	37.4
#100 SIEVE (150um)	28.8	32.5	25.5	45.1	27.9	15.2
#140 SIEVE (106um)	22.5	26.6	19.2	36.4	21.6	12.9
#200 SIEVE (75um)	19.8	23.9	16.1	32.2	18.6	11.0
Clay						
Silt						
Total Sand	64.1	76.1	72.9	67.8	81.4	88.8
Total Gravel	16.1	0.0	11.0	0.0	0.0	0.2
ATTERBERG LIMITS						
Liquid Limit	27	NP	NP	31	NP	NP
Plastic Limit	16	NP	NP	13	NP	NP
Plasticity Index	11	NP	NP	18	NP	NP
USCS	SC	SM	SM	SC	SM	SP-SM
AASHTO	A-2-6(0)	A-2-4(0)	A-2-4(0)	A-2-6(1)	A-2-4(0)	A-2-4(0)

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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-26	TH-26	TH-26	TH-26	TH-26	TH-26
Station	23+83.8	23+83.8	23+83.8	23+83.8	23+83.8	23+83.8
Offset	LT 52.0	LT 52.0	LT 52.0	LT 52.0	LT 52.0	LT 52.0
Sample ID	SS-1	SS-2	SS-4	SS-6	SS-9	SS-11
Depth (ft)	0.0	1.5	4.5	10.5	25.5	33.5
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)	96.4	97.7	100.0	100.0	100.0	100.0
#4 SIEVE (4.75mm)	90.8	97.3	100.0	100.0	100.0	100.0
#10 SIEVE (2.00mm)	81.9	96.7	100.0	100.0	100.0	100.0
#20 SIEVE (0.85mm)	75.6	96.7	96.9	99.8	100.0	100.0
#40" SIEVE (425um)	66.7	95.8	96.0	99.6	99.9	96.3
#60 SIEVE (250um)	55.6	87.0	85.3	97.3	99.0	38.7
#100 SIEVE (150um)	36.8	52.5	49.4	86.7	89.5	12.0
#140 SIEVE (106um)	26.8	31.8	29.2	71.5	71.0	8.9
#200 SIEVE (75um)	21.6	23.3	21.1	53.6	49.5	7.2
Clay						
Silt						
Total Sand	69.2	74.0	78.9	46.4	50.5	92.8
Total Gravel	9.2	2.7	0.0	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	NP	29	NP
Plastic Limit	NP	NP	NP	NP	18	NP
Plasticity Index	NP	NP	NP	NP	11	NP
USCS	SM	SM	SM	ML	SC	SP-SM
AASHTO	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-4(0)	A-6(3)	A-3(0)

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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-27	TH-27	TH-27	TH-27	TH-27	TH-27
Station	919+00.1	919+00.1	919+00.1	919+00.1	919+00.1	919+00.1
Offset	RT 7.6	RT 7.6	RT 7.6	RT 7.6	RT 7.6	RT 7.6
Sample ID	SS-1	SS-4	SS-7	SS-8	SS-9	T-1
Depth (ft)	1.7	6.2	15.2	20.2	25.2	27.2
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	99.3	100.0	100.0	100.0	100.0
#4 SIEVE (4.75mm)	94.8	98.7	100.0	100.0	100.0	100.0
#10 SIEVE (2.00mm)	89.6	98.4	100.0	100.0	100.0	100.0
#20 SIEVE (0.85mm)	85.1	96.1	99.8	99.9	96.7	72.2
#40" SIEVE (425um)	67.7	84.4	98.8	99.3	94.5	56.3
#60 SIEVE (250um)	35.4	45.7	82.9	92.0	92.3	46.2
#100 SIEVE (150um)	14.7	16.5	44.1	79.7	87.7	38.3
#140 SIEVE (106um)	9.6	10.2	25.6	67.6	81.6	34.9
#200 SIEVE (75um)	7.5	7.5	18.4	47.9	66.3	31.9
Clay						
Silt						
Total Sand	87.3	91.3	81.6	52.1	33.7	68.1
Total Gravel	5.2	1.3	0.0	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	NP	67	80
Plastic Limit	NP	NP	NP	NP	31	49
Plasticity Index	NP	NP	NP	NP	36	31
USCS	SP-SM	SP-SM	SM	SM	CH	SM
AASHTO	A-3(0)	A-3(0)	A-2-4(0)	A-4(0)	A-7-5(24)	A-2-7(4)

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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-27	W-01	W-01	W-01	W-01	W-01
Station	919+00.1	4233+05.5	4233+05.5	4233+05.5	4233+05.5	4233+05.5
Offset	RT 7.6	LT 83.3	LT 83.3	LT 83.3	LT 83.3	LT 83.3
Sample ID	SS-11	SS-1	SS-2	SS-4	SS-5	SS-7
Depth (ft)	35.2	1.0	2.5	5.5	7.0	14.5
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	98.3	100.0	100.0	100.0
#4 SIEVE (4.75mm)	100.0	93.5	93.6	100.0	100.0	100.0
#10 SIEVE (2.00mm)	100.0	89.1	90.6	100.0	100.0	100.0
#20 SIEVE (0.85mm)	99.8	86.1	88.3	99.9	99.8	99.3
#40" SIEVE (425um)	99.4	74.8	79.1	98.4	98.5	93.9
#60 SIEVE (250um)	97.2	55.2	60.9	84.3	84.6	72.4
#100 SIEVE (150um)	93.4	33.8	37.5	47.7	47.4	46.8
#140 SIEVE (106um)	91.7	25.5	27.2	28.5	26.6	36.3
#200 SIEVE (75um)	90.4	20.8	21.8	19.8	17.0	29.0
Clay						
Silt						
Total Sand	9.6	72.6	71.8	80.2	83.0	71.0
Total Gravel	0.0	6.5	6.4	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	68	NP	NP	NP	NP	NP
Plastic Limit	24	NP	NP	NP	NP	NP
Plasticity Index	44	NP	NP	NP	NP	NP
USCS	CH	SM	SM	SM	SM	SM
AASHTO	A-7-6(44)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)

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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.	W-01	W-01	W-02	W-02	W-02	W-02
Station	4233+05.5	4233+05.5	426+21.8	426+21.8	426+21.8	426+21.8
Offset	LT 83.3	LT 83.3	LT 88.5	LT 88.5	LT 88.5	LT 88.5
Sample ID	SS-8	SS-10	SS-1	SS-3	SS-5	SS-6
Depth (ft)	19.5	29.5	0.0	3.0	6.0	8.5
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	95.8	100.0	100.0	100.0
3/8" SIEVE (9.5mm)	100.0	100.0	92.7	100.0	100.0	100.0
#4 SIEVE (4.75mm)	100.0	100.0	86.8	100.0	100.0	100.0
#10 SIEVE (2.00mm)	100.0	100.0	81.9	100.0	100.0	100.0
#20 SIEVE (0.85mm)	99.0	99.2	78.3	99.0	99.9	99.9
#40" SIEVE (425um)	96.8	92.9	69.4	94.4	99.3	99.2
#60 SIEVE (250um)	87.0	69.9	54.6	81.3	87.8	90.0
#100 SIEVE (150um)	70.5	46.2	38.5	45.4	45.5	51.2
#140 SIEVE (106um)	56.7	37.1	30.4	27.2	25.4	32.1
#200 SIEVE (75um)	50.6	29.8	24.0	19.4	17.7	21.5
Clay						
Silt						
Total Sand	49.4	70.2	62.8	80.6	82.3	78.5
Total Gravel	0.0	0.0	13.2	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	27	26	NP	NP	NP	NP
Plastic Limit	15	14	NP	NP	NP	NP
Plasticity Index	12	12	NP	NP	NP	NP
USCS	CL	SC	SM	SM	SM	SM
AASHTO	A-6(3)	A-2-6(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)

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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.	W-02	W-02	W-03	W-03	W-03	W-03
Station	426+21.8	426+21.8	429+22.8	429+22.8	429+22.8	429+22.8
Offset	LT 88.5	LT 88.5	LT 88.9	LT 88.9	LT 88.9	LT 88.9
Sample ID	T-1	SS-10	SS-2	SS-5	SS-6	SS-7
Depth (ft)	18.0	28.5	1.5	6.0	8.5	13.5
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	100.0
#4 SIEVE (4.75mm)	100.0	100.0	100.0	95.2	98.8	100.0
#10 SIEVE (2.00mm)	100.0	100.0	100.0	93.8	98.6	100.0
#20 SIEVE (0.85mm)	99.9	99.9	97.3	91.6	98.4	99.7
#40" SIEVE (425um)	99.6	98.9	88.0	80.1	97.2	99.1
#60 SIEVE (250um)	95.9	82.4	69.4	62.4	86.0	92.9
#100 SIEVE (150um)	75.6	13.1	43.6	35.9	48.5	74.3
#140 SIEVE (106um)	55.2	8.7	32.8	23.5	30.9	61.3
#200 SIEVE (75um)	36.0	7.3	27.4	17.8	23.8	50.2
Clay	13.6					
Silt	22.4					
Total Sand	64.0	92.7	72.6	77.5	75.0	49.8
Total Gravel	0.0	0.0	0.0	4.8	1.2	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	NP	NP	36
Plastic Limit	NP	NP	NP	NP	NP	22
Plasticity Index	NP	NP	NP	NP	NP	14
USCS	SM	SP-SM	SM	SM	SM	CL
AASHTO	A-4(0)	A-3(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-6(4)

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

Project No.: 15-1101-0228
Region: Southwest Region
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ALABAMA DEPARTMENT OF TRANSPORTATION
SOILS AND BASE COARSE ANALYSIS

Boring No.	W-03	W-04	W-04	W-04	W-04	W-04
Station	429+22.8	432+27.9	432+27.9	432+27.9	432+27.9	432+27.9
Offset	LT 88.9	LT 81.2	LT 81.2	LT 81.2	LT 81.2	LT 81.2
Sample ID	SS-10	SS-1	SS-4	SS-7	SS-8	SS-9
Depth (ft)	28.5	1.3	5.8	14.8	19.8	24.8
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	94.8	100.0	100.0	100.0	100.0
#4 SIEVE (4.75mm)	100.0	86.1	99.5	99.4	91.6	100.0
#10 SIEVE (2.00mm)	100.0	76.1	98.6	98.9	86.1	100.0
#20 SIEVE (0.85mm)	99.1	69.7	97.8	98.4	82.5	100.0
#40" SIEVE (425um)	80.1	55.4	92.0	96.4	75.5	99.4
#60 SIEVE (250um)	43.1	37.6	73.1	83.2	61.8	87.7
#100 SIEVE (150um)	19.9	23.7	47.0	47.1	35.8	53.3
#140 SIEVE (106um)	13.7	19.2	35.4	31.5	23.9	40.0
#200 SIEVE (75um)	10.0	16.5	28.7	23.4	18.5	33.5
Clay						
Silt						
Total Sand	90.0	69.7	70.8	76.0	73.1	66.5
Total Gravel	0.0	13.9	0.5	0.6	8.4	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	NP	20	26
Plastic Limit	NP	NP	NP	NP	13	14
Plasticity Index	NP	NP	NP	NP	7	12
USCS	SP-SM	SM	SM	SM	SC-SM	SC
AASHTO	A-3(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-6(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.	W-04	W-05	W-05	W-05	W-05	W-06
Station	432+27.9	435+07.2	435+07.2	435+07.2	435+07.2	2006+00.6
Offset	LT 81.2	LT 83.2	LT 83.2	LT 83.2	LT 83.2	LT 3.7
Sample ID	SS-11	SS-2	SS-5	SS-7	SS-10	SS-2
Depth (ft)	34.8	2.3	6.8	14.3	29.3	2.0
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	95.6	100.0	100.0	100.0
3/8" SIEVE (9.5mm)	100.0	100.0	92.8	99.1	100.0	100.0
#4 SIEVE (4.75mm)	100.0	99.9	91.4	97.4	100.0	98.4
#10 SIEVE (2.00mm)	100.0	99.5	90.6	96.0	100.0	98.2
#20 SIEVE (0.85mm)	99.2	98.0	86.6	93.7	98.7	96.4
#40" SIEVE (425um)	98.5	84.2	68.8	76.7	90.1	81.5
#60 SIEVE (250um)	88.3	53.8	42.8	34.3	70.1	51.1
#100 SIEVE (150um)	46.9	28.6	24.6	14.0	36.6	28.8
#140 SIEVE (106um)	31.8	21.0	20.2	10.5	25.8	23.1
#200 SIEVE (75um)	22.4	16.9	18.0	8.6	20.7	19.5
Clay						
Silt						
Total Sand	77.6	83.0	73.4	88.8	79.3	79.0
Total Gravel	0.0	0.1	8.6	2.6	0.0	1.6
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	SM	SM	SP-SM	SM	SM
AASHTO	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-3(0)	A-2-4(0)	A-2-4(0)

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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.	W-06	W-06	W-06	W-06	W-06	W-07
Station	2006+00.6	2006+00.6	2006+00.6	2006+00.6	2006+00.6	2010+90.0
Offset	LT 3.7	LT 3.7	LT 3.7	LT 3.7	LT 3.7	LT 6.7
Sample ID	SS-5	SS-7	SS-9	SS-10	SS-11	SS-1
Depth (ft)	6.5	14.0	24.0	29.0	34.0	0.4
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	95.4
#4 SIEVE (4.75mm)	99.4	100.0	100.0	100.0	100.0	86.1
#10 SIEVE (2.00mm)	98.2	100.0	100.0	100.0	100.0	79.9
#20 SIEVE (0.85mm)	95.2	97.3	99.0	100.0	98.7	75.9
#40" SIEVE (425um)	78.6	80.0	97.9	99.7	97.6	65.7
#60 SIEVE (250um)	46.6	50.4	87.6	90.2	89.3	46.9
#100 SIEVE (150um)	25.6	32.1	44.6	59.0	57.3	28.1
#140 SIEVE (106um)	21.1	26.5	26.8	41.0	46.6	21.4
#200 SIEVE (75um)	18.2	22.4	20.2	32.3	41.3	17.6
Clay						
Silt						
Total Sand	81.2	77.6	79.8	67.7	58.7	68.5
Total Gravel	0.6	0.0	0.0	0.0	0.0	13.9
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	SM	SM	SM	SM	SM	SM
AASHTO	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-4(0)	A-2-4(0)

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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.	W-07	W-07	W-07	W-07	W-07	W-07
Station	2010+90.0	2010+90.0	2010+90.0	2010+90.0	2010+90.0	2010+90.0
Offset	LT 6.7	LT 6.7	LT 6.7	LT 6.7	LT 6.7	LT 6.7
Sample ID	SS-4	SS-6	SS-8	SS-9	SS-10	SS-12
Depth (ft)	4.9	8.9	18.9	23.9	28.9	38.9
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	93.8	100.0	100.0	100.0	100.0
3/8" SIEVE (9.5mm)	100.0	92.6	100.0	100.0	100.0	100.0
#4 SIEVE (4.75mm)	100.0	90.0	100.0	100.0	100.0	100.0
#10 SIEVE (2.00mm)	100.0	87.5	100.0	100.0	99.2	100.0
#20 SIEVE (0.85mm)	96.5	84.6	97.8	99.9	99.1	99.4
#40" SIEVE (425um)	73.4	68.7	87.5	98.4	98.6	95.7
#60 SIEVE (250um)	35.6	42.4	61.9	82.2	84.9	52.2
#100 SIEVE (150um)	21.3	25.4	30.5	37.3	55.9	17.6
#140 SIEVE (106um)	17.5	20.7	23.4	23.3	41.4	12.5
#200 SIEVE (75um)	15.1	17.5	18.8	17.9	33.4	9.8
Clay						
Silt						
Total Sand	84.9	72.5	81.2	82.1	66.6	90.2
Total Gravel	0.0	10.0	0.0	0.0	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	SM	SM	SM	SM	SM	SP-SM
AASHTO	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-3(0)

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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.	W-07	W-08	W-08	W-08	W-08	W-08
Station	2010+90.0	5980+84.2	5980+84.2	5980+84.2	5980+84.2	5980+84.2
Offset	LT 6.7	LT 65.4	LT 65.4	LT 65.4	LT 65.4	LT 65.4
Sample ID	SS-15	SS-2	SS-4	SS-7	SS-8	SS-11
Depth (ft)	53.9	1.5	4.5	13.5	18.5	33.5
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)	99.1	100.0	99.0	100.0	100.0	100.0
#4 SIEVE (4.75mm)	97.3	100.0	93.4	100.0	100.0	99.6
#10 SIEVE (2.00mm)	95.3	97.8	85.9	100.0	100.0	99.3
#20 SIEVE (0.85mm)	94.7	96.7	82.0	99.8	99.8	98.8
#40" SIEVE (425um)	78.9	91.4	75.1	99.4	99.6	87.8
#60 SIEVE (250um)	32.5	74.5	60.2	92.0	97.2	34.7
#100 SIEVE (150um)	13.4	38.5	29.8	56.8	79.8	10.0
#140 SIEVE (106um)	9.7	26.2	19.9	37.4	69.2	7.2
#200 SIEVE (75um)	8.2	20.6	15.4	29.6	61.4	5.5
Clay						
Silt						
Total Sand	89.1	79.4	77.9	70.4	38.6	94.1
Total Gravel	2.7	0.0	6.6	0.0	0.0	0.4
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	NP	38	NP
Plastic Limit	NP	NP	NP	NP	20	NP
Plasticity Index	NP	NP	NP	NP	18	NP
USCS	SP-SM	SM	SM	SM	CL	SP-SM
AASHTO	A-3(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-6(9)	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: 01/15/2018

ALABAMA DEPARTMENT OF TRANSPORTATION
SOILS AND BASE COARSE ANALYSIS

Boring No.	W-08	W-08	W-08	W-08	W-08	W-08
Station	5980+84.2	5980+84.2	5980+84.2	5980+84.2	5980+84.2	5980+84.2
Offset	LT 65.4	LT 65.4	LT 65.4	LT 65.4	LT 65.4	LT 65.4
Sample ID	SS-13	SS-15	SS-18	SS-21	SS-25	SS-26
Depth (ft)	43.5	53.5	68.5	83.5	103.5	108.5
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	96.3	100.0	100.0	100.0
3/8" SIEVE (9.5mm)	100.0	100.0	91.1	96.6	100.0	100.0
#4 SIEVE (4.75mm)	100.0	100.0	80.7	87.8	99.5	100.0
#10 SIEVE (2.00mm)	100.0	100.0	70.5	63.3	95.6	100.0
#20 SIEVE (0.85mm)	99.8	97.8	58.0	44.5	91.8	99.2
#40" SIEVE (425um)	99.5	73.2	37.9	23.0	89.7	98.4
#60 SIEVE (250um)	98.1	22.3	23.9	14.2	88.6	95.6
#100 SIEVE (150um)	96.3	10.4	13.7	8.4	87.7	67.0
#140 SIEVE (106um)	95.8	7.7	11.0	6.4	87.3	42.8
#200 SIEVE (75um)	95.5	6.0	9.6	5.0	86.9	25.8
Clay						
Silt						
Total Sand	4.5	94.0	71.1	82.9	12.7	74.2
Total Gravel	0.0	0.0	19.3	12.2	0.5	0.0
ATTERBERG LIMITS						
Liquid Limit	90	NP	NP	NP	95	NP
Plastic Limit	29	NP	NP	NP	35	NP
Plasticity Index	61	NP	NP	NP	60	NP
USCS	CH	SP-SM	SW-SM	SP	CH	SM
AASHTO	A-7-6(69)	A-3(0)	A-1-b(0)	A-1-b(0)	A-7-5(61)	A-2-4(0)

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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.	W-08	W-08	W-09	W-09	W-09	W-10
Station	5980+84.2	5980+84.2	5973+22.7	5973+22.7	5973+22.7	2009+41.3
Offset	LT 65.4	LT 65.4	LT 43.6	LT 43.6	LT 43.6	LT 0.3
Sample ID	SS-29	SS-32	SS-1	SS-3	SS-6	SS-1
Depth (ft)	123.5	138.5	0.0	3.0	8.5	0.5
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	95.3	100.0	100.0	96.0
3/8" SIEVE (9.5mm)	98.3	100.0	93.8	100.0	100.0	92.7
#4 SIEVE (4.75mm)	97.0	100.0	90.7	100.0	100.0	86.8
#10 SIEVE (2.00mm)	96.5	100.0	86.5	99.8	99.8	81.2
#20 SIEVE (0.85mm)	96.2	97.6	82.9	97.1	97.5	77.5
#40" SIEVE (425um)	94.3	96.8	70.2	79.5	81.9	65.7
#60 SIEVE (250um)	50.1	95.4	50.5	45.4	51.8	45.4
#100 SIEVE (150um)	14.3	90.3	34.5	23.7	30.2	27.2
#140 SIEVE (106um)	10.5	72.0	27.7	19.7	25.0	21.3
#200 SIEVE (75um)	8.6	55.7	22.4	17.5	21.8	18.6
Clay						
Silt						
Total Sand	88.3	44.3	68.3	82.5	78.2	68.2
Total Gravel	3.0	0.0	9.3	0.0	0.0	13.2
ATTERBERG LIMITS						
Liquid Limit	NP	39	NP	NP	NP	NP
Plastic Limit	NP	17	NP	NP	NP	NP
Plasticity Index	NP	22	NP	NP	NP	NP
USCS	SP-SM	CL	SM	SM	SM	SM
AASHTO	A-3(0)	A-6(9)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)

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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.	W-10	W-10	W-10	W-11	W-11	W-11
Station	2009+41.3	2009+41.3	2009+41.3	2012+46.9	2012+46.9	2012+46.9
Offset	LT 0.3	LT 0.3	LT 0.3	LT 6.7	LT 6.7	LT 6.7
Sample ID	SS-3	SS-6	SS-8	SS-2	SS-5	SS-7
Depth (ft)	3.5	9.0	19.0	1.8	6.3	13.5
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	97.1	100.0	100.0	100.0
#4 SIEVE (4.75mm)	100.0	99.8	95.8	100.0	100.0	100.0
#10 SIEVE (2.00mm)	100.0	99.8	94.5	100.0	100.0	100.0
#20 SIEVE (0.85mm)	96.9	97.6	91.9	98.5	94.6	96.6
#40" SIEVE (425um)	71.3	77.4	80.5	89.6	67.0	75.5
#60 SIEVE (250um)	42.3	30.6	54.8	66.3	35.8	44.0
#100 SIEVE (150um)	21.4	18.6	27.8	36.7	22.5	24.9
#140 SIEVE (106um)	16.5	15.4	19.1	26.4	18.6	19.9
#200 SIEVE (75um)	13.9	13.1	15.1	21.9	16.1	17.0
Clay						
Silt						
Total Sand	86.1	86.7	80.7	78.1	83.9	83.0
Total Gravel	0.0	0.2	4.2	0.0	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	SM	SM	SM	SM	SM	SM
AASHTO	A-2-4(0)	A-2-4(0)	A-2-4(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.	W-11	W-11	W-11	W-11	W-11	W-11
Station	2012+46.9	2012+46.9	2012+46.9	2012+46.9	2012+46.9	2012+46.9
Offset	LT 6.7	LT 6.7	LT 6.7	LT 6.7	LT 6.7	LT 6.7
Sample ID	SS-8	SS-9	SS-10	T-1	SS-11	SS-12
Depth (ft)	18.5	23.5	28.5	33.5	38.5	43.5
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	100.0
#4 SIEVE (4.75mm)	100.0	100.0	100.0	100.0	100.0	100.0
#10 SIEVE (2.00mm)	100.0	100.0	100.0	100.0	100.0	100.0
#20 SIEVE (0.85mm)	97.6	99.8	99.9	100.0	98.4	97.9
#40" SIEVE (425um)	80.9	99.0	98.9	100.0	97.3	90.2
#60 SIEVE (250um)	40.4	90.1	87.5	97.0	90.1	56.1
#100 SIEVE (150um)	21.0	51.4	40.8	82.3	64.3	22.7
#140 SIEVE (106um)	16.4	36.0	27.0	72.6	47.8	14.5
#200 SIEVE (75um)	14.1	29.7	21.8	64.0	35.7	10.2
Clay						
Silt						
Total Sand	85.9	70.3	78.2	36.0	64.3	89.8
Total Gravel	0.0	0.0	0.0	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	25	NP	NP
Plastic Limit	NP	NP	NP	12	NP	NP
Plasticity Index	NP	NP	NP	13	NP	NP
USCS	SM	SM	SM	CL	SM	SP-SM
AASHTO	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-6(5)	A-4(0)	A-3(0)

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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.	W-12	W-12	W-12	W-13	W-13	W-13
Station	460+23.4	460+23.4	460+23.4	463+23.9	463+23.9	463+23.9
Offset	LT 53.8	LT 53.8	LT 53.8	LT 57.9	LT 57.9	LT 57.9
Sample ID	SS-2	SS-5	SS-7	SS-1	SS-2	SS-4
Depth (ft)	2.8	7.3	14.8	1.2	2.7	5.7
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	98.0	100.0	91.0
3/8" SIEVE (9.5mm)	99.5	100.0	100.0	94.7	100.0	78.1
#4 SIEVE (4.75mm)	97.3	100.0	100.0	87.3	90.1	57.3
#10 SIEVE (2.00mm)	94.3	100.0	100.0	80.5	54.4	29.3
#20 SIEVE (0.85mm)	91.2	95.0	97.4	75.5	28.9	23.5
#40" SIEVE (425um)	77.4	72.8	78.8	62.8	12.6	17.4
#60 SIEVE (250um)	51.1	42.7	45.0	42.1	6.8	12.2
#100 SIEVE (150um)	29.4	29.3	24.1	25.9	4.1	8.7
#140 SIEVE (106um)	22.8	25.8	19.1	20.6	3.2	7.4
#200 SIEVE (75um)	19.3	23.7	16.3	17.7	2.7	6.5
Clay						
Silt						
Total Sand	78.0	76.3	83.7	69.5	87.5	50.8
Total Gravel	2.7	0.0	0.0	12.7	9.9	42.7
ATTERBERG LIMITS						
Liquid Limit	NP	24	NP	NP	NP	NP
Plastic Limit	NP	12	NP	NP	NP	NP
Plasticity Index	NP	12	NP	NP	NP	NP
USCS	SM	SC	SM	SM	SW	SP-SM
AASHTO	A-2-4(0)	A-2-6(0)	A-2-4(0)	A-2-4(0)	A-1-b(0)	A-1-a(0)

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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.	W-13	W-13	W-13	W-14	W-14	W-14
Station	463+23.9	463+23.9	463+23.9	465+71.1	465+71.1	465+71.1
Offset	LT 57.9	LT 57.9	LT 57.9	LT 57.3	LT 57.3	LT 57.3
Sample ID	SS-6	SS-8	SS-10	SS-1	SS-3	SS-5
Depth (ft)	9.7	19.7	29.7	1.4	4.4	7.4
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	89.2	100.0	100.0
3/8" SIEVE (9.5mm)	100.0	100.0	100.0	89.2	100.0	100.0
#4 SIEVE (4.75mm)	98.7	100.0	100.0	86.1	100.0	99.8
#10 SIEVE (2.00mm)	98.4	100.0	100.0	84.3	100.0	99.3
#20 SIEVE (0.85mm)	95.7	98.4	99.9	82.5	97.5	97.0
#40" SIEVE (425um)	78.6	78.5	99.3	72.2	72.2	84.4
#60 SIEVE (250um)	48.4	35.7	85.4	51.1	36.7	49.1
#100 SIEVE (150um)	23.7	19.4	57.5	30.1	20.4	20.3
#140 SIEVE (106um)	18.7	16.2	45.9	23.2	16.9	16.2
#200 SIEVE (75um)	16.0	14.3	35.2	19.4	14.9	13.5
Clay						
Silt						
Total Sand	82.7	85.7	64.8	66.7	85.1	86.2
Total Gravel	1.3	0.0	0.0	13.9	0.0	0.2
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	SM	SM	SM	SM	SM
AASHTO	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)

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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.	W-14	W-14	W-14	W-14	W-14	W-14
Station	465+71.1	465+71.1	465+71.1	465+71.1	465+71.1	465+71.1
Offset	LT 57.3	LT 57.3	LT 57.3	LT 57.3	LT 57.3	LT 57.3
Sample ID	SS-7	SS-10	SS-11	SS-14	SS-17	T-1A
Depth (ft)	14.9	29.9	34.9	49.9	64.9	69.9
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)	97.8	100.0	100.0	100.0	100.0	100.0
1/2" SIEVE (12.5mm)	97.8	100.0	100.0	100.0	100.0	100.0
3/8" SIEVE (9.5mm)	97.8	100.0	100.0	100.0	100.0	100.0
#4 SIEVE (4.75mm)	97.3	100.0	100.0	100.0	100.0	100.0
#10 SIEVE (2.00mm)	97.3	100.0	100.0	100.0	100.0	99.9
#20 SIEVE (0.85mm)	95.2	99.8	99.8	99.8	99.7	99.1
#40" SIEVE (425um)	80.6	98.4	98.9	89.9	92.3	82.8
#60 SIEVE (250um)	48.6	83.5	87.5	31.0	58.6	35.4
#100 SIEVE (150um)	24.2	34.4	59.3	7.4	40.3	9.4
#140 SIEVE (106um)	19.7	21.8	39.9	5.4	39.2	7.3
#200 SIEVE (75um)	16.8	16.2	31.1	4.5	38.7	6.6
Clay						
Silt						
Total Sand	80.5	83.8	68.9	95.5	61.3	93.4
Total Gravel	2.7	0.0	0.0	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	NP	23	NP
Plastic Limit	NP	NP	NP	NP	13	NP
Plasticity Index	NP	NP	NP	NP	10	NP
USCS	SM	SM	SM	SP	SC	SP-SM
AASHTO	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-3(0)	A-4(0)	A-3(0)

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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.	W-14	W-14	W-14	W-14	W-14	W-14
Station	465+71.1	465+71.1	465+71.1	465+71.1	465+71.1	465+71.1
Offset	LT 57.3	LT 57.3	LT 57.3	LT 57.3	LT 57.3	LT 57.3
Sample ID	SS-20	T-1B	SS-25	SS-26	T-2	T-3
Depth (ft)	84.9	104.4	109.9	114.9	124.9	134.9
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)	98.4	100.0	100.0	100.0	100.0	100.0
#4 SIEVE (4.75mm)	91.5	100.0	100.0	98.4	100.0	100.0
#10 SIEVE (2.00mm)	82.3	100.0	100.0	97.7	100.0	100.0
#20 SIEVE (0.85mm)	65.3	99.9	97.7	95.0	99.2	100.0
#40" SIEVE (425um)	32.2	99.8	88.7	80.1	98.8	99.9
#60 SIEVE (250um)	5.7	98.8	43.7	46.3	98.6	96.1
#100 SIEVE (150um)	2.0	95.5	13.4	13.3	98.3	61.6
#140 SIEVE (106um)	1.6	94.3	9.8	7.5	98.2	37.0
#200 SIEVE (75um)	1.4	93.2	7.9	5.7	97.9	21.1
Clay						
Silt						
Total Sand	90.1	6.8	92.1	92.7	2.1	78.9
Total Gravel	8.5	0.0	0.0	1.6	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	84	NP	NP	90	NP
Plastic Limit	NP	27	NP	NP	28	NP
Plasticity Index	NP	57	NP	NP	62	NP
USCS	SP	CH	SP-SM	SP-SM	CH	SM
AASHTO	A-1-b(0)	A-7-6(61)	A-3(0)	A-3(0)	A-7-6(72)	A-2-4(0)

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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.	W-14	W-14	W-14	W-14	W-14	W-14
Station	465+71.1	465+71.1	465+71.1	465+71.1	465+71.1	465+71.1
Offset	LT 57.3	LT 57.3	LT 57.3	LT 57.3	LT 57.3	LT 57.3
Sample ID	SS-29	SS-31	SS-32	T-4	SS-34	SS-35
Depth (ft)	139.9	149.9	159.9	169.9	189.9	199.9
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	99.3	100.0	100.0	100.0	100.0
#4 SIEVE (4.75mm)	99.2	89.8	100.0	100.0	100.0	100.0
#10 SIEVE (2.00mm)	99.2	85.6	99.6	100.0	100.0	100.0
#20 SIEVE (0.85mm)	98.7	76.3	99.2	100.0	99.3	99.0
#40" SIEVE (425um)	97.2	42.3	98.2	99.8	98.3	92.8
#60 SIEVE (250um)	77.1	16.5	97.2	99.5	96.3	59.1
#100 SIEVE (150um)	37.9	8.8	96.7	98.9	87.1	17.2
#140 SIEVE (106um)	24.1	6.7	96.0	97.5	81.6	11.0
#200 SIEVE (75um)	16.5	5.2	92.6	93.9	77.3	8.6
Clay						
Silt						
Total Sand	82.7	84.6	7.4	6.1	22.7	91.4
Total Gravel	0.8	10.2	0.0	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	68	64	49	NP
Plastic Limit	NP	NP	24	16	17	NP
Plasticity Index	NP	NP	44	48	32	NP
USCS	SM	SP-SM	CH	CH	CL	SP-SM
AASHTO	A-2-4(0)	A-1-b(0)	A-7-6(46)	A-7-6(49)	A-7-6(24)	A-3(0)

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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.	W-15	W-15	W-15	W-15	W-15	W-15
Station	5968+86.8	5968+86.8	5968+86.8	5968+86.8	5968+86.8	5968+86.8
Offset	RT 97.8	RT 97.8	RT 97.8	RT 97.8	RT 97.8	RT 97.8
Sample ID	SS-1	SS-2	SS-5	T-1	SS-8	T-2
Depth (ft)	0.0	1.5	6.0	8.0	18.5	28.0
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	95.7	100.0	100.0	100.0
3/8" SIEVE (9.5mm)	100.0	96.4	93.4	100.0	100.0	100.0
#4 SIEVE (4.75mm)	98.5	88.2	92.1	100.0	100.0	96.9
#10 SIEVE (2.00mm)	96.7	81.9	91.5	100.0	100.0	94.6
#20 SIEVE (0.85mm)	95.3	79.7	91.5	100.0	99.9	94.2
#40" SIEVE (425um)	89.6	76.8	90.9	99.9	99.8	93.3
#60 SIEVE (250um)	78.3	70.1	89.1	98.5	83.0	91.6
#100 SIEVE (150um)	55.0	46.2	78.5	85.7	20.7	87.7
#140 SIEVE (106um)	41.8	32.5	66.4	65.9	11.4	85.2
#200 SIEVE (75um)	35.3	26.9	51.9	52.4	7.6	83.1
Clay				15.7		38.2
Silt				36.7		44.9
Total Sand	63.2	61.3	40.2	47.6	92.4	13.7
Total Gravel	1.5	11.8	7.9	0.0	0.0	3.1
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	NP	NP	82
Plastic Limit	NP	NP	NP	NP	NP	28
Plasticity Index	NP	NP	NP	NP	NP	54
USCS	SM	SM	ML	ML	SP-SM	CH
AASHTO	A-2-4(0)	A-2-4(0)	A-4(0)	A-4(0)	A-3(0)	A-7-6(50)

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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.	W-15	W-15	W-16	W-16	W-16	W-16
Station	5968+86.8	5968+86.8	8003+54.9	8003+54.9	8003+54.9	8003+54.9
Offset	RT 97.8	RT 97.8	RT 8.9	RT 8.9	RT 8.9	RT 8.9
Sample ID	SS-11	SS-14	SS-2	SS-5	SS-8	SS-9
Depth (ft)	33.5	48.5	1.5	6.0	18.5	23.5
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	98.8	100.0	97.6	100.0	99.2
#4 SIEVE (4.75mm)	100.0	93.4	100.0	94.6	99.5	95.4
#10 SIEVE (2.00mm)	100.0	92.2	100.0	92.1	99.1	90.3
#20 SIEVE (0.85mm)	99.7	91.1	99.4	91.5	98.7	87.9
#40" SIEVE (425um)	87.1	63.8	98.6	88.3	94.2	86.4
#60 SIEVE (250um)	46.9	16.8	87.7	70.6	63.1	84.2
#100 SIEVE (150um)	12.5	10.3	50.0	33.4	35.4	82.1
#140 SIEVE (106um)	7.4	8.6	30.2	19.2	23.0	78.3
#200 SIEVE (75um)	6.1	7.3	22.3	14.1	15.7	71.0
Clay						
Silt						
Total Sand	93.9	86.1	77.7	80.5	83.8	24.4
Total Gravel	0.0	6.6	0.0	5.4	0.5	4.6
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	NP	NP	56
Plastic Limit	NP	NP	NP	NP	NP	22
Plasticity Index	NP	NP	NP	NP	NP	34
USCS	SP-SM	SP-SM	SM	SM	SM	CH
AASHTO	A-3(0)	A-3(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-7-6(24)

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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.	W-16	W-16	W-17	W-17	W-17	W-17
Station	8003+54.9	8003+54.9	5974+90.5	5974+90.5	5974+90.5	5974+90.5
Offset	RT 8.9	RT 8.9	RT 42.5	RT 42.5	RT 42.5	RT 42.5
Sample ID	T-1	SS-11	SS-1	SS-4	T-1	SS-9
Depth (ft)	28.5	33.5	0.0	4.5	16.0	23.5
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	96.6	100.0	100.0	100.0
3/8" SIEVE (9.5mm)	100.0	100.0	92.2	100.0	100.0	100.0
#4 SIEVE (4.75mm)	99.3	99.5	87.6	90.8	100.0	100.0
#10 SIEVE (2.00mm)	99.1	98.9	84.1	88.7	100.0	100.0
#20 SIEVE (0.85mm)	99.0	98.7	81.9	88.2	99.9	99.9
#40" SIEVE (425um)	98.7	98.3	77.5	87.4	99.8	98.6
#60 SIEVE (250um)	94.3	92.4	65.8	74.6	98.6	78.9
#100 SIEVE (150um)	87.1	25.7	38.7	37.4	93.5	47.4
#140 SIEVE (106um)	84.7	14.2	27.5	23.4	88.3	33.9
#200 SIEVE (75um)	82.5	10.7	22.1	18.1	84.4	25.8
Clay	48.9					
Silt	33.5					
Total Sand	16.8	88.7	65.5	72.7	15.6	74.2
Total Gravel	0.7	0.5	12.4	9.2	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	63	NP	NP	NP	50	NP
Plastic Limit	20	NP	NP	NP	16	NP
Plasticity Index	43	NP	NP	NP	34	NP
USCS	CH	SP-SM	SM	SM	CH	SM
AASHTO	A-7-6(37)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-7-6(29)	A-2-4(0)

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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.	W-17	W-17	W-18	W-18	W-18	W-18
Station	5974+90.5	5974+90.5	5978+23.1	5978+23.1	5978+23.1	5978+23.1
Offset	RT 42.5	RT 42.5	RT 16.7	RT 16.7	RT 16.7	RT 16.7
Sample ID	SS-12	SS-15	SS-2	SS-4	SS-6	SS-8
Depth (ft)	38.5	53.5	1.8	4.8	8.8	18.8
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	99.0	100.0	100.0	100.0	100.0
#10 SIEVE (2.00mm)	100.0	93.2	100.0	100.0	100.0	100.0
#20 SIEVE (0.85mm)	99.7	92.1	99.8	99.9	100.0	99.3
#40" SIEVE (425um)	80.9	74.2	98.8	99.3	99.8	90.7
#60 SIEVE (250um)	23.6	38.1	86.2	90.0	92.5	46.8
#100 SIEVE (150um)	7.1	14.7	43.5	64.8	67.9	10.5
#140 SIEVE (106um)	5.1	9.0	29.1	52.6	50.2	6.5
#200 SIEVE (75um)	4.1	6.2	22.5	42.0	41.9	5.3
Clay						
Silt						
Total Sand	95.9	92.8	77.5	58.0	58.1	94.7
Total Gravel	0.0	1.0	0.0	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	37	32	NP
Plastic Limit	NP	NP	NP	11	12	NP
Plasticity Index	NP	NP	NP	26	20	NP
USCS	SP	SP-SM	SM	SC	SC	SP-SM
AASHTO	A-3(0)	A-3(0)	A-2-4(0)	A-6(6)	A-6(4)	A-3(0)

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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.	W-18	W-18	W-18	W-19	W-19	W-19
Station	5978+23.1	5978+23.1	5978+23.1	5984+86.8	5984+86.8	5984+86.8
Offset	RT 16.7	RT 16.7	RT 16.7	LT 76.2	LT 76.2	LT 76.2
Sample ID	SS-11	SS-15	SS-18	SS-2	SS-4	SS-7
Depth (ft)	33.8	53.8	68.8	1.5	4.5	13.5
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	100.0
#4 SIEVE (4.75mm)	99.3	98.6	98.9	100.0	100.0	100.0
#10 SIEVE (2.00mm)	99.2	97.5	96.5	100.0	100.0	100.0
#20 SIEVE (0.85mm)	98.0	95.1	89.8	99.6	99.7	100.0
#40" SIEVE (425um)	81.8	77.0	71.7	96.9	97.3	99.6
#60 SIEVE (250um)	33.8	29.2	32.4	75.5	74.7	95.0
#100 SIEVE (150um)	13.5	8.0	11.9	34.4	32.5	71.9
#140 SIEVE (106um)	9.9	4.6	8.6	21.8	20.9	44.6
#200 SIEVE (75um)	7.7	3.2	6.8	16.8	16.4	34.1
Clay						
Silt						
Total Sand	91.5	95.4	92.1	83.2	83.6	65.9
Total Gravel	0.7	1.4	1.1	0.0	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-SM	SM	SM	SM
AASHTO	A-3(0)	A-3(0)	A-3(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)

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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.	W-19	W-19	W-19	W-19	W-20	W-20
Station	5984+86.8	5984+86.8	5984+86.8	5984+86.8	5987+82.5	5987+82.5
Offset	LT 76.2	LT 76.2	LT 76.2	LT 76.2	LT 30.9	LT 30.9
Sample ID	SS-8	SS-11	SS-13	SS-16	SS-2	SS-5
Depth (ft)	18.5	33.5	43.5	58.5	1.5	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	99.1	100.0
#4 SIEVE (4.75mm)	100.0	100.0	99.9	100.0	97.5	100.0
#10 SIEVE (2.00mm)	99.9	100.0	99.8	99.9	93.7	100.0
#20 SIEVE (0.85mm)	99.8	99.2	98.4	98.3	91.0	95.2
#40" SIEVE (425um)	99.6	93.8	77.6	83.3	77.3	68.3
#60 SIEVE (250um)	98.9	61.0	39.3	43.3	49.8	30.0
#100 SIEVE (150um)	94.7	13.9	21.7	17.2	29.5	18.1
#140 SIEVE (106um)	67.1	8.9	15.9	9.8	24.1	15.0
#200 SIEVE (75um)	45.3	6.9	13.0	6.7	20.9	13.1
Clay						
Silt						
Total Sand	54.7	93.1	86.9	93.3	76.5	86.9
Total Gravel	0.0	0.0	0.1	0.0	2.5	0.0
ATTERBERG LIMITS						
Liquid Limit	33	NP	NP	NP	NP	NP
Plastic Limit	17	NP	NP	NP	NP	NP
Plasticity Index	16	NP	NP	NP	NP	NP
USCS	SC	SP-SM	SM	SP-SM	SM	SM
AASHTO	A-6(3)	A-3(0)	A-2-4(0)	A-3(0)	A-2-4(0)	A-2-4(0)

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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.	W-20	W-20	W-20	W-20	W-21	W-21
Station	5987+82.5	5987+82.5	5987+82.5	5987+82.5	5990+98.8	5990+98.8
Offset	LT 30.9	LT 30.9	LT 30.9	LT 30.9	LT 64.5	LT 64.5
Sample ID	SS-8	SS-9	T-2	SS-10	SS-1	SS-4
Depth (ft)	18.5	23.5	28.5	33.5	0.0	4.5
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	100.0
#4 SIEVE (4.75mm)	100.0	100.0	100.0	100.0	99.5	100.0
#10 SIEVE (2.00mm)	100.0	100.0	100.0	100.0	99.0	99.1
#20 SIEVE (0.85mm)	99.8	99.8	100.0	99.6	97.5	99.0
#40" SIEVE (425um)	94.4	99.2	100.0	93.2	85.1	96.0
#60 SIEVE (250um)	62.8	95.8	99.7	50.8	54.5	75.4
#100 SIEVE (150um)	29.8	76.4	97.5	14.5	26.0	35.2
#140 SIEVE (106um)	19.9	50.1	80.9	9.5	18.5	23.1
#200 SIEVE (75um)	15.2	39.9	57.1	7.2	14.7	17.7
Clay			23.2			
Silt			33.8			
Total Sand	84.8	60.1	42.9	92.8	84.8	82.3
Total Gravel	0.0	0.0	0.0	0.0	0.5	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	33	NP	NP	NP
Plastic Limit	NP	NP	13	NP	NP	NP
Plasticity Index	NP	NP	20	NP	NP	NP
USCS	SM	SM	CL	SP-SM	SM	SM
AASHTO	A-2-4(0)	A-4(0)	A-6(8)	A-3(0)	A-2-4(0)	A-2-4(0)

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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.	W-21	W-22	W-22	W-22	W-22	W-22
Station	5990+98.8	5993+97.3	5993+97.3	5993+97.3	5993+97.3	5993+97.3
Offset	LT 64.5	LT 48.7	LT 48.7	LT 48.7	LT 48.7	LT 48.7
Sample ID	SS-9	SS-2	SS-4	SS-7	SS-8	SS-12
Depth (ft)	28.5	1.5	4.5	13.5	20.0	38.5
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	100.0
#4 SIEVE (4.75mm)	100.0	100.0	100.0	100.0	97.7	100.0
#10 SIEVE (2.00mm)	100.0	99.5	100.0	100.0	95.4	99.8
#20 SIEVE (0.85mm)	100.0	99.1	99.9	100.0	94.6	97.6
#40" SIEVE (425um)	99.6	96.7	98.2	99.9	94.0	82.8
#60 SIEVE (250um)	95.1	77.1	77.9	99.5	92.9	58.9
#100 SIEVE (150um)	37.3	36.4	42.9	93.2	77.5	12.2
#140 SIEVE (106um)	20.4	23.5	32.3	77.9	49.4	7.4
#200 SIEVE (75um)	13.8	17.9	25.5	54.5	33.9	5.6
Clay						
Silt						
Total Sand	86.2	82.0	74.5	45.5	63.9	94.4
Total Gravel	0.0	0.0	0.0	0.0	2.3	0.0
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	30	NP	NP
Plastic Limit	NP	NP	NP	18	NP	NP
Plasticity Index	NP	NP	NP	12	NP	NP
USCS	SM	SM	SM	CL	SM	SP-SM
AASHTO	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-6(4)	A-2-4(0)	A-3(0)

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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.	W-22	W-22	W-22	W-22	W-22	W-22
Station	5993+97.3	5993+97.3	5993+97.3	5993+97.3	5993+97.3	5993+97.3
Offset	LT 48.7	LT 48.7	LT 48.7	LT 48.7	LT 48.7	LT 48.7
Sample ID	SS-15	SS-18	SS-22	SS-24	SS-25	SS-32
Depth (ft)	53.5	68.5	88.5	100.0	103.5	138.5
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	100.0
#4 SIEVE (4.75mm)	99.8	100.0	99.8	100.0	100.0	99.6
#10 SIEVE (2.00mm)	99.5	99.1	99.0	100.0	100.0	98.3
#20 SIEVE (0.85mm)	99.1	86.2	95.2	99.8	99.8	86.3
#40" SIEVE (425um)	85.6	27.7	75.4	99.2	99.0	64.7
#60 SIEVE (250um)	32.5	11.5	43.1	95.6	94.9	40.7
#100 SIEVE (150um)	13.9	6.0	14.5	65.6	47.3	17.6
#140 SIEVE (106um)	10.4	4.6	9.6	51.3	24.9	11.2
#200 SIEVE (75um)	7.7	3.8	6.8	45.9	16.5	7.5
Clay						
Silt						
Total Sand	92.1	96.2	93.0	54.1	83.5	92.1
Total Gravel	0.2	0.0	0.2	0.0	0.0	0.4
ATTERBERG LIMITS						
Liquid Limit	NP	NP	NP	31	NP	NP
Plastic Limit	NP	NP	NP	15	NP	NP
Plasticity Index	NP	NP	NP	16	NP	NP
USCS	SP-SM	SP	SP-SM	SC	SM	SP-SM
AASHTO	A-3(0)	A-1-b(0)	A-3(0)	A-6(4)	A-2-4(0)	A-3(0)

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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.	W-22	W-22	W-23	W-23	W-23	W-23
Station	5993+97.3	5993+97.3	5985+72.6	5985+72.6	5985+72.6	5985+72.6
Offset	LT 48.7	LT 48.7	LT 3.2	LT 3.2	LT 3.2	LT 3.2
Sample ID	SS-35	SS-38	SS-2	SS-4	SS-7	SS-9
Depth (ft)	158.5	188.5	1.5	4.5	13.5	23.5
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	100.0
#4 SIEVE (4.75mm)	100.0	99.9	99.5	100.0	100.0	100.0
#10 SIEVE (2.00mm)	100.0	99.0	98.7	99.8	99.8	100.0
#20 SIEVE (0.85mm)	99.4	91.0	96.9	98.2	97.8	99.7
#40" SIEVE (425um)	98.4	76.1	86.4	78.3	81.5	96.6
#60 SIEVE (250um)	95.5	43.0	66.7	39.8	50.8	71.1
#100 SIEVE (150um)	90.2	17.8	41.5	16.4	25.5	29.6
#140 SIEVE (106um)	85.9	12.9	31.5	12.6	19.2	18.8
#200 SIEVE (75um)	82.2	9.9	25.9	10.8	15.8	14.3
Clay						
Silt						
Total Sand	17.8	89.9	73.6	89.2	84.2	85.7
Total Gravel	0.0	0.1	0.5	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	43	NP	22	NP	NP	NP
Plastic Limit	17	NP	14	NP	NP	NP
Plasticity Index	26	NP	8	NP	NP	NP
USCS	CL	SP-SM	SC	SP-SM	SM	SM
AASHTO	A-7-6(21)	A-3(0)	A-2-4(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.	W-23	W-24	W-24	W-24	W-24	W-24
Station	5985+72.6	701+61.6	701+61.6	701+61.6	701+61.6	701+61.6
Offset	LT 3.2	LT 24.2	LT 24.2	LT 24.2	LT 24.2	LT 24.2
Sample ID	SS-11	SS-2	SS-5	SS-6	T-1	SS-10
Depth (ft)	33.5	1.5	6.0	8.5	18.5	33.5
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	100.0
#4 SIEVE (4.75mm)	100.0	100.0	100.0	100.0	100.0	100.0
#10 SIEVE (2.00mm)	99.9	100.0	100.0	100.0	100.0	100.0
#20 SIEVE (0.85mm)	99.9	99.9	93.4	99.9	98.6	99.9
#40" SIEVE (425um)	99.3	98.6	89.2	99.2	97.5	90.1
#60 SIEVE (250um)	95.5	77.0	72.9	88.5	95.7	35.9
#100 SIEVE (150um)	87.0	36.3	50.2	58.1	94.2	12.0
#140 SIEVE (106um)	75.0	24.6	43.9	42.9	93.4	8.6
#200 SIEVE (75um)	62.0	19.2	41.4	30.1	92.8	7.3
Clay						
Silt						
Total Sand	38.0	80.8	58.6	69.9	7.2	92.7
Total Gravel	0.0	0.0	0.0	0.0	0.0	0.0
ATTERBERG LIMITS						
Liquid Limit	29	NP	47	NP	89	NP
Plastic Limit	16	NP	30	NP	37	NP
Plasticity Index	13	NP	17	NP	52	NP
USCS	CL	SM	SM	SM	CH	SP-SM
AASHTO	A-6(5)	A-2-4(0)	A-7-5(3)	A-2-4(0)	A-7-5(59)	A-3(0)

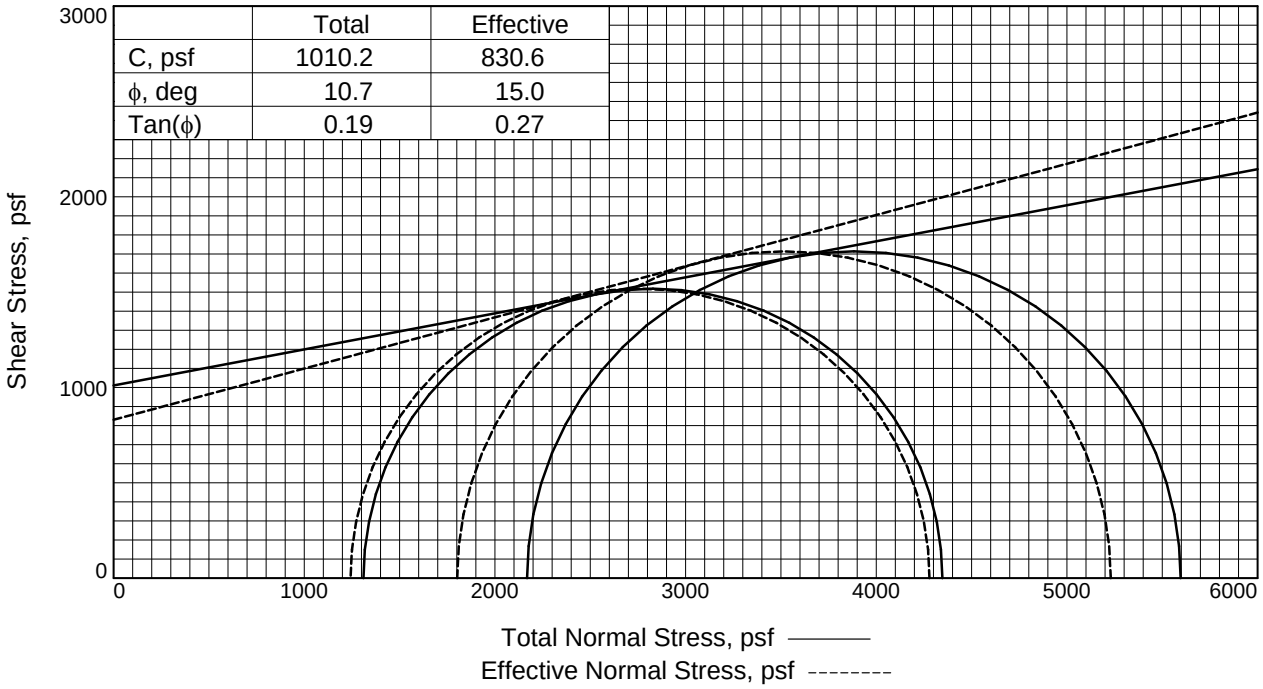
BMT-5

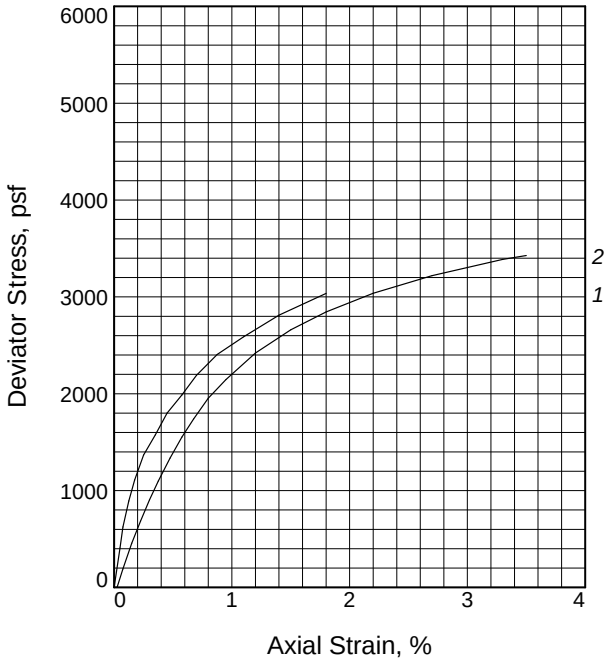
Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

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

ALABAMA DEPARTMENT OF TRANSPORTATION
SOILS AND BASE COARSE ANALYSIS

Boring No.	W-24
Station	701+61.6
Offset	LT 24.2
Sample ID	SS-13
Depth (ft)	48.5
TOTAL PASSING (%)	
3" SIEVE (75mm)	100.0
2 1/2" SIEVE (63mm)	100.0
2" SIEVE (50mm)	100.0
1 1/2" SIEVE (37.5mm)	100.0
1" SIEVE (25mm)	100.0
3/4" SIEVE (19mm)	100.0
1/2" SIEVE (12.5mm)	100.0
3/8" SIEVE (9.5mm)	100.0
#4 SIEVE (4.75mm)	100.0
#10 SIEVE (2.00mm)	100.0
#20 SIEVE (0.85mm)	99.9
#40" SIEVE (425um)	97.4
#60 SIEVE (250um)	52.0
#100 SIEVE (150um)	9.8
#140 SIEVE (106um)	6.7
#200 SIEVE (75um)	5.1
Clay	
Silt	
Total Sand	94.9
Total Gravel	0.0
ATTERBERG LIMITS	
Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP
USCS	SP-SM
AASHTO	A-3(0)





Specimen No.		1	2
Initial	Water Content, %	19.7	19.7
	Dry Density, pcf	103.3	101.6
	Saturation, %	86.3	82.7
	Void Ratio	0.6073	0.6347
	Diameter, in.	1.412	1.407
	Height, in.	2.800	2.790
At Test	Water Content, %	23.9	23.5
	Dry Density, pcf	103.3	101.6
	Saturation, %	104.9	98.4
	Void Ratio	0.6073	0.6347
	Diameter, in.	1.412	1.407
	Height, in.	2.800	2.790
Strain at peak, %		1.8	3.5
Eff. Cell Pressure, psf		1310.4	2168.6
Fail. Stress, psf		3036.1	3427.7
Excess Pore Pr., psf		67.7	366.7
Strain, %		1.8	3.5
Ult. Stress, psf		3036.1	3427.7
Excess Pore Pr., psf		67.7	366.7
Strain, %		1.8	3.5
$\overline{\sigma}_1$ Failure, psf		4278.8	5229.6
$\overline{\sigma}_3$ Failure, psf		1242.7	1801.9

Type of Test:
CU with Pore Pressures

Sample Type: 3-in. Shelby Tube

Description: CLAYEY SAND(SC A-6(2))

Specific Gravity= 2.66

Remarks: Two points tested. Other specimans disturbed.

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 13.5'-15.5'

Sample Number: TH-6 T-1

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

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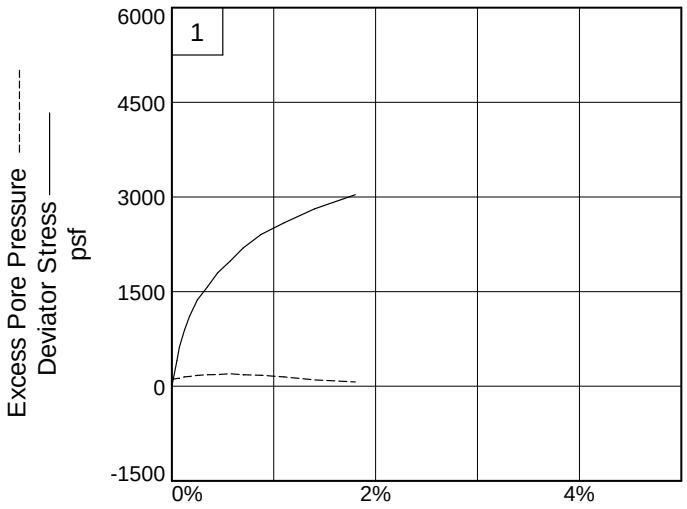
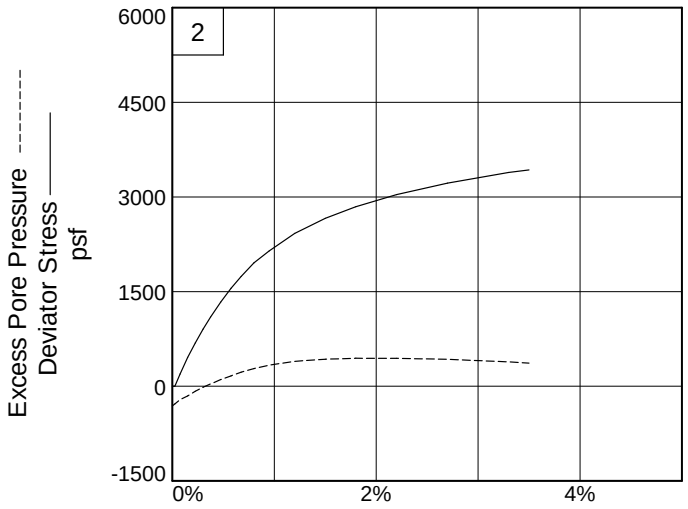
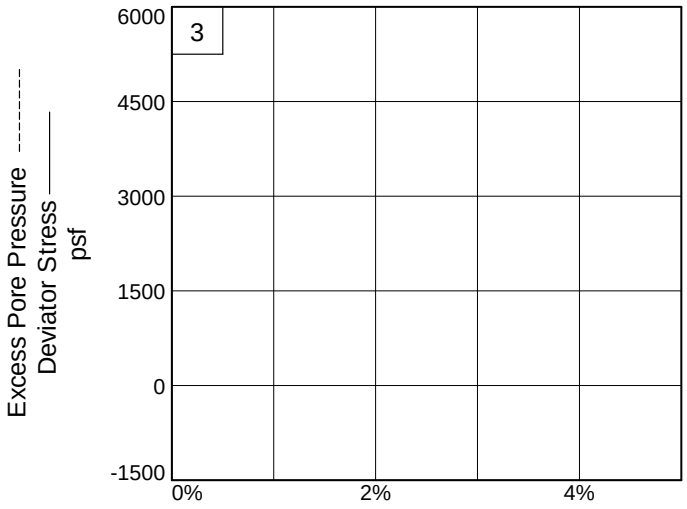
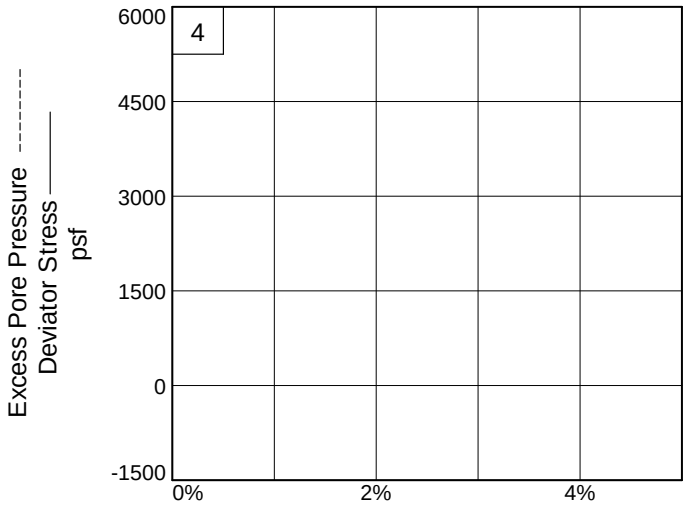
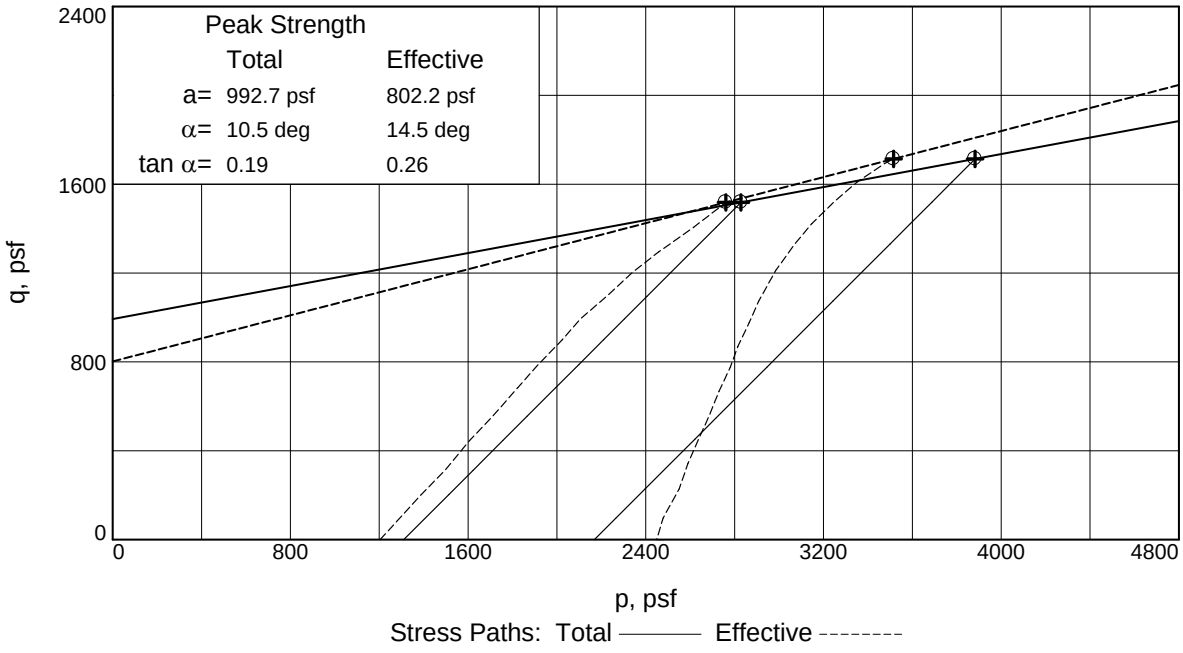
Thompson Engineering
Mobile, Alabama











Client: ALDOT

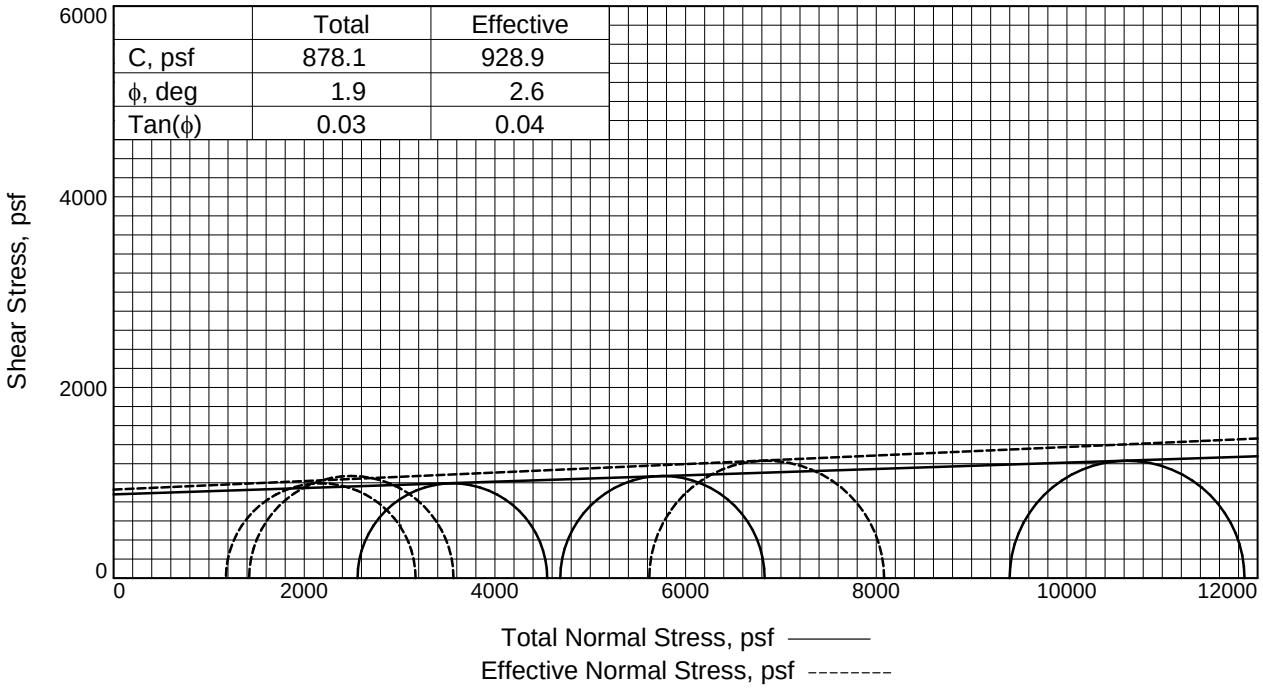
Project: Mobile River Bridge

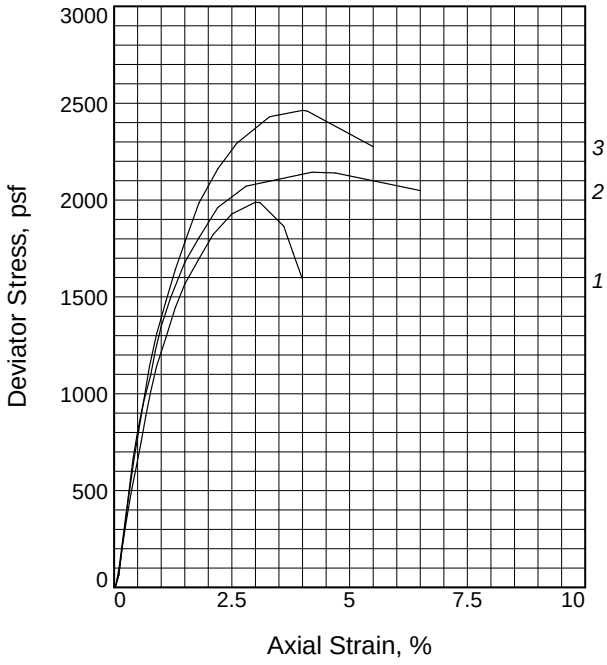
Source of Sample: Lab #8076 **Depth:** 13.5'-15.5' **Sample Number:** TH-6 T-1

Project No.: 1511010228 **Figure** _____

Thompson Engineering

	Total	Effective
C, psf	878.1	928.9
ϕ, deg	1.9	2.6
Tan(ϕ)	0.03	0.04





Specimen No.		1	2	3
Initial	Water Content, %	79.2	69.2	70.0
	Dry Density, pcf	52.5	58.0	57.9
	Saturation, %	97.3	98.8	99.8
	Void Ratio	2.1645	1.8614	1.8666
	Diameter, in.	1.397	1.401	1.403
	Height, in.	2.770	2.780	2.780
At Test	Water Content, %	82.7	69.0	59.2
	Dry Density, pcf	52.5	58.0	57.9
	Saturation, %	101.6	98.6	84.4
	Void Ratio	2.1645	1.8614	1.8666
	Diameter, in.	1.397	1.401	1.403
	Height, in.	2.770	2.780	2.780
Strain at peak, %		3.0	4.2	4.0
Eff. Cell Pressure, psf		2558.9	4685.8	9398.9
Fail. Stress, psf		1989.2	2143.6	2462.9
Excess Pore Pr., psf		1380.9	3263.9	3780.3
Strain, %		3.0	4.2	4.0
Ult. Stress, psf		1989.2	2143.6	2462.9
Excess Pore Pr., psf		1380.9	3263.9	3780.3
Strain, %		3.0	4.2	4.0
$\bar{\sigma}_1$ Failure, psf		3167.2	3565.4	8081.5
$\bar{\sigma}_3$ Failure, psf		1178.0	1421.8	5618.6

Type of Test:
CU with Pore Pressures

Sample Type: 3-in. Shelby Tube

Description: FAT CLAY(CH A-7-5(89))

Specific Gravity= 2.66

Remarks:

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8063 **Depth:** 28.0'-30.0'

Sample Number: TH-12 T-1

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

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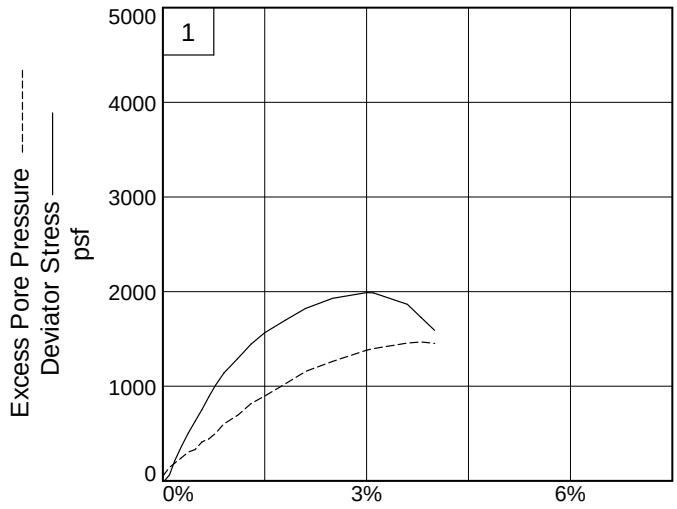
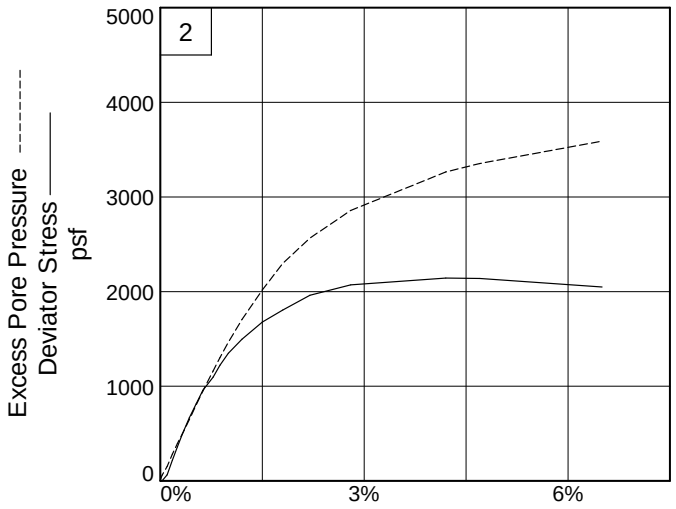
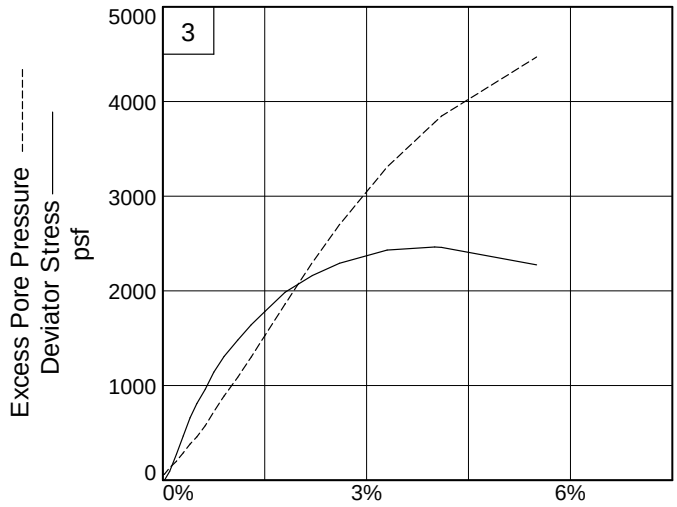
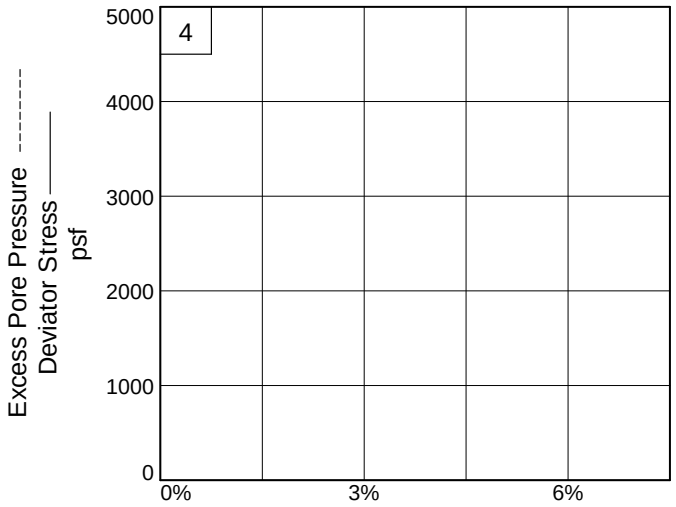
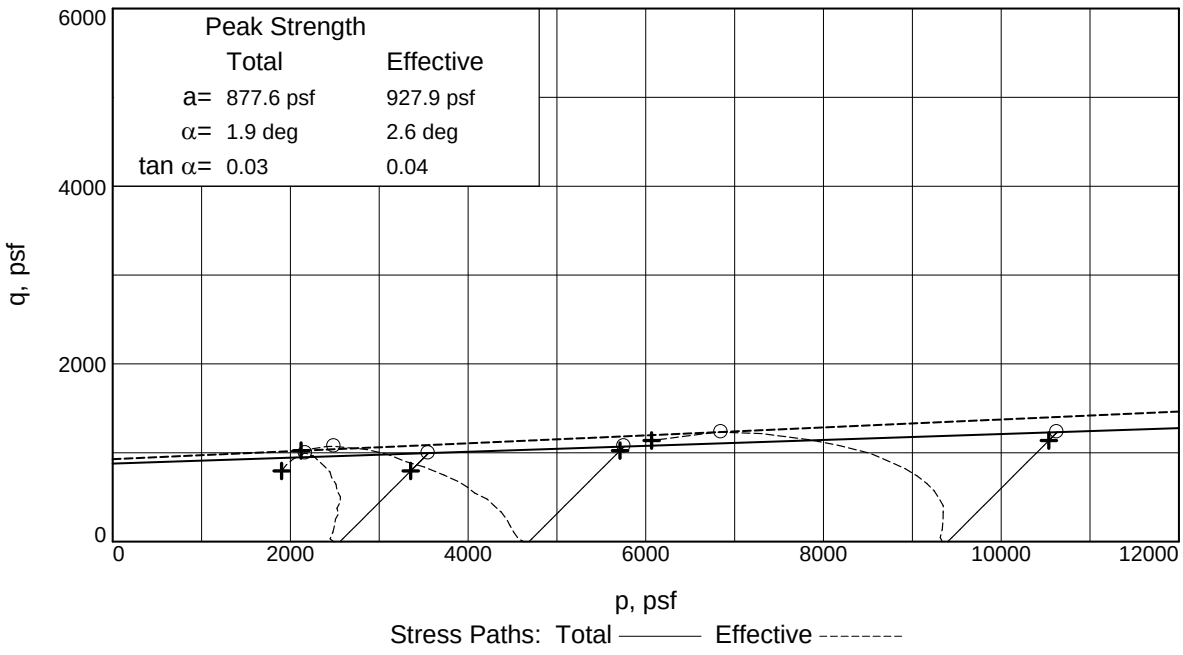
Thompson Engineering
Mobile, Alabama











Client: ALDOT

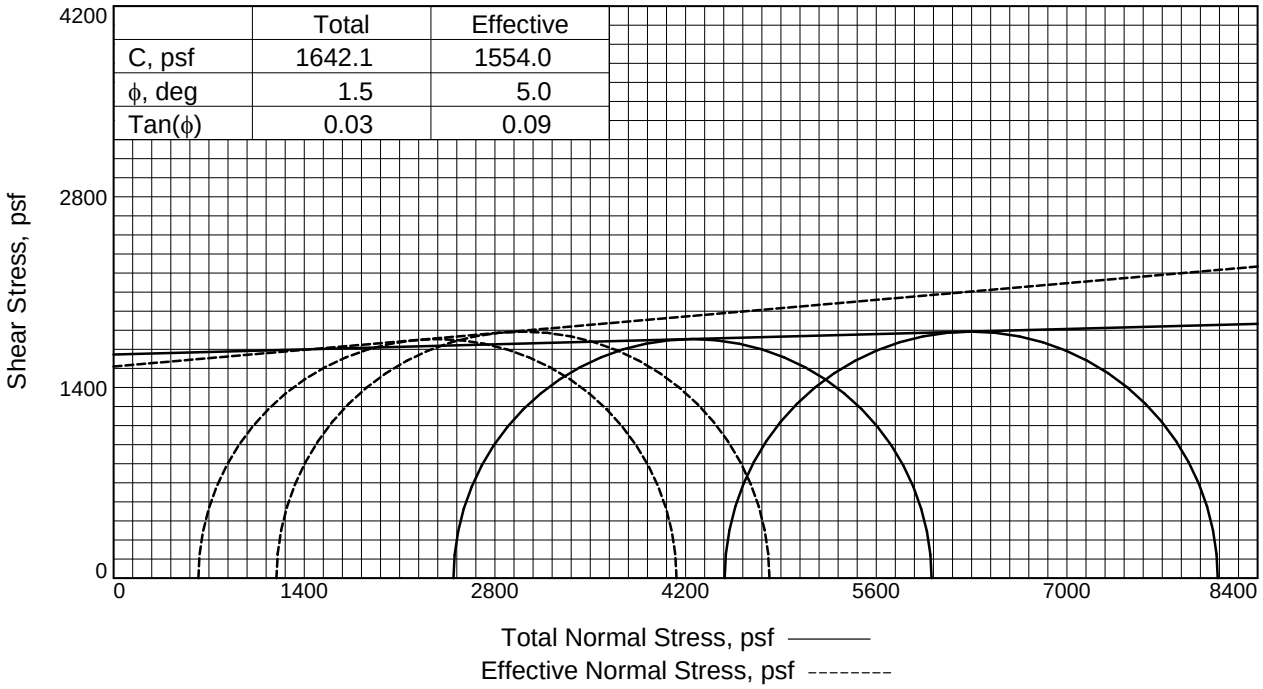
Project: Mobile River Bridge

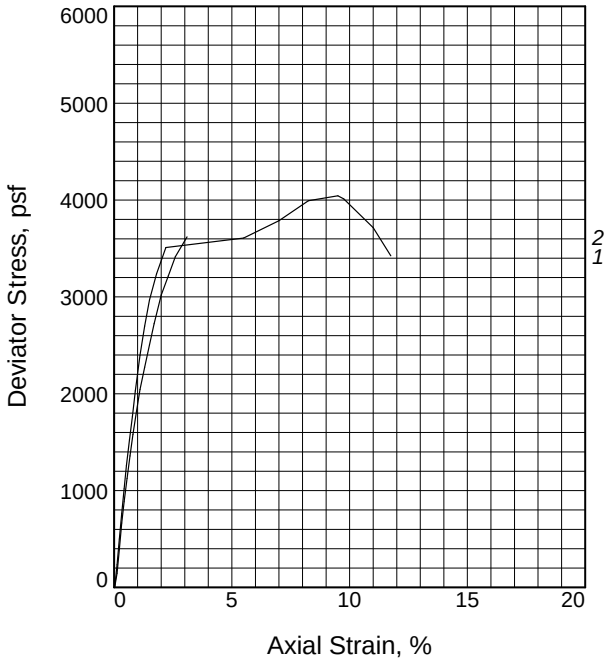
Source of Sample: Lab #8063 **Depth:** 28.0'-30.0' **Sample Number:** TH-12 T-1

Project No.: 1511010228 **Figure** _____

Thompson Engineering

	Total	Effective
C, psf	1642.1	1554.0
ϕ, deg	1.5	5.0
Tan(ϕ)	0.03	0.09





Specimen No.		1	2
Initial	Water Content, %	108.2	121.7
	Dry Density, pcf	40.7	38.2
	Saturation, %	93.4	96.7
	Void Ratio	3.0794	3.3472
	Diameter, in.	1.400	1.404
	Height, in.	2.800	2.780
At Test	Water Content, %	112.4	118.4
	Dry Density, pcf	40.7	38.2
	Saturation, %	97.1	94.1
	Void Ratio	3.0794	3.3472
	Diameter, in.	1.400	1.404
	Height, in.	2.800	2.780
Strain at peak, %		2.2	3.1
Eff. Cell Pressure, psf		2495.5	4487.0
Fail. Stress, psf		3510.2	3619.5
Excess Pore Pr., psf		1872.9	3291.3
Strain, %		2.2	3.1
Ult. Stress, psf		3510.2	3619.5
Excess Pore Pr., psf		1872.9	3291.3
Strain, %		2.2	3.1
$\bar{\sigma}_1$ Failure, psf		4132.8	4815.3
$\bar{\sigma}_3$ Failure, psf		622.6	1195.8

Type of Test:
CU with Pore Pressures

Sample Type: 3-in. Shelby Tube

Description: ELASTIC SILT with SAND(MH A-7-5(33))

Specific Gravity= 2.66

Remarks: Specimen 3 contained high level of organics, result was not reported.

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8063 **Depth:** 28.0'-30.0'

Sample Number: TH-13 T-2

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

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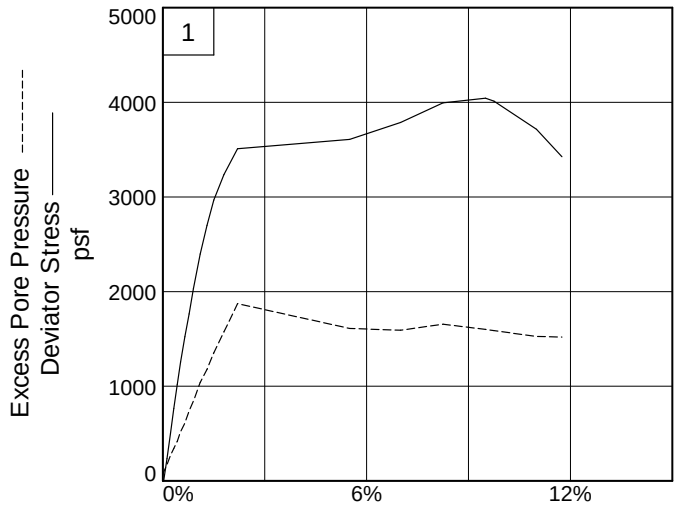
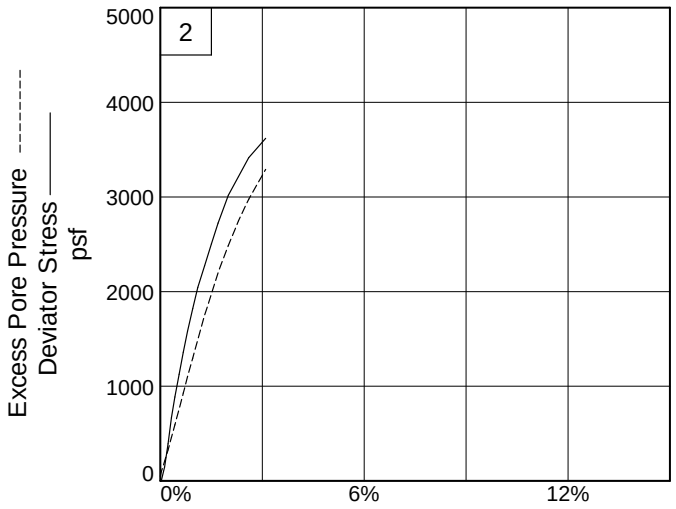
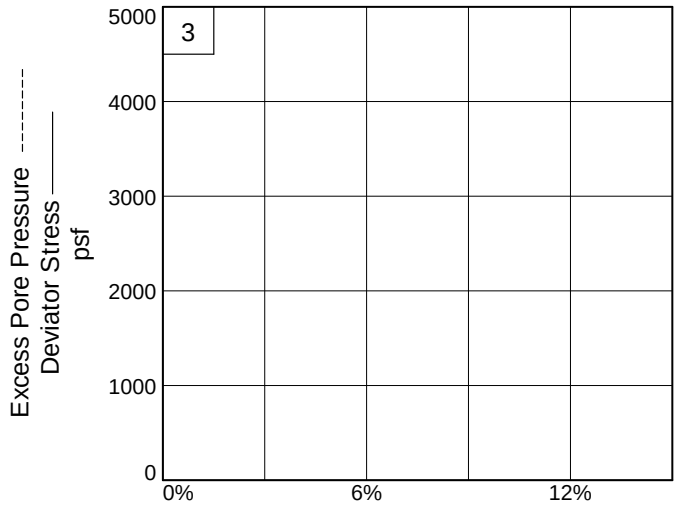
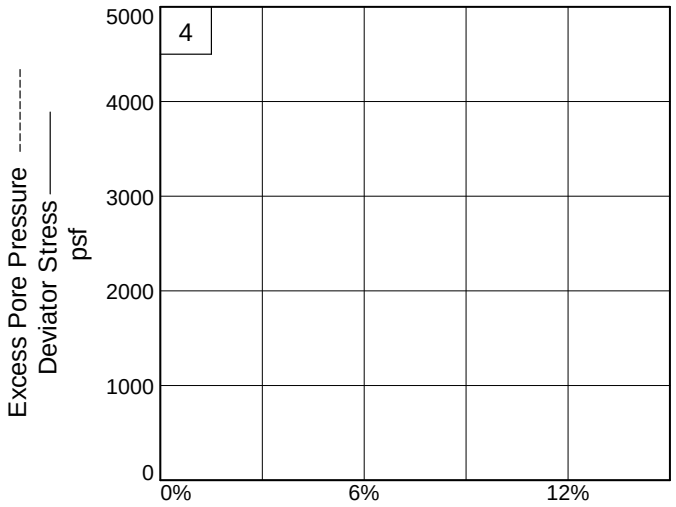
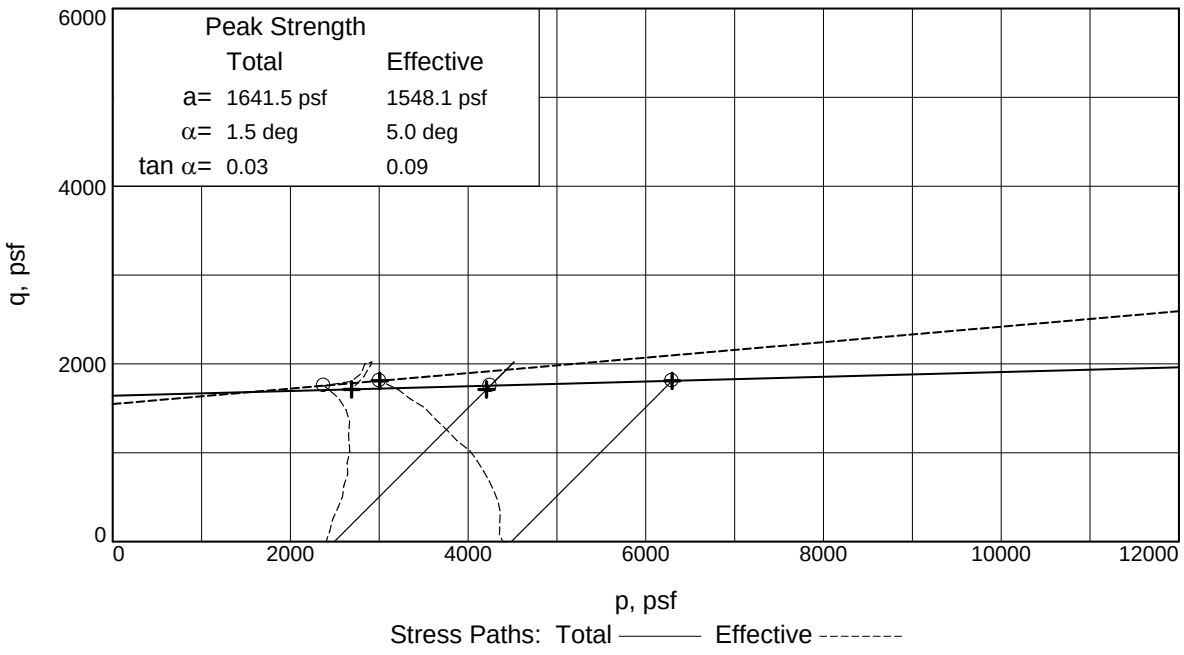
Thompson Engineering
Mobile, Alabama











Client: ALDOT

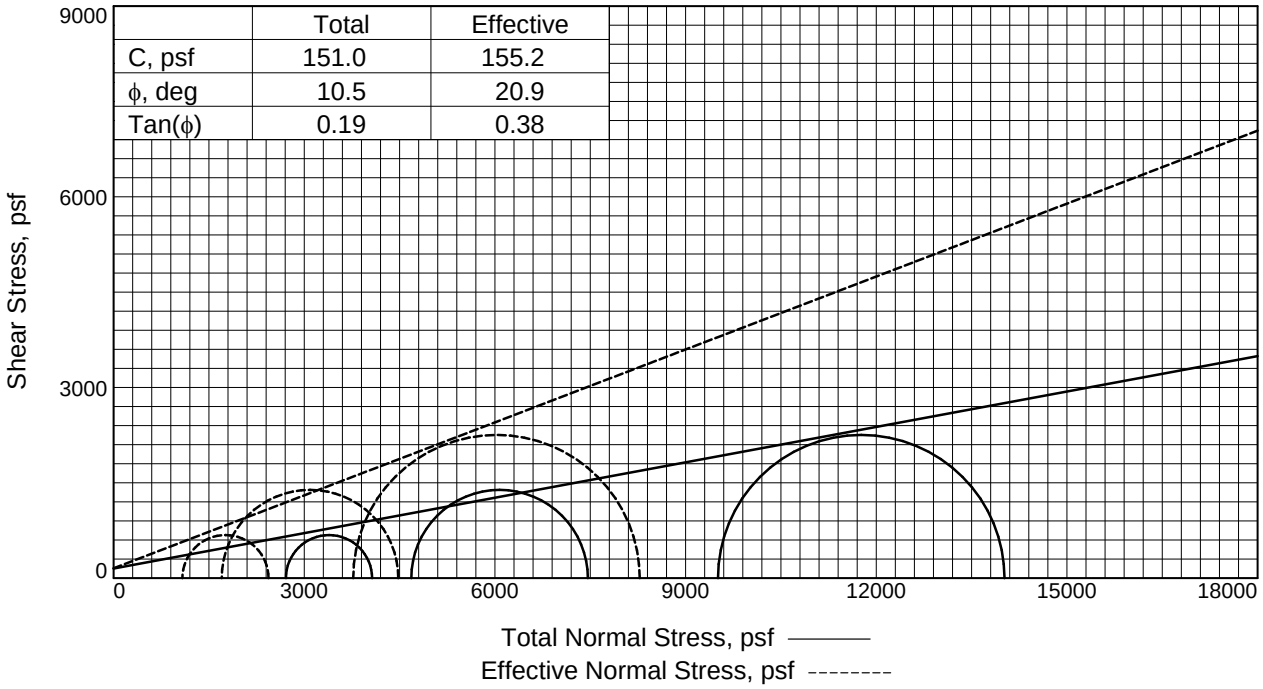
Project: Mobile River Bridge

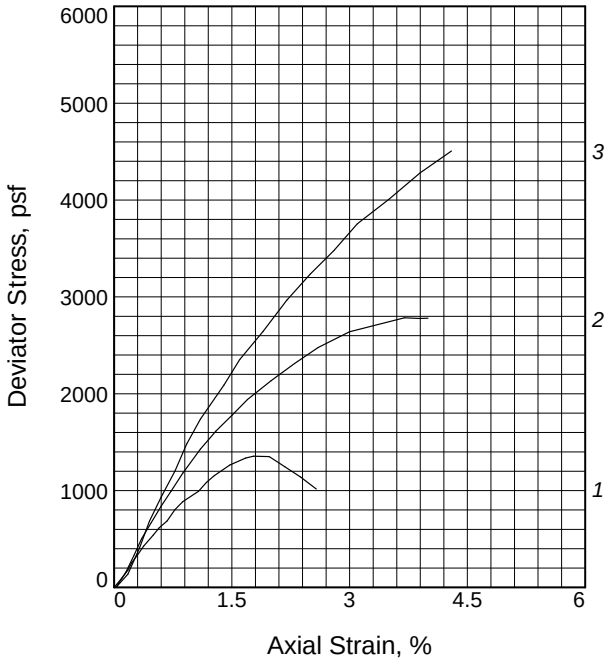
Source of Sample: Lab #8063 **Depth:** 28.0'-30.0' **Sample Number:** TH-13 T-2

Project No.: 1511010228 **Figure** _____

Thompson Engineering

	Total	Effective
C, psf	151.0	155.2
ϕ, deg	10.5	20.9
Tan(ϕ)	0.19	0.38





Specimen No.		1	2	3
Initial	Water Content, %	109.4	89.1	112.8
	Dry Density, pcf	40.7	47.7	40.0
	Saturation, %	94.6	95.5	95.3
	Void Ratio	3.0756	2.4820	3.1483
	Diameter, in.	1.424	1.425	1.440
	Height, in.	2.790	2.780	2.780
At Test	Water Content, %	115.0	87.0	97.5
	Dry Density, pcf	40.7	47.7	40.0
	Saturation, %	99.5	93.2	82.4
	Void Ratio	3.0756	2.4820	3.1483
	Diameter, in.	1.424	1.425	1.440
	Height, in.	2.790	2.780	2.780
Strain at peak, %		1.8	3.9	4.3
Eff. Cell Pressure, psf		2711.5	4684.3	9509.8
Fail. Stress, psf		1355.2	2777.3	4506.8
Excess Pore Pr., psf		1629.2	2982.7	5739.4
Strain, %		1.8	3.9	4.3
Ult. Stress, psf		1355.2	2777.3	4506.8
Excess Pore Pr., psf		1629.2	2982.7	5739.4
Strain, %		1.8	3.9	4.3
$\bar{\sigma}_1$ Failure, psf		2437.6	4478.9	8277.2
$\bar{\sigma}_3$ Failure, psf		1082.4	1701.6	3770.3

Type of Test:
CU with Pore Pressures

Sample Type: 3-in. Shelby Tube

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

Specific Gravity= 2.66

Remarks:

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8085 **Depth:** 33.5'-35.5'

Sample Number: W-20 T-2

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

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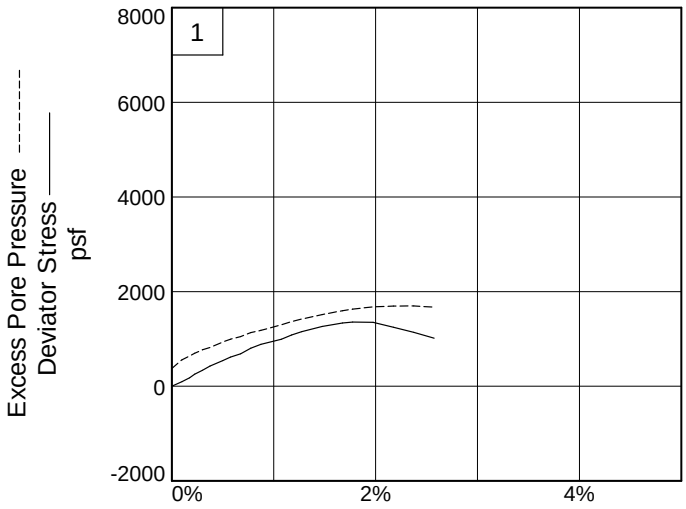
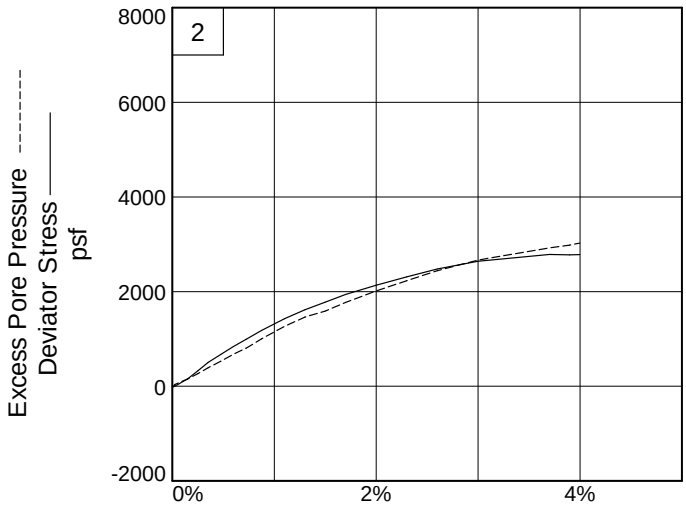
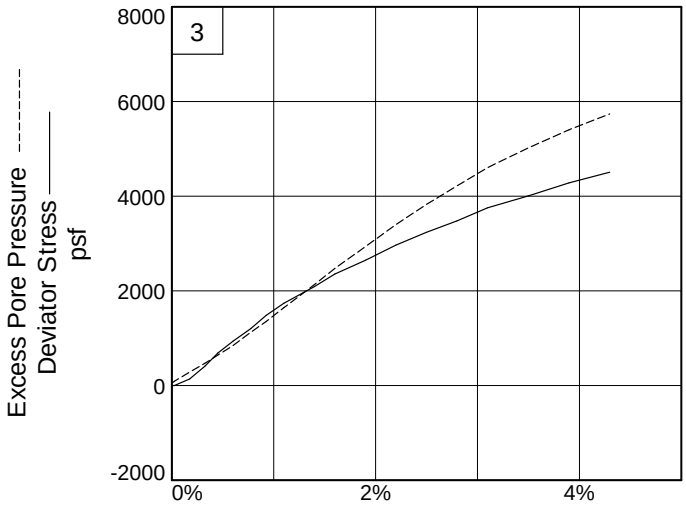
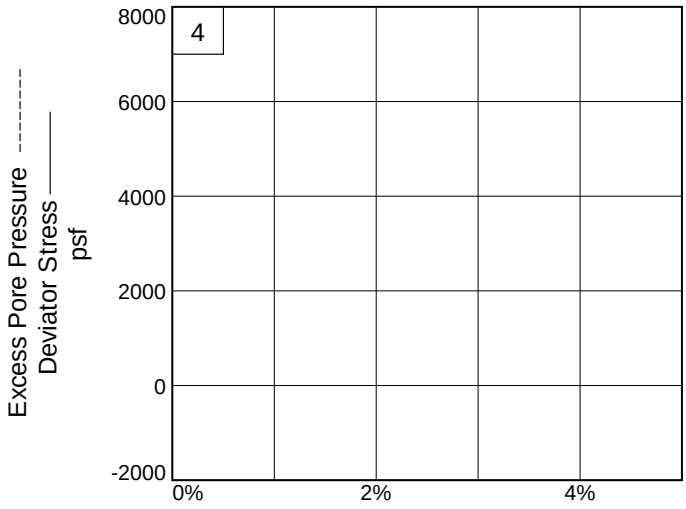
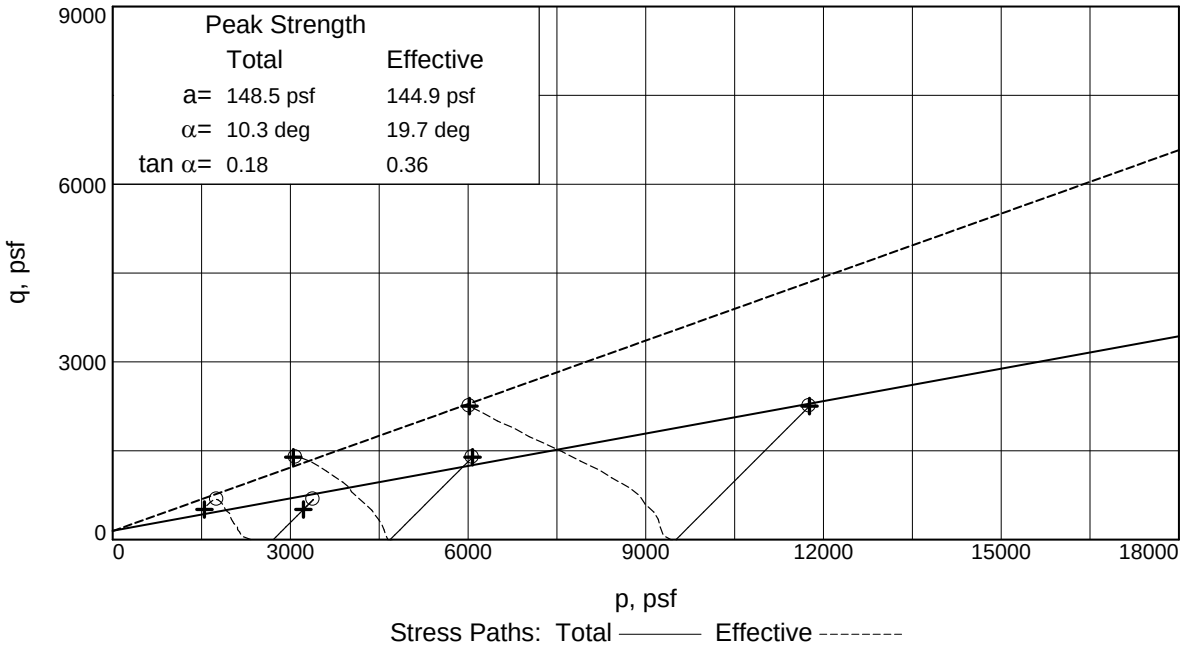
Mobile, Alabama











Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8085 **Depth:** 33.5'-35.5' **Sample Number:** W-20 T-2

Project No.: 1511010228 **Figure** _____

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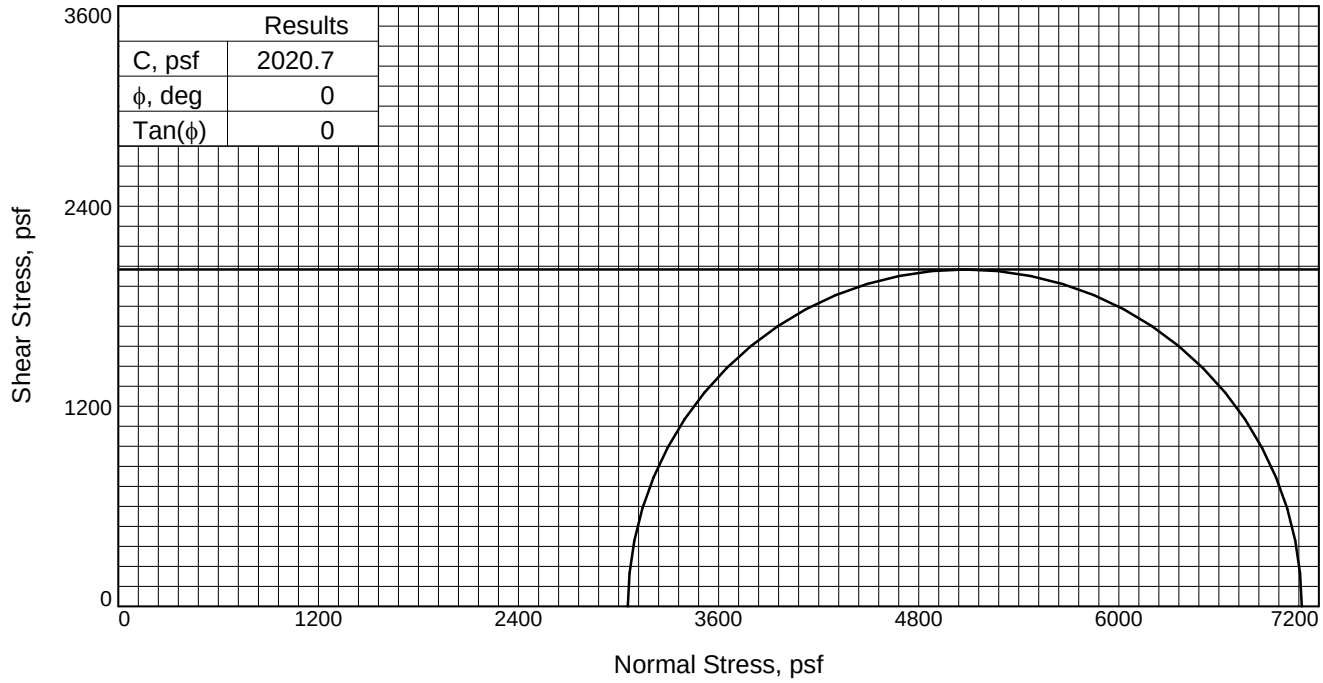

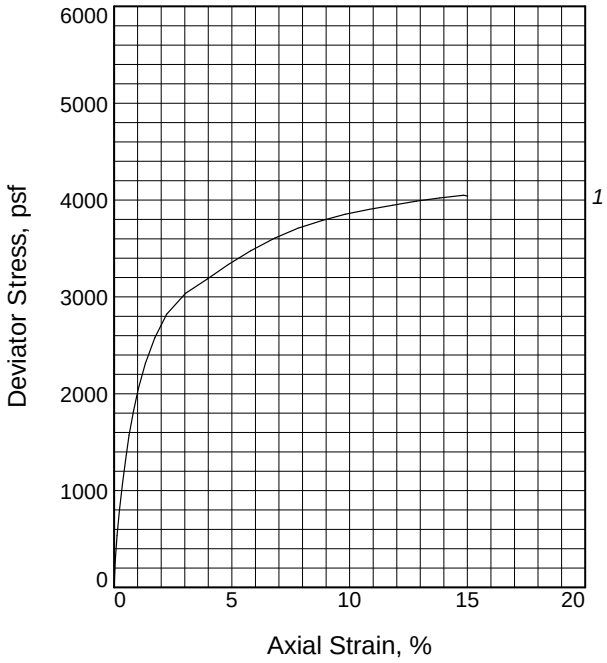

Specimen No.		1
Initial	Water Content, %	22.9
	Dry Density, pcf	104.5
	Saturation, %	103.5
	Void Ratio	0.5891
	Diameter, in.	2.828
	Height, in.	5.684
At Test	Water Content, %	24.4
	Dry Density, pcf	104.5
	Saturation, %	110.4
	Void Ratio	0.5891
	Diameter, in.	2.828
	Height, in.	5.684
Strain at peak, %		15.0
Back Pressure, psf		0.0
Cell Pressure, psf		3055.7
Fail. Stress, psf		4041.4
Strain, %		15.0
Ult. Stress, psf		4041.4
Strain, %		15.0
σ_1 Failure, psf		7097.1
σ_3 Failure, psf		3055.7

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: Lab #8081 **Depth:** 28.5'-30.5'

Sample Number: TH-2 T-1

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

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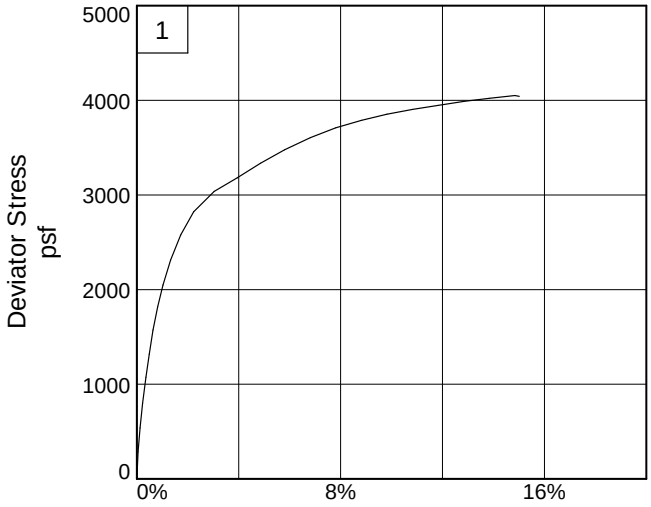

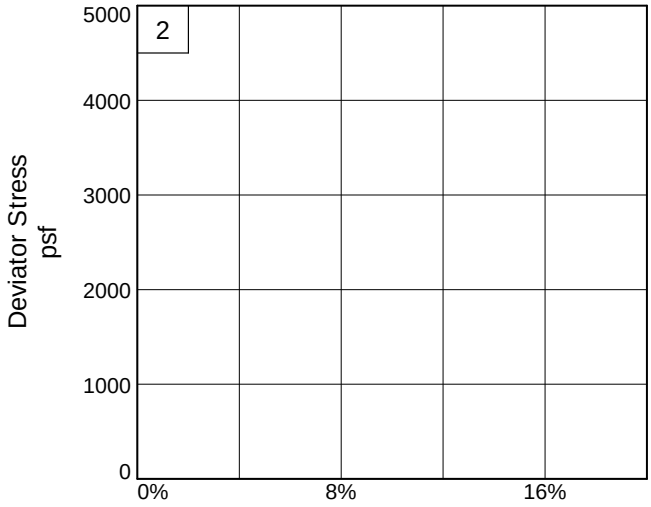

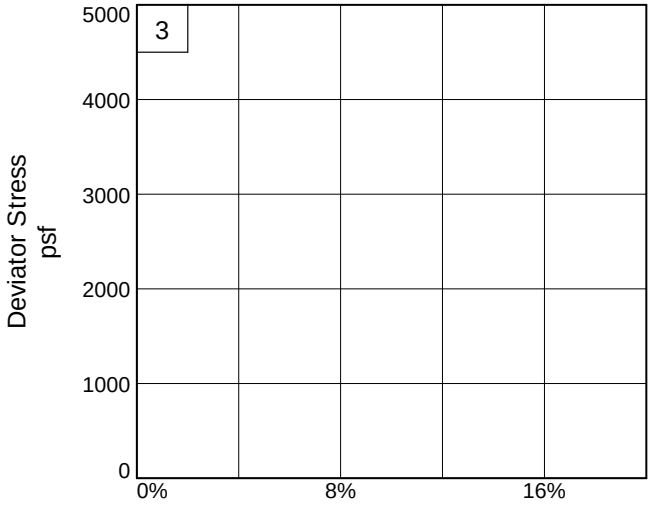

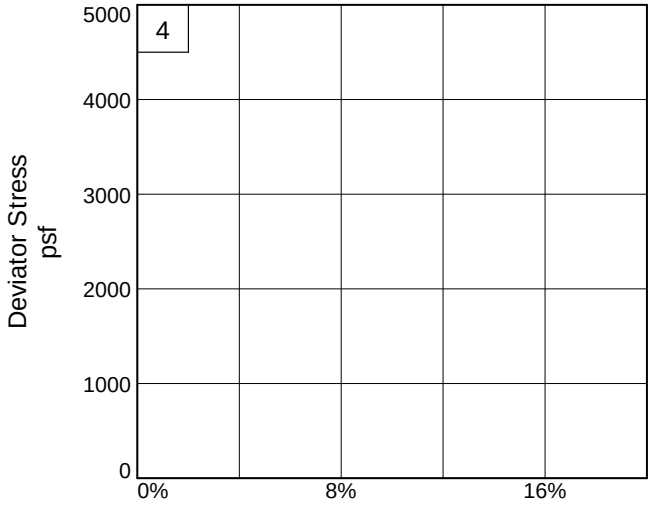

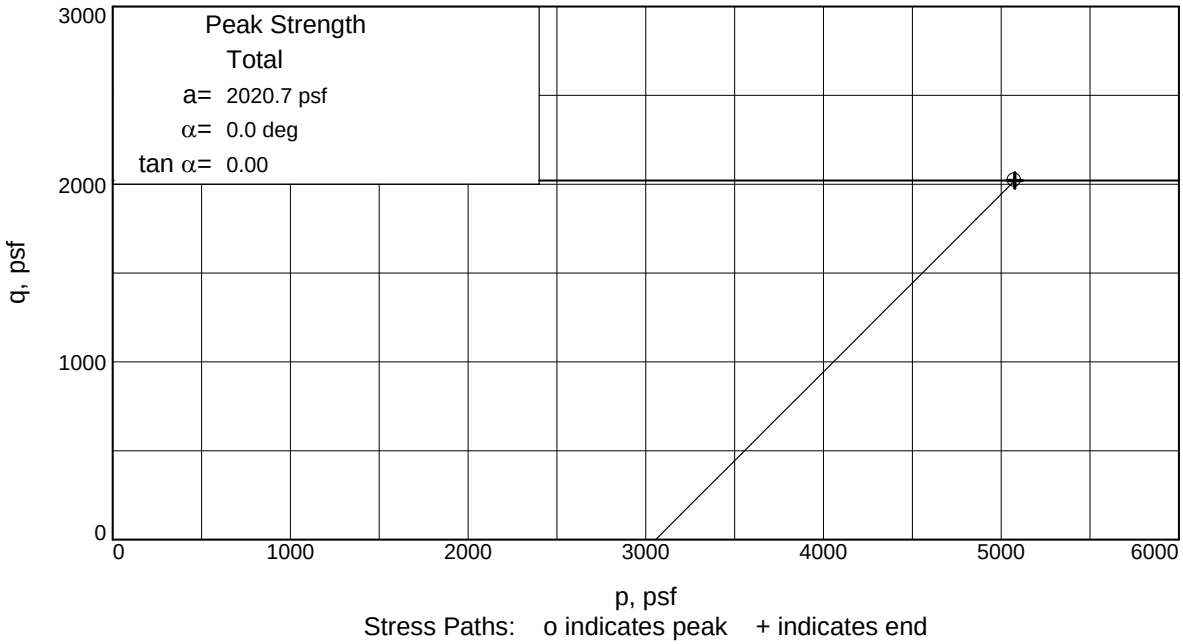

Stress Paths: o indicates peak + indicates end

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8081 **Depth:** 28.5'-30.5' **Sample Number:** TH-2 T-1

Project No.: 1511010228 **Figure** _____

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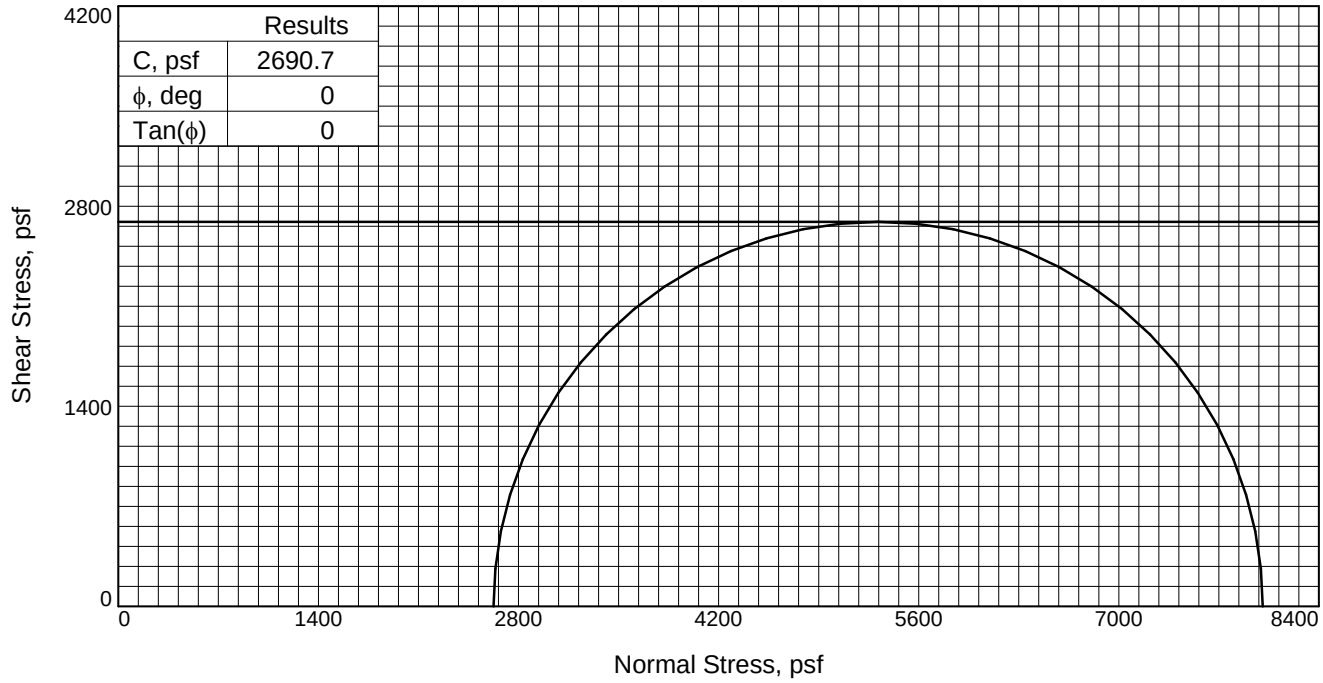

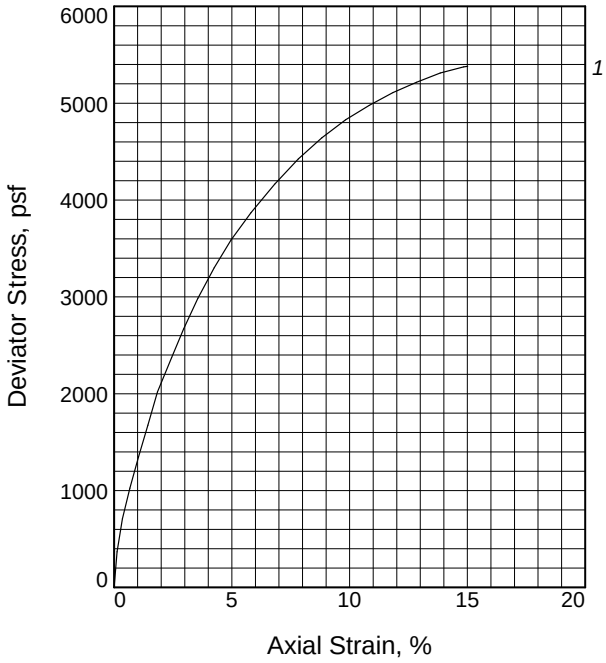

Specimen No.		1
Initial	Water Content, %	19.1
	Dry Density, pcf	110.1
	Saturation, %	100.1
	Void Ratio	0.5085
	Diameter, in.	2.832
	Height, in.	5.459
At Test	Water Content, %	18.6
	Dry Density, pcf	110.1
	Saturation, %	97.1
	Void Ratio	0.5085
	Diameter, in.	2.832
	Height, in.	5.459
Strain at peak, %		15.0
Back Pressure, psf		0.0
Cell Pressure, psf		2625.1
Fail. Stress, psf		5381.4
Strain, %		15.0
Ult. Stress, psf		5381.4
Strain, %		15.0
σ_1 Failure, psf		8006.5
σ_3 Failure, psf		2625.1

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: Lab #8081 **Depth:** 23.5'-25.5'

Sample Number: TH-3 T-1

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

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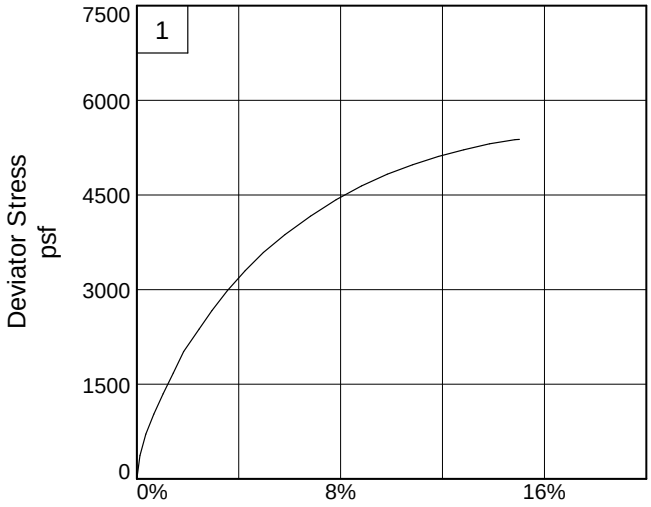

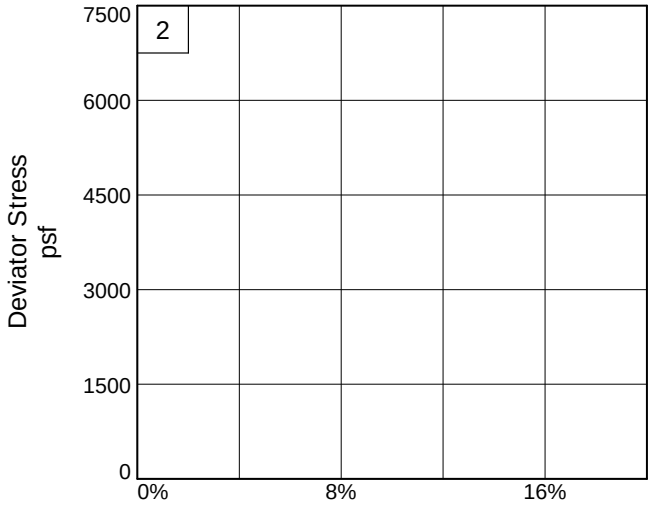

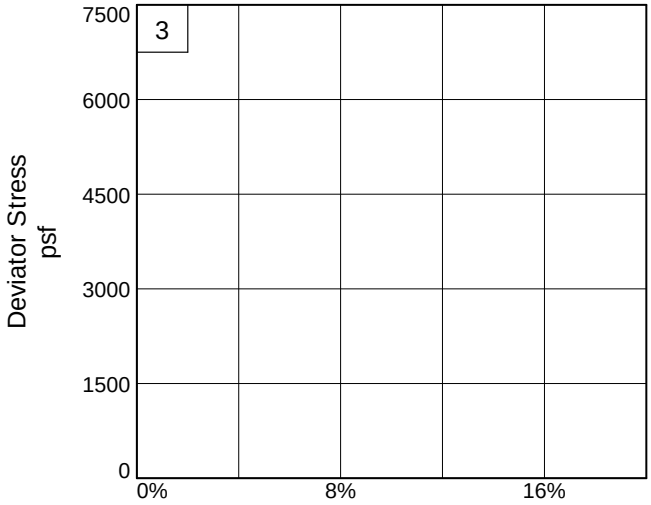

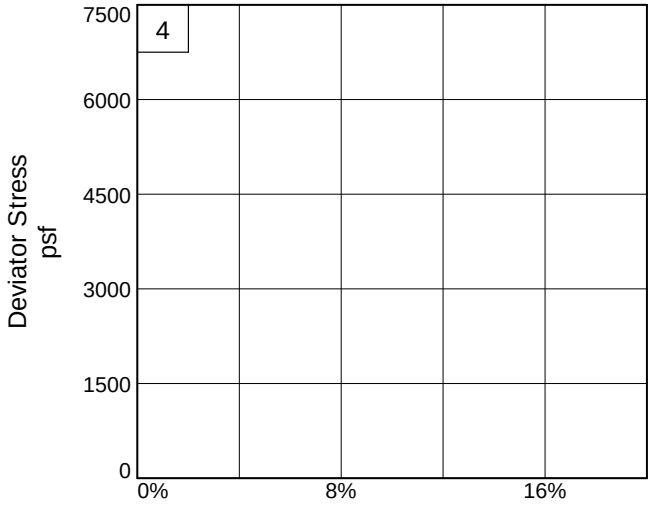

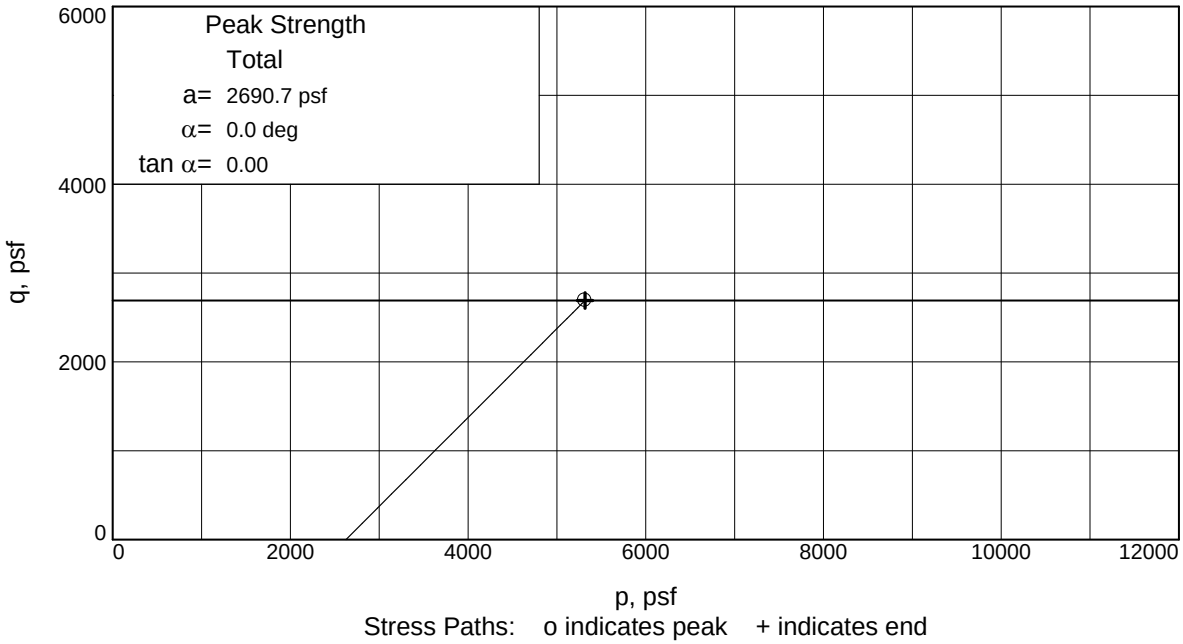

Stress Paths: o indicates peak + indicates end

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8081 **Depth:** 23.5'-25.5' **Sample Number:** TH-3 T-1

Project No.: 1511010228 **Figure** _____

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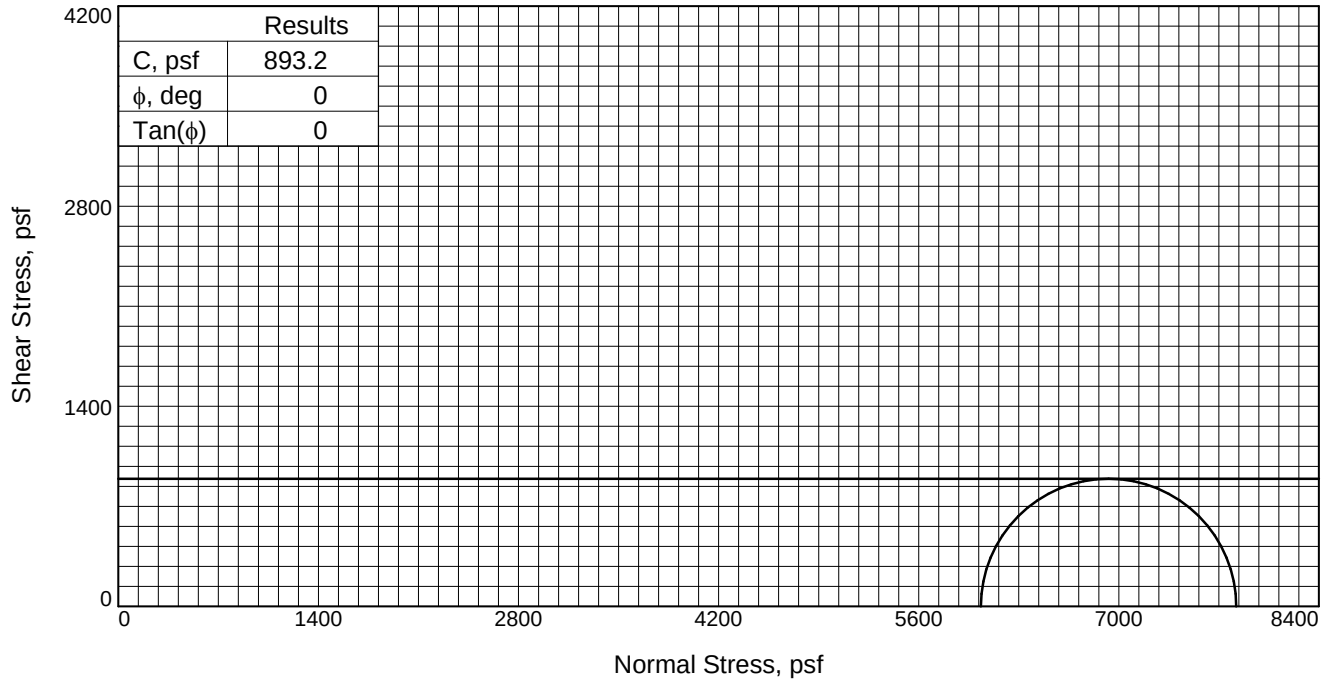

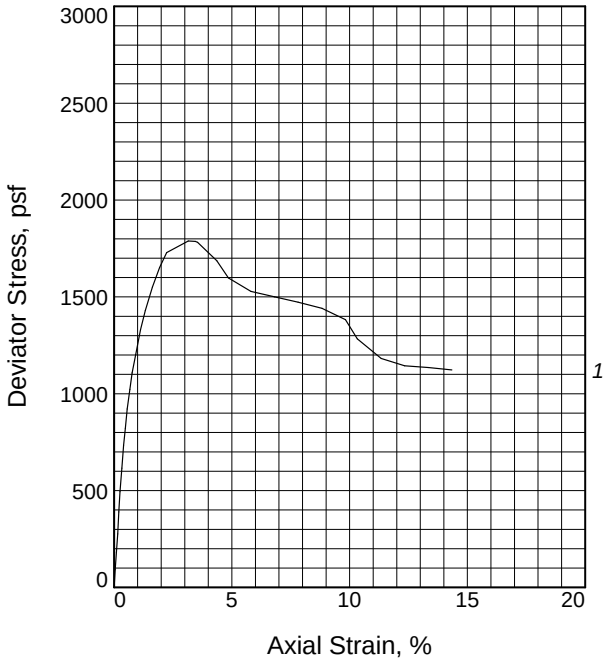

Specimen No.		1
Initial	Water Content, %	76.2
	Dry Density, pcf	55.0
	Saturation, %	100.5
	Void Ratio	2.0177
	Diameter, in.	2.822
	Height, in.	5.639
At Test	Water Content, %	76.5
	Dry Density, pcf	55.0
	Saturation, %	100.8
	Void Ratio	2.0177
	Diameter, in.	2.822
	Height, in.	5.639
Strain at peak, %		3.4
Back Pressure, psf		0.0
Cell Pressure, psf		6035.0
Fail. Stress, psf		1786.5
Strain, %		3.4
Ult. Stress, psf		1786.5
Strain, %		3.4
σ_1 Failure, psf		7821.5
σ_3 Failure, psf		6035.0

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: CLAYEY SAND(SC A-2-7(3))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8081 **Depth:** 38.0'-40.0'

Sample Number: TH-3 T-2

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

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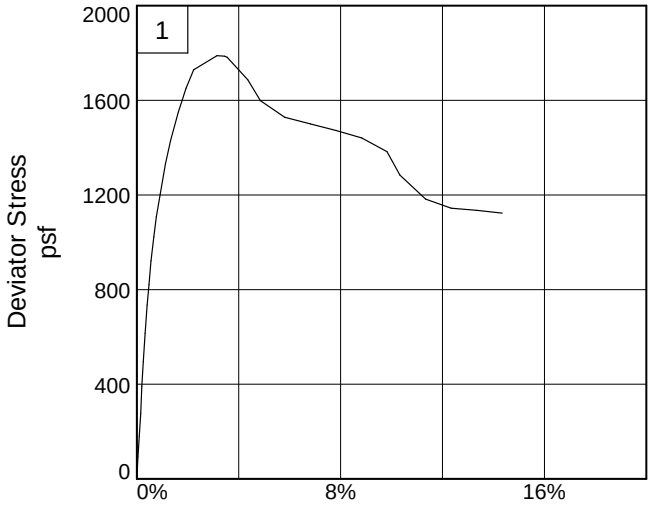

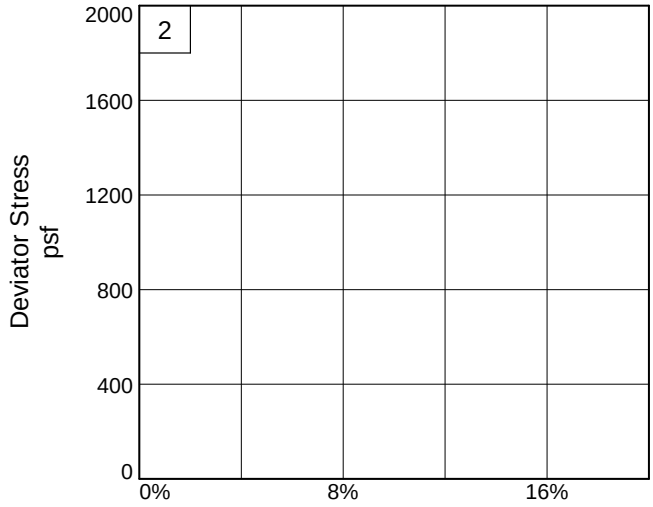

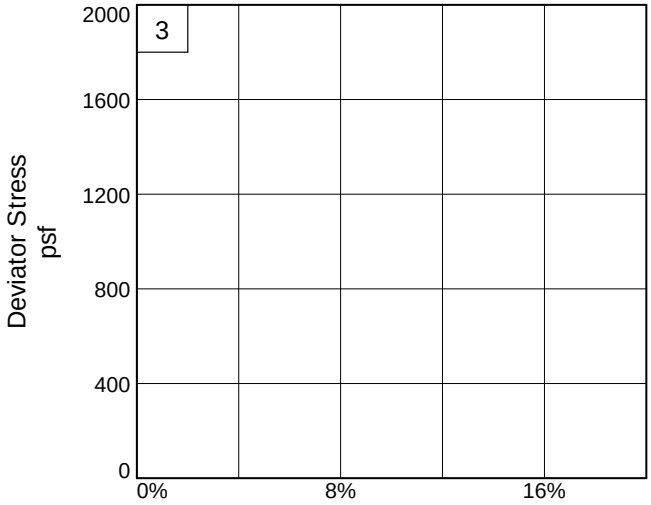

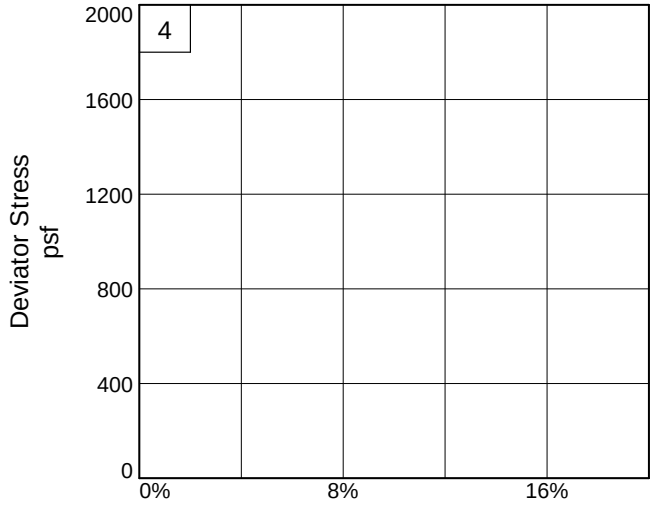

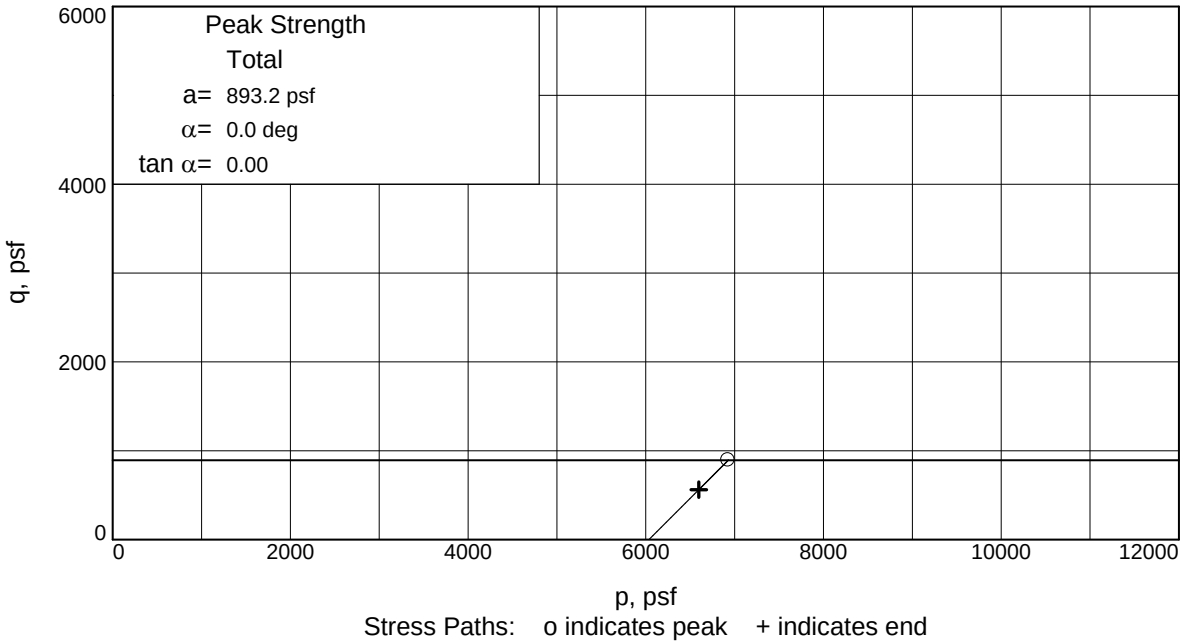

Stress Paths: o indicates peak + indicates end

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8081 **Depth:** 38.0'-40.0' **Sample Number:** TH-3 T-2

Project No.: 1511010228 **Figure** _____

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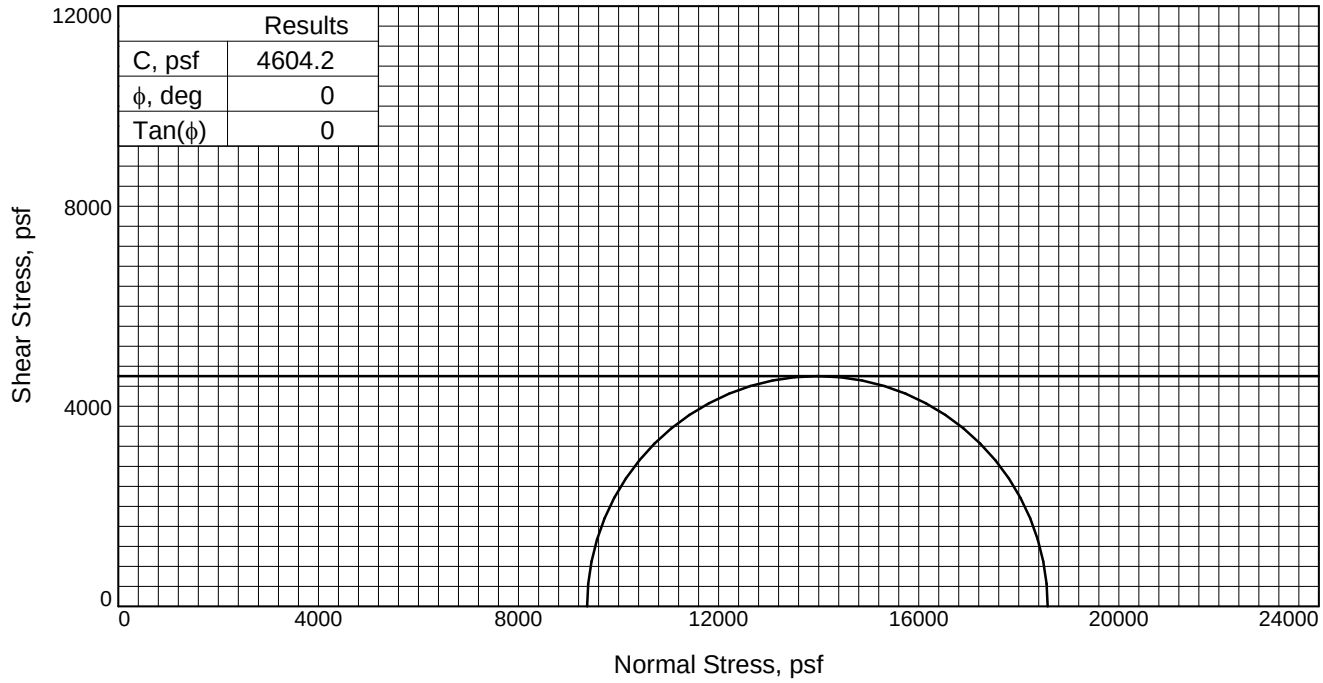

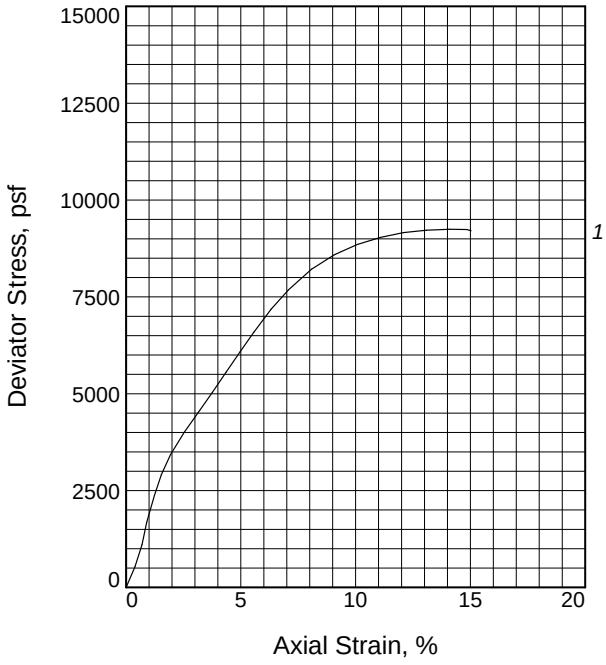

Specimen No.		1
Initial	Water Content, %	18.5
	Dry Density, pcf	113.3
	Saturation, %	105.9
	Void Ratio	0.4652
	Diameter, in.	2.740
	Height, in.	5.659
At Test	Water Content, %	18.8
	Dry Density, pcf	113.3
	Saturation, %	107.3
	Void Ratio	0.4652
	Diameter, in.	2.740
	Height, in.	5.659
Strain at peak, %		15.0
Back Pressure, psf		0.0
Cell Pressure, psf		9370.1
Fail. Stress, psf		9208.5
Strain, %		15.0
Ult. Stress, psf		9208.5
Strain, %		15.0
σ_1 Failure, psf		18578.6
σ_3 Failure, psf		9370.1

Type of Test: Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: FAT CLAY with SAND(CH A-7-6(29))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Symmetrical Bulge

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 143.0'-145.0'

Sample Number: TH-4 T-1

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

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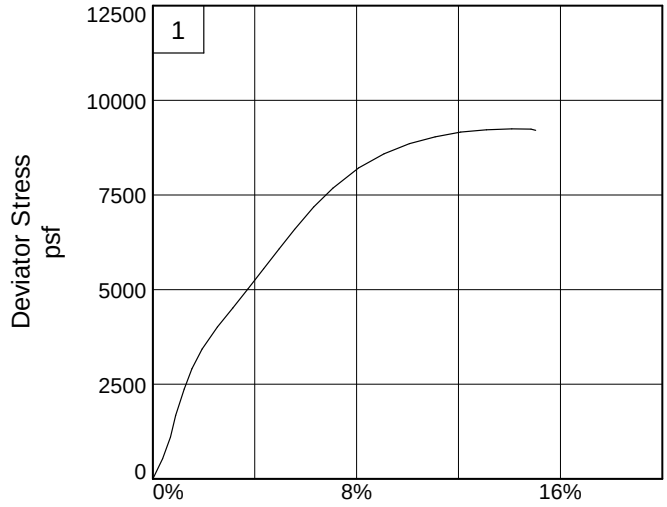

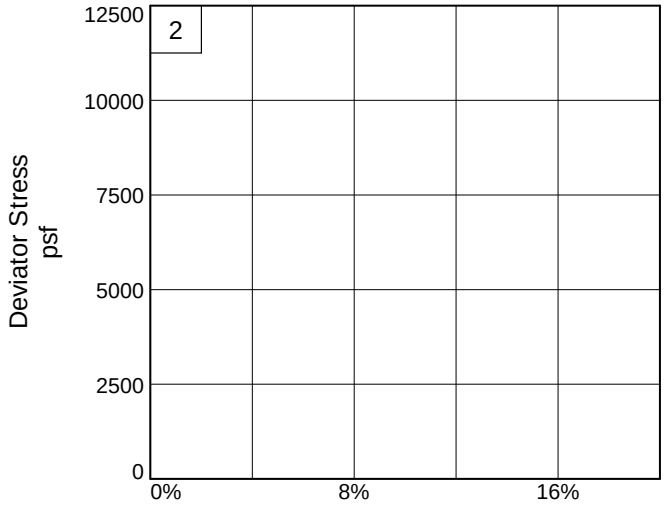

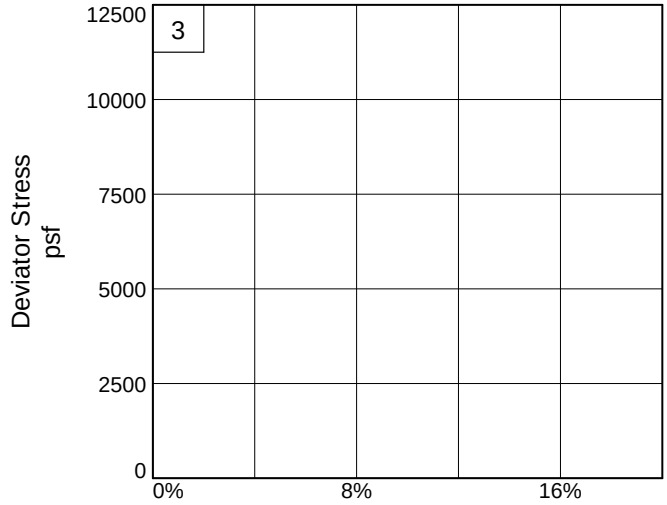

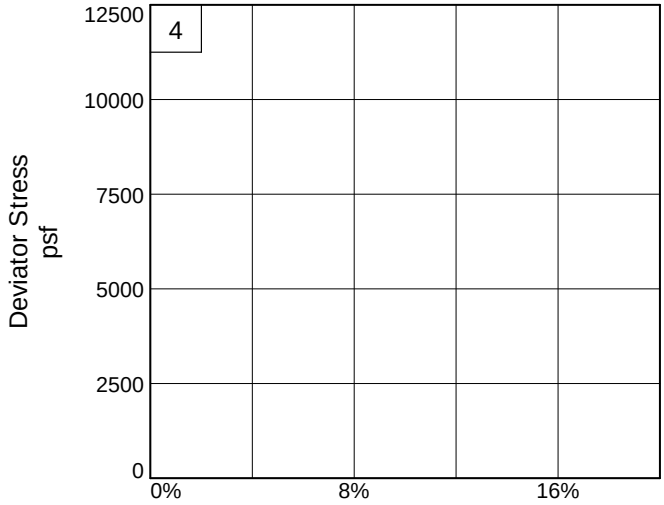

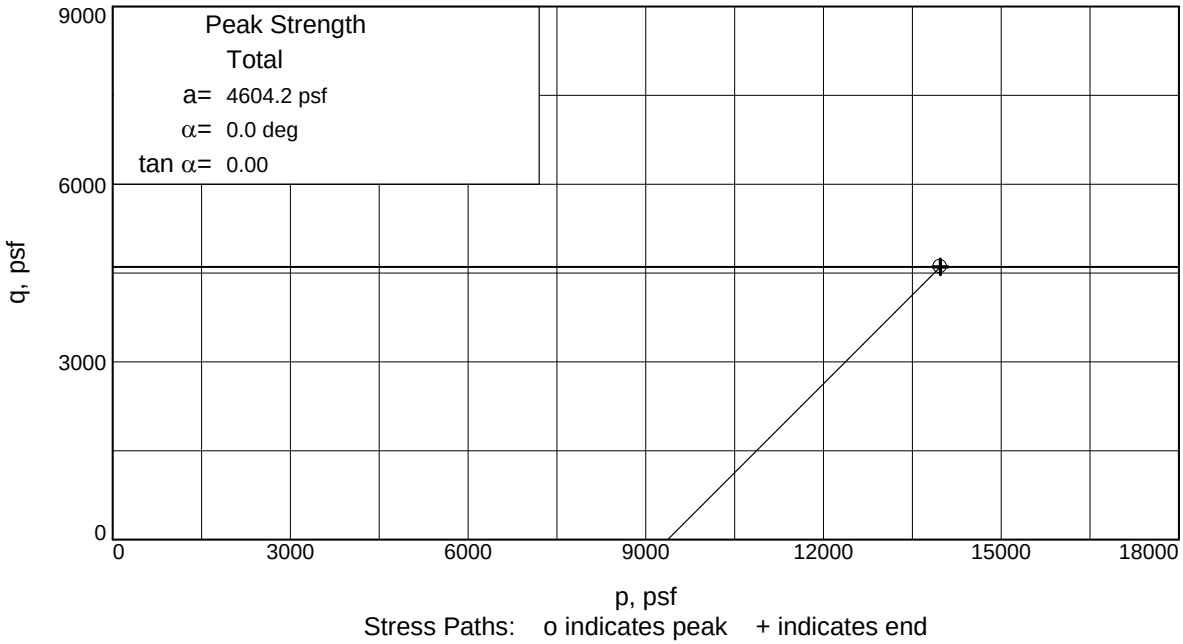

Stress Paths: o indicates peak + indicates end

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 143.0'-145.0' **Sample Number:** TH-4 T-1

Project No.: 1511010228 **Figure** _____

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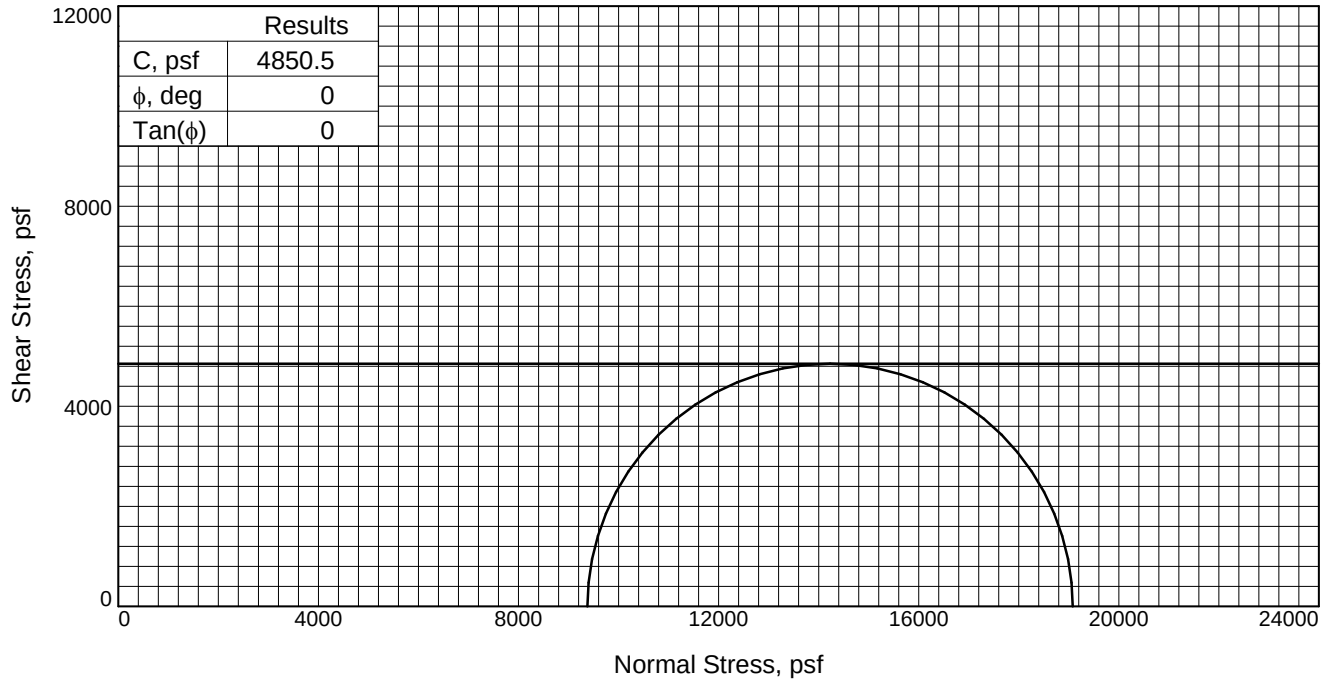

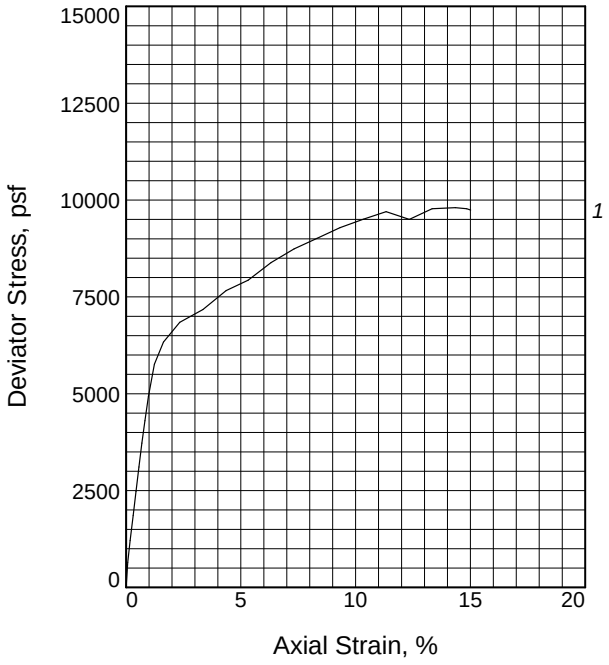

Specimen No.		1
Initial	Water Content, %	18.7
	Dry Density, pcf	112.4
	Saturation, %	103.8
	Void Ratio	0.4780
	Diameter, in.	2.734
	Height, in.	5.359
At Test	Water Content, %	19.3
	Dry Density, pcf	112.4
	Saturation, %	107.2
	Void Ratio	0.4780
	Diameter, in.	2.734
	Height, in.	5.359
Strain at peak, %		11.3
Back Pressure, psf		0.0
Cell Pressure, psf		9377.3
Fail. Stress, psf		9700.9
Strain, %		11.3
Ult. Stress, psf		9700.9
Strain, %		11.3
σ_1 Failure, psf		19078.2
σ_3 Failure, psf		9377.3

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: FAT CLAY(CH A-7-6(43))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 145.0'-147.0'

Sample Number: TH-5 T-1

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

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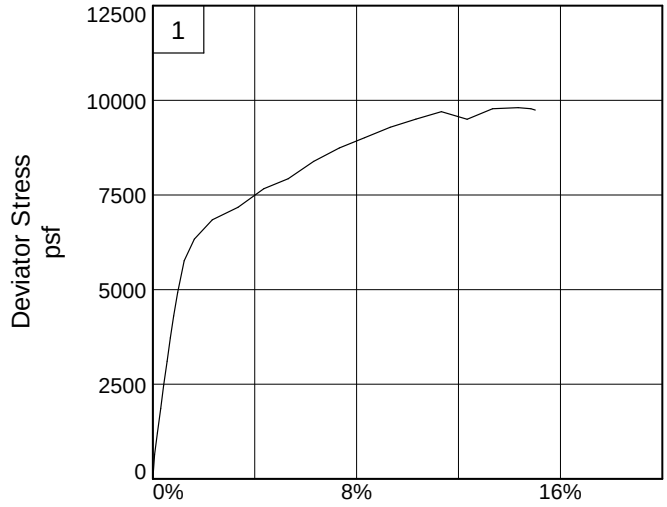

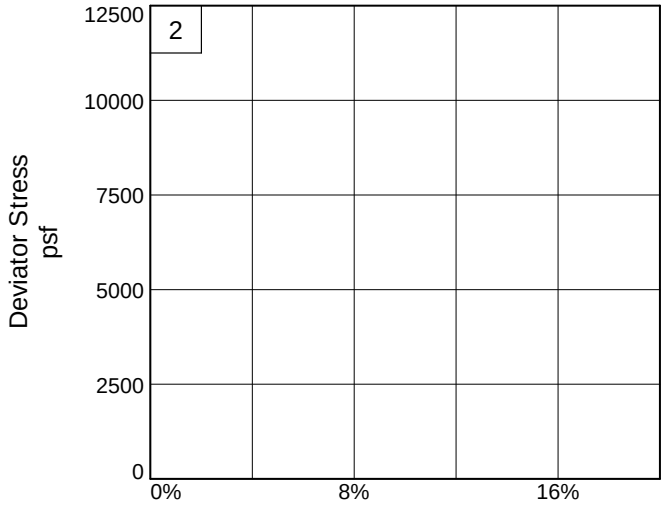

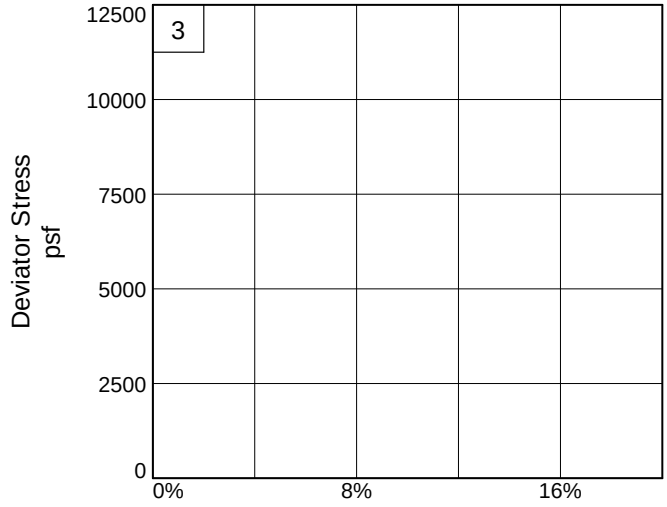

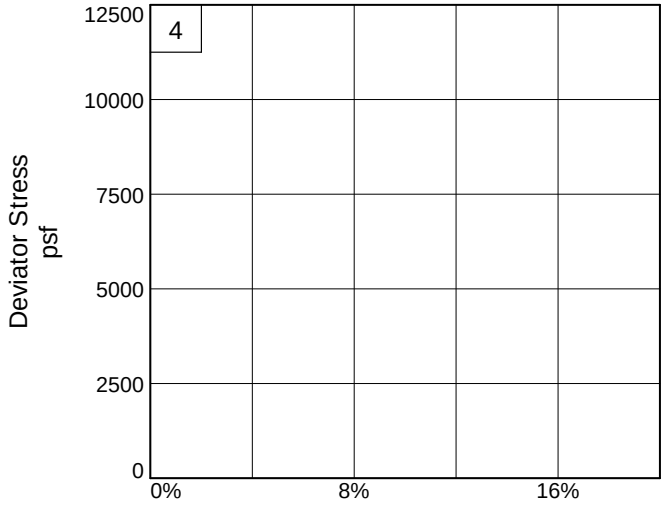

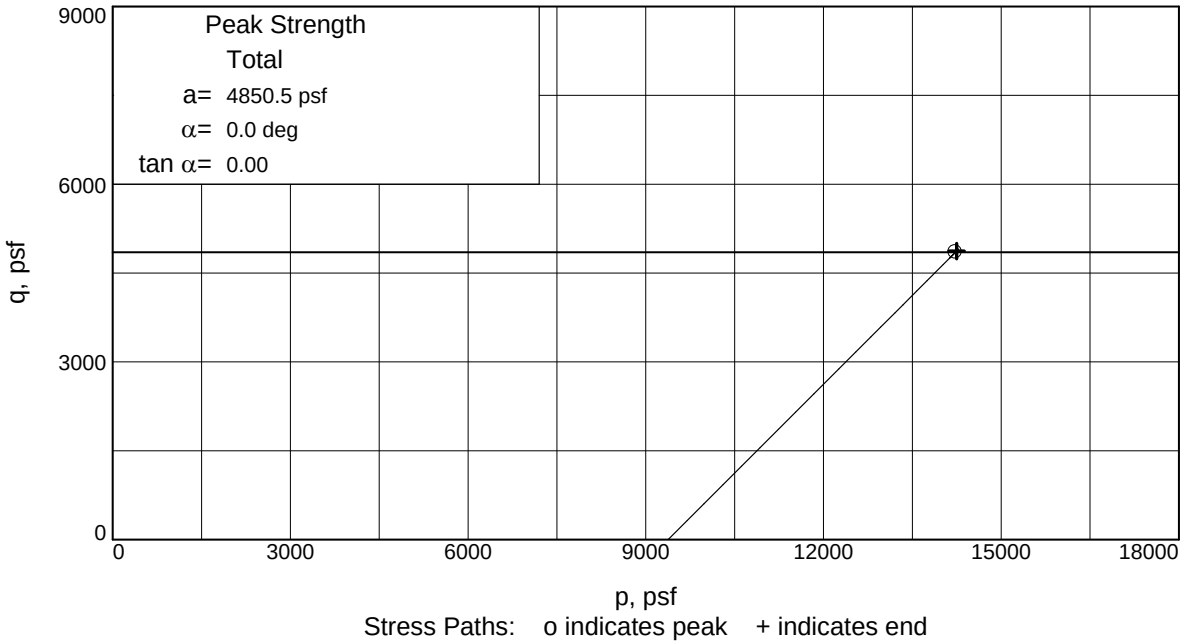

Stress Paths: o indicates peak + indicates end

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 145.0'-147.0' **Sample Number:** TH-5 T-1

Project No.: 1511010228 **Figure** _____

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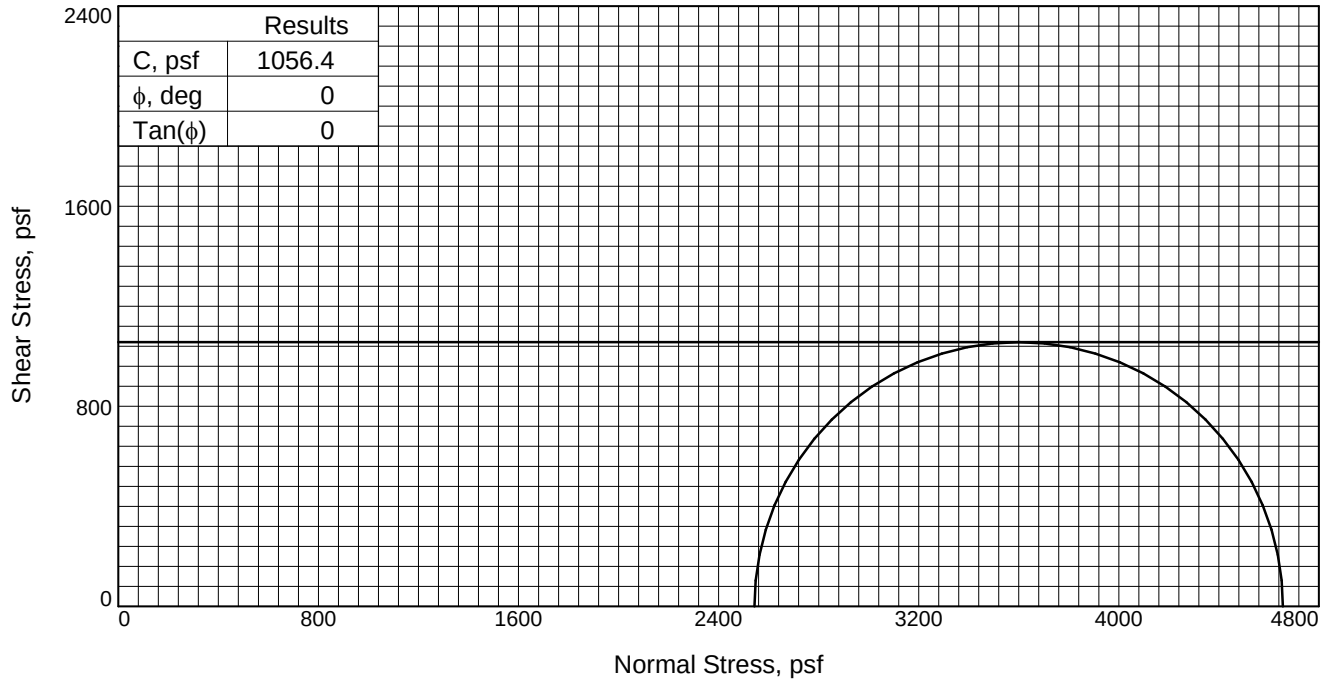

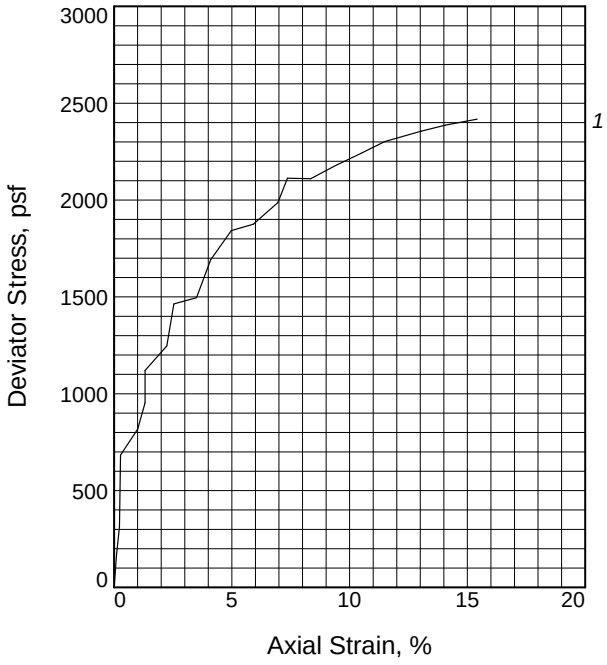

Specimen No.		1
Initial	Water Content, %	32.1
	Dry Density, pcf	93.6
	Saturation, %	110.3
	Void Ratio	0.7742
	Diameter, in.	2.838
	Height, in.	5.512
At Test	Water Content, %	29.2
	Dry Density, pcf	93.6
	Saturation, %	100.4
	Void Ratio	0.7742
	Diameter, in.	2.838
	Height, in.	5.512
Strain at peak, %		7.4
Back Pressure, psf		0.0
Cell Pressure, psf		2543.0
Fail. Stress, psf		2112.9
Strain, %		7.4
Ult. Stress, psf		2112.9
Strain, %		7.4
σ_1 Failure, psf		4655.9
σ_3 Failure, psf		2543.0

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: CLAYEY SAND(SC A-2-6(0))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Symmetrical Bulge

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8086 **Depth:** 33.0'-35.0'

Sample Number: TH-7 T-1

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

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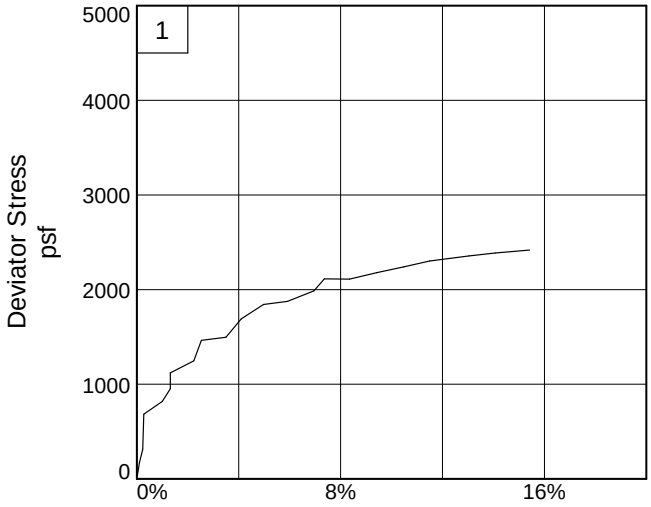
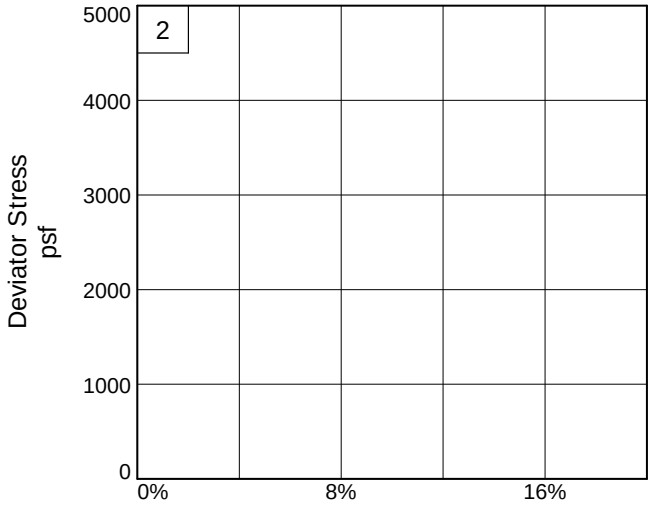
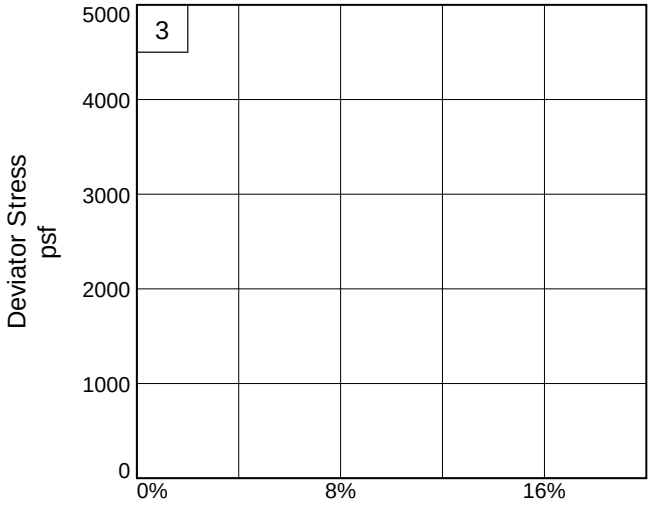
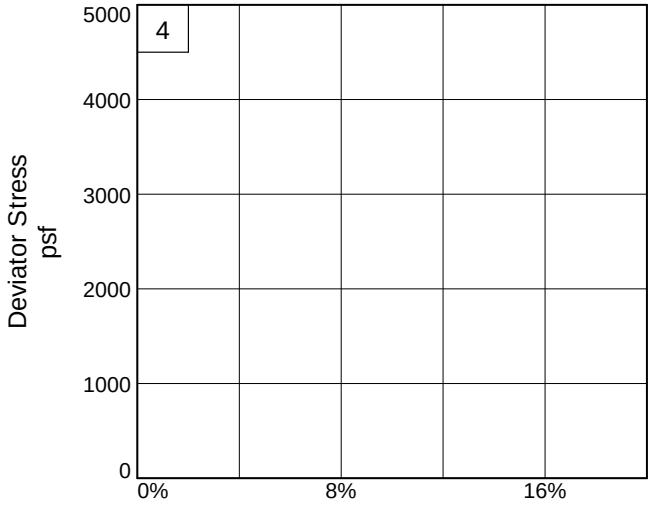
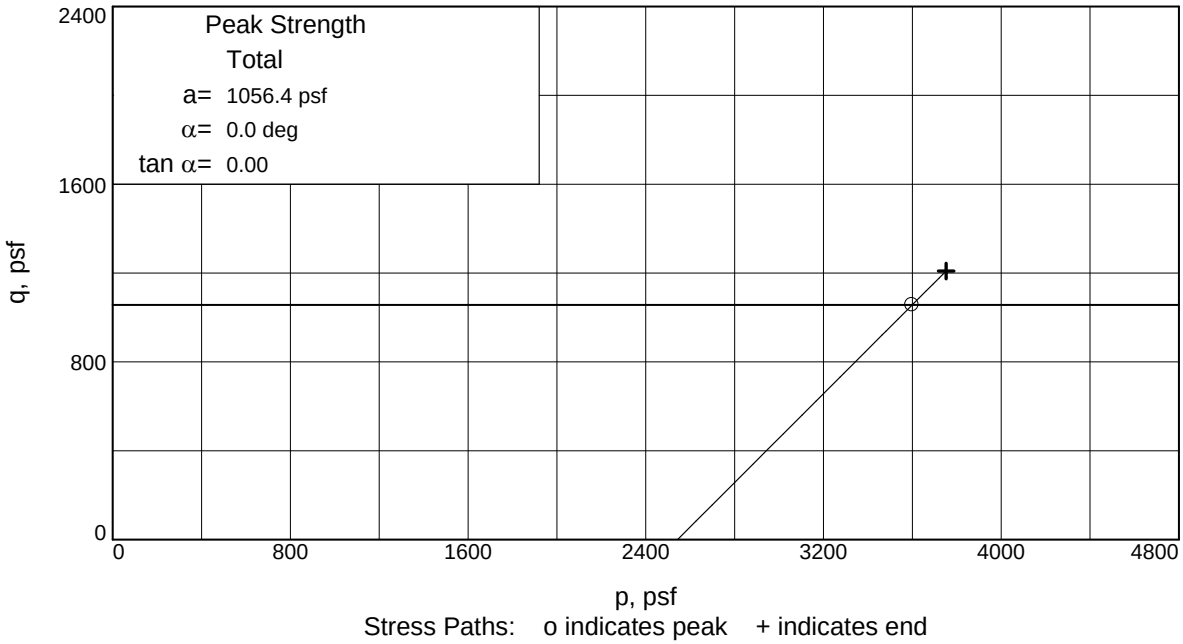
Mobile, Alabama











Stress Paths: o indicates peak + indicates end

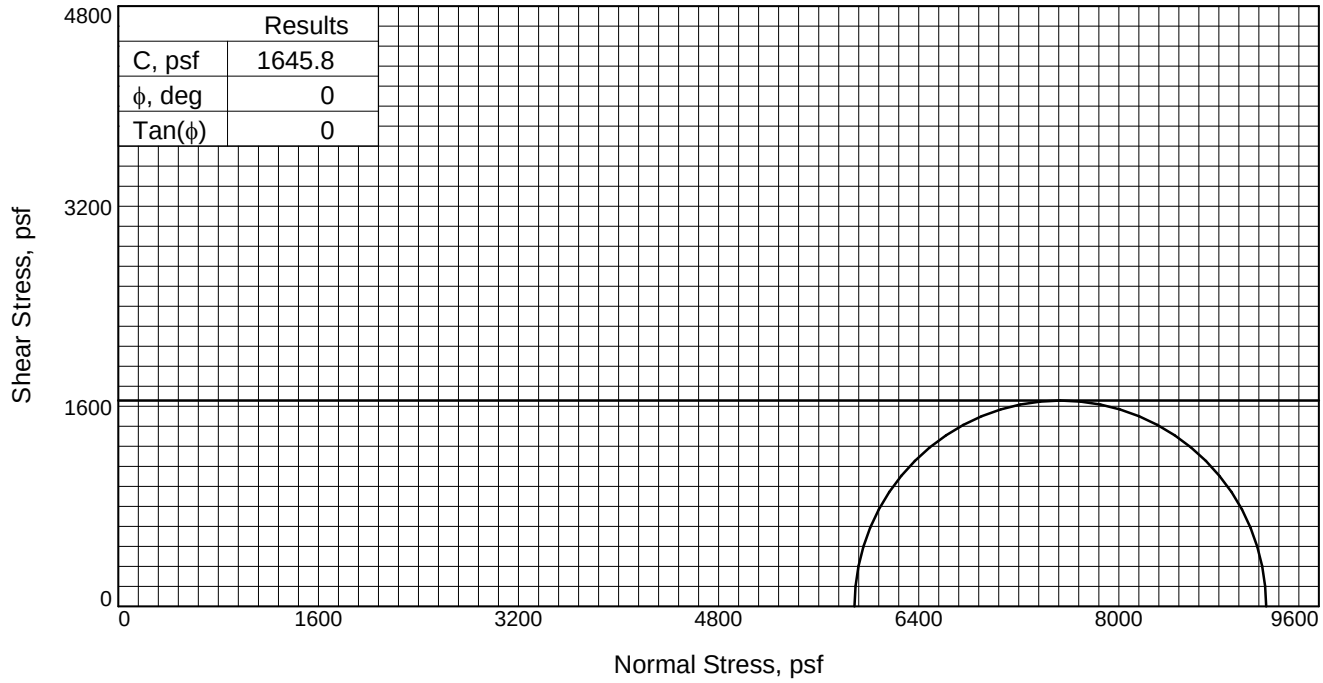
Client: ALDOT

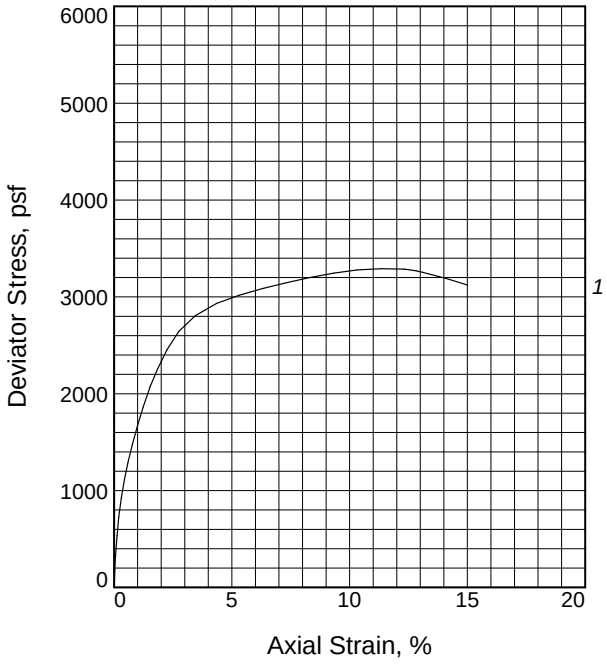
Project: Mobile River Bridge

Source of Sample: Lab #8086 **Depth:** 33.0'-35.0' **Sample Number:** TH-7 T-1

Project No.: 1511010228 **Figure** _____

Thompson Engineering





Specimen No.		1
Initial	Water Content, %	28.4
	Dry Density, pcf	97.2
	Saturation, %	106.7
	Void Ratio	0.7082
	Diameter, in.	2.844
	Height, in.	5.637
At Test	Water Content, %	26.0
	Dry Density, pcf	97.2
	Saturation, %	97.5
	Void Ratio	0.7082
	Diameter, in.	2.844
	Height, in.	5.637
Strain at peak, %		11.3
Back Pressure, psf		0.0
Cell Pressure, psf		5886.7
Fail. Stress, psf		3291.5
Strain, %		11.3
Ult. Stress, psf		3291.5
Strain, %		11.3
σ_1 Failure, psf		9178.3
σ_3 Failure, psf		5886.7

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: FAT CLAY(CH A-7-6(25))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8086 **Depth:** 103.0'-105.0'

Sample Number: TH-7 T-2

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

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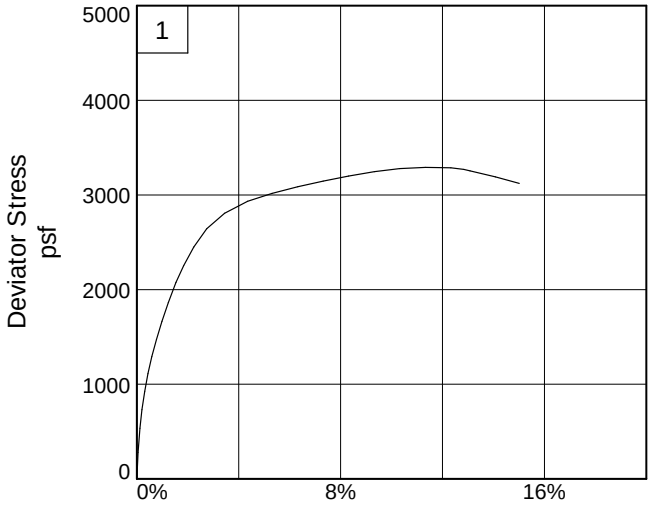

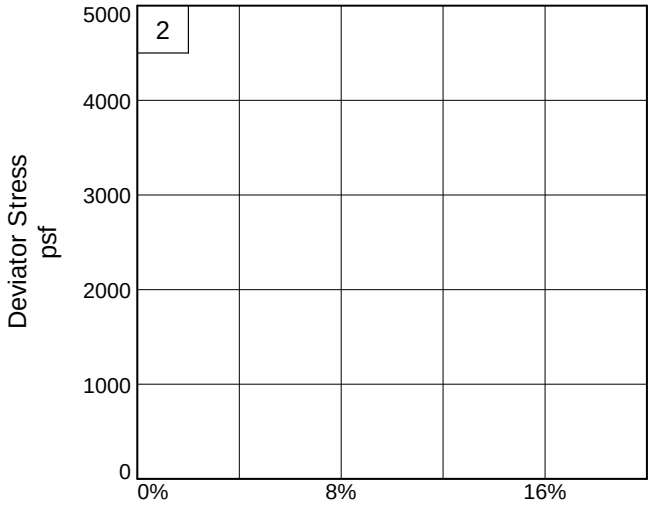

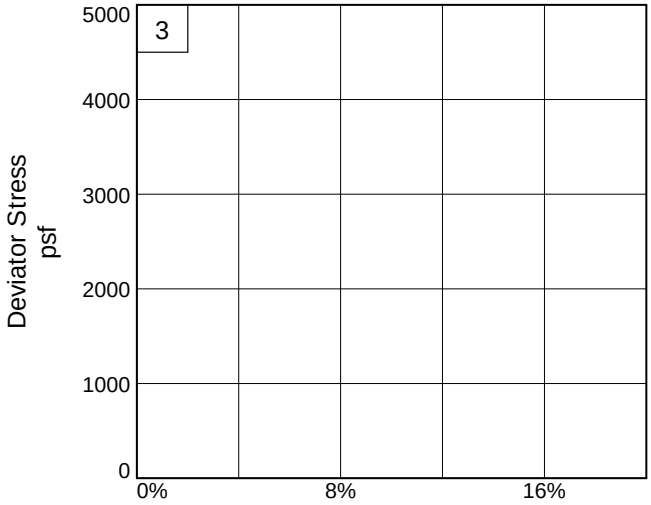

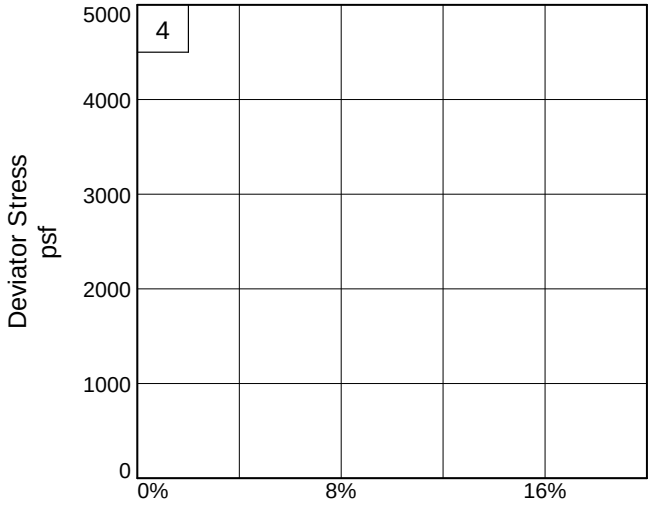

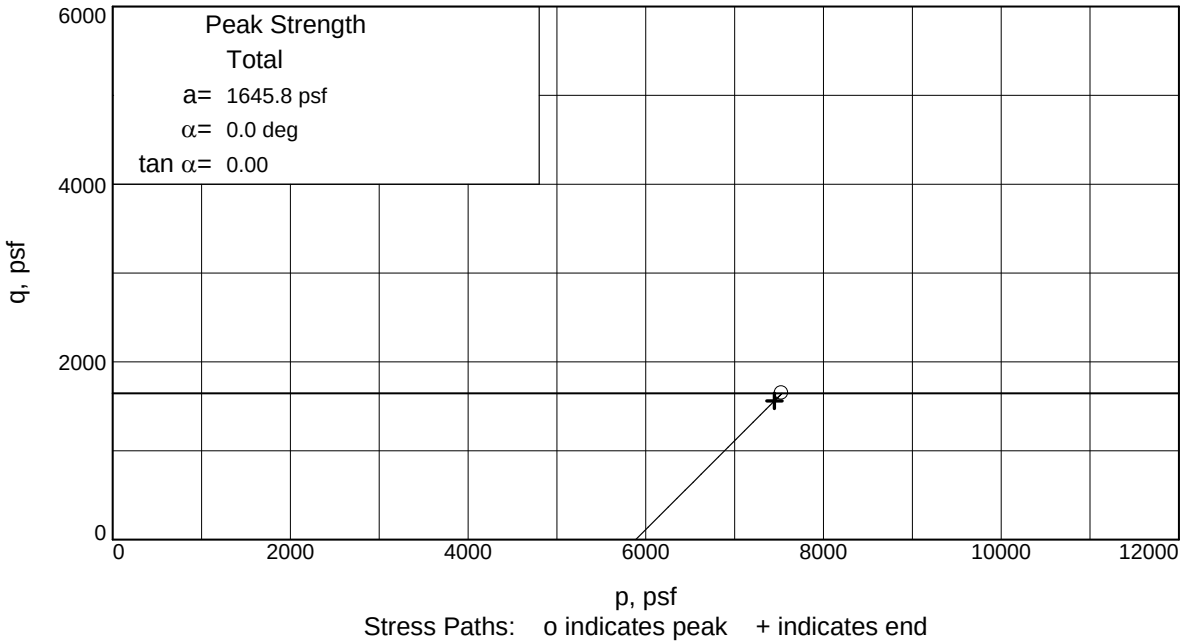

Stress Paths: o indicates peak + indicates end

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8086 **Depth:** 103.0'-105.0' **Sample Number:** TH-7 T-2

Project No.: 1511010228 **Figure** _____

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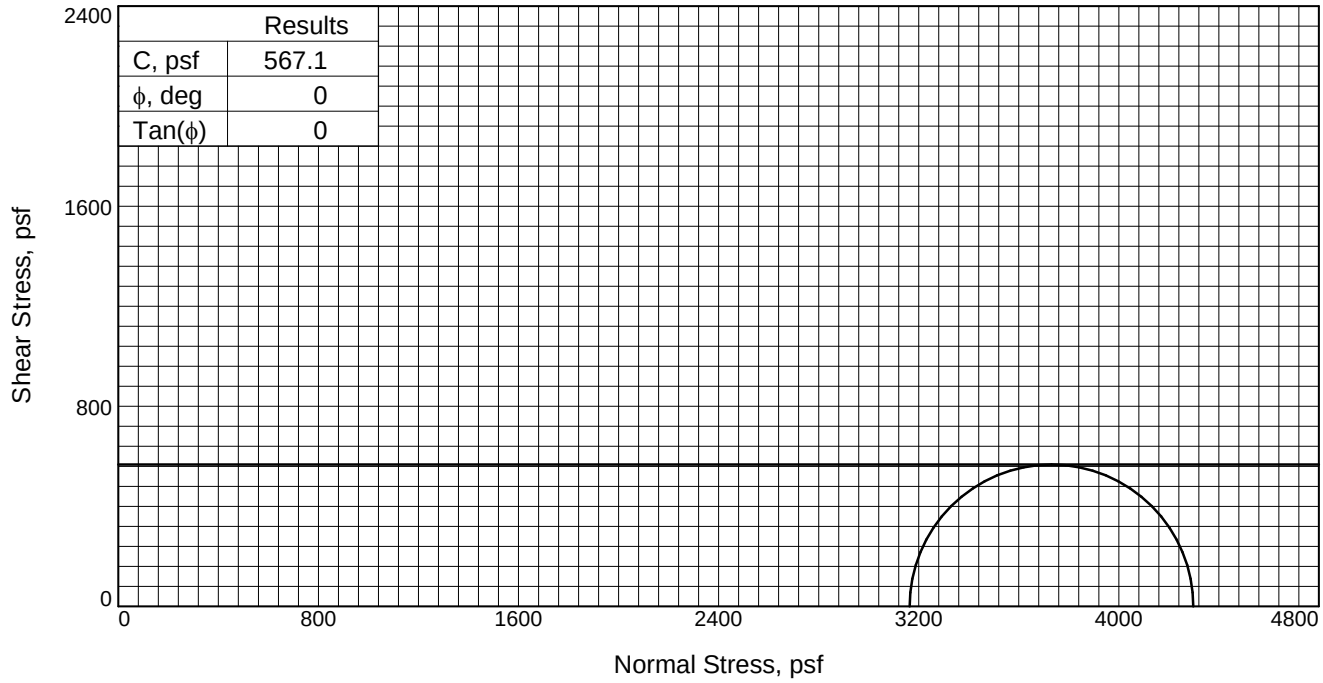

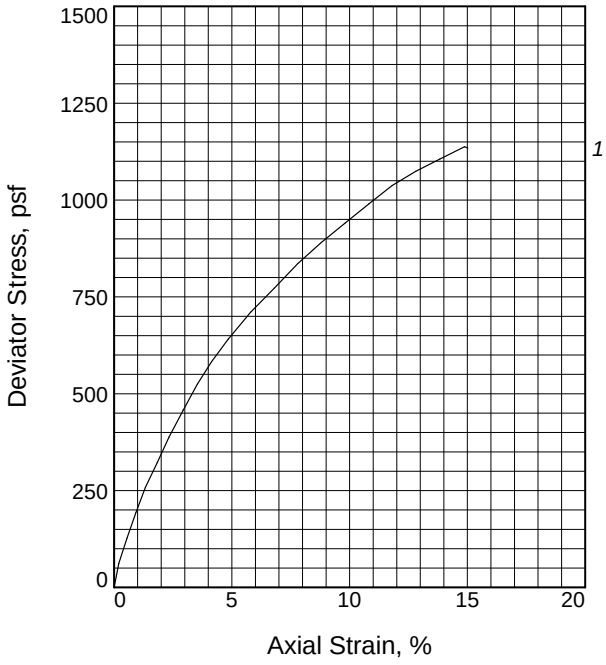

Specimen No.		1
Initial	Water Content, %	28.6
	Dry Density, pcf	97.7
	Saturation, %	108.7
	Void Ratio	0.7000
	Diameter, in.	2.828
	Height, in.	5.314
At Test	Water Content, %	30.8
	Dry Density, pcf	97.7
	Saturation, %	117.1
	Void Ratio	0.7000
	Diameter, in.	2.828
	Height, in.	5.314
Strain at peak, %		15.0
Back Pressure, psf		0.0
Cell Pressure, psf		3163.7
Fail. Stress, psf		1134.1
Strain, %		15.0
Ult. Stress, psf		1134.1
Strain, %		15.0
σ_1 Failure, psf		4297.8
σ_3 Failure, psf		3163.7

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 #8081 **Depth:** 28.0'-30.0'

Sample Number: TH-8 T-1

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

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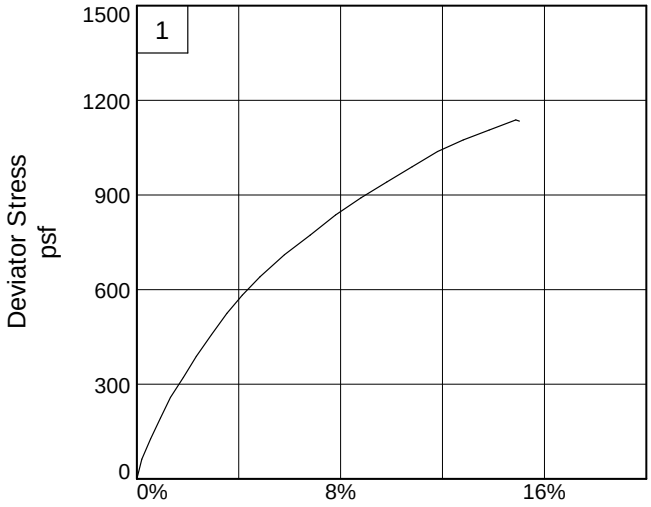
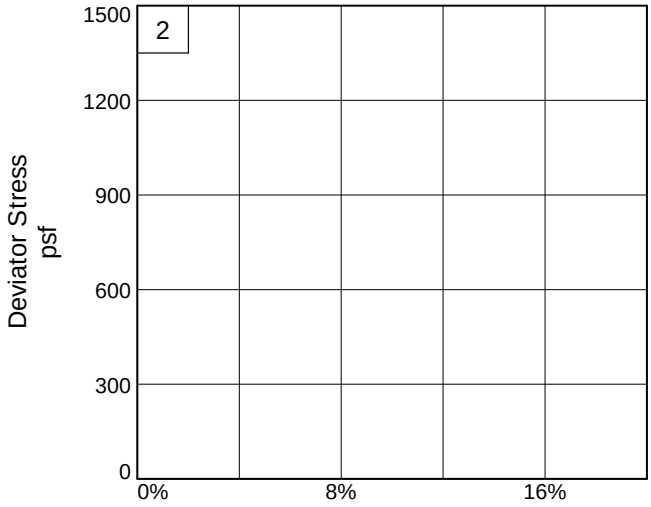
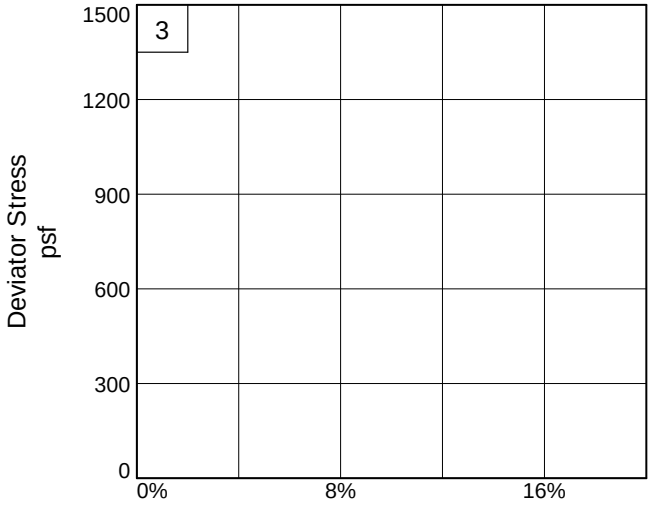
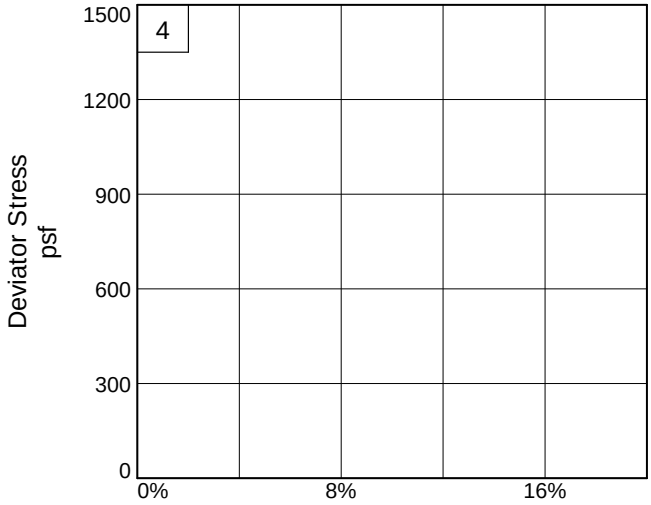
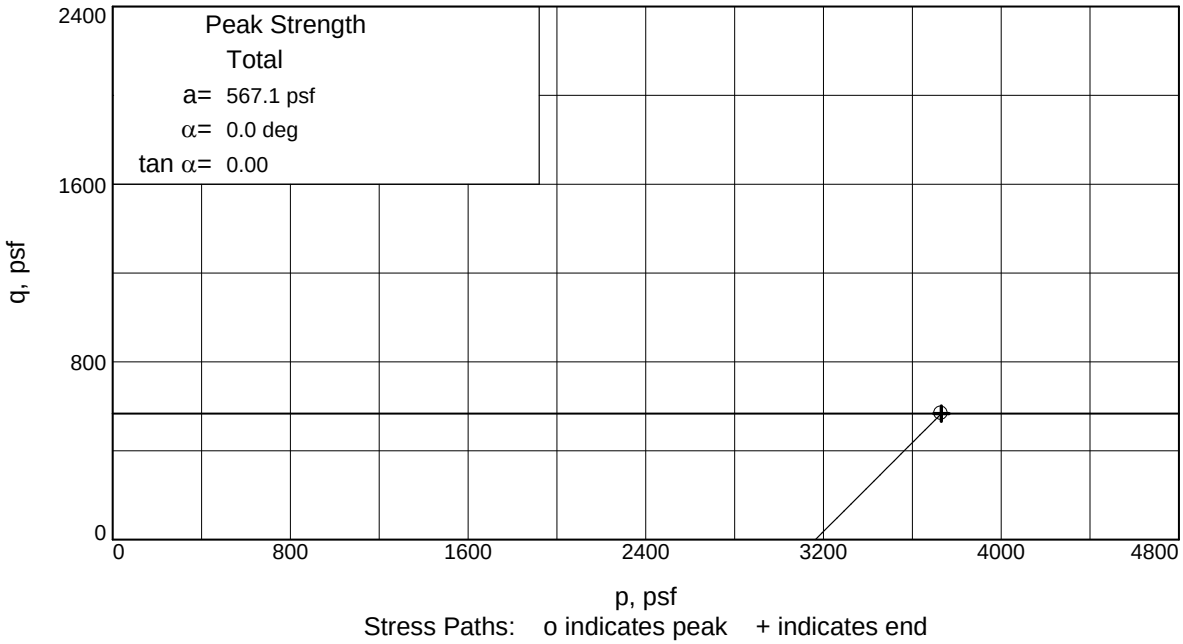










Stress Paths: o indicates peak + indicates end

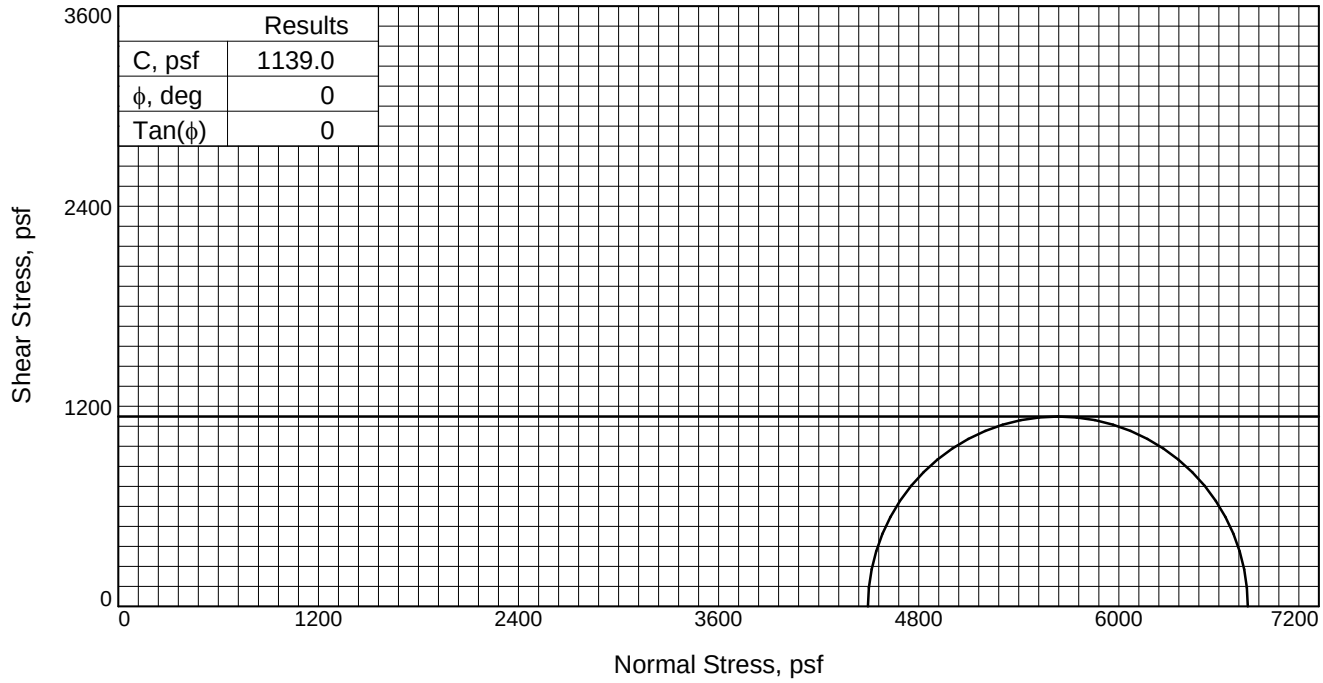
Client: ALDOT

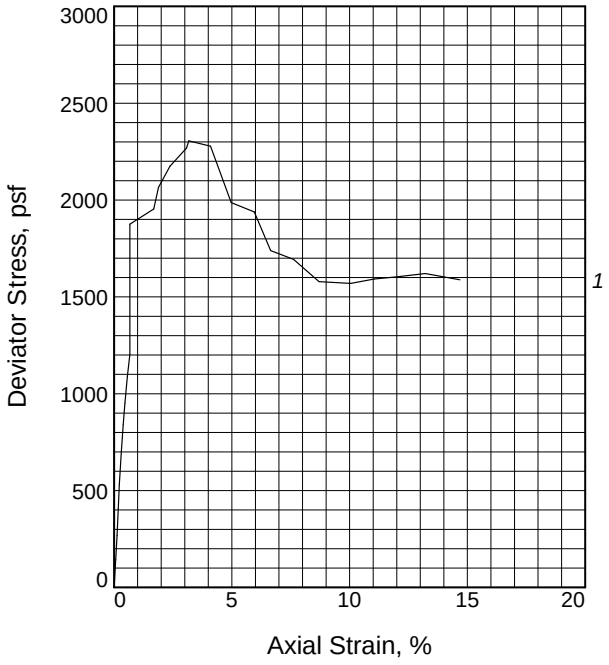
Project: Mobile River Bridge

Source of Sample: Lab #8081 **Depth:** 28.0'-30.0' **Sample Number:** TH-8 T-1

Project No.: 1511010228 **Figure** _____

Thompson Engineering





Specimen No.		1
Initial	Water Content, %	40.8
	Dry Density, pcf	81.6
	Saturation, %	104.8
	Void Ratio	1.0361
	Diameter, in.	2.822
	Height, in.	5.455
At Test	Water Content, %	42.7
	Dry Density, pcf	81.6
	Saturation, %	109.7
	Void Ratio	1.0361
	Diameter, in.	2.822
	Height, in.	5.455
Strain at peak, %		4.1
Back Pressure, psf		0.0
Cell Pressure, psf		4495.7
Fail. Stress, psf		2278.0
Strain, %		4.1
Ult. Stress, psf		2278.0
Strain, %		4.1
σ_1 Failure, psf		6773.6
σ_3 Failure, psf		4495.7

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: FAT CLAY(CH A-7-6(61))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8081 **Depth:** 48.0'-50.0'

Sample Number: TH8 T-3

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

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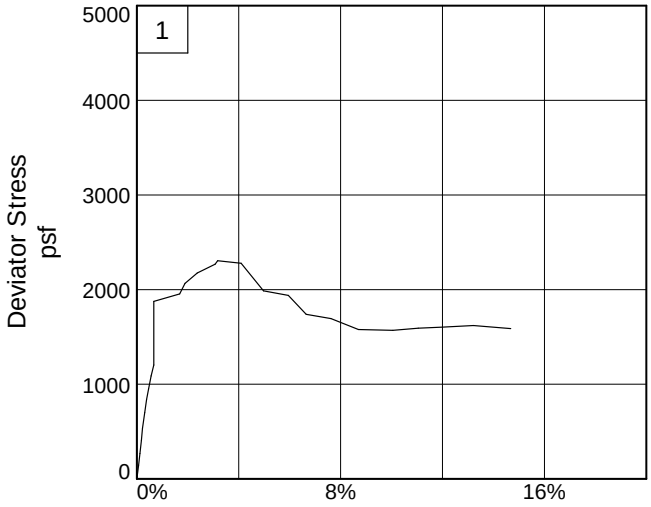
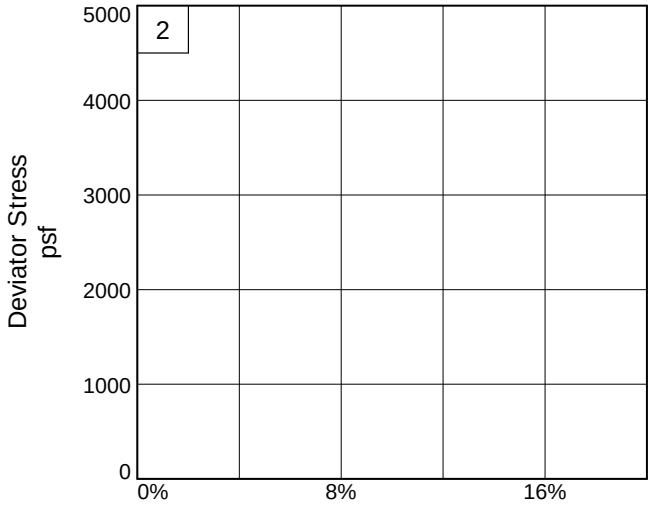
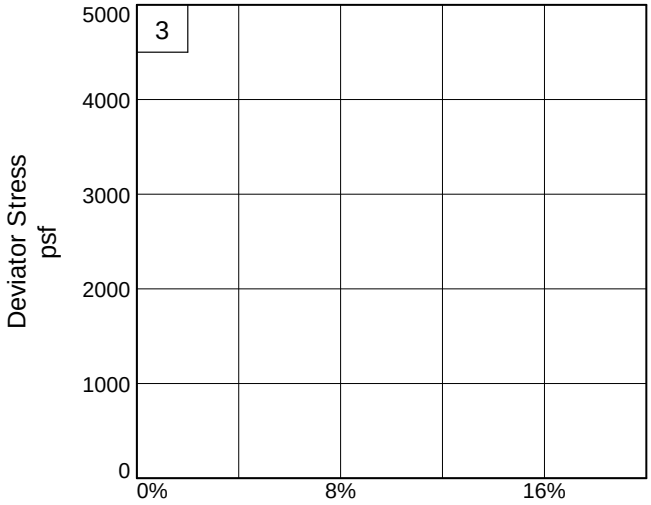
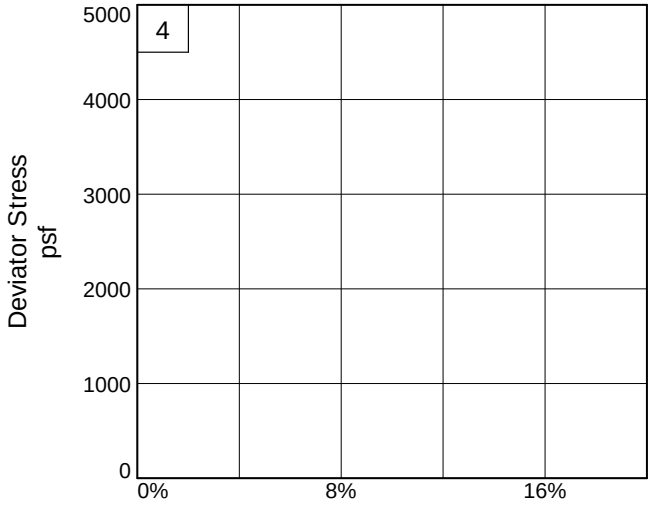
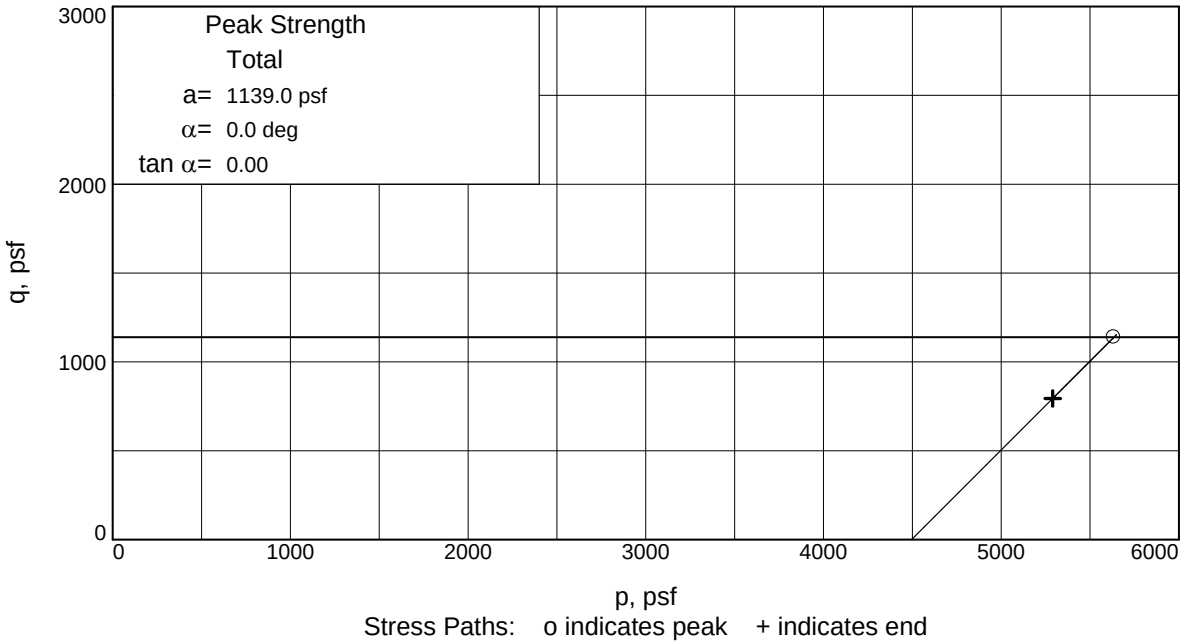










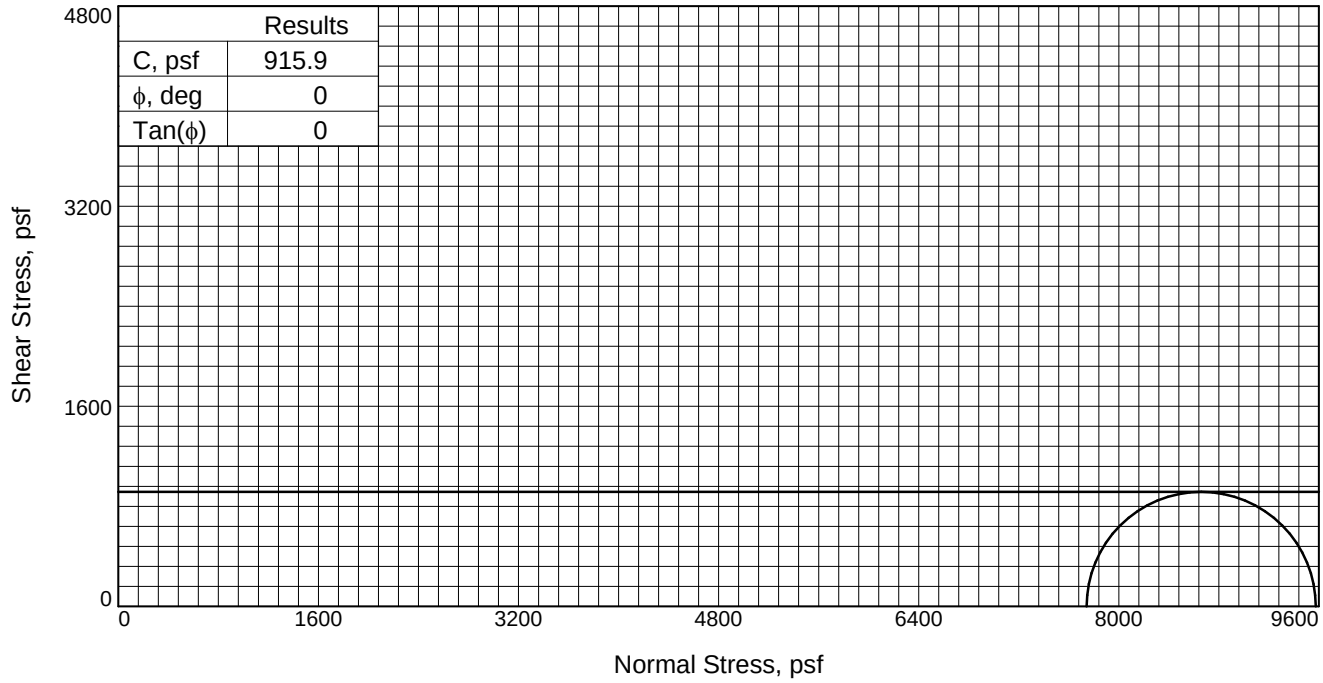
Client: ALDOT

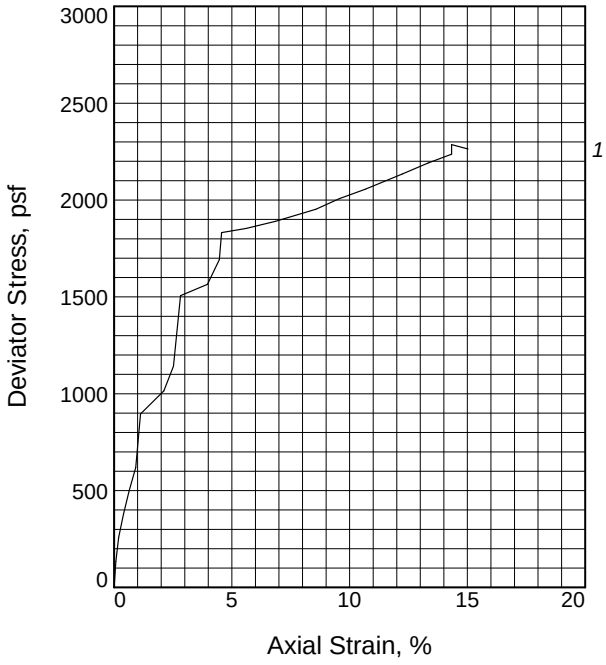
Project: Mobile River Bridge

Source of Sample: Lab #8081 **Depth:** 48.0'-50.0' **Sample Number:** TH8 T-3

Project No.: 1511010228 **Figure** _____

Thompson Engineering





Specimen No.		1
Initial	Water Content, %	26.5
	Dry Density, pcf	98.6
	Saturation, %	103.0
	Void Ratio	0.6842
	Diameter, in.	2.873
	Height, in.	5.275
At Test	Water Content, %	25.0
	Dry Density, pcf	98.6
	Saturation, %	97.2
	Void Ratio	0.6842
	Diameter, in.	2.873
	Height, in.	5.275
Strain at peak, %		4.6
Back Pressure, psf		0.0
Cell Pressure, psf		7742.9
Fail. Stress, psf		1831.8
Strain, %		4.6
Ult. Stress, psf		1831.8
Strain, %		4.6
σ_1 Failure, psf		9574.6
σ_3 Failure, psf		7742.9

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: SANDY LEAN CLAY(CL A-6(5))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8081 **Depth:** 118.0'-120.0'

Sample Number: TH-8 T-4

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

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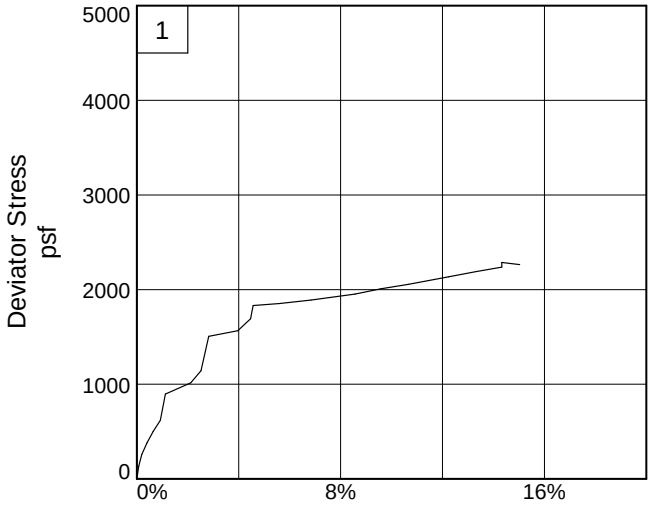

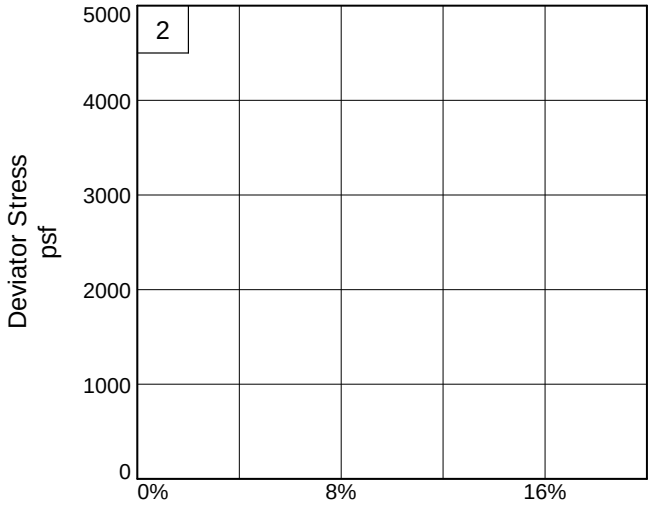

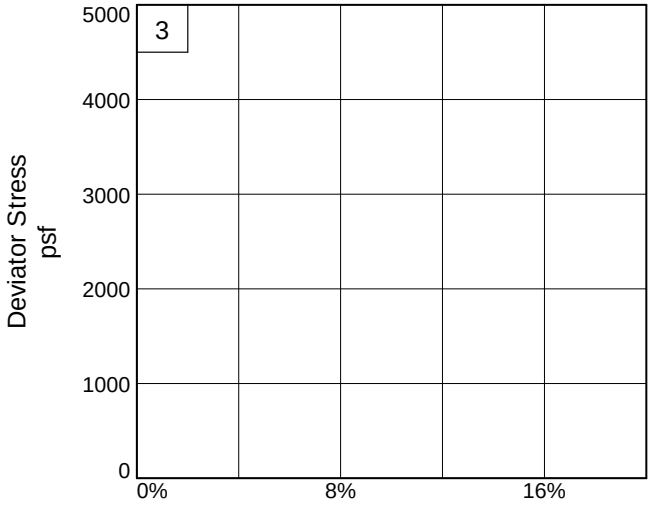

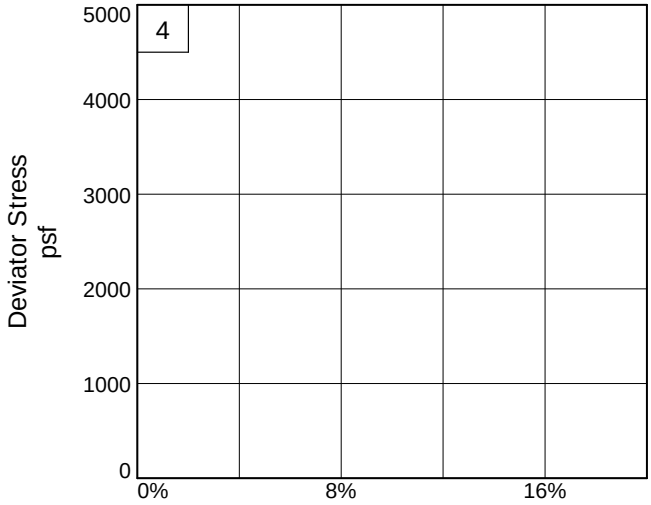

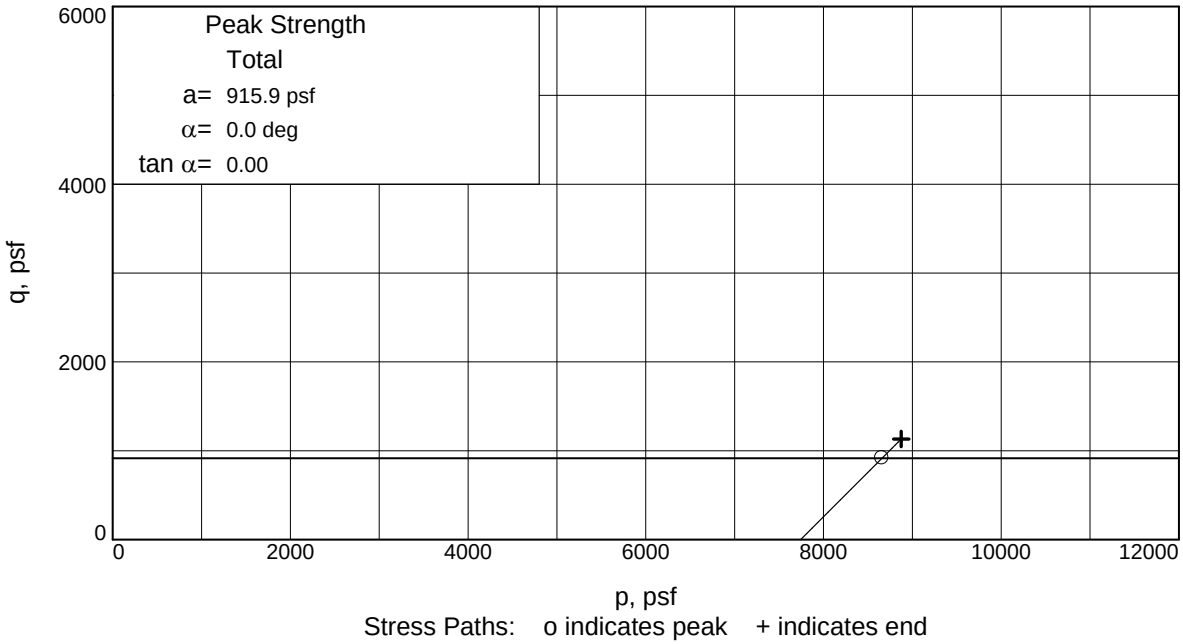

Stress Paths: o indicates peak + indicates end

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8081 **Depth:** 118.0'-120.0' **Sample Number:** TH-8 T-4

Project No.: 1511010228 **Figure** _____

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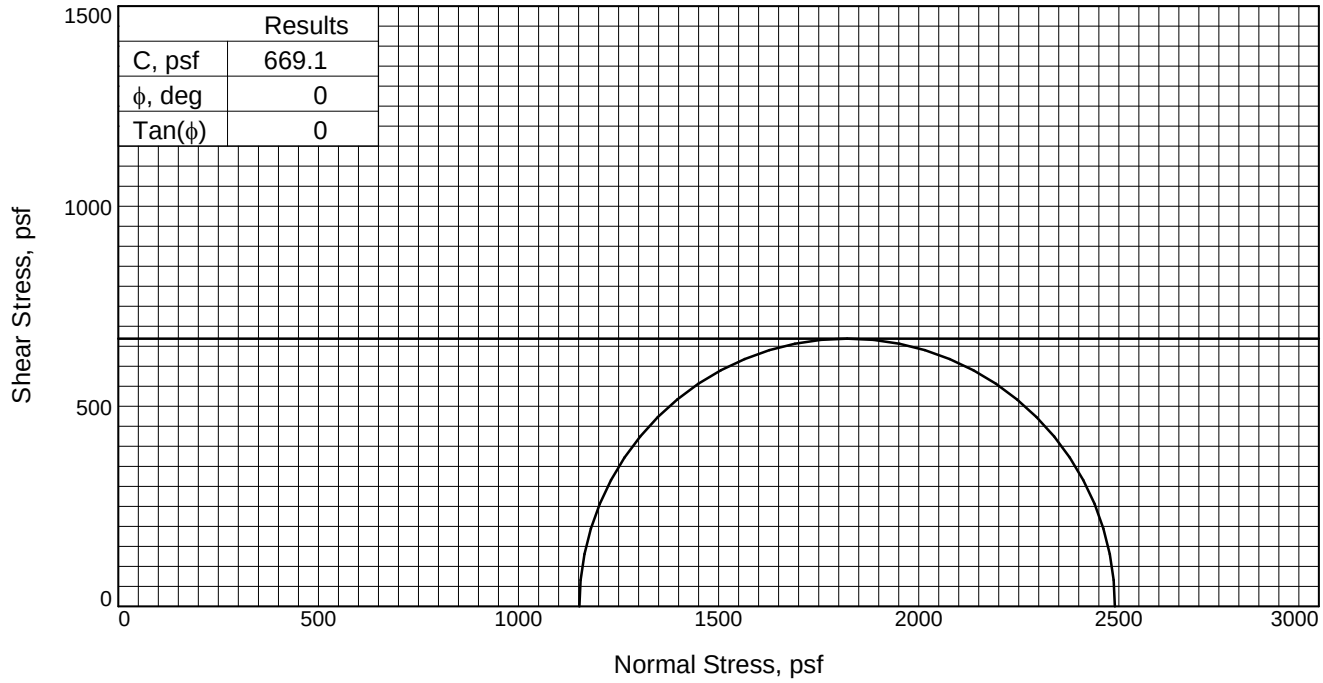

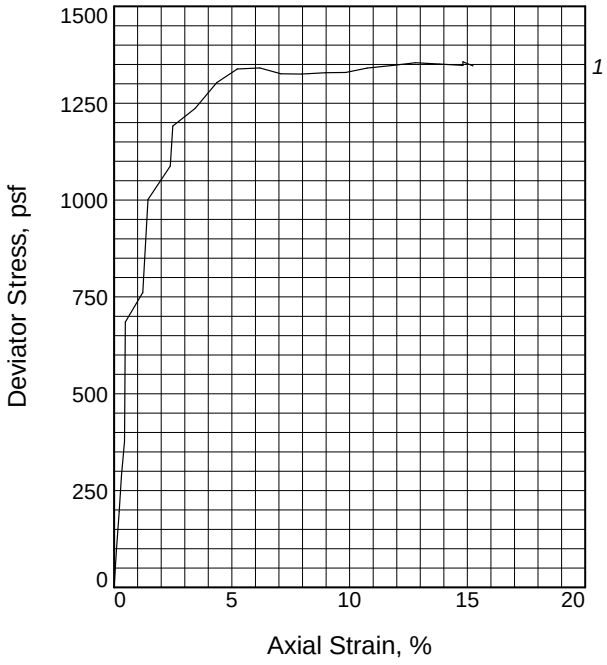

Specimen No.		1
Initial	Water Content, %	57.8
	Dry Density, pcf	67.9
	Saturation, %	106.3
	Void Ratio	1.4452
	Diameter, in.	2.841
	Height, in.	5.818
At Test	Water Content, %	50.5
	Dry Density, pcf	67.9
	Saturation, %	93.0
	Void Ratio	1.4452
	Diameter, in.	2.841
	Height, in.	5.818
Strain at peak, %		5.2
Back Pressure, psf		0.0
Cell Pressure, psf		1152.0
Fail. Stress, psf		1338.3
Strain, %		5.2
Ult. Stress, psf		1338.3
Strain, %		5.2
σ_1 Failure, psf		2490.3
σ_3 Failure, psf		1152.0

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: SANDY FAT CLAY(CH A-7-5(24))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 13.5'-15.5'

Sample Number: TH-9 T-1

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

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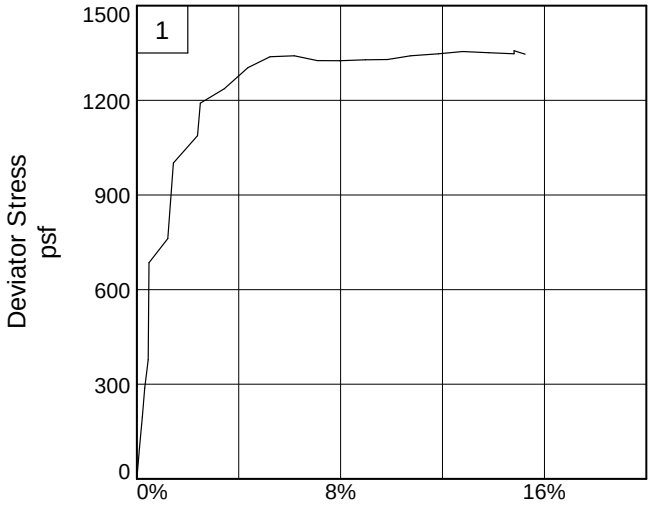
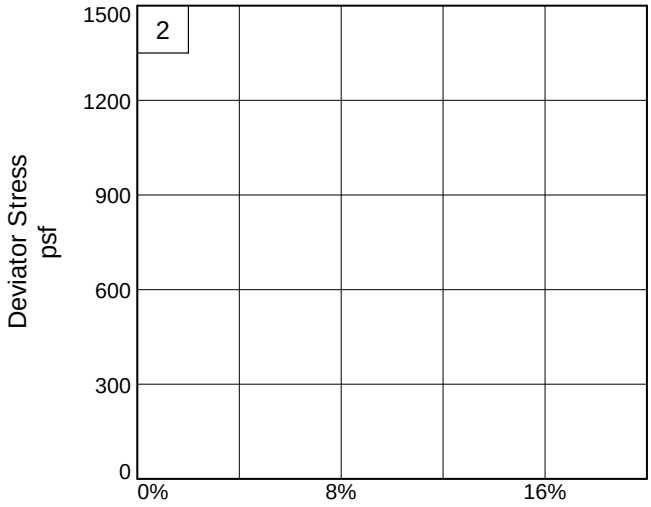
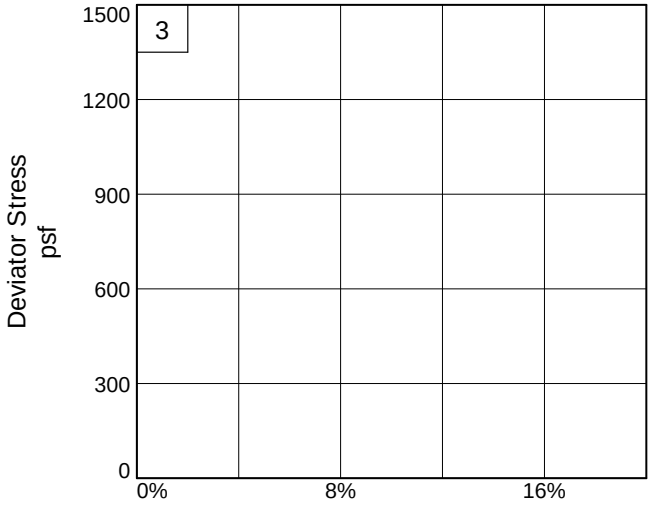
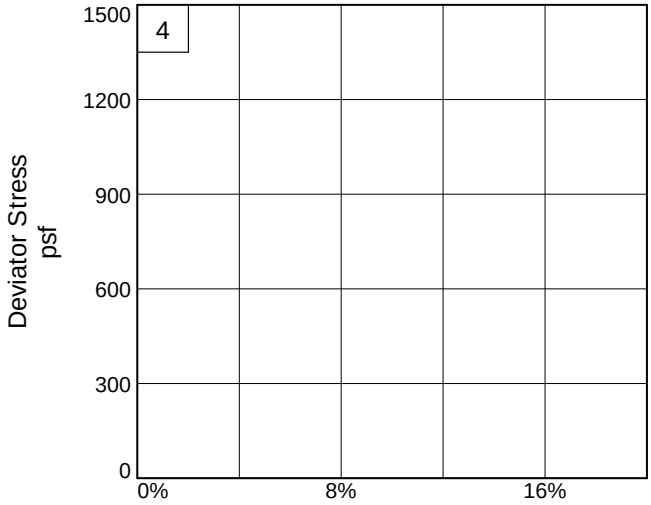
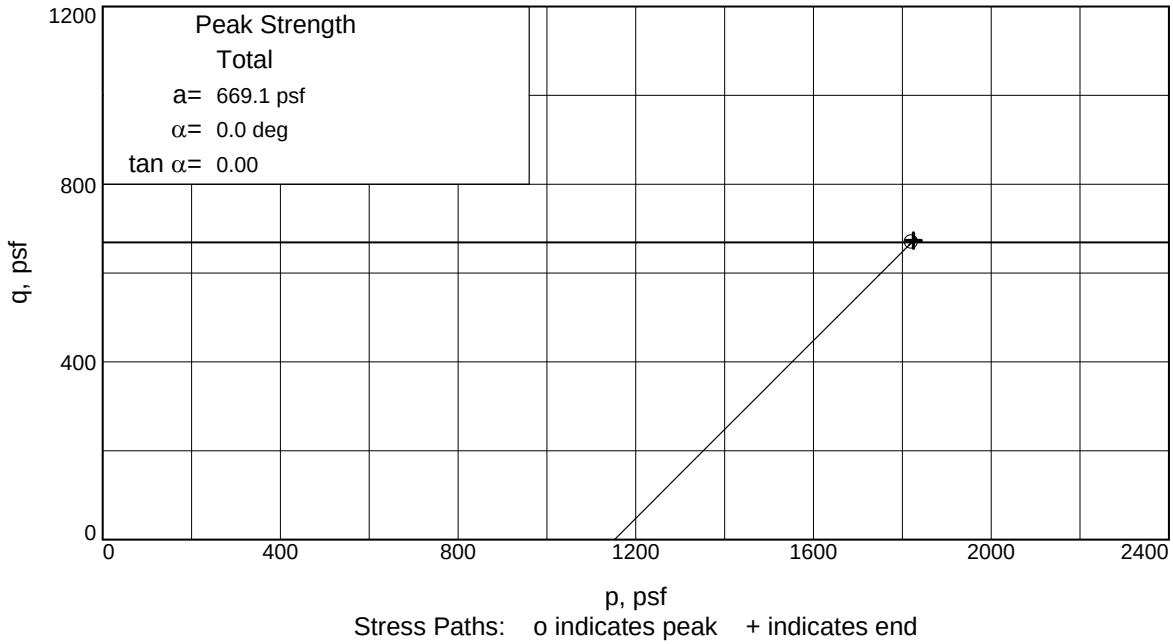
Mobile, Alabama











Stress Paths: o indicates peak + indicates end

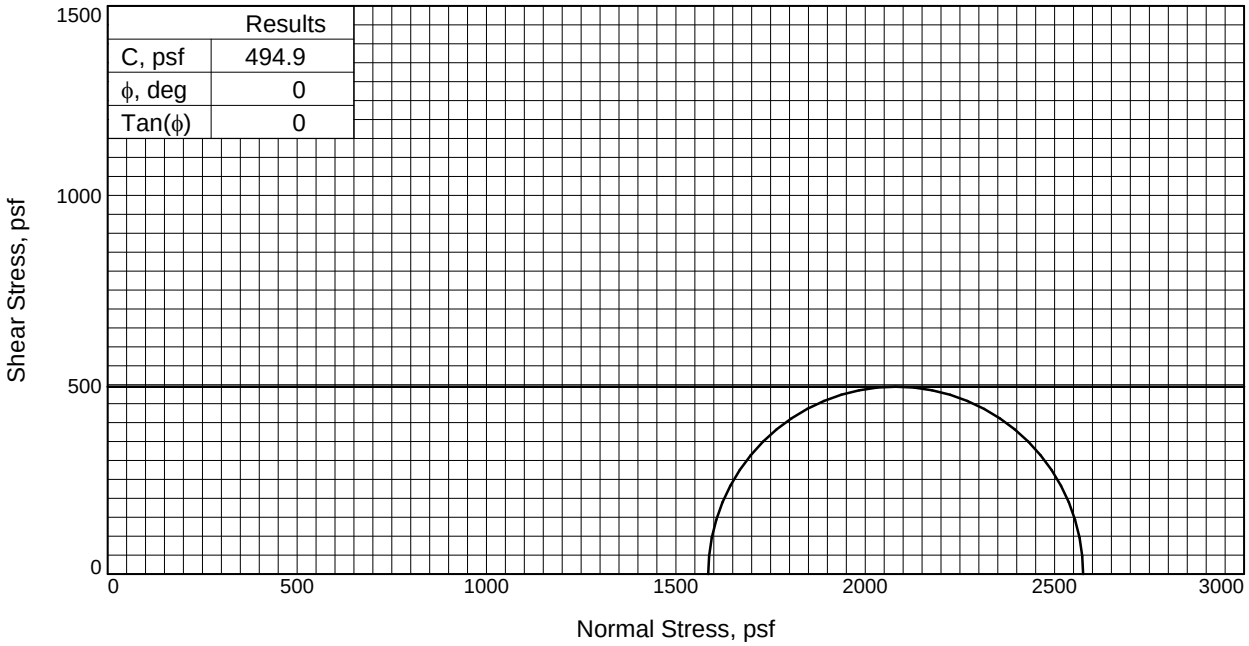
Client: ALDOT

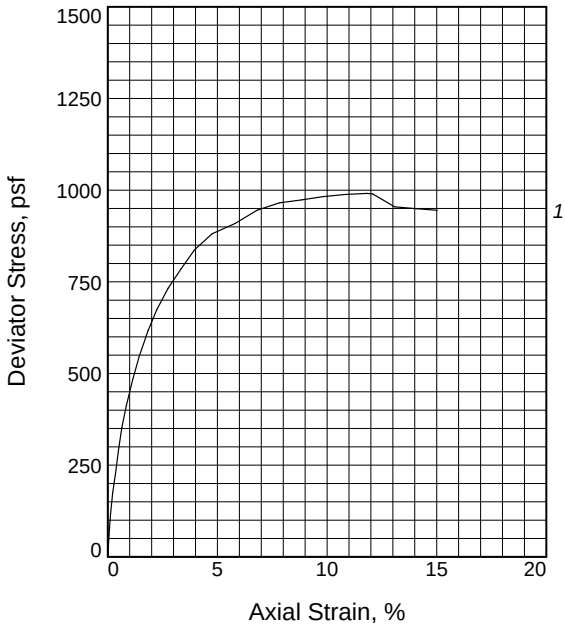
Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 13.5'-15.5' **Sample Number:** TH-9 T-1

Project No.: 1511010228 **Figure** _____

Thompson Engineering





Specimen No.		1
Initial	Water Content, %	28.8
	Dry Density, pcf	90.5
	Saturation, %	105.9
	Void Ratio	0.6494
	Diameter, in.	2.824
	Height, in.	5.481
At Test	Water Content, %	43.1
	Dry Density, pcf	90.5
	Saturation, %	158.4
	Void Ratio	0.6494
	Diameter, in.	2.824
	Height, in.	5.481
Strain at peak, %		12.1
Back Pressure, psf		0.0
Cell Pressure, psf		1585.4
Fail. Stress, psf		989.7
Strain, %		12.1
Ult. Stress, psf		989.7
Strain, %		12.1
σ_1 Failure, psf		2575.1
σ_3 Failure, psf		1585.4

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: LEAN CLAY with SAND(CL A-6(15))

Specific Gravity= 2.390

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8052 **Depth:** 18.0'-20.0'

Sample Number: TH-10 T-1

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

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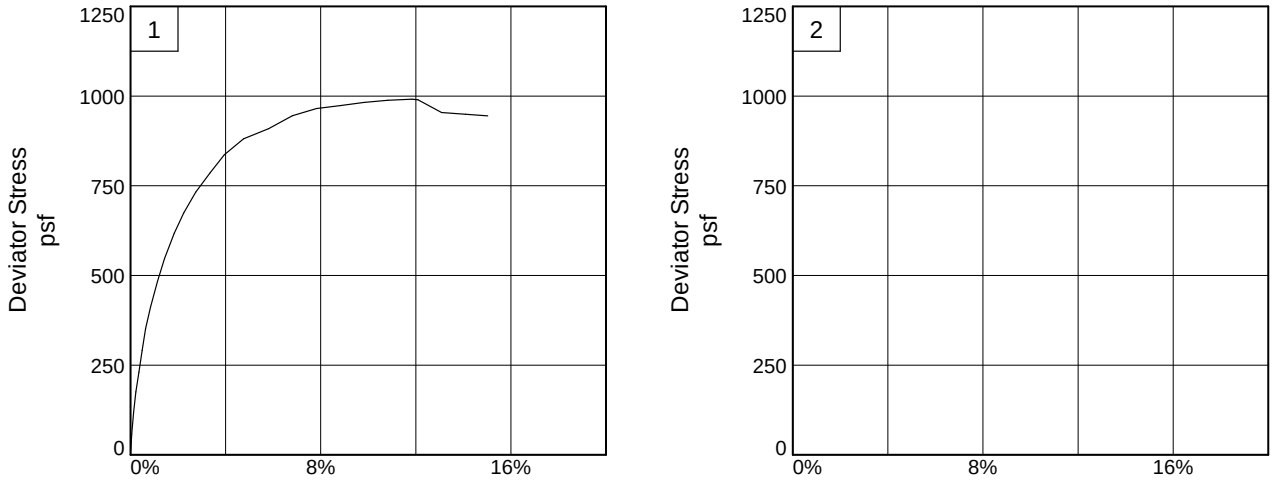
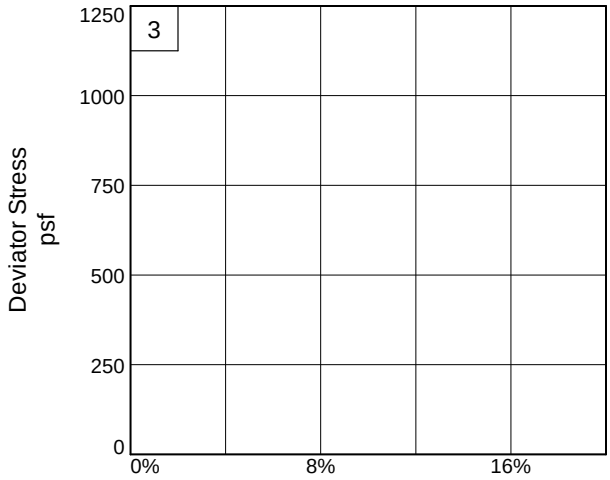
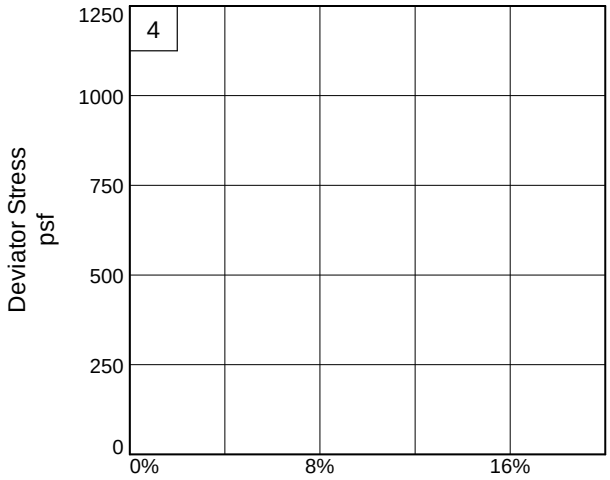
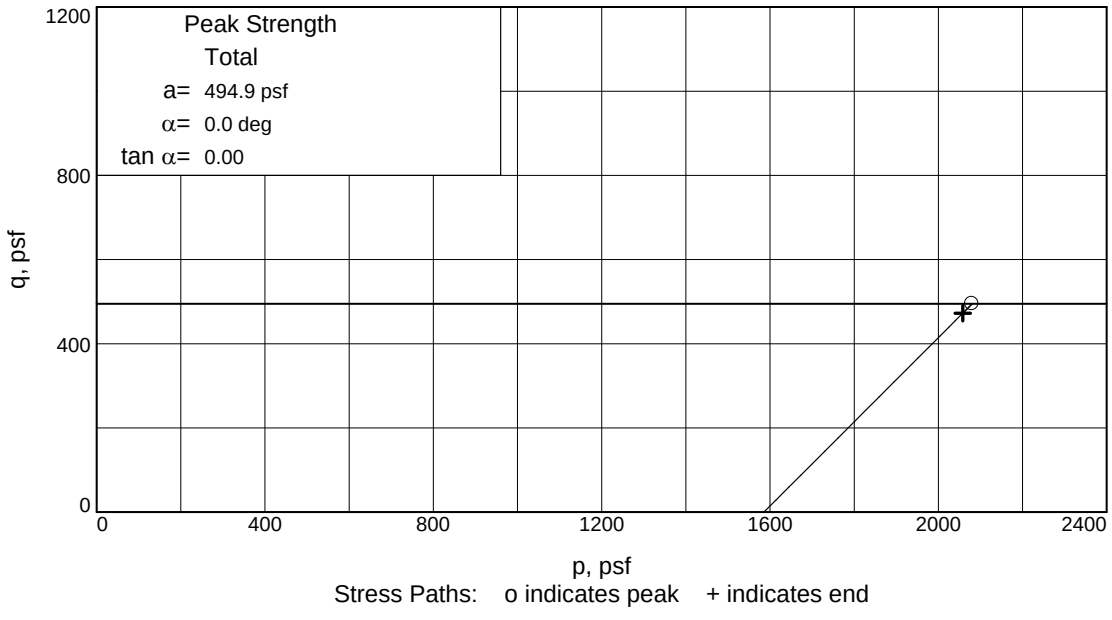
Mobile, Alabama









Stress Paths: o indicates peak + indicates end

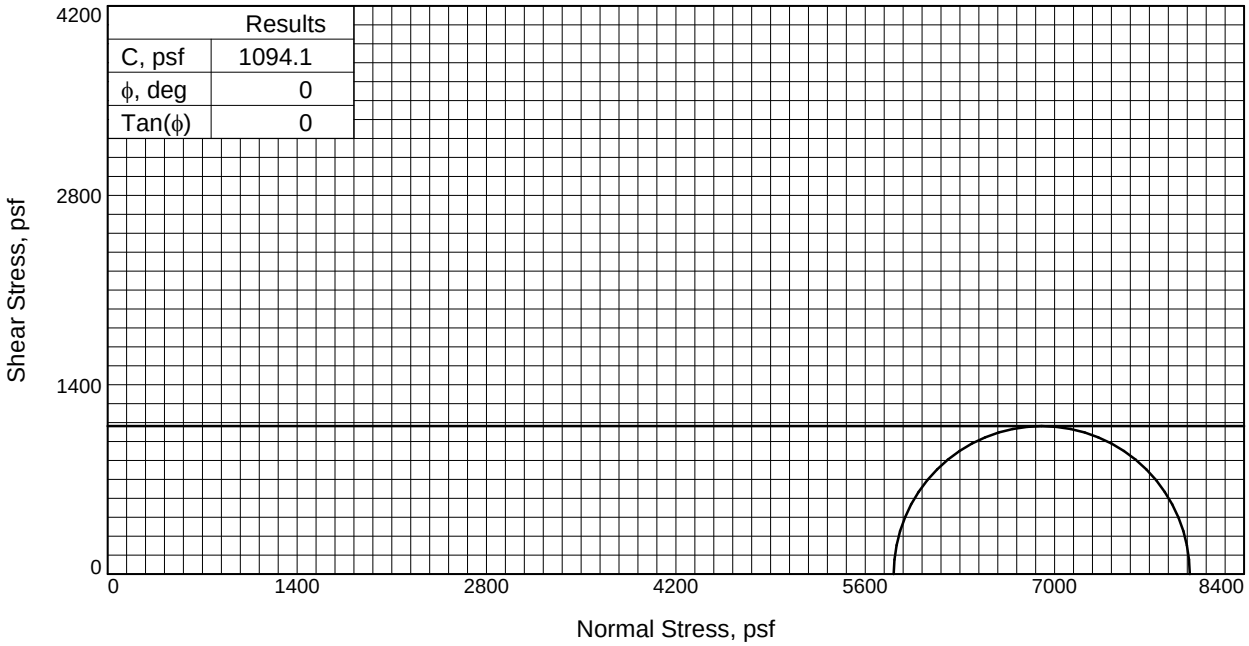
Client: ALDOT

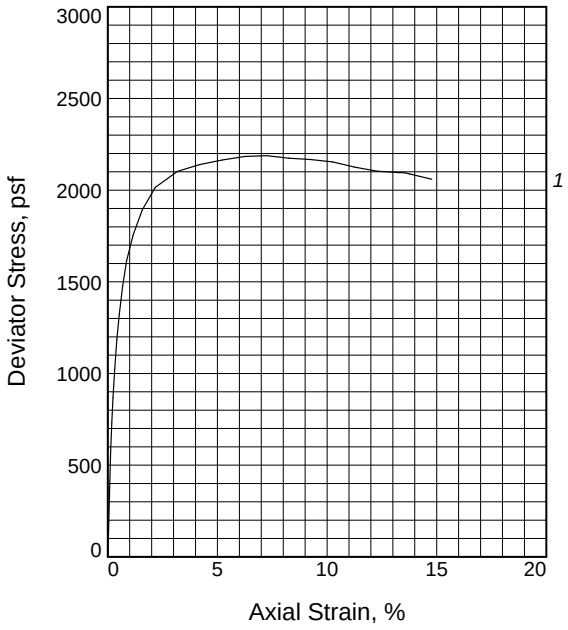
Project: Mobile River Bridge

Source of Sample: Lab #8052 **Depth:** 18.0'-20.0' **Sample Number:** TH-10 T-1

Project No.: 1511010228 **Figure** _____

Thompson Engineering





Specimen No.		1
Initial	Water Content, %	37.3
	Dry Density, pcf	84.1
	Saturation, %	101.7
	Void Ratio	0.9751
	Diameter, in.	2.860
	Height, in.	5.238
At Test	Water Content, %	38.4
	Dry Density, pcf	84.1
	Saturation, %	104.8
	Void Ratio	0.9751
	Diameter, in.	2.860
	Height, in.	5.238
Strain at peak, %		7.2
Back Pressure, psf		0.0
Cell Pressure, psf		5810.4
Fail. Stress, psf		2188.2
Strain, %		7.2
Ult. Stress, psf		2188.2
Strain, %		7.2
σ_1 Failure, psf		7998.6
σ_3 Failure, psf		5810.4

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: FAT CLAY(CH A-7-6(66))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8052 **Depth:** 108.0'-110.0'

Sample Number: TH-10 T-2

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

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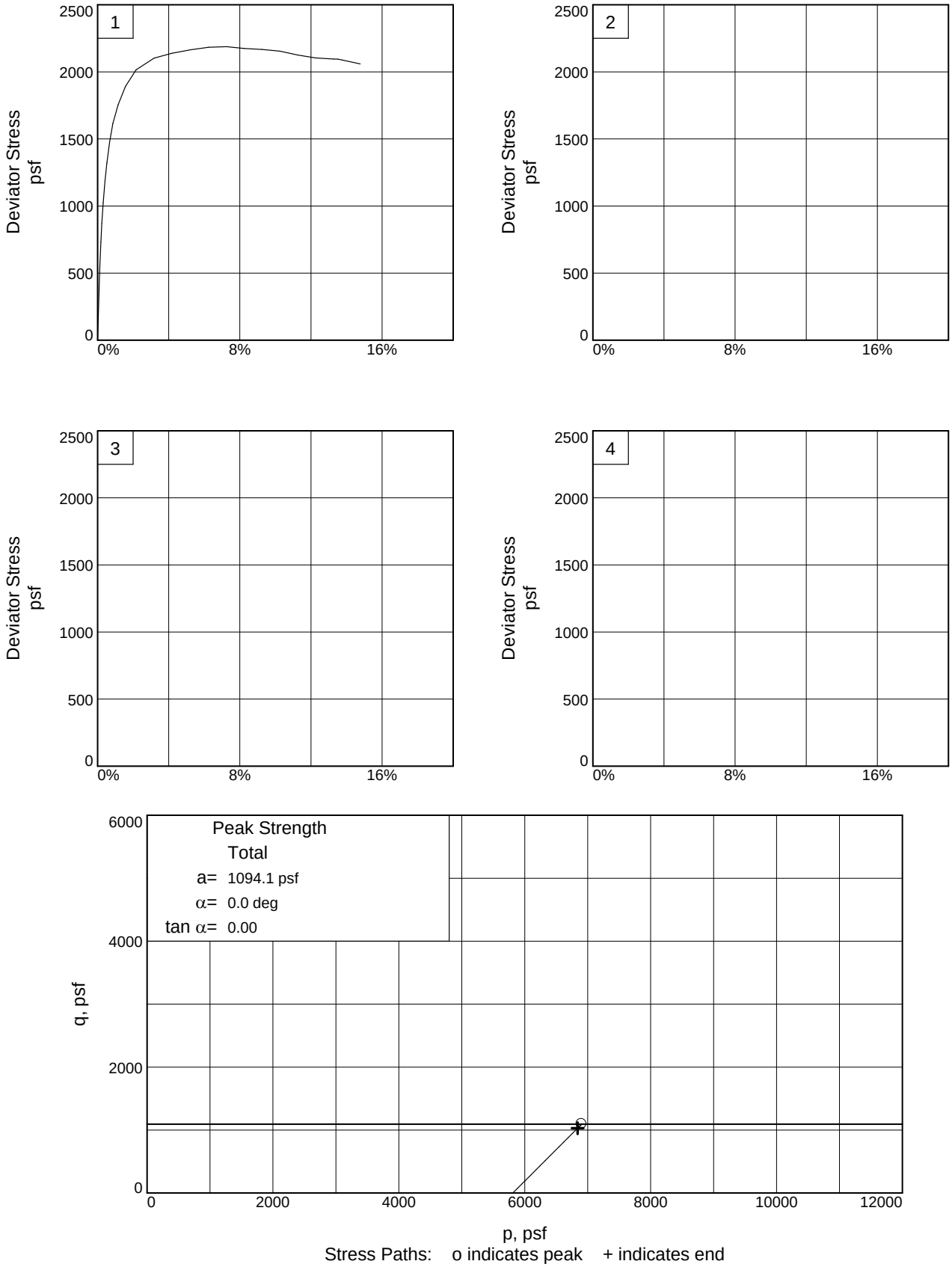


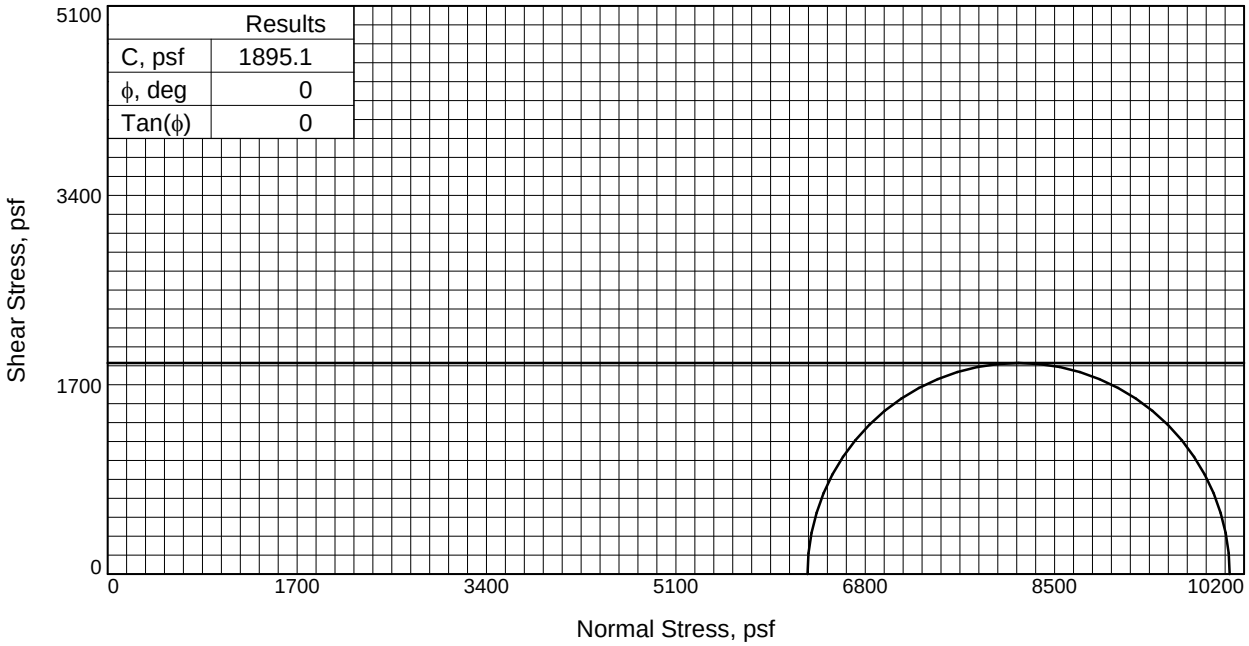
Client: ALDOT

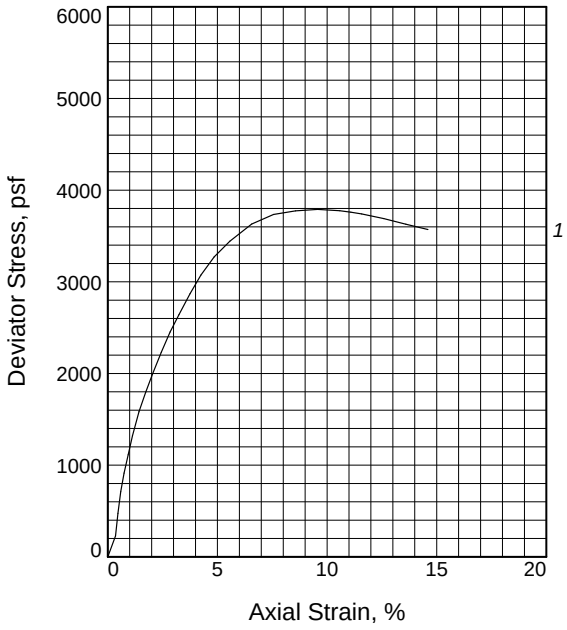
Project: Mobile River Bridge

Source of Sample: Lab #8052 **Depth:** 108.0'-110.0' **Sample Number:** TH-10 T-2

Project No.: 1511010228 **Figure** _____

Thompson Engineering





Specimen No.		1
Initial	Water Content, %	29.7
	Dry Density, pcf	95.7
	Saturation, %	107.3
	Void Ratio	0.7359
	Diameter, in.	2.862
	Height, in.	5.422
At Test	Water Content, %	28.8
	Dry Density, pcf	95.7
	Saturation, %	104.0
	Void Ratio	0.7359
	Diameter, in.	2.862
	Height, in.	5.422
Strain at peak, %		9.6
Back Pressure, psf		0.0
Cell Pressure, psf		6281.3
Fail. Stress, psf		3790.2
Strain, %		9.6
Ult. Stress, psf		3790.2
Strain, %		9.6
σ_1 Failure, psf		10071.4
σ_3 Failure, psf		6281.3

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: LEAN CLAY with SAND(CL A-6(12))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Symmetrical Bulge

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8052 **Depth:** 118.0'-120.0

Sample Number: TH-10 T-3

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

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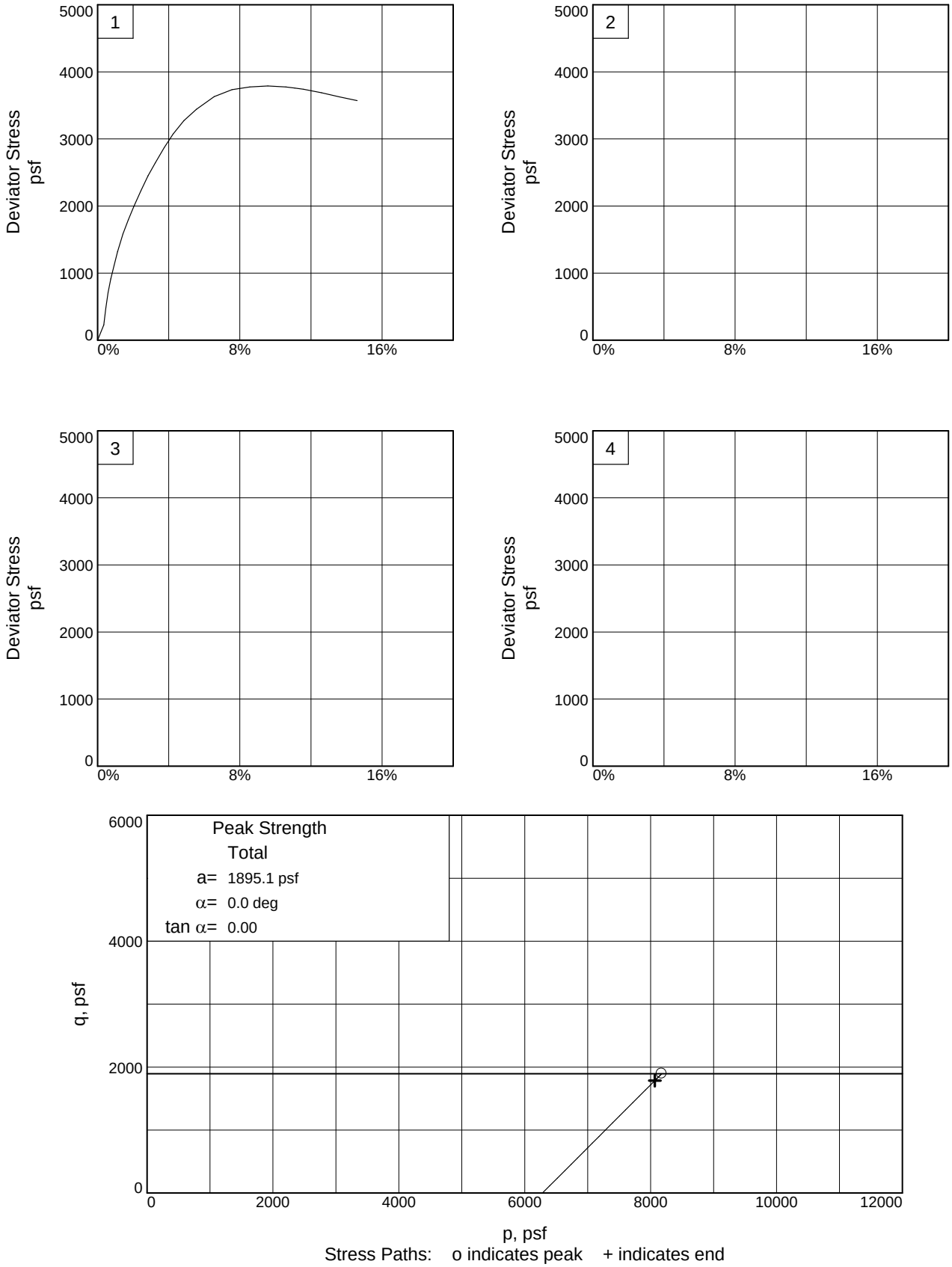
Mobile, Alabama



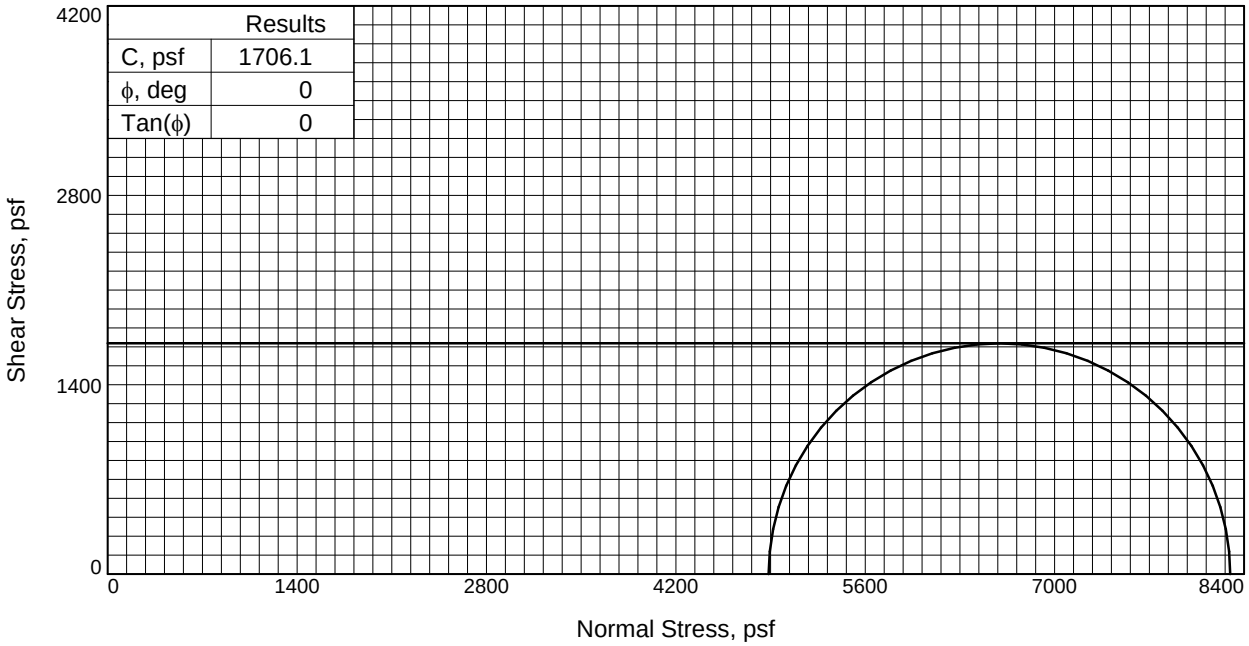
Client: ALDOT

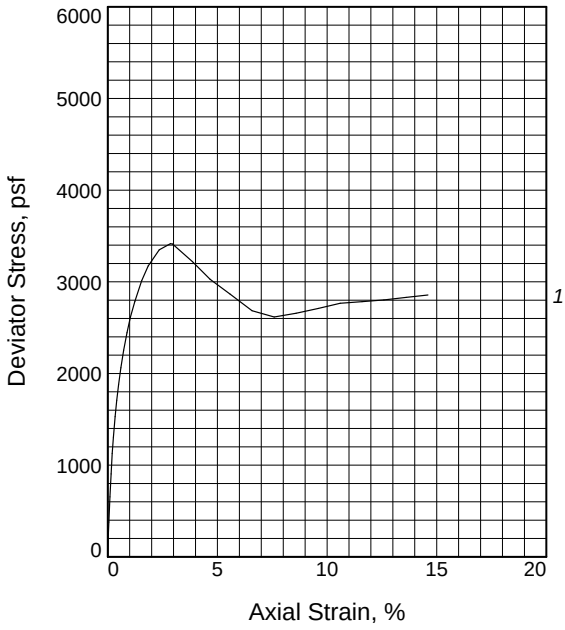
Project: Mobile River Bridge

Source of Sample: Lab #8052 **Depth:** 118.0'-120.0 **Sample Number:** TH-10 T-3

Project No.: 1511010228 **Figure** _____

Thompson Engineering





Specimen No.		1
Initial	Water Content, %	39.3
	Dry Density, pcf	79.3
	Saturation, %	95.7
	Void Ratio	1.0928
	Diameter, in.	2.813
	Height, in.	5.708
At Test	Water Content, %	45.3
	Dry Density, pcf	79.3
	Saturation, %	110.3
	Void Ratio	1.0928
	Diameter, in.	2.813
	Height, in.	5.708
Strain at peak, %		3.0
Back Pressure, psf		0.0
Cell Pressure, psf		4885.9
Fail. Stress, psf		3412.2
Strain, %		3.0
Ult. Stress, psf		3412.2
Strain, %		3.0
σ_1 Failure, psf		8298.1
σ_3 Failure, psf		4885.9

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: FAT CLAY(CH A-7-6(36))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Internal Conical

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8063 **Depth:** 93.0'-95.0'

Sample Number: TH-11 T-3

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

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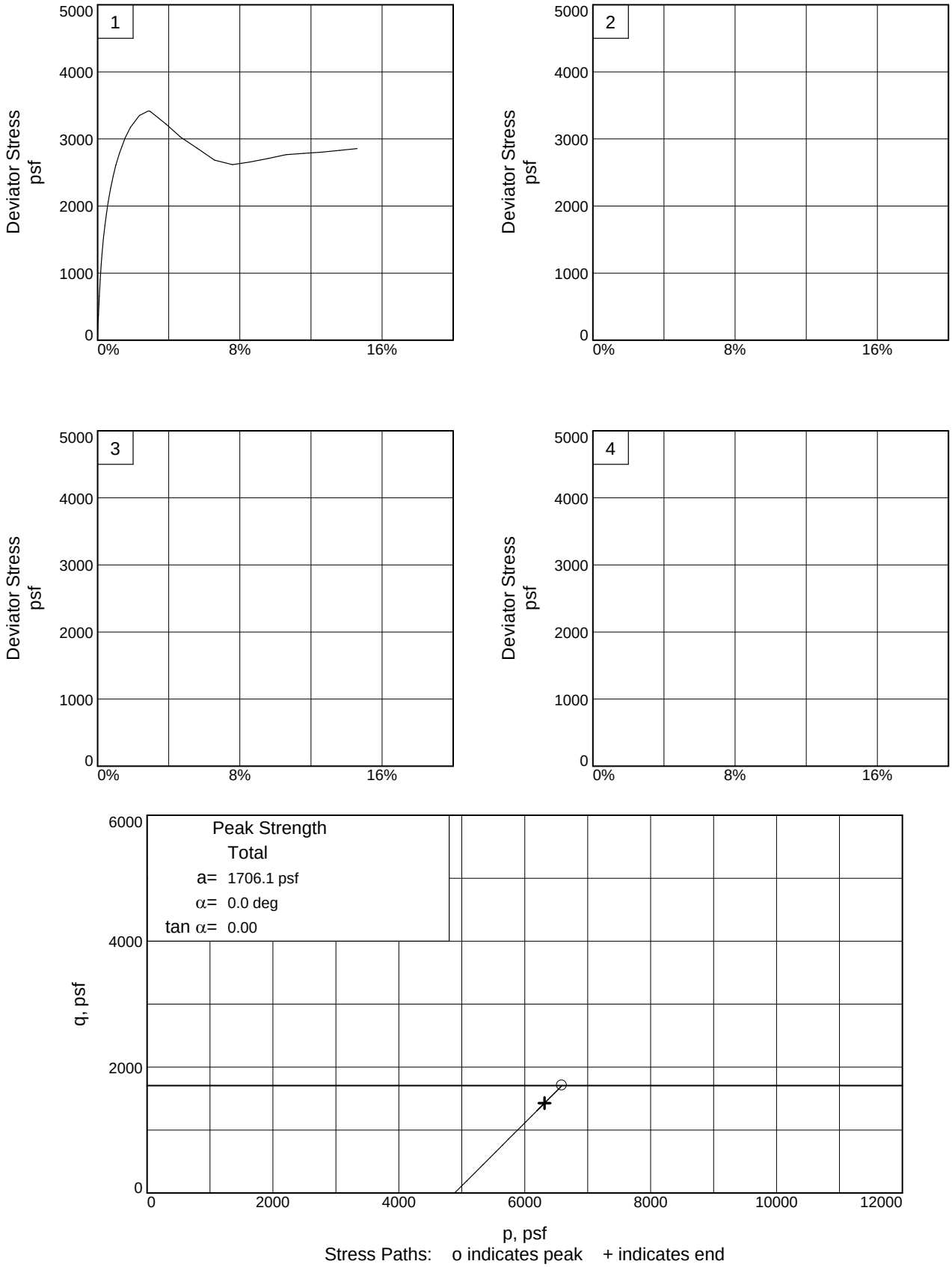

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8063 **Depth:** 93.0'-95.0' **Sample Number:** TH-11 T-3

Project No.: 1511010228 **Figure** _____

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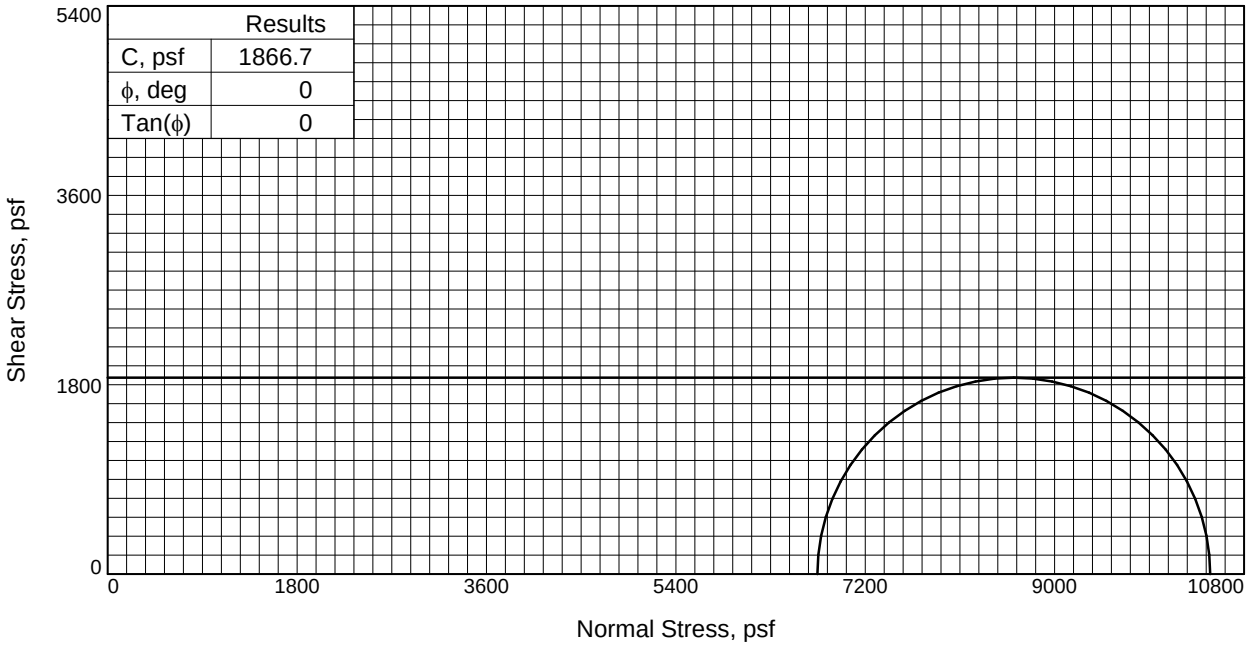

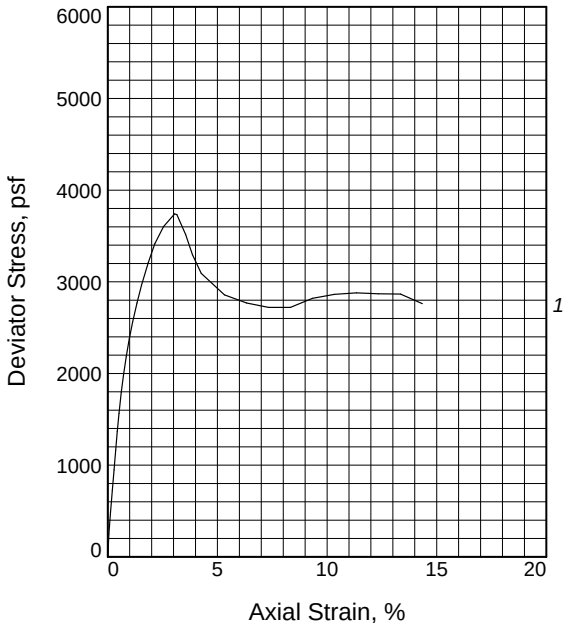

Specimen No.		1
Initial	Water Content, %	45.2
	Dry Density, pcf	76.0
	Saturation, %	101.5
	Void Ratio	1.1839
	Diameter, in.	2.837
	Height, in.	5.641
At Test	Water Content, %	46.5
	Dry Density, pcf	76.0
	Saturation, %	104.5
	Void Ratio	1.1839
	Diameter, in.	2.837
	Height, in.	5.641
Strain at peak, %		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
σ_1 Failure, psf		10478.4
σ_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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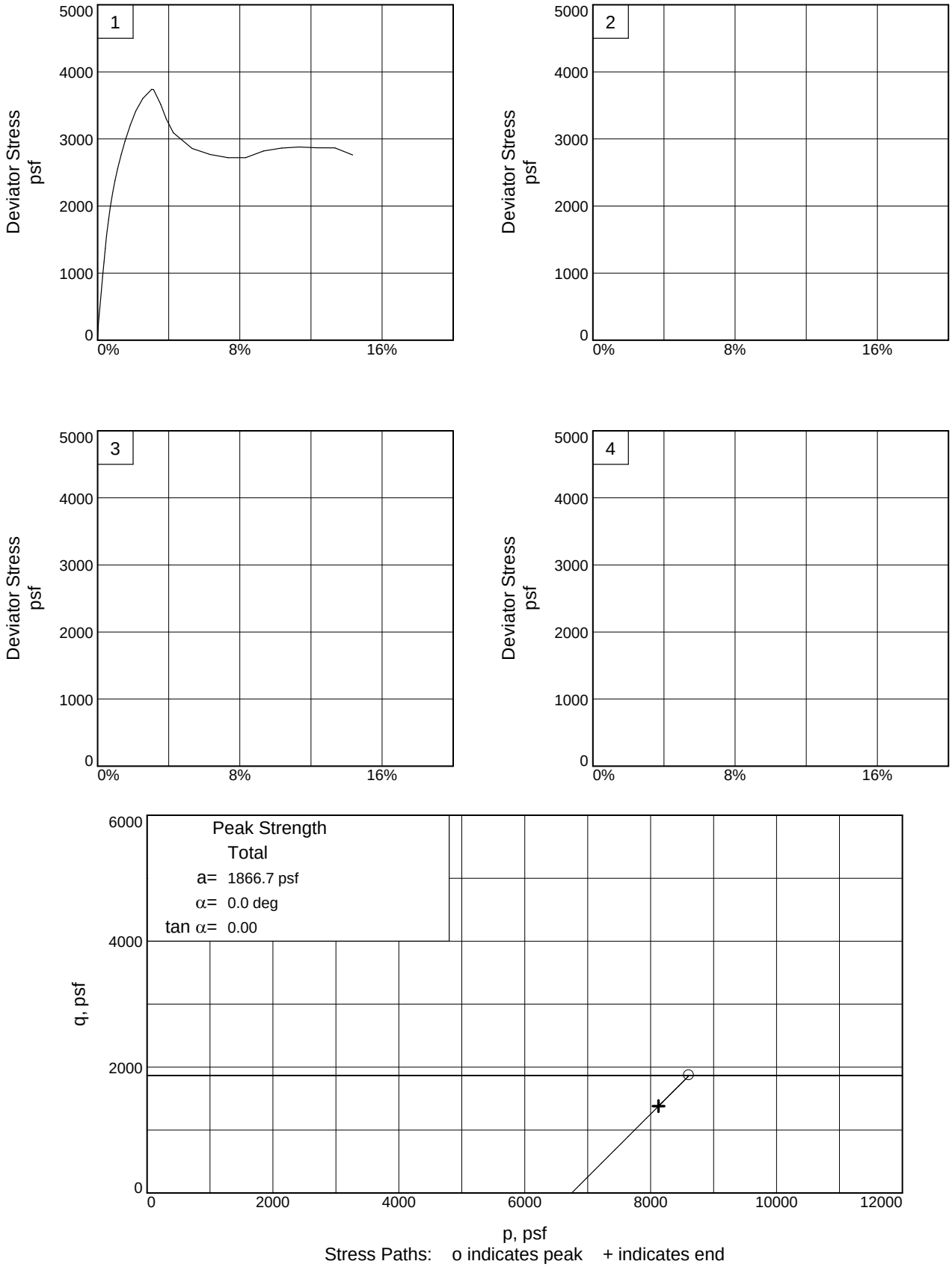

Client: ALDOT

Project: Mobile River Bridge

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

Project No.: 1511010228 **Figure** _____

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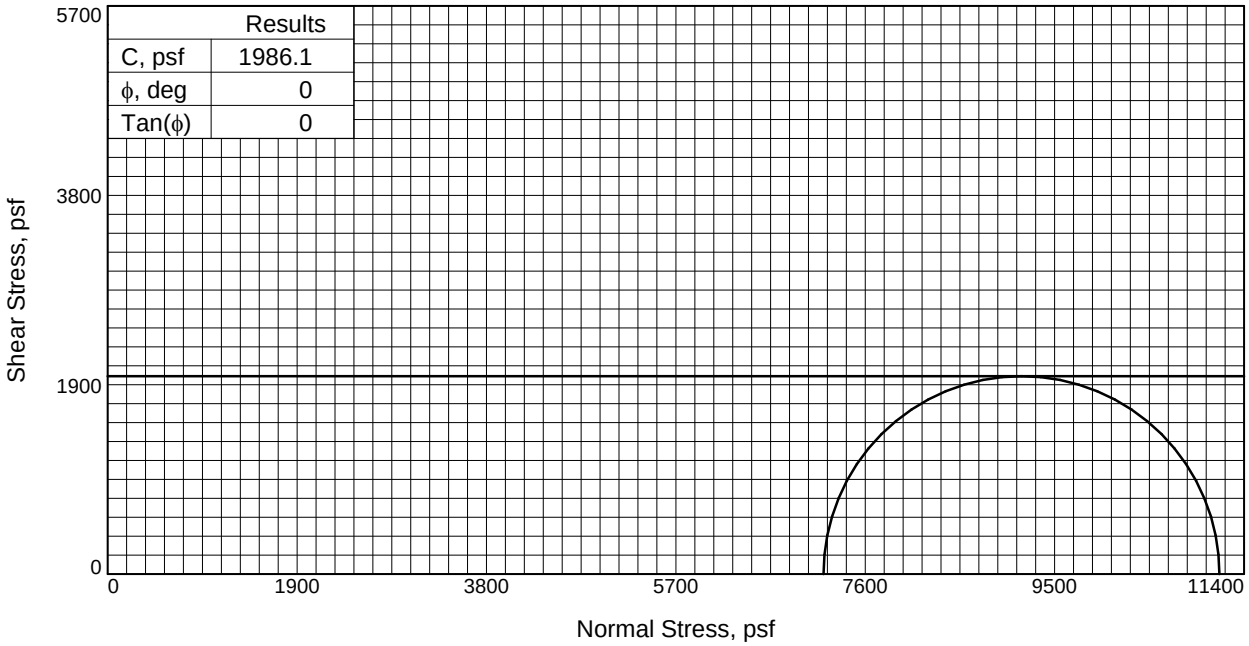

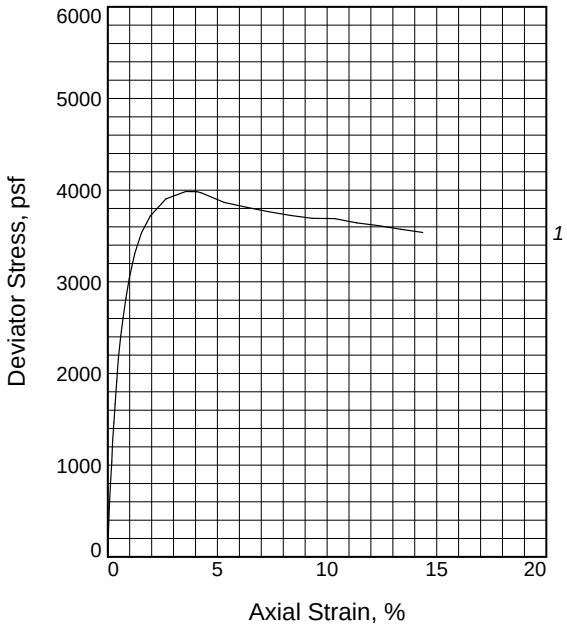

Specimen No.		1
Initial	Water Content, %	30.3
	Dry Density, pcf	95.1
	Saturation, %	107.9
	Void Ratio	0.7465
	Diameter, in.	2.846
	Height, in.	5.592
At Test	Water Content, %	27.9
	Dry Density, pcf	95.1
	Saturation, %	99.4
	Void Ratio	0.7465
	Diameter, in.	2.846
	Height, in.	5.592
Strain at peak, %		4.3
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
σ_1 Failure, psf		11153.5
σ_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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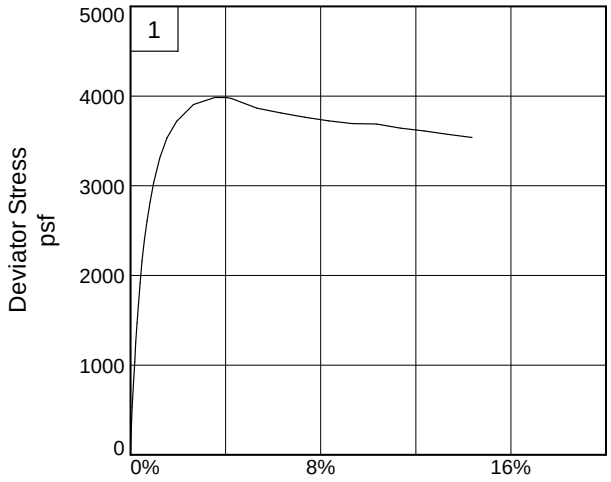

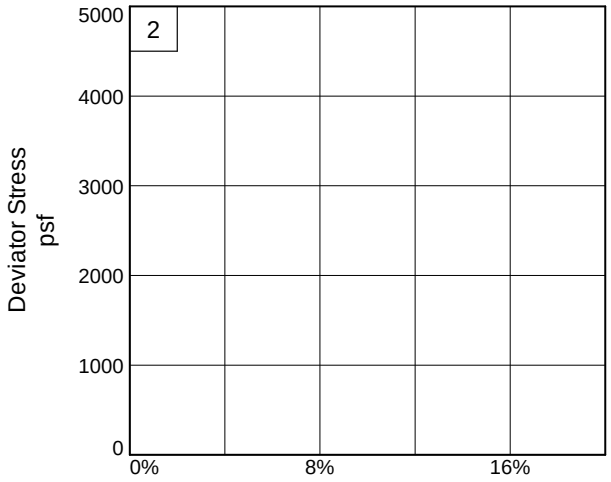

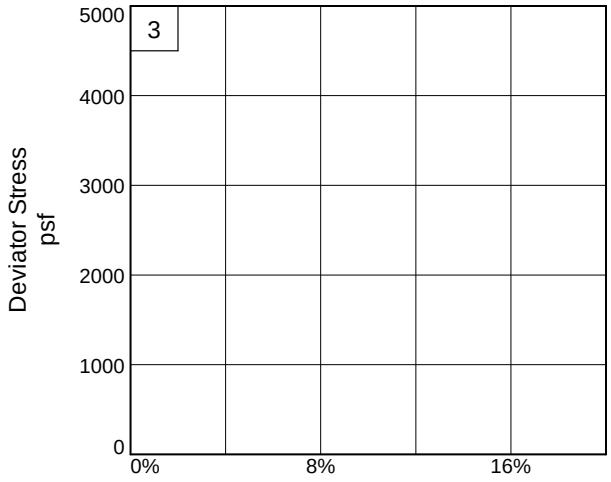

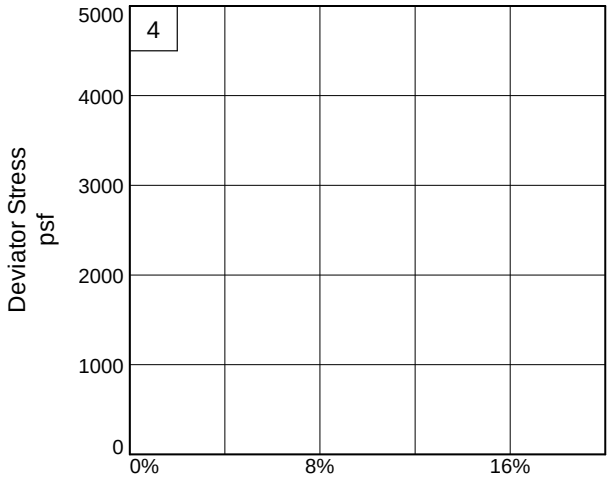

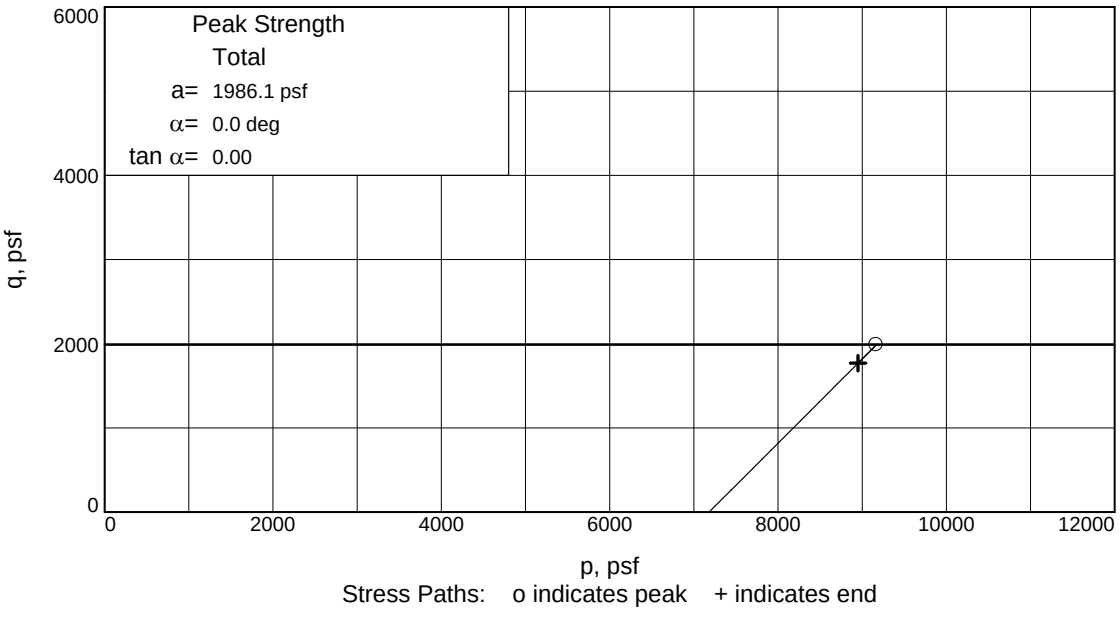

Stress Paths: o indicates peak + indicates end

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** _____

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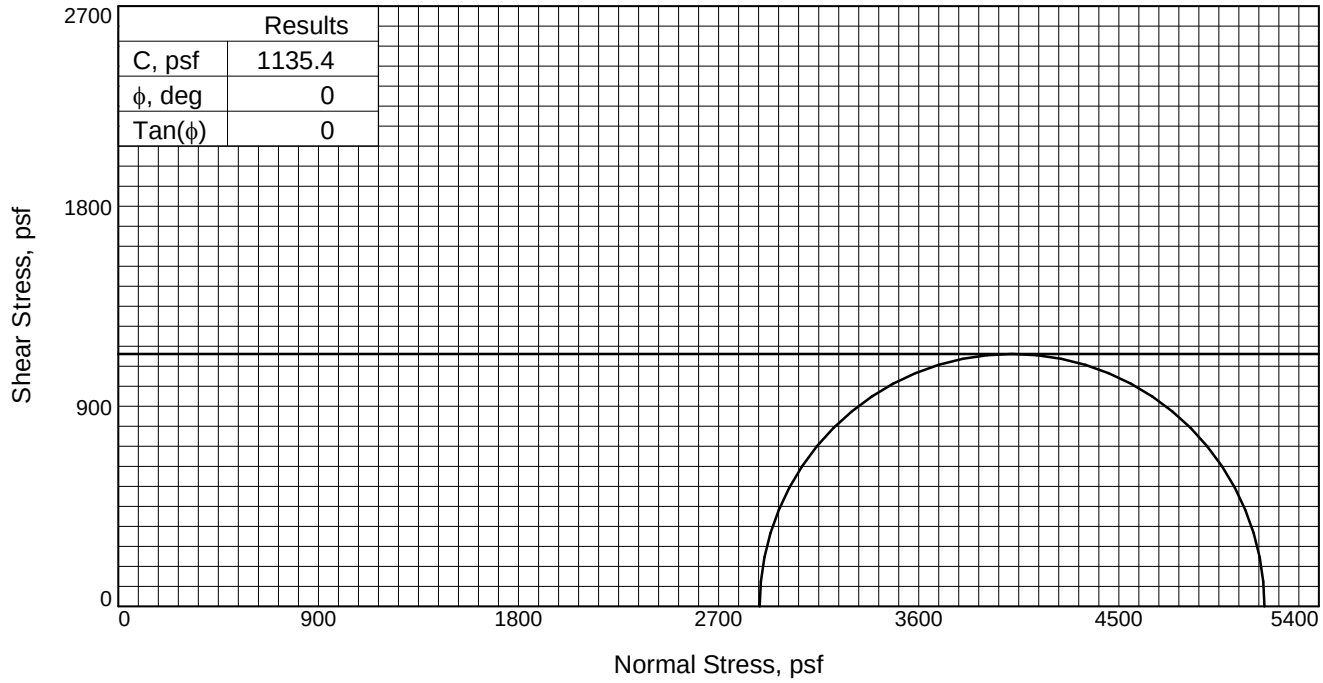

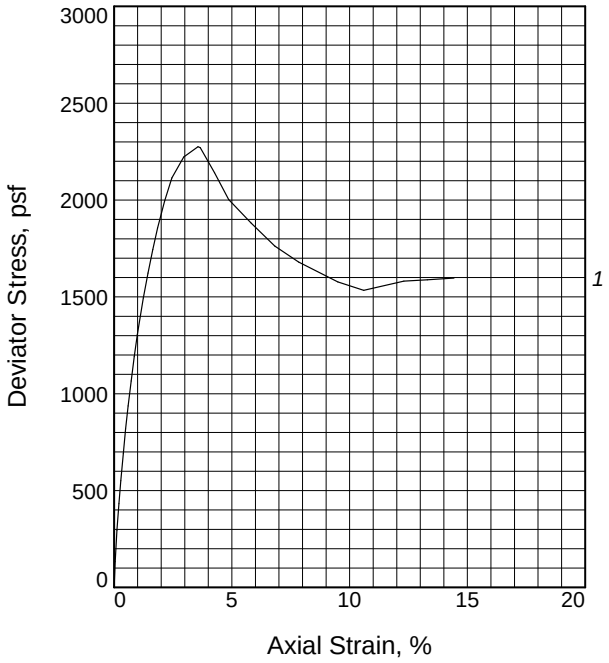

Specimen No.		1
Initial	Water Content, %	121.4
	Dry Density, pcf	39.2
	Saturation, %	99.9
	Void Ratio	3.2322
	Diameter, in.	2.824
	Height, in.	5.425
At Test	Water Content, %	115.7
	Dry Density, pcf	39.2
	Saturation, %	95.2
	Void Ratio	3.2322
	Diameter, in.	2.824
	Height, in.	5.425
Strain at peak, %		3.7
Back Pressure, psf		0.0
Cell Pressure, psf		2884.3
Fail. Stress, psf		2270.8
Strain, %		3.7
Ult. Stress, psf		2270.8
Strain, %		3.7
σ_1 Failure, psf		5155.2
σ_3 Failure, psf		2884.3

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: SILTY SAND(SM A-2-7(4))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8081 **Depth:** 25.5'-27.5'

Sample Number: TH-27 T-1

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

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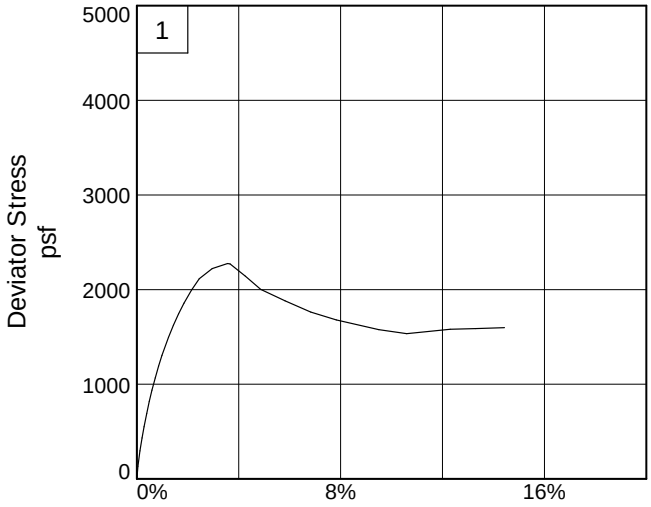
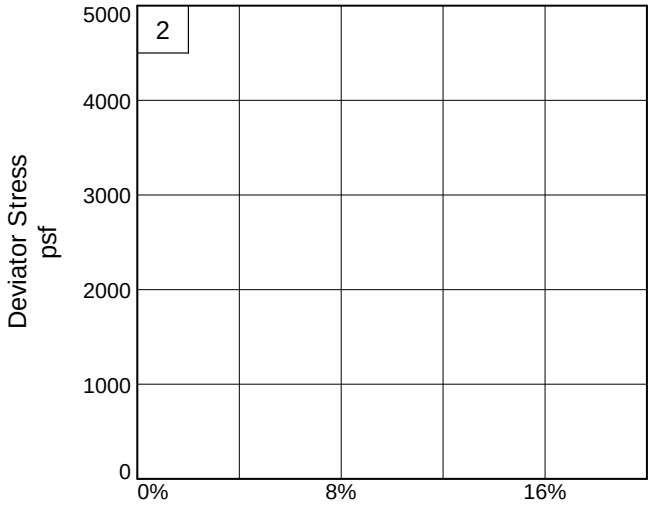
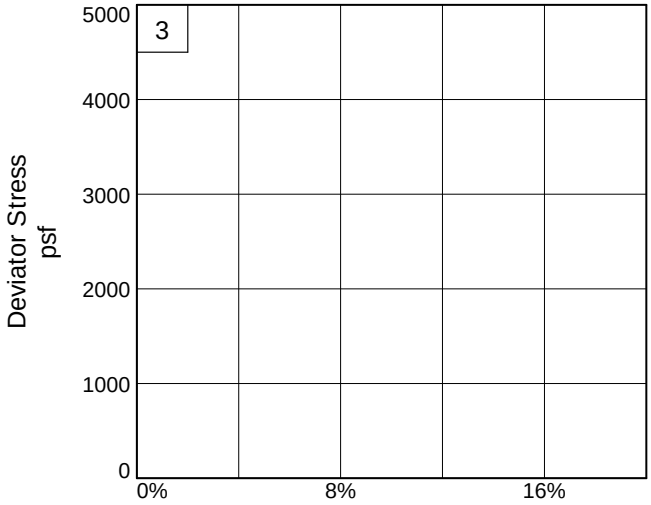
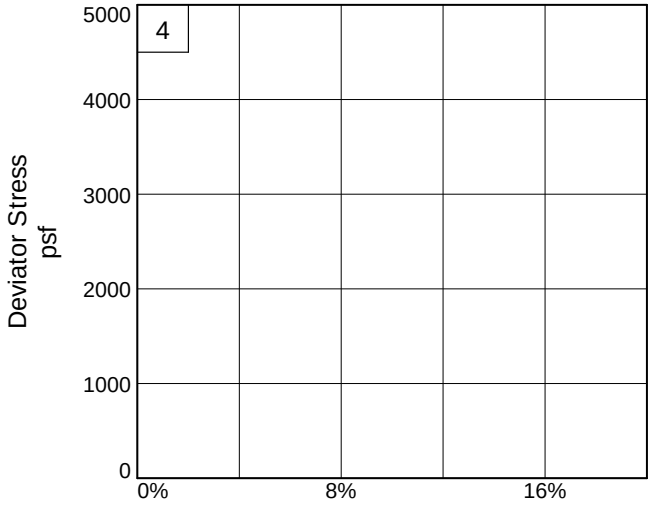
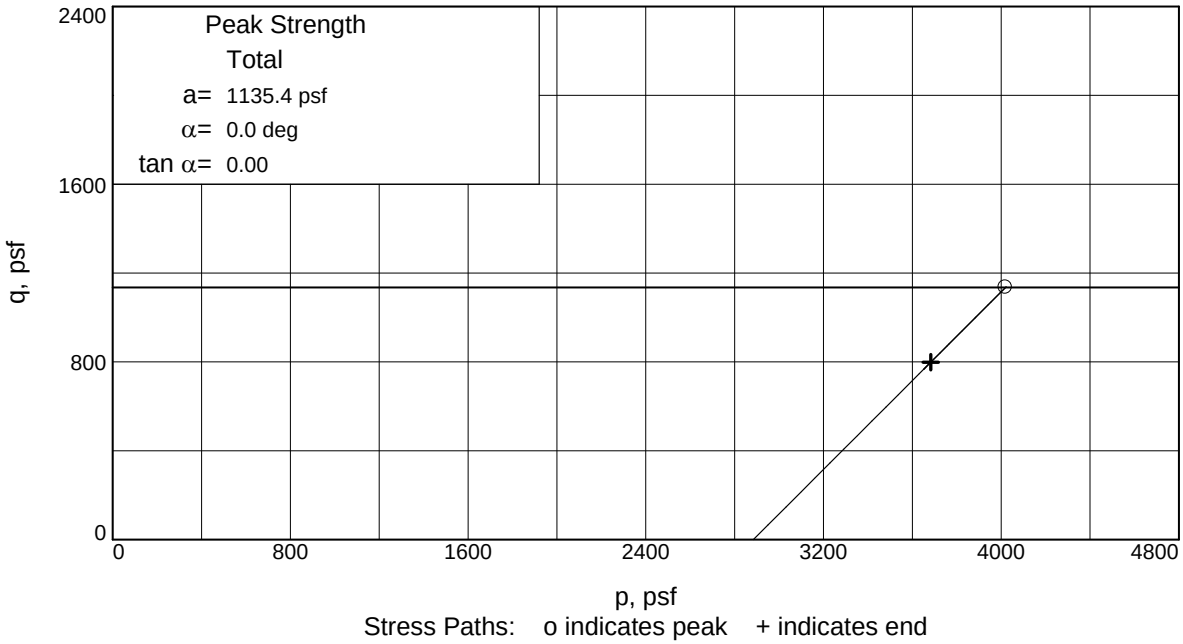










Stress Paths: o indicates peak + indicates end

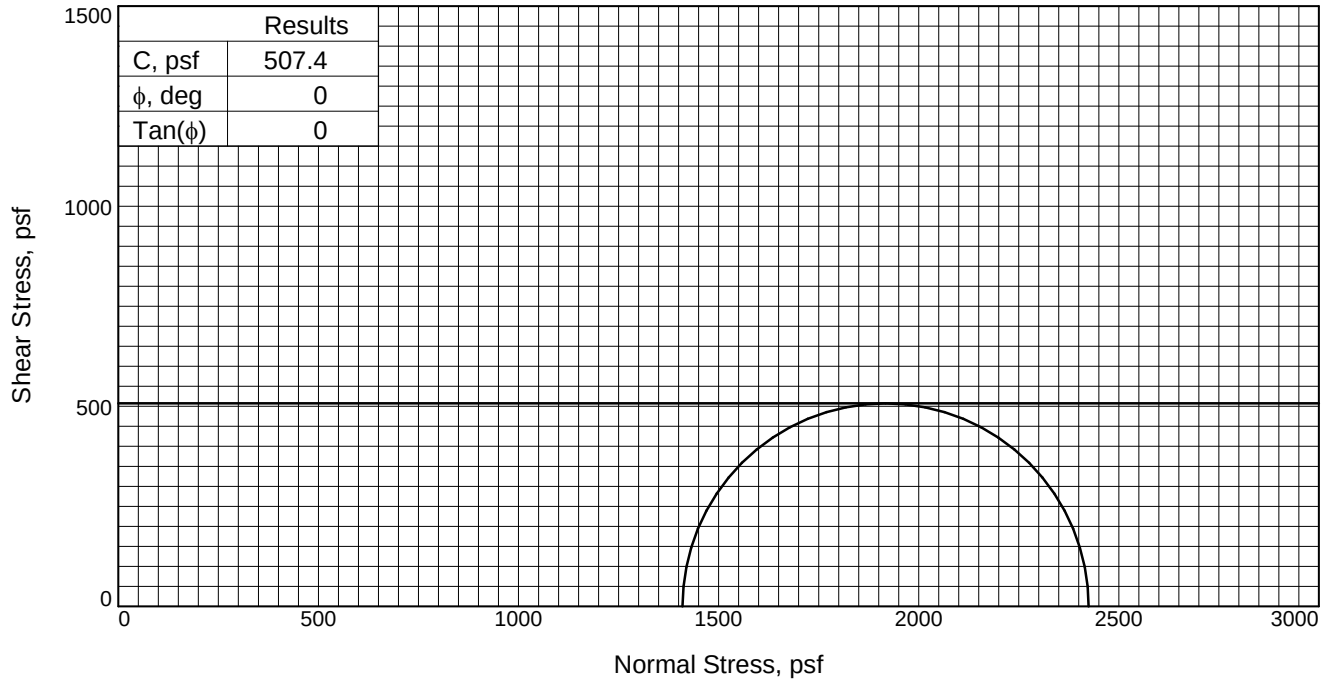
Client: ALDOT

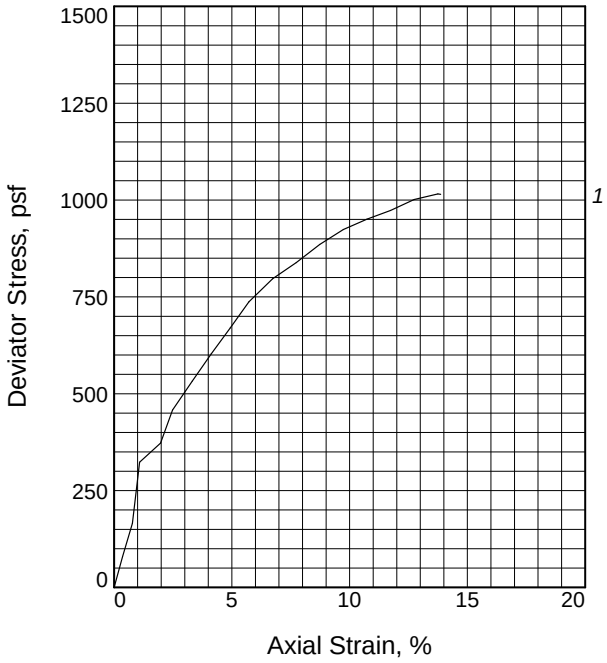
Project: Mobile River Bridge

Source of Sample: Lab #8081 **Depth:** 25.5'-27.5' **Sample Number:** TH-27 T-1

Project No.: 1511010228 **Figure** _____

Thompson Engineering





Specimen No.		1
Initial	Water Content, %	29.3
	Dry Density, pcf	94.8
	Saturation, %	103.8
	Void Ratio	0.7514
	Diameter, in.	2.846
	Height, in.	5.719
At Test	Water Content, %	30.4
	Dry Density, pcf	94.8
	Saturation, %	107.7
	Void Ratio	0.7514
	Diameter, in.	2.846
	Height, in.	5.719
Strain at peak, %		13.9
Back Pressure, psf		0.0
Cell Pressure, psf		1409.8
Fail. Stress, psf		1014.7
Strain, %		13.9
Ult. Stress, psf		1014.7
Strain, %		13.9
σ_1 Failure, psf		2424.5
σ_3 Failure, psf		1409.8

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

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

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Symmetrical Bulge

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 18.0'-20.0'

Sample Number: W-02 T-1

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

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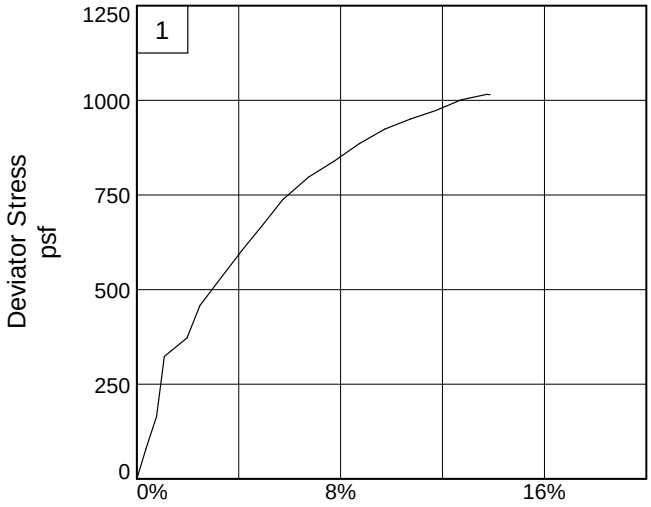
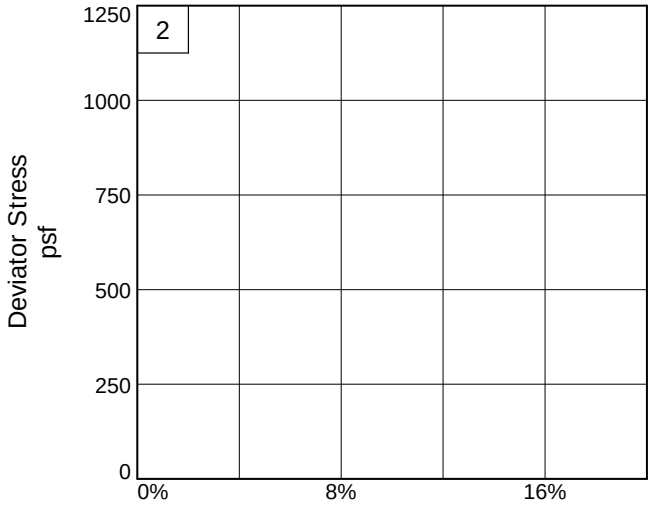
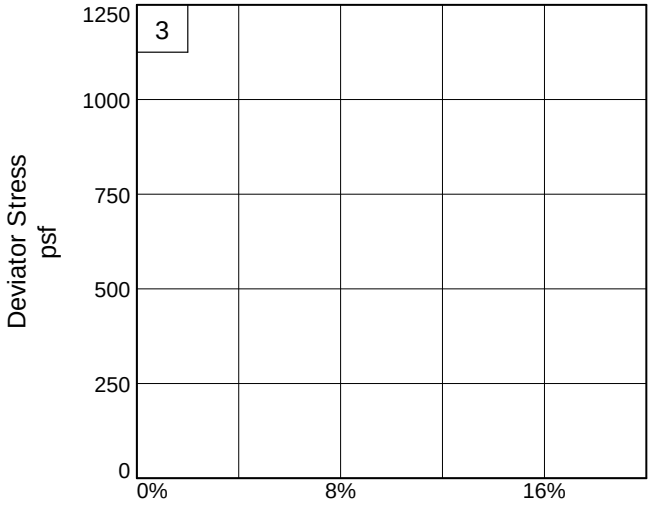
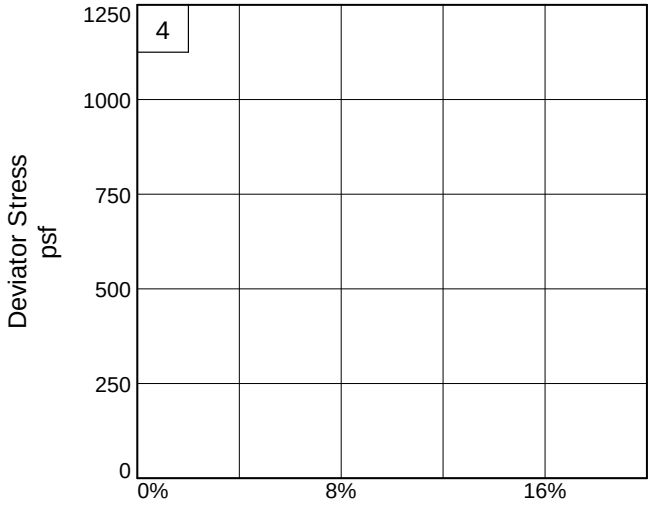
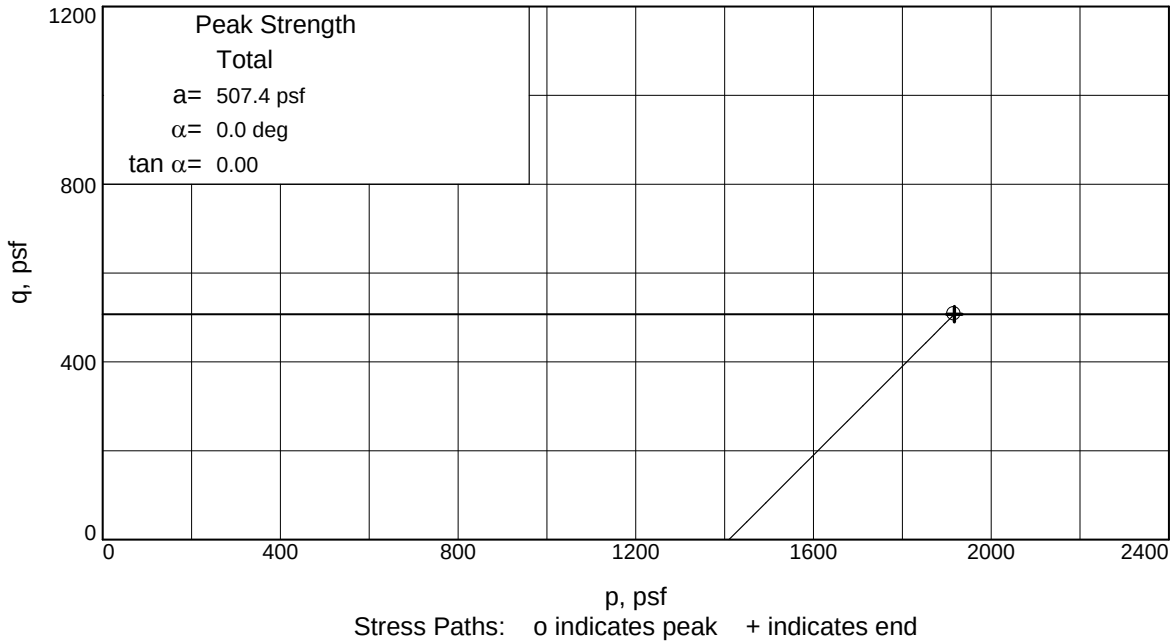










Stress Paths: o indicates peak + indicates end

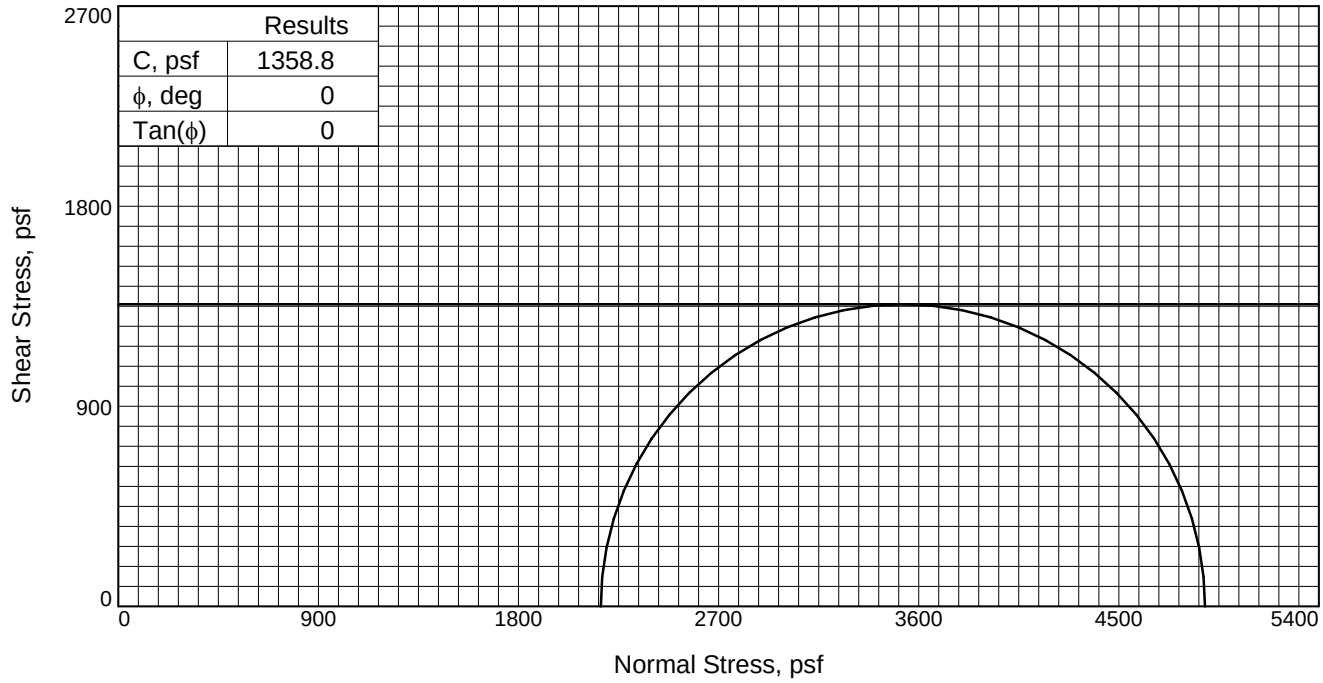
Client: ALDOT

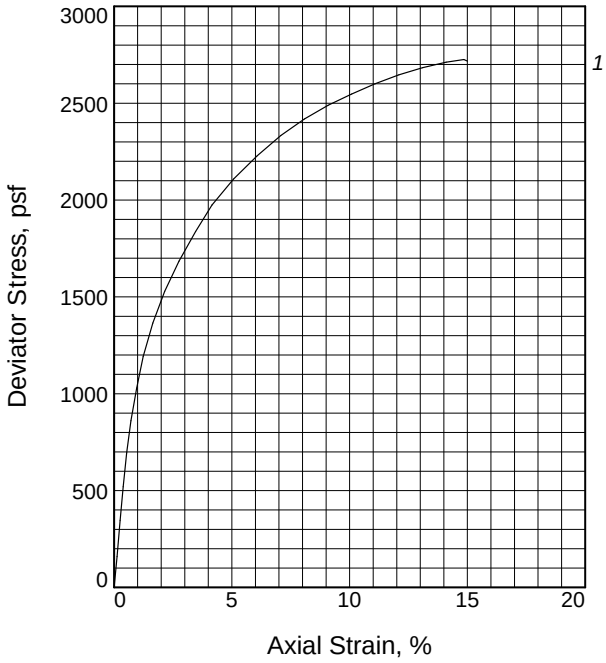
Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 18.0'-20.0' **Sample Number:** W-02 T-1

Project No.: 1511010228 **Figure** _____

Thompson Engineering





Specimen No.		1
Initial	Water Content, %	19.9
	Dry Density, pcf	108.0
	Saturation, %	98.7
	Void Ratio	0.5374
	Diameter, in.	2.853
	Height, in.	5.299
At Test	Water Content, %	20.4
	Dry Density, pcf	108.0
	Saturation, %	101.1
	Void Ratio	0.5374
	Diameter, in.	2.853
	Height, in.	5.299
Strain at peak, %		15.0
Back Pressure, psf		0.0
Cell Pressure, psf		2170.1
Fail. Stress, psf		2717.5
Strain, %		15.0
Ult. Stress, psf		2717.5
Strain, %		15.0
σ_1 Failure, psf		4887.6
σ_3 Failure, psf		2170.1

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: SANDY LEAN CLAY(CL A-6(5))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Symmetrical Bulge

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8086 **Depth:** 33.5'-35.5'

Sample Number: W-11 T-1

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

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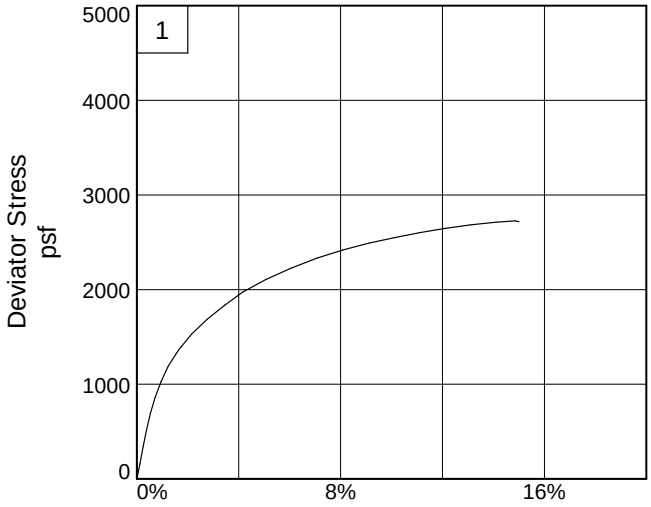

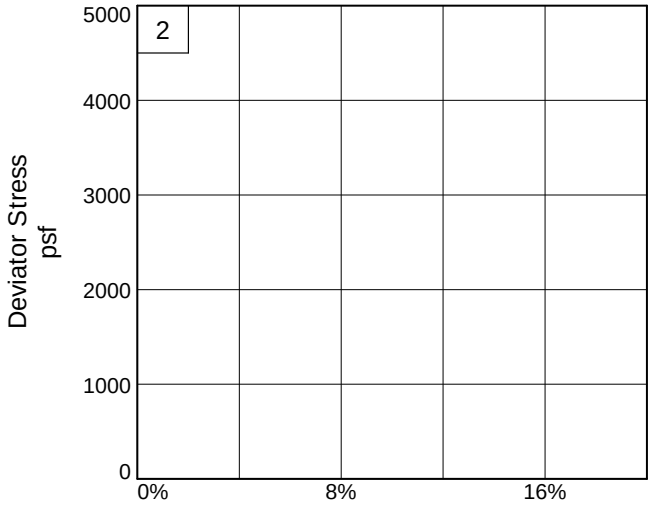

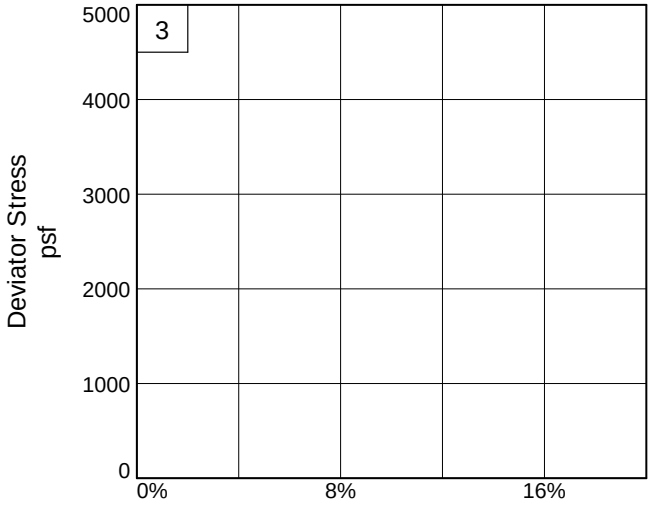

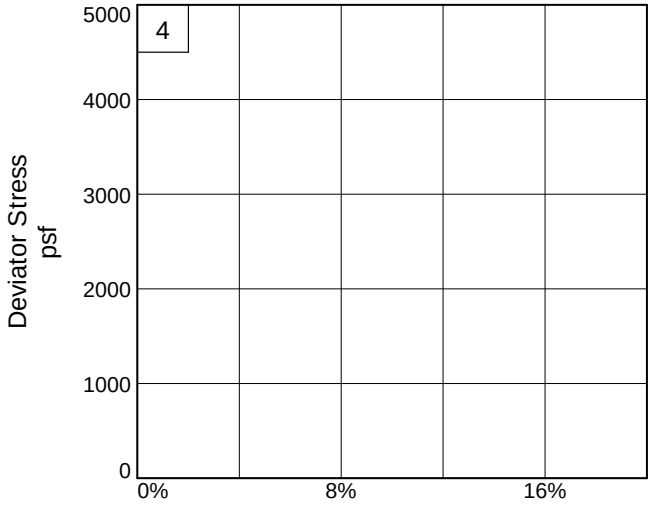

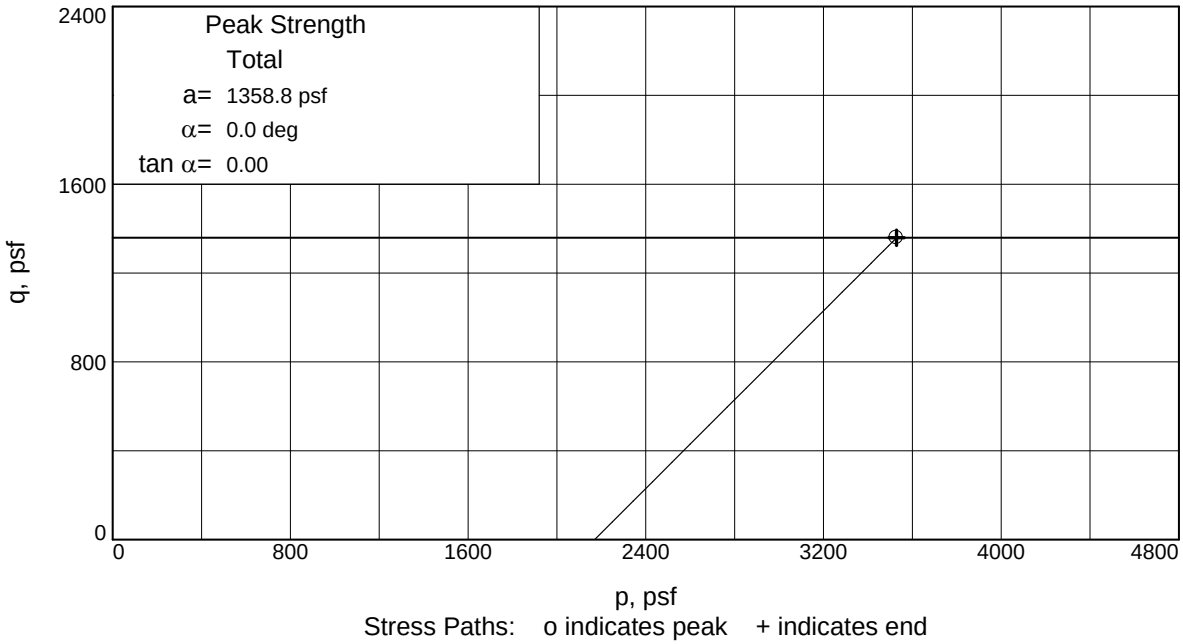

Stress Paths: o indicates peak + indicates end

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8086 **Depth:** 33.5'-35.5' **Sample Number:** W-11 T-1

Project No.: 1511010228 **Figure** _____

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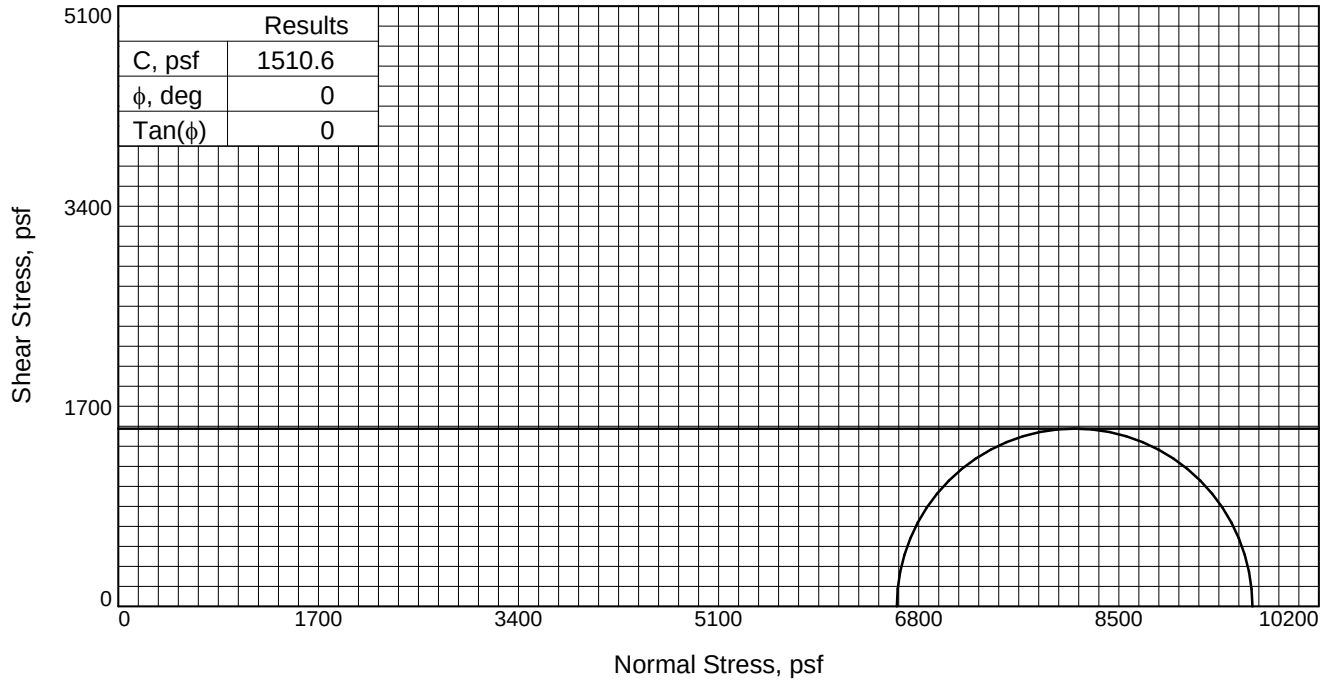

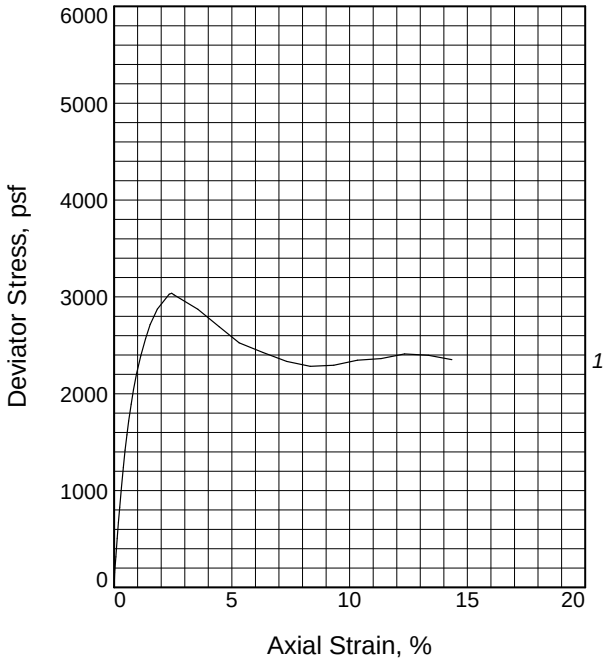

Specimen No.		1
Initial	Water Content, %	28.9
	Dry Density, pcf	87.2
	Saturation, %	85.1
	Void Ratio	0.9046
	Diameter, in.	2.845
	Height, in.	5.444
At Test	Water Content, %	42.3
	Dry Density, pcf	87.2
	Saturation, %	124.3
	Void Ratio	0.9046
	Diameter, in.	2.845
	Height, in.	5.444
Strain at peak, %		2.5
Back Pressure, psf		0.0
Cell Pressure, psf		6613.9
Fail. Stress, psf		3021.1
Strain, %		2.5
Ult. Stress, psf		3021.1
Strain, %		2.5
σ_1 Failure, psf		9635.0
σ_3 Failure, psf		6613.9

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: FAT CLAY(CH A-7-6(61))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8086 **Depth:** 103.0'-105.0'

Sample Number: W-14 T-1B

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

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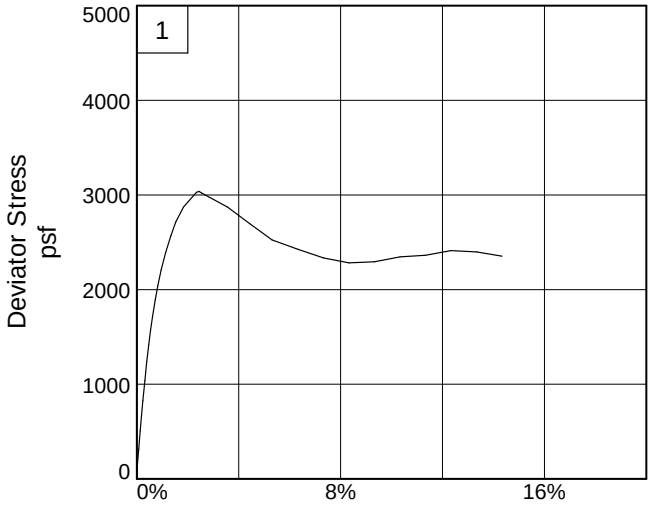

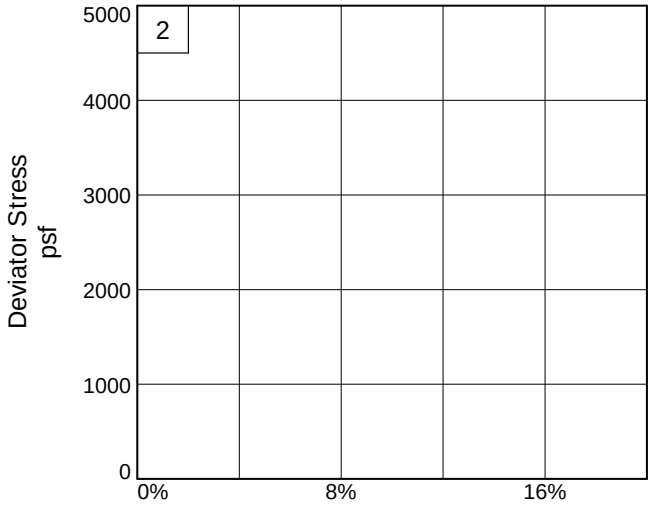

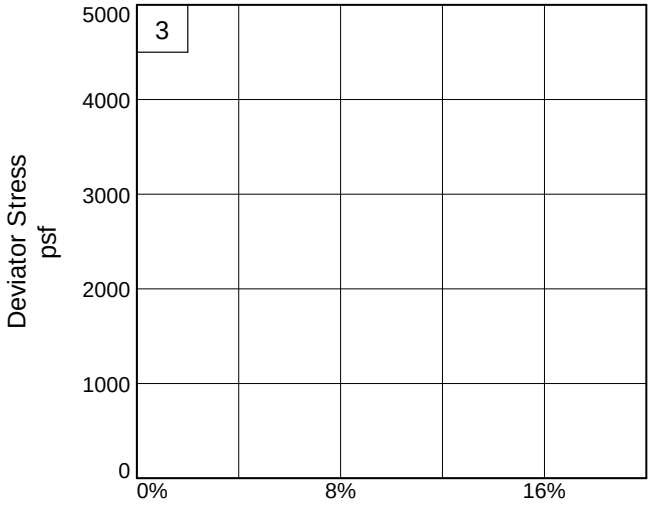

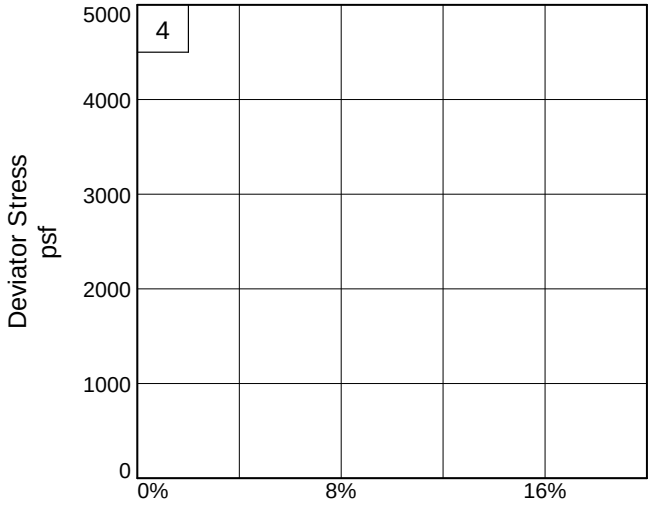

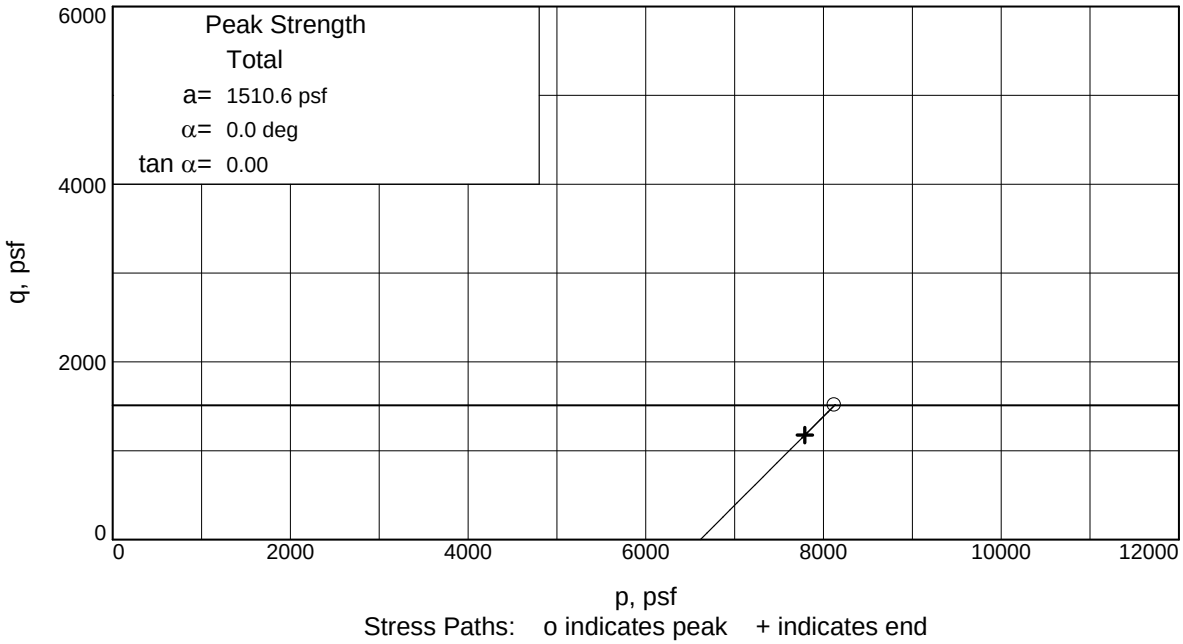

Stress Paths: o indicates peak + indicates end

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8086 **Depth:** 103.0'-105.0' **Sample Number:** W-14 T-1B

Project No.: 1511010228 **Figure** _____

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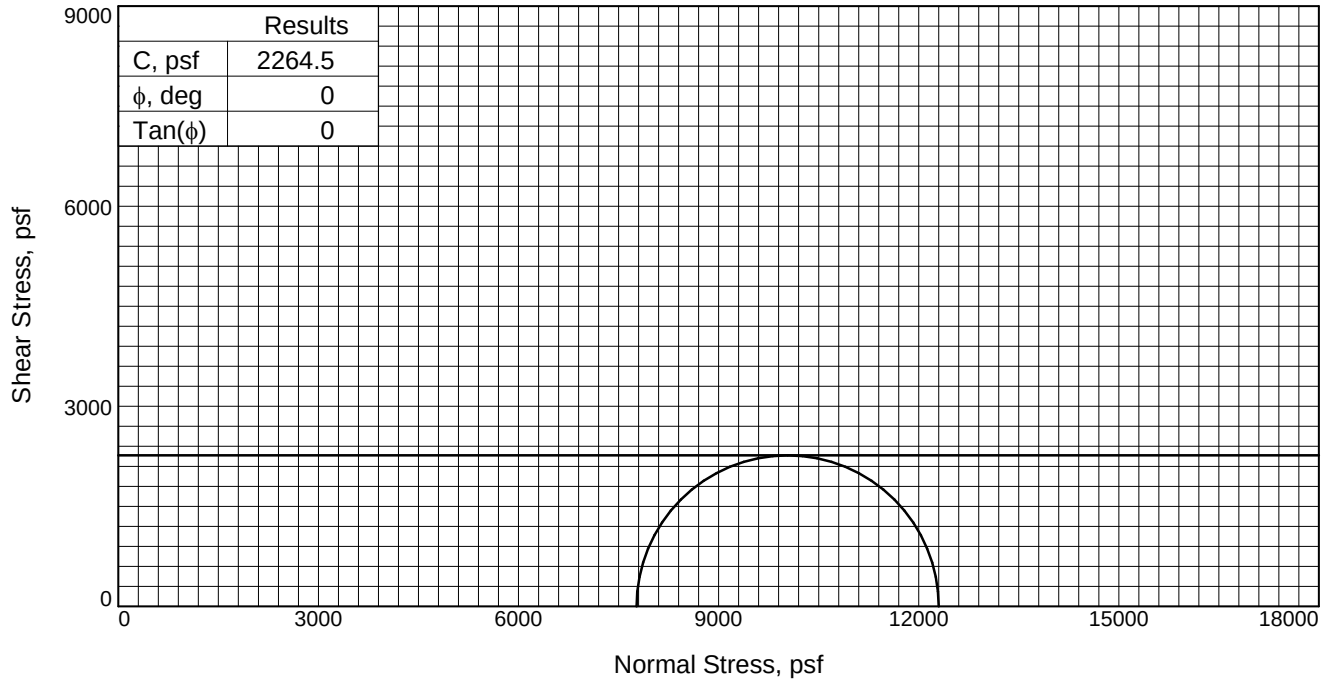

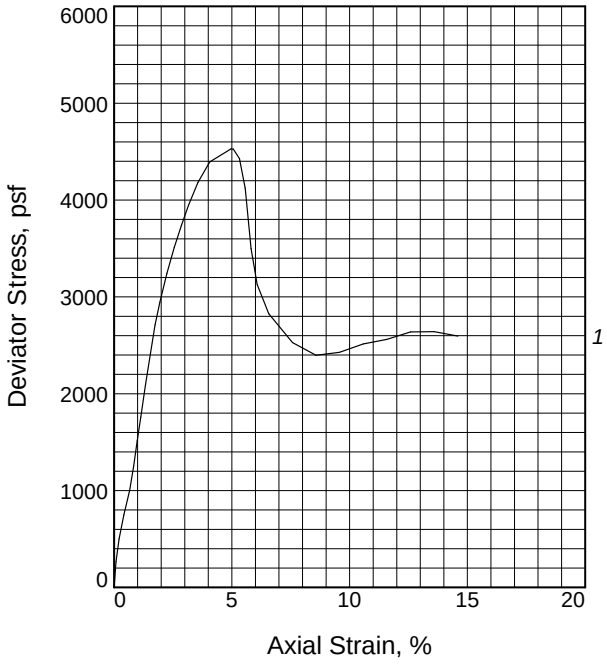

Specimen No.		1
Initial	Water Content, %	46.1
	Dry Density, pcf	73.9
	Saturation, %	98.3
	Void Ratio	1.2477
	Diameter, in.	2.846
	Height, in.	5.723
At Test	Water Content, %	49.5
	Dry Density, pcf	73.9
	Saturation, %	105.5
	Void Ratio	1.2477
	Diameter, in.	2.846
	Height, in.	5.723
Strain at peak, %		5.0
Back Pressure, psf		0.0
Cell Pressure, psf		7770.2
Fail. Stress, psf		4529.0
Strain, %		5.0
Ult. Stress, psf		4529.0
Strain, %		5.0
σ_1 Failure, psf		12299.2
σ_3 Failure, psf		7770.2

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: FAT CLAY(CH A-7-6(72))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8086 **Depth:** 123.5'-125.5'

Sample Number: W-14 T-2

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

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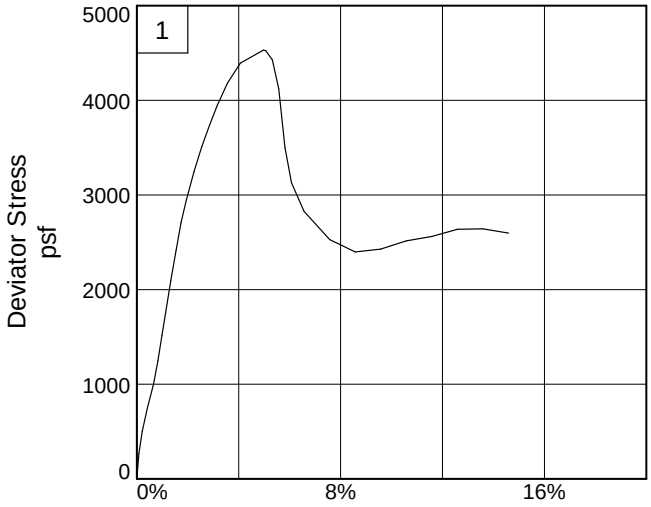

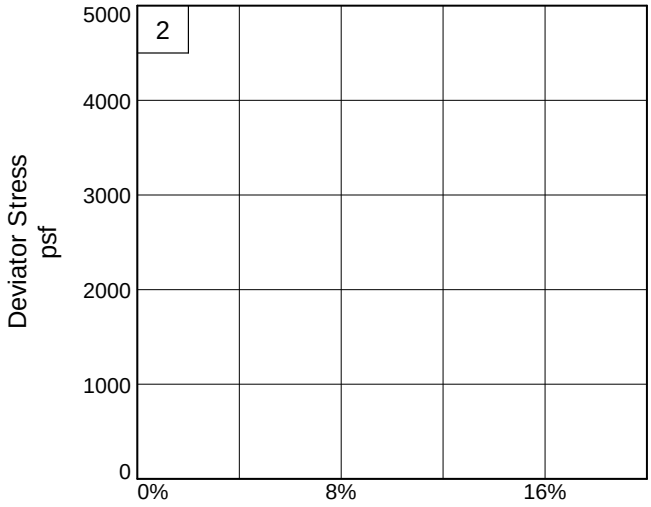

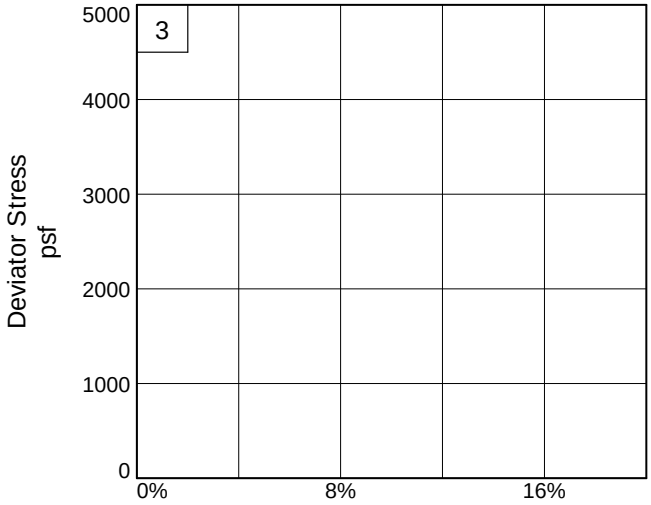

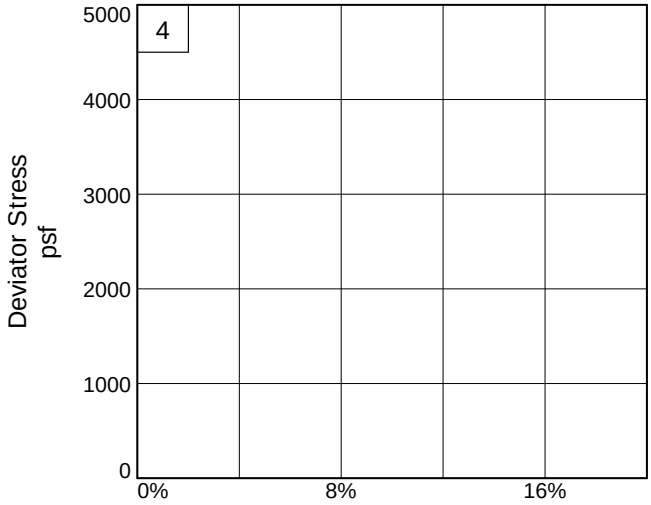

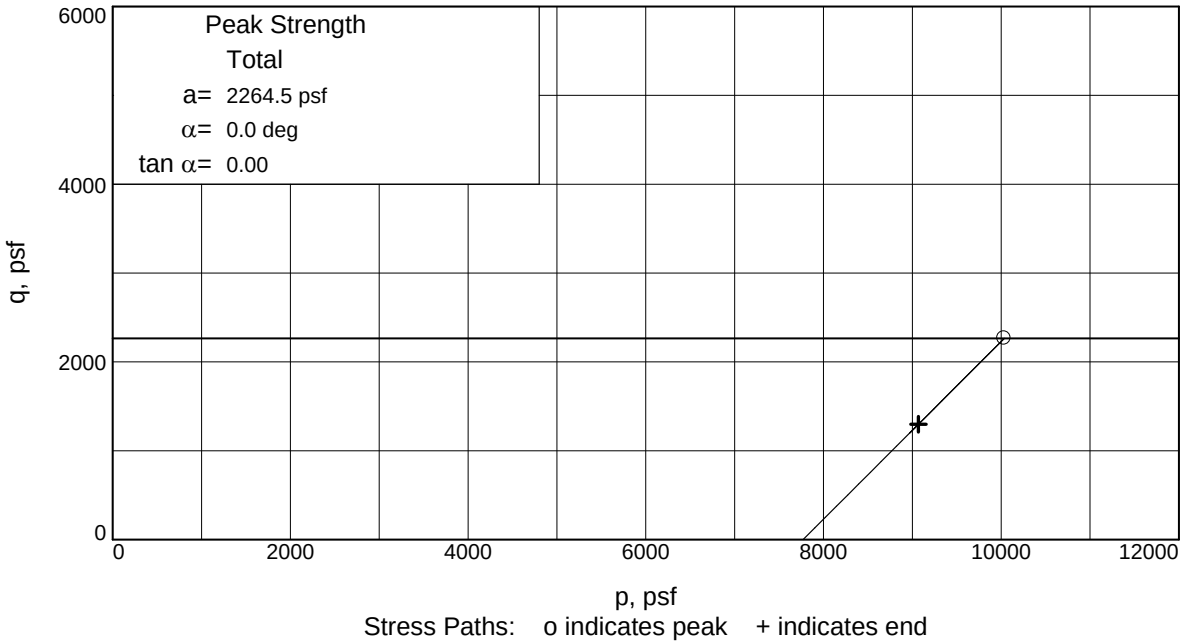

Stress Paths: o indicates peak + indicates end

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8086 **Depth:** 123.5'-125.5' **Sample Number:** W-14 T-2

Project No.: 1511010228 **Figure** _____

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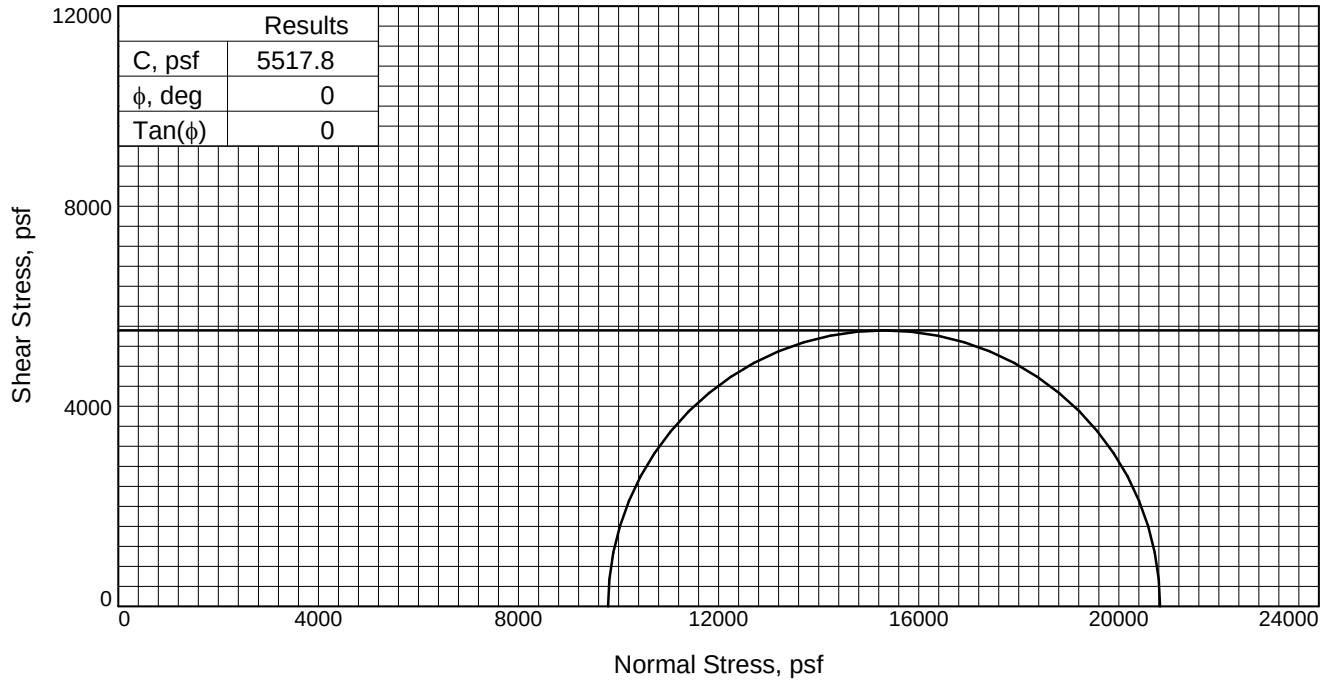

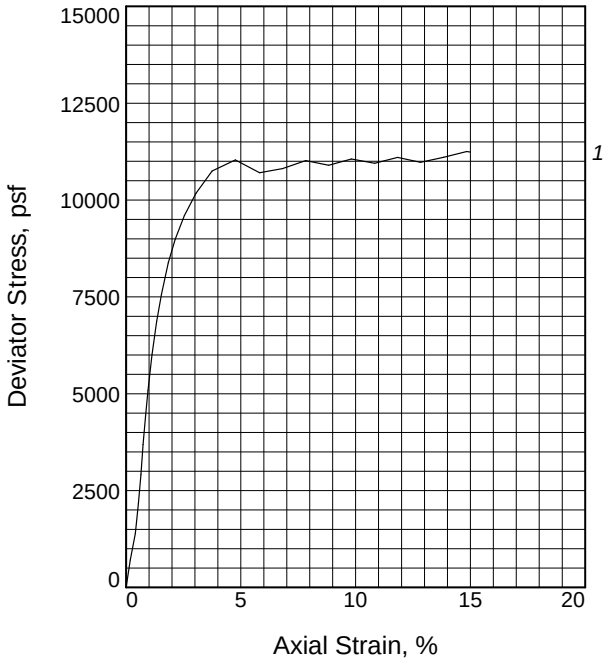

Specimen No.		1
Initial	Water Content, %	21.1
	Dry Density, pcf	108.4
	Saturation, %	105.7
	Void Ratio	0.5323
	Diameter, in.	2.746
	Height, in.	5.402
At Test	Water Content, %	21.3
	Dry Density, pcf	108.4
	Saturation, %	106.3
	Void Ratio	0.5323
	Diameter, in.	2.746
	Height, in.	5.402
Strain at peak, %		4.8
Back Pressure, psf		0.0
Cell Pressure, psf		9789.1
Fail. Stress, psf		11035.6
Strain, %		4.8
Ult. Stress, psf		11035.6
Strain, %		4.8
σ_1 Failure, psf		20824.8
σ_3 Failure, psf		9789.1

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: FAT CLAY(CH A-7-6(49))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8086 **Depth:** 168.5-170.5'

Sample Number: W-14 T-4

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

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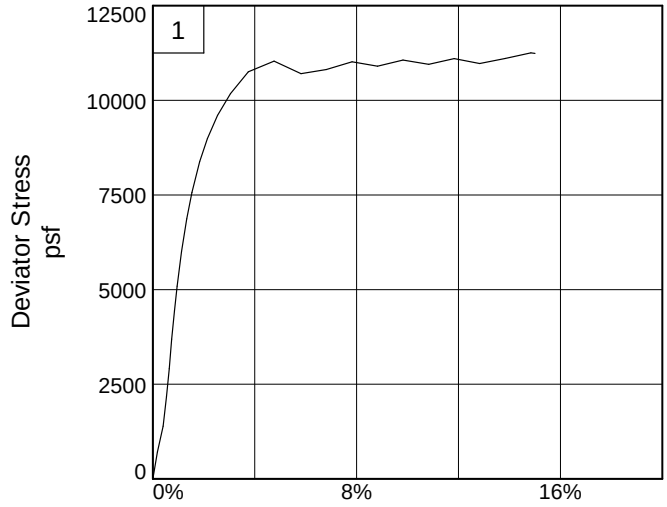
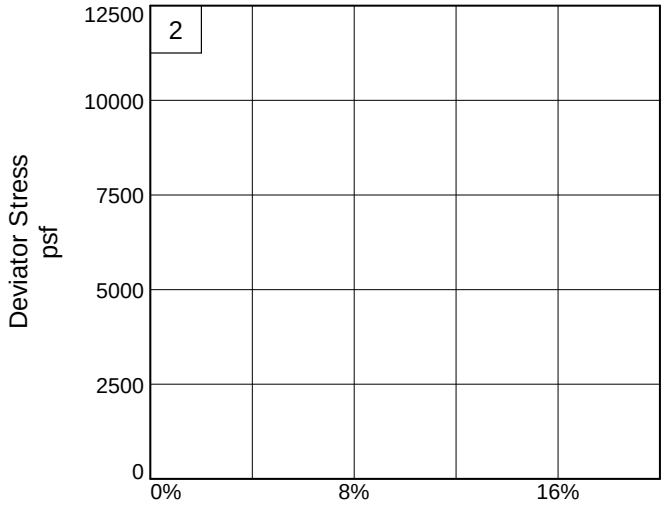
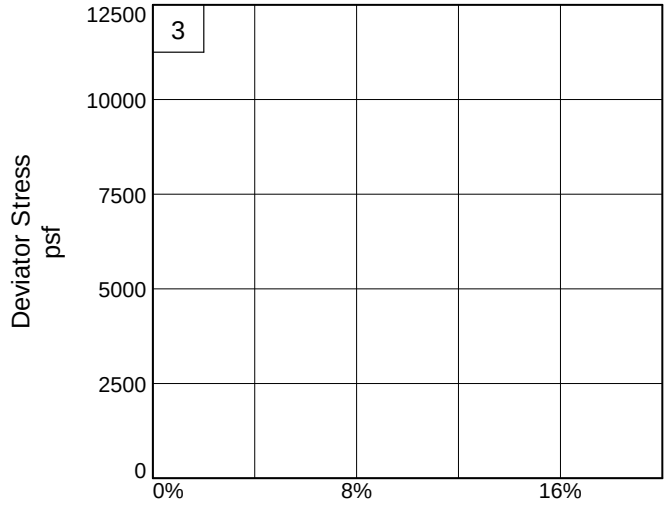
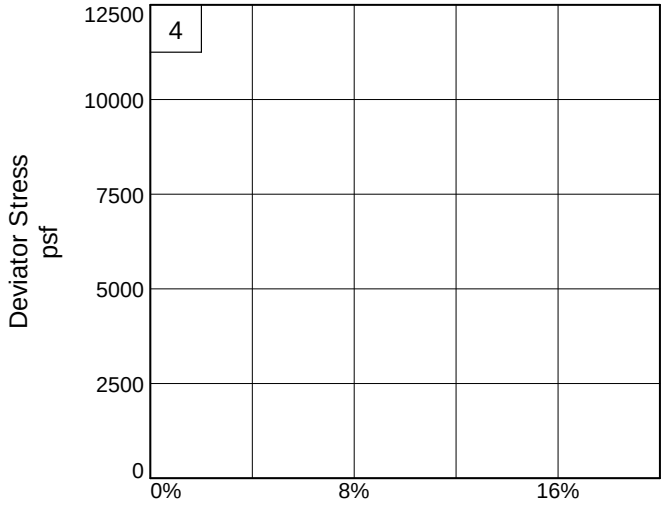
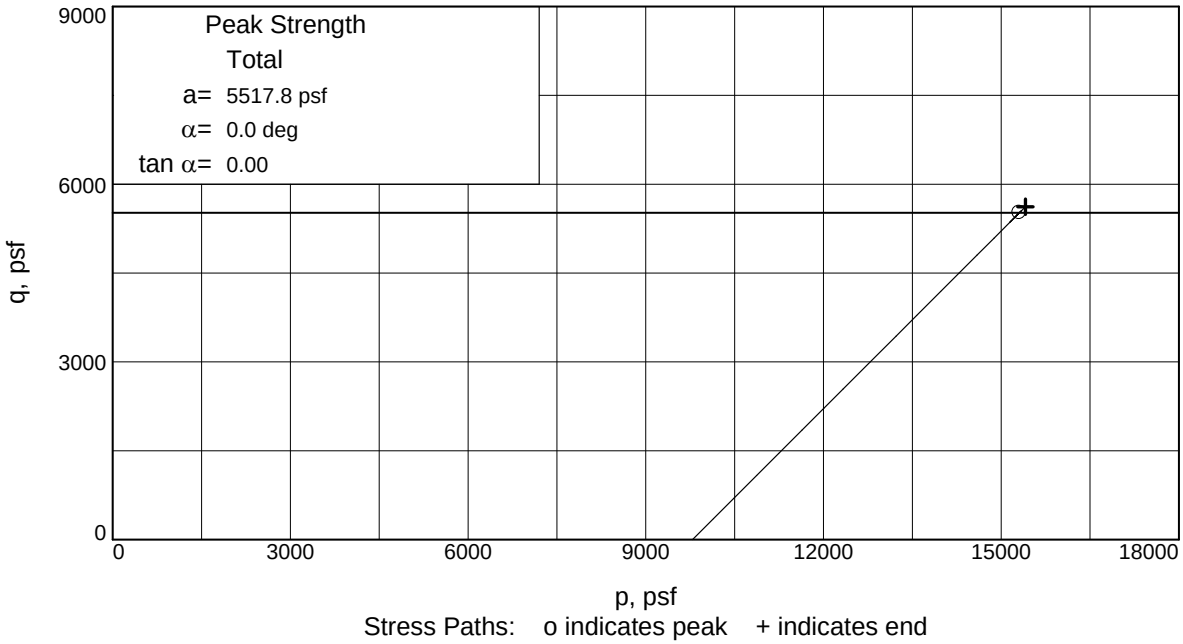










Stress Paths: o indicates peak + indicates end

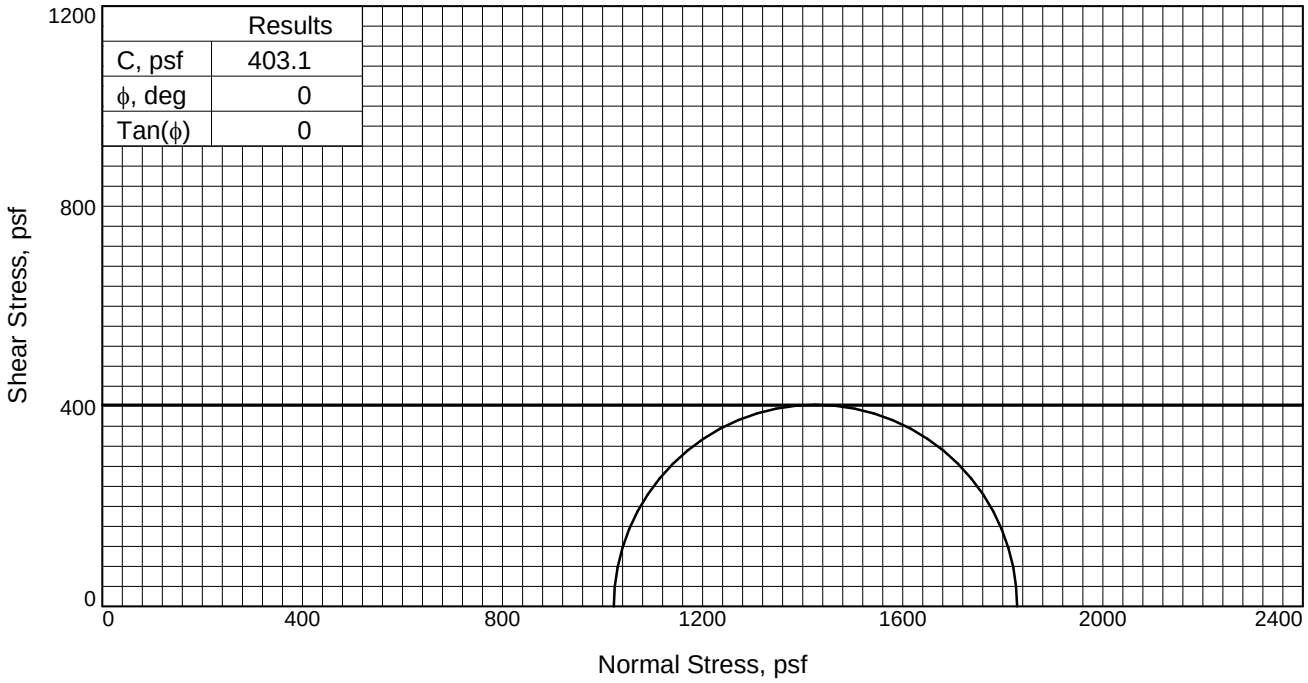
Client: ALDOT

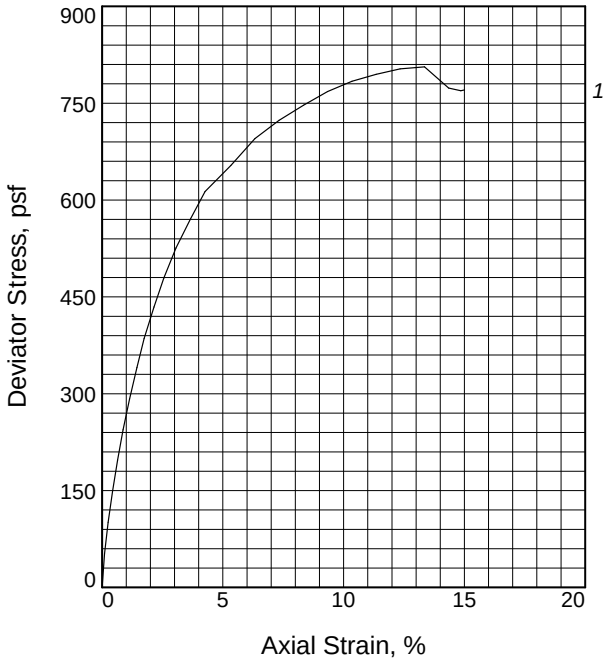
Project: Mobile River Bridge

Source of Sample: Lab #8086 **Depth:** 168.5-170.5' **Sample Number:** W-14 T-4

Project No.: 1511010228 **Figure** _____

Thompson Engineering





Specimen No.		1
Initial	Water Content, %	33.7
	Dry Density, pcf	91.1
	Saturation, %	108.9
	Void Ratio	0.8230
	Diameter, in.	2.828
	Height, in.	5.755
At Test	Water Content, %	33.2
	Dry Density, pcf	91.1
	Saturation, %	107.3
	Void Ratio	0.8230
	Diameter, in.	2.828
	Height, in.	5.755
Strain at peak, %		13.4
Back Pressure, psf		0.0
Cell Pressure, psf		1022.4
Fail. Stress, psf		806.2
Strain, %		13.4
Ult. Stress, psf		806.2
Strain, %		13.4
σ_1 Failure, psf		1828.6
σ_3 Failure, psf		1022.4

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: SANDY SILT(ML A-4(0))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Symmetrical Bulge

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 8.0'-10.0'

Sample Number: W-15 T-1

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

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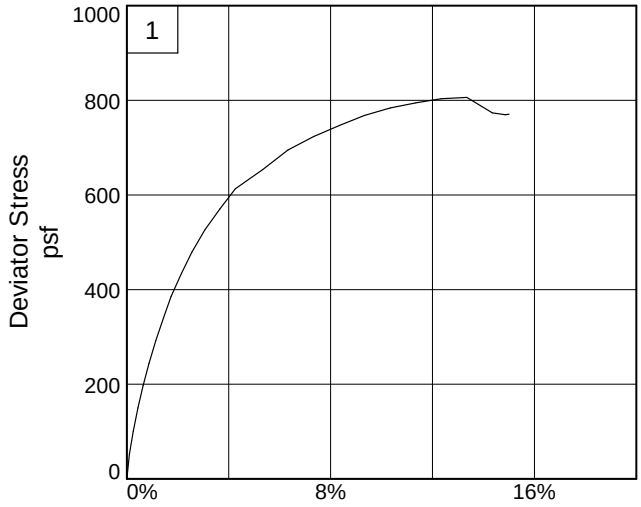
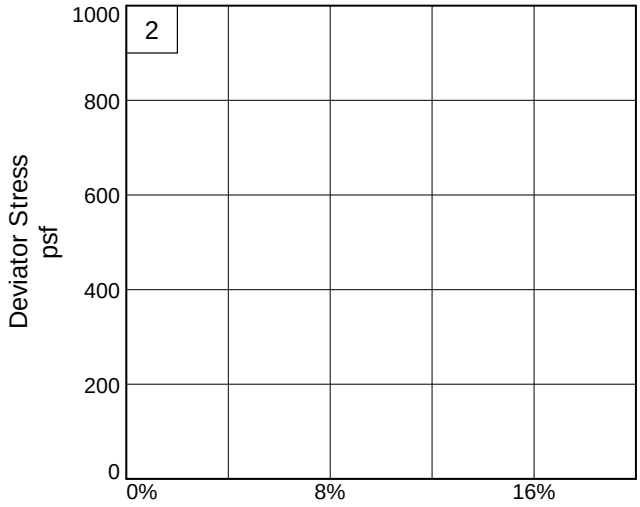
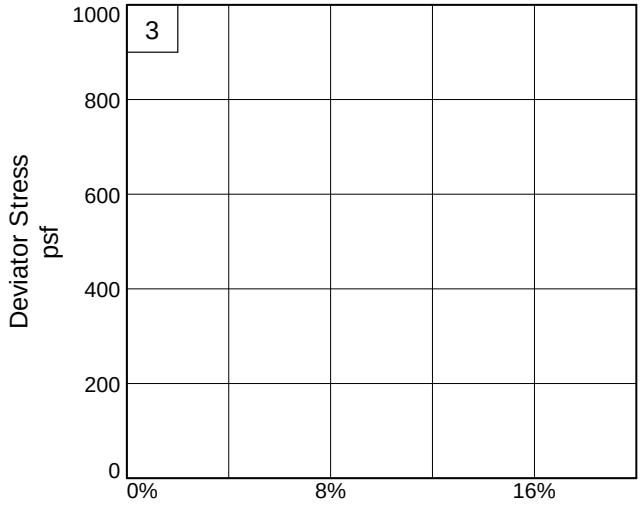
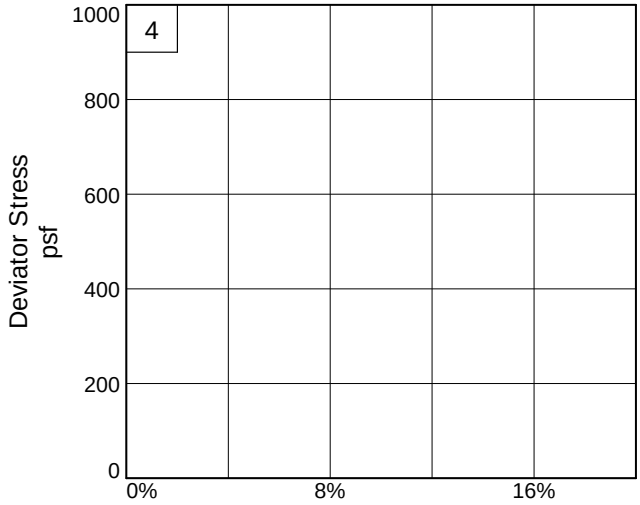
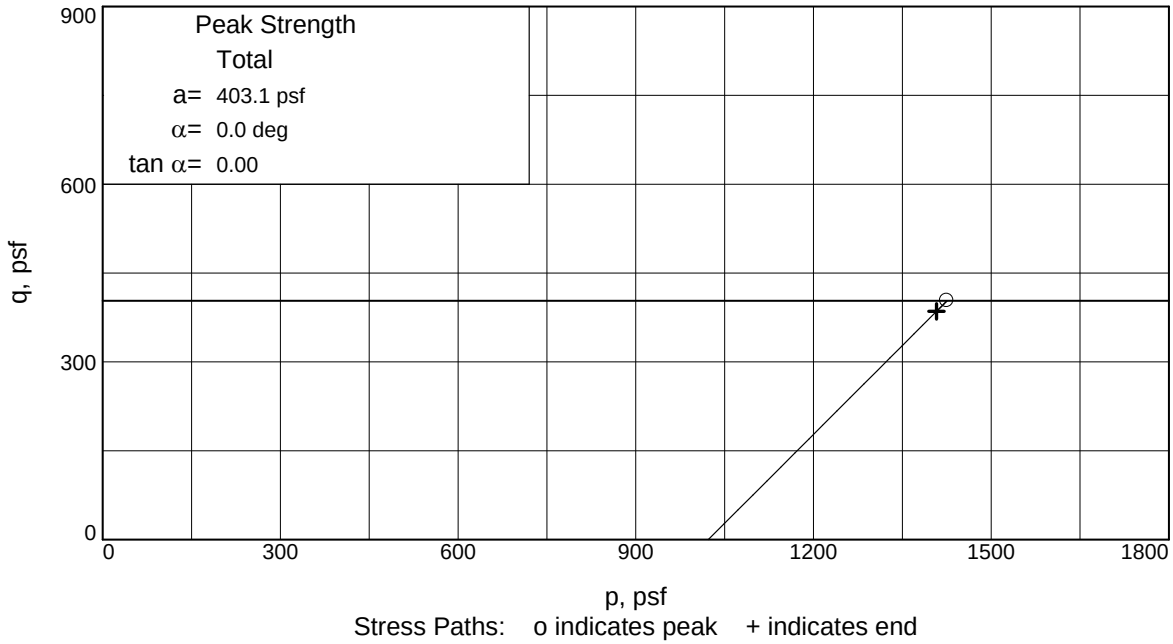
Mobile, Alabama











Stress Paths: o indicates peak + indicates end

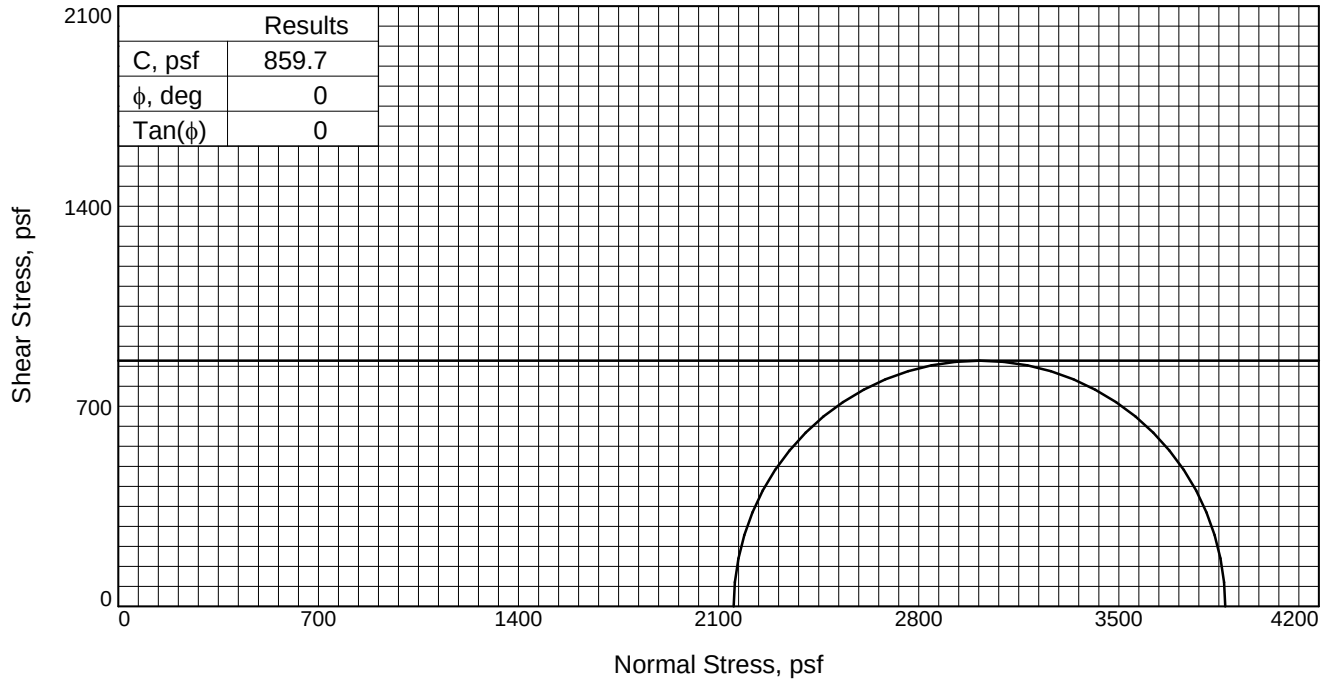
Client: ALDOT

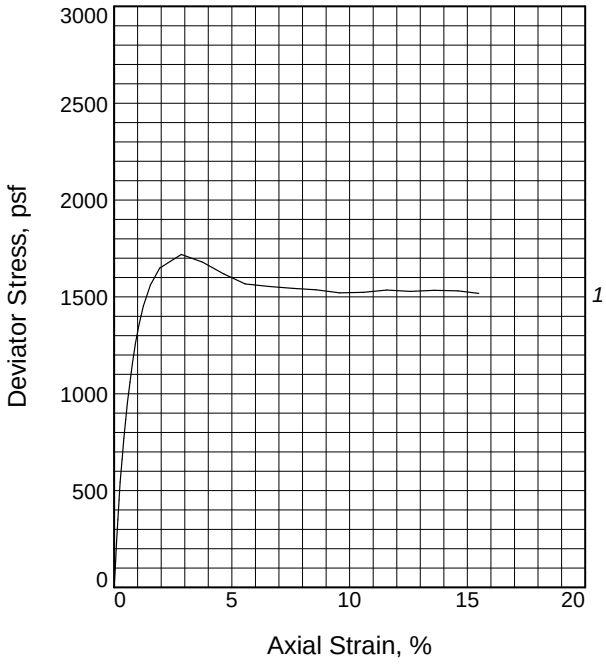
Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 8.0'-10.0' **Sample Number:** W-15 T-1

Project No.: 1511010228 **Figure** _____

Thompson Engineering





Specimen No.		1
Initial	Water Content, %	47.8
	Dry Density, pcf	76.2
	Saturation, %	107.8
	Void Ratio	1.1801
	Diameter, in.	2.823
	Height, in.	5.742
At Test	Water Content, %	45.7
	Dry Density, pcf	76.2
	Saturation, %	103.1
	Void Ratio	1.1801
	Diameter, in.	2.823
	Height, in.	5.742
Strain at peak, %		2.9
Back Pressure, psf		0.0
Cell Pressure, psf		2152.8
Fail. Stress, psf		1719.5
Strain, %		2.9
Ult. Stress, psf		1719.5
Strain, %		2.9
σ_1 Failure, psf		3872.3
σ_3 Failure, psf		2152.8

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: FAT CLAY with SAND(CH A-7-6(50))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Asymmetrical Shear Plane

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 28.0'-30.0'

Sample Number: W-15 T-2

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

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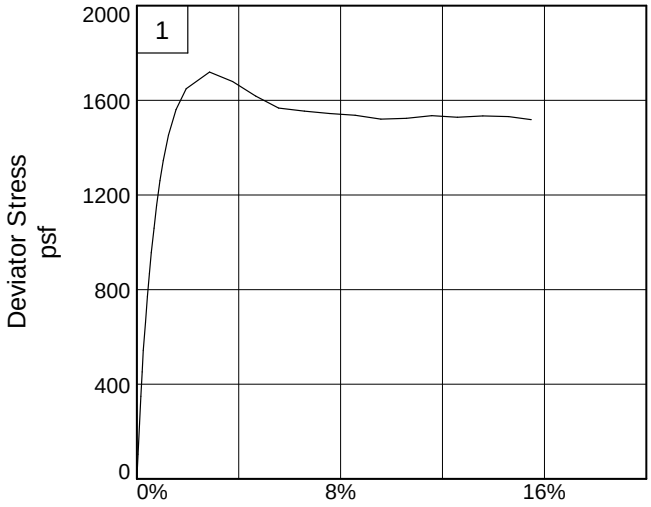

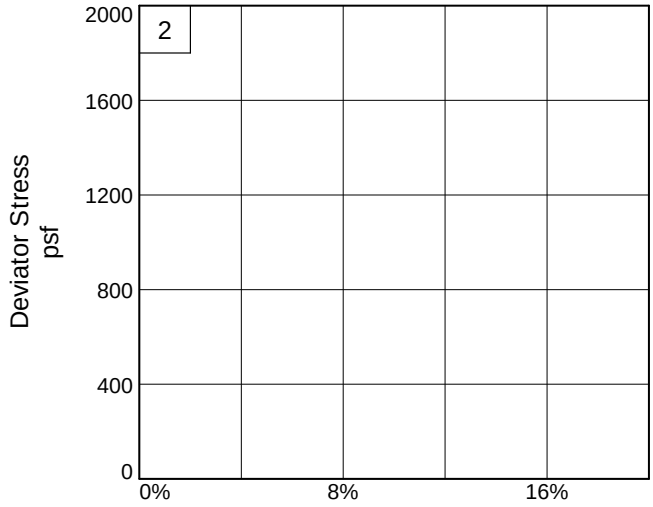

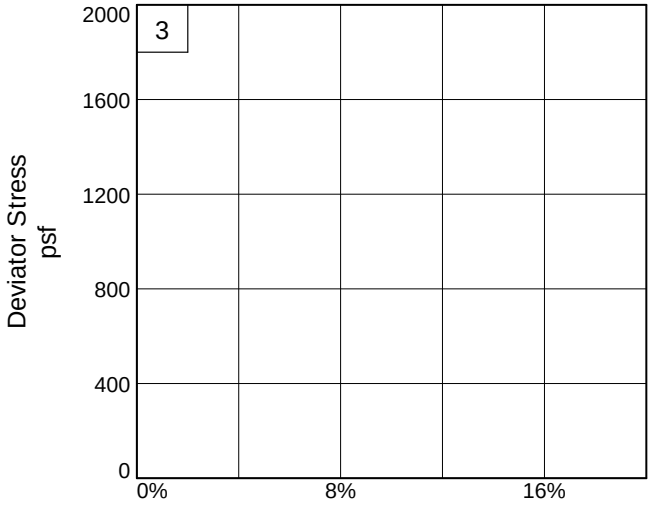

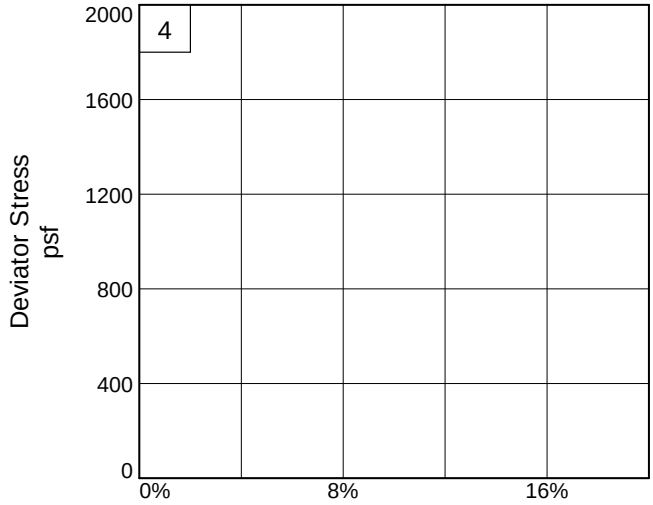

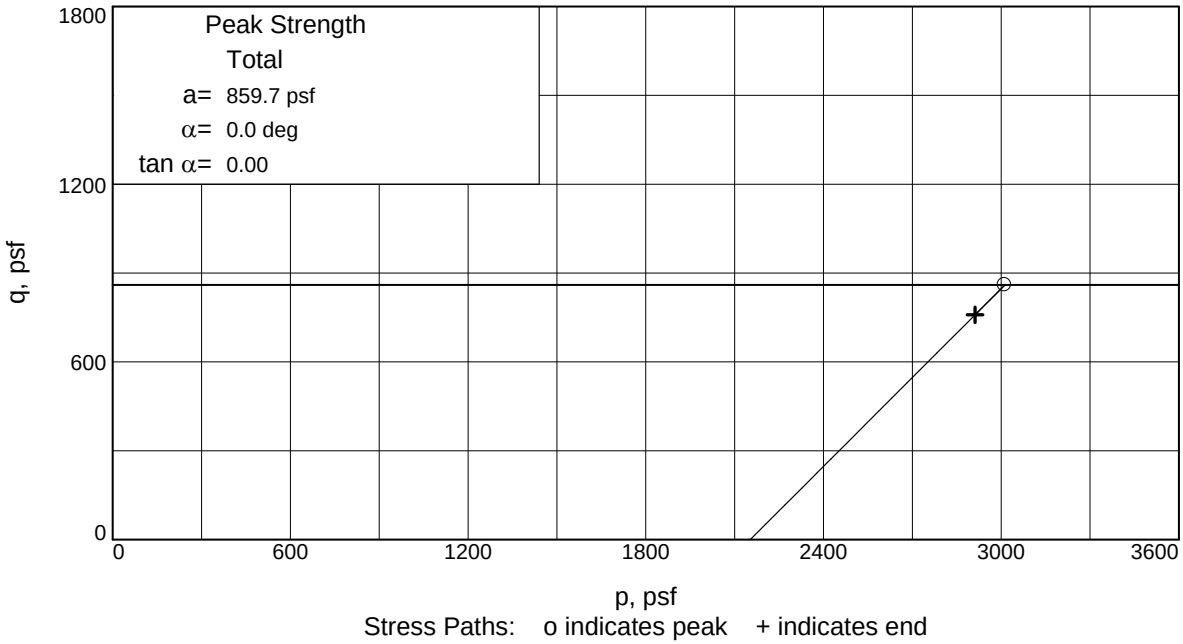

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 28.0'-30.0' **Sample Number:** W-15 T-2

Project No.: 1511010228 **Figure** _____

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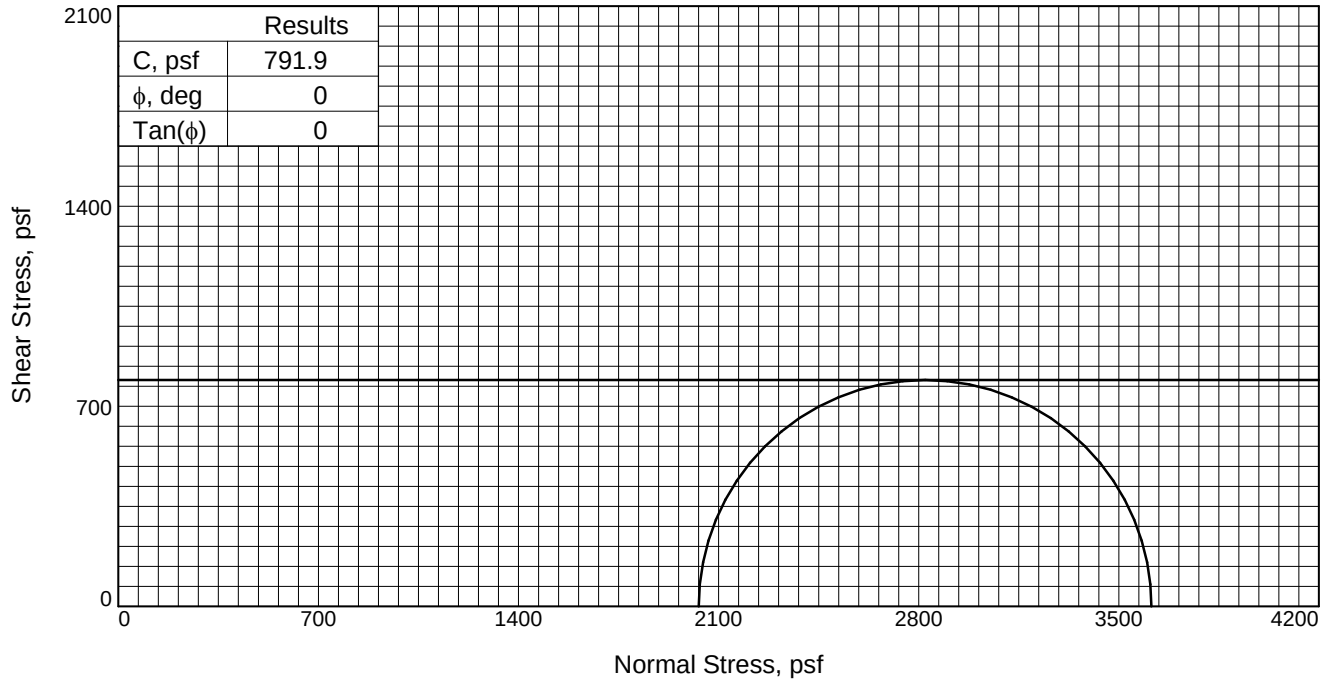

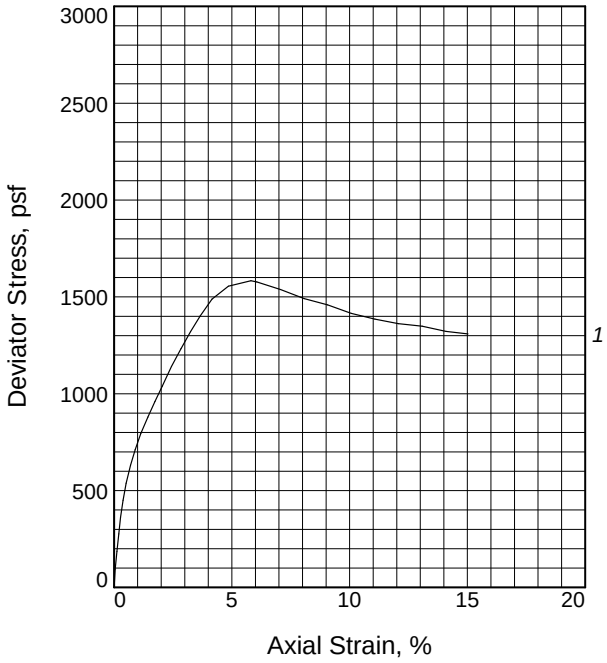

Specimen No.		1
Initial	Water Content, %	38.4
	Dry Density, pcf	87.1
	Saturation, %	112.5
	Void Ratio	0.9076
	Diameter, in.	2.815
	Height, in.	5.534
At Test	Water Content, %	36.1
	Dry Density, pcf	87.1
	Saturation, %	105.7
	Void Ratio	0.9076
	Diameter, in.	2.815
	Height, in.	5.534
Strain at peak, %		5.8
Back Pressure, psf		0.0
Cell Pressure, psf		2030.4
Fail. Stress, psf		1583.8
Strain, %		5.8
Ult. Stress, psf		1583.8
Strain, %		5.8
σ_1 Failure, psf		3614.2
σ_3 Failure, psf		2030.4

Type of Test: Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: FAT CLAY with SAND(CH A-7-6(37))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Symmetrical Bulge

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 28.0'-30.0'

Sample Number: W-16 T-1

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

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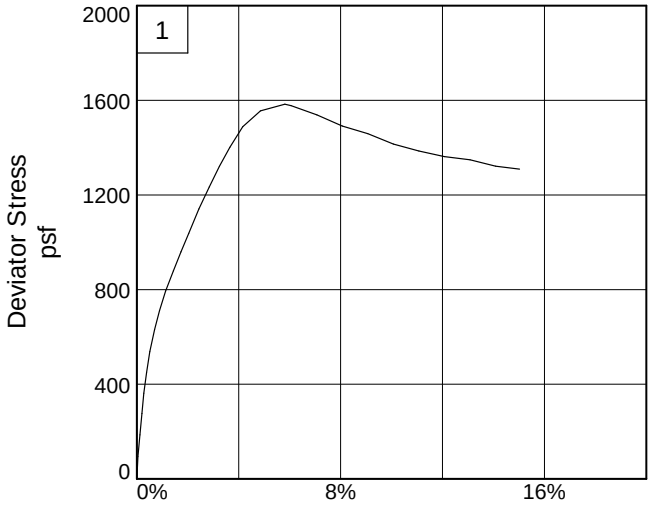
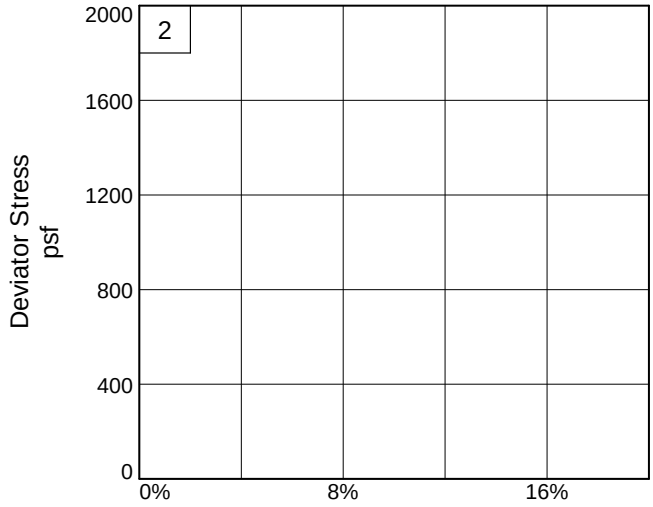
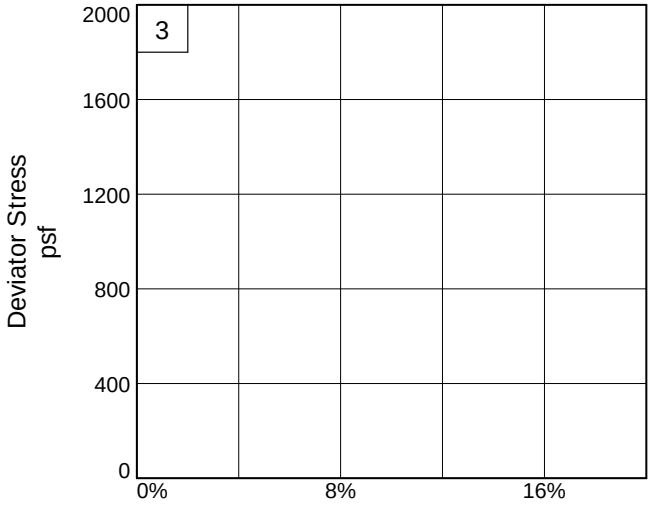
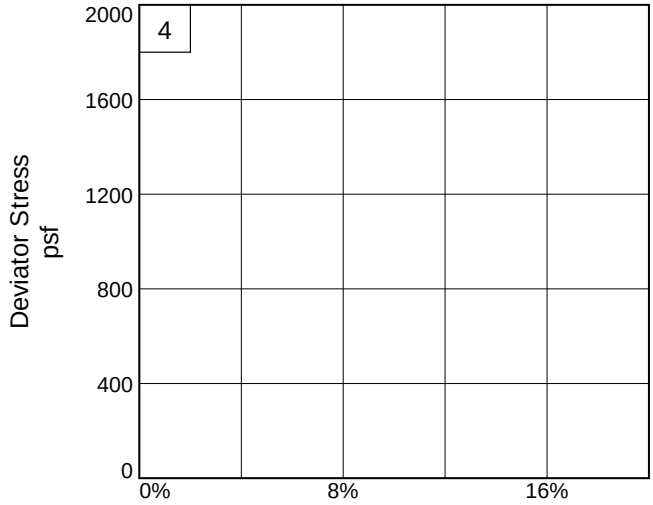
Thompson Engineering

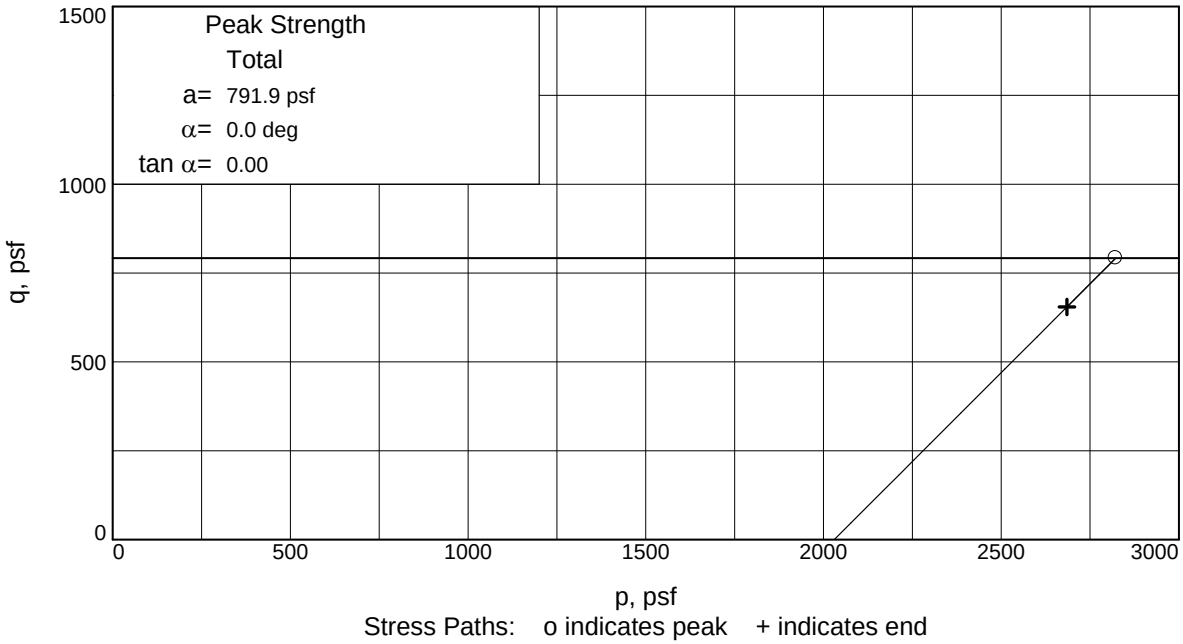
Mobile, Alabama











Stress Paths: o indicates peak + indicates end

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8076 **Depth:** 28.0'-30.0' **Sample Number:** W-16 T-1

Project No.: 1511010228 **Figure** _____

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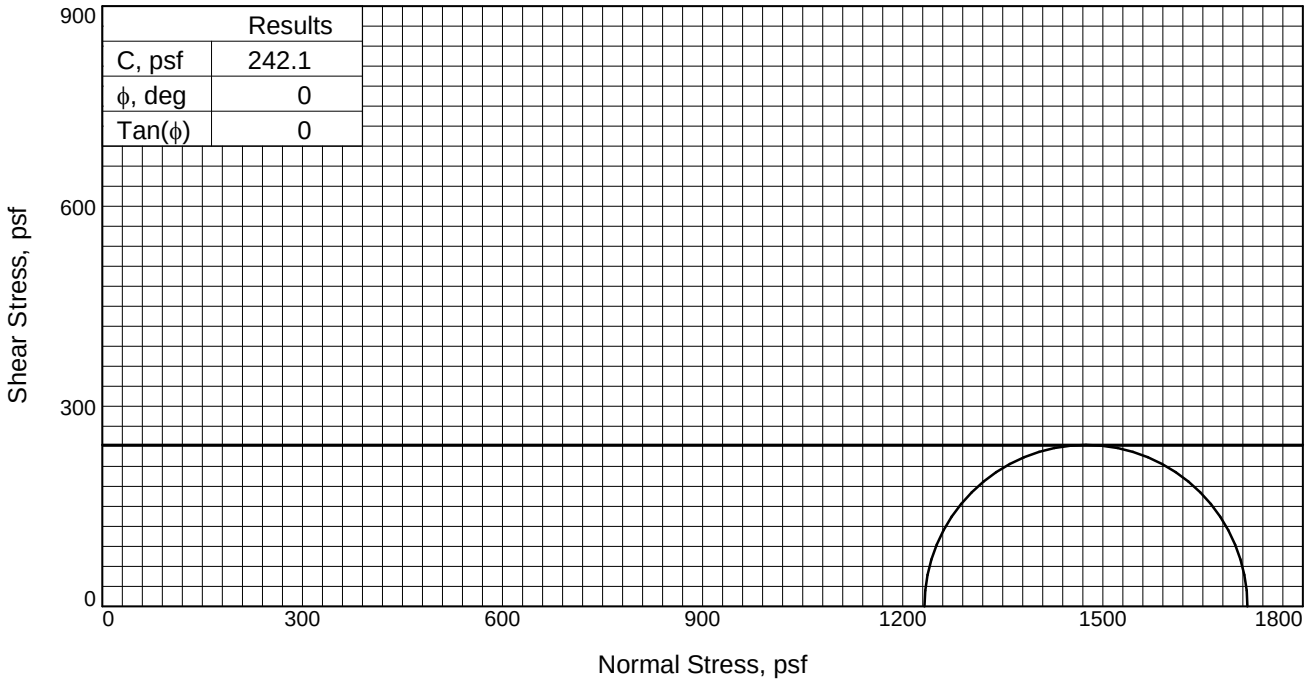

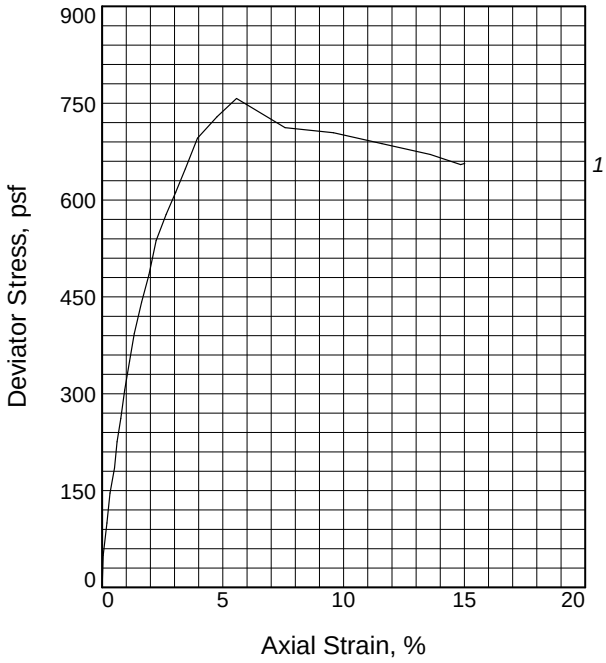

Specimen No.		1
Initial	Water Content, %	38.7
	Dry Density, pcf	82.9
	Saturation, %	102.6
	Void Ratio	1.0042
	Diameter, in.	1.417
	Height, in.	2.769
At Test	Water Content, %	38.3
	Dry Density, pcf	82.9
	Saturation, %	101.5
	Void Ratio	1.0042
	Diameter, in.	1.417
	Height, in.	2.769
Strain at peak, %		1.9
Back Pressure, psf		0.0
Cell Pressure, psf		1232.6
Fail. Stress, psf		484.2
Strain, %		1.9
Ult. Stress, psf		484.2
Strain, %		1.9
σ_1 Failure, psf		1716.9
σ_3 Failure, psf		1232.6

Type of Test:
Unconsolidated Undrained

Sample Type: 3-in. Shelby Tube

Description: CLAYEY SAND(SC A-6(7))

Specific Gravity= 2.66

Remarks: Compression Failure Mode: Symmetrical Bulge

Figure _____

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8098 **Depth:** 16.0'-18.0'

Sample Number: W-17 T-1

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

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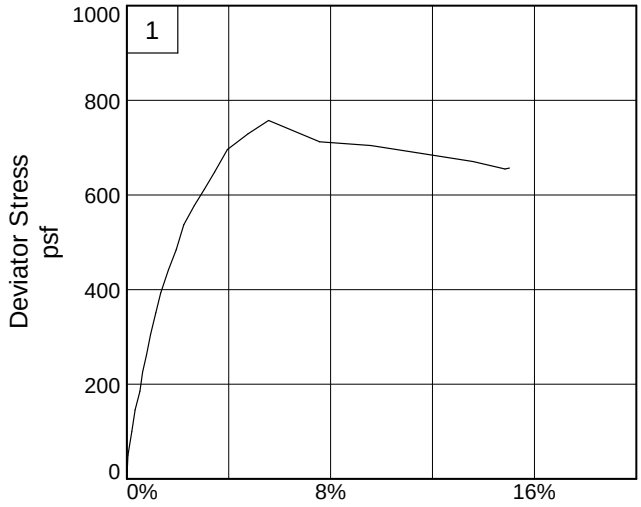
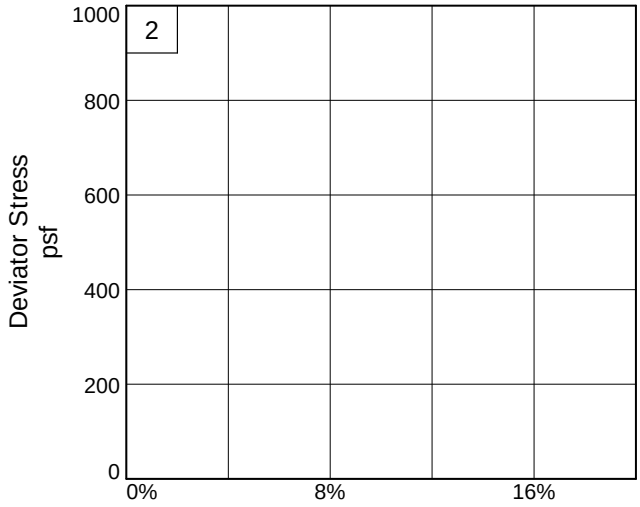
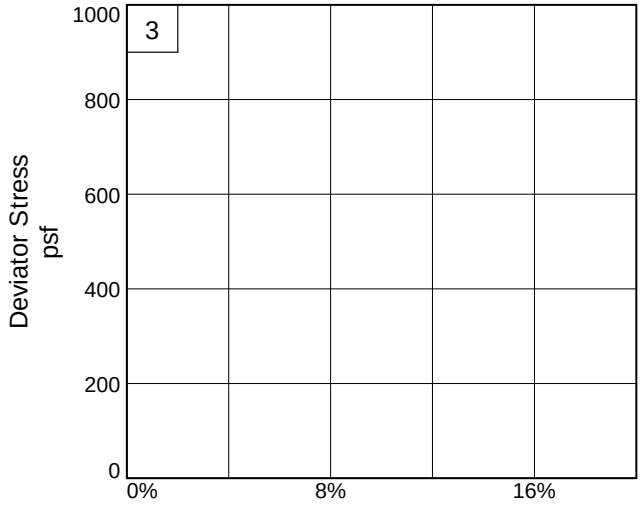
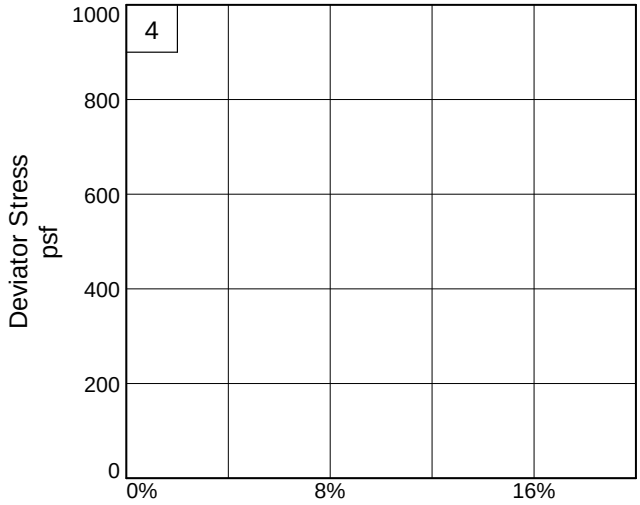
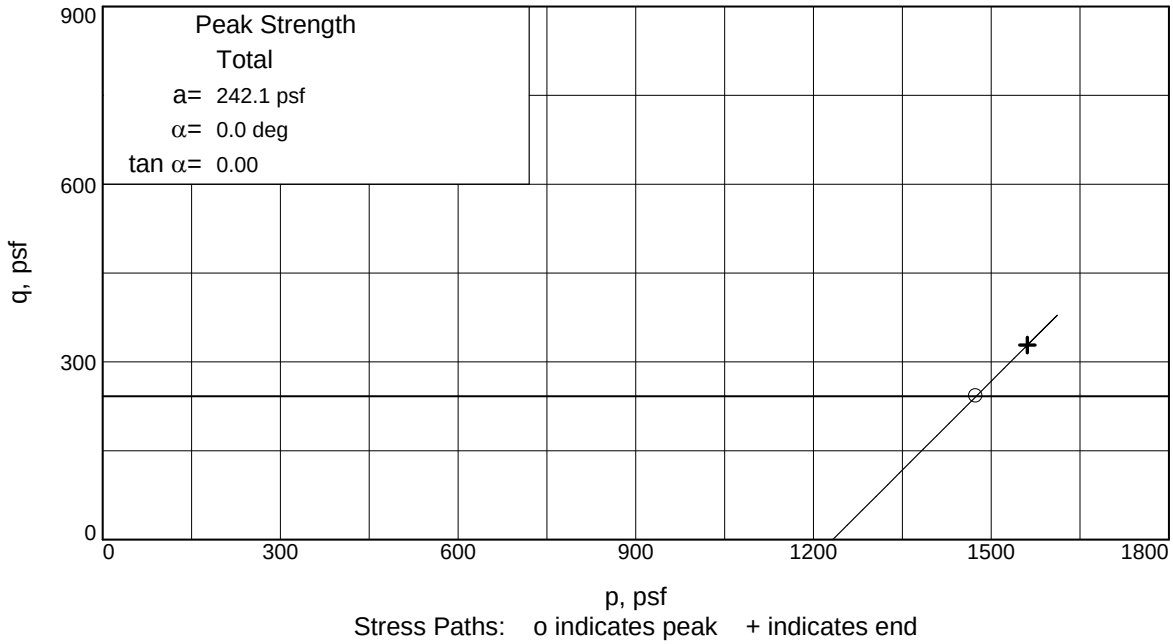










Stress Paths: o indicates peak + indicates end

Client: ALDOT

Project: Mobile River Bridge

Source of Sample: Lab #8098 **Depth:** 16.0'-18.0' **Sample Number:** W-17 T-1

Project No.: 1511010228 **Figure** _____

Thompson Engineering

Thompson Engineering

Direct Shear Test (ASTM D3080)

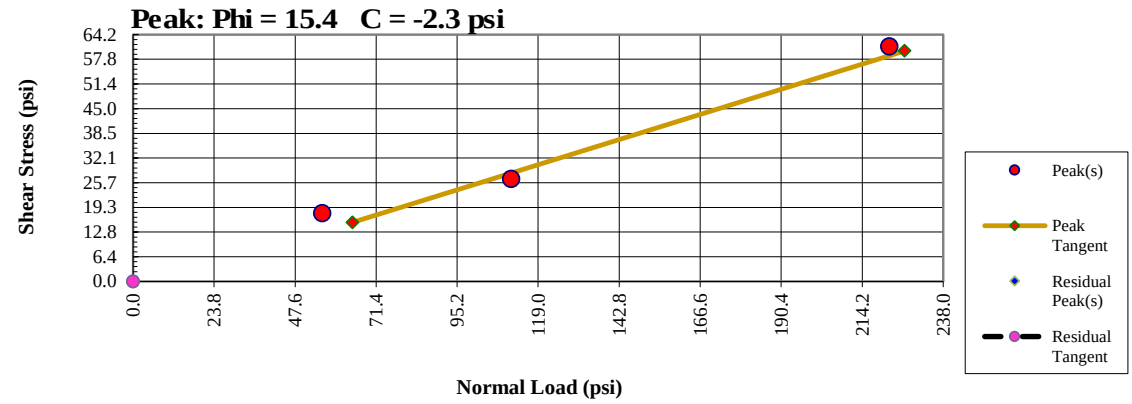
Date

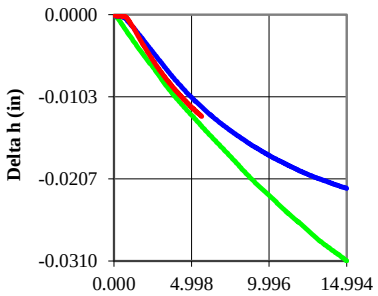
Checked By

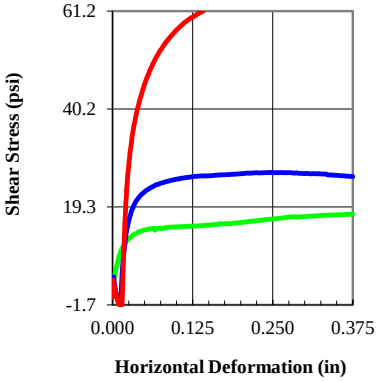
Date

Date

Tested By







Initial	Specimen A	B	C	D
Moisture (%)	32.58	33.98	35.06	
Density (pcf)	87.35	85.09	82.94	
Void Ratio	0.858	0.908	0.957	
Saturation (%)	98.70	97.36	95.27	
Diameter (in)	2.500	2.500	2.500	
Height (in)	1.000	1.000	1.000	

Final	A	B	C	D
Moisture (%)	31.70	26.84	32.58	
Density (pcf)	89.65	87.67	82.26	
Void Ratio	0.810	0.852	0.973	
Saturation (%)	100.00	100.00	100.00	
Diameter (in)	2.500	2.500	2.500	
Height (in)	0.911	0.823	0.724	
Normal Stress (psi)	55.6	111.1	222.2	
Peak Stress (psi)	17.8	26.7	61.2	
Residual Stress (psi)				
Strain (%)	14.948	14.994	5.653	
Rate (in/min)	0.00421	0.004	0.0022	

Project Date	
Date	10/27/17

Project:	Mobile River Bridge
Location:	Soils Lab
Project Number:	8076
Boring Number	TH-1
Sample Number:	T-2
Depth:	108.0-110.0 ft.
Sample Type:	Undisturbed
Description:	FAT CLAY(CH A-7-6(37))
Test Type:	Direct Shear
Remarks:	

Failure Photographs

Thompson Engineering

Direct Shear Test (ASTM D3080)

Date

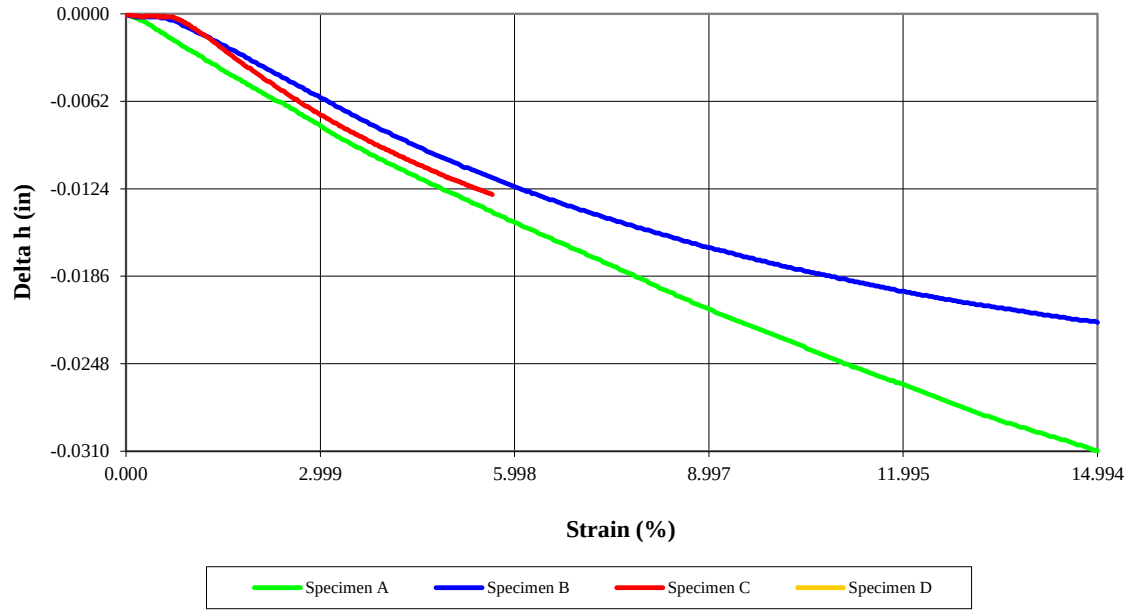
Checked By

Date

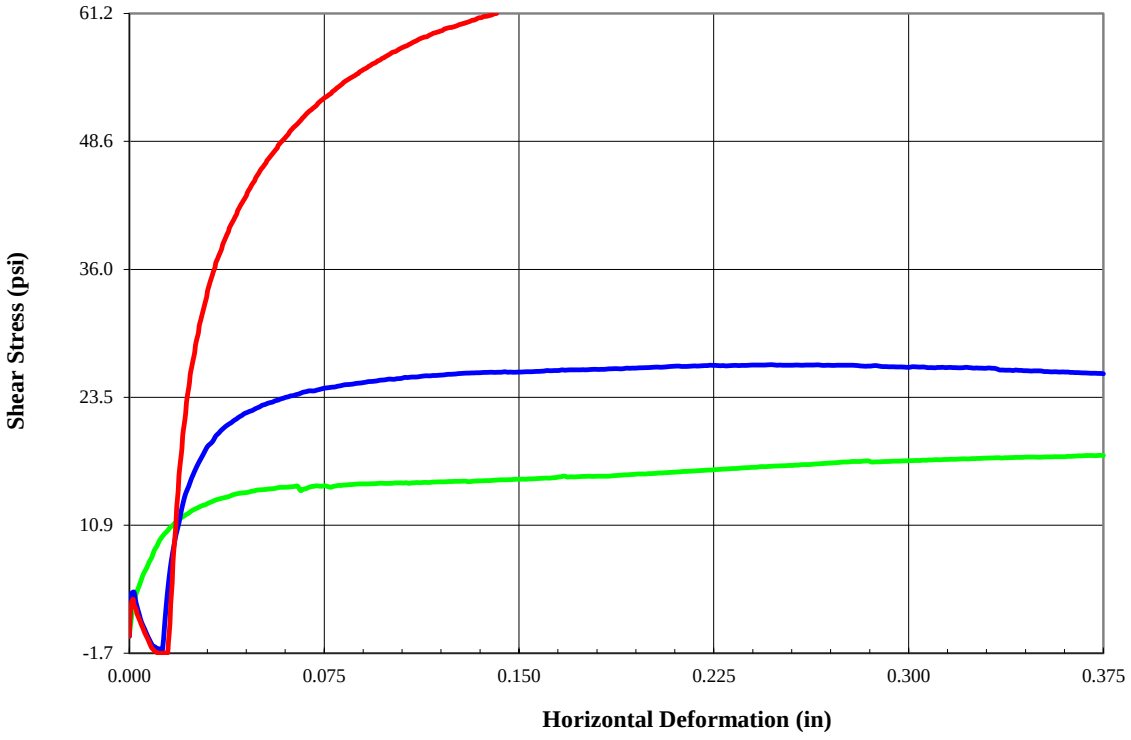
Date

Tested By

Delta h



Stress-Deformation



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Direct Shear Test

Date

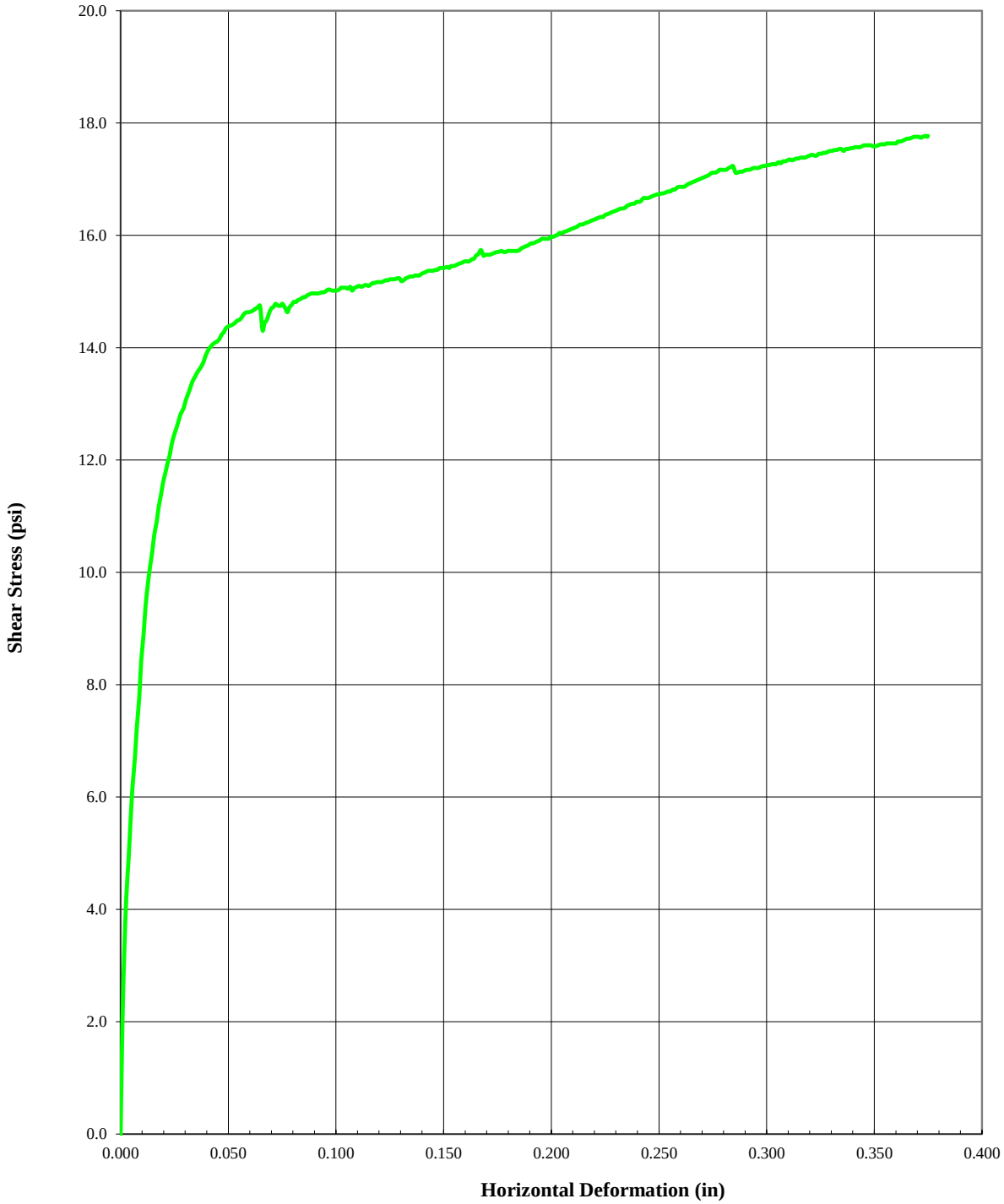
Checked By

Date

Date

Tested By

Specimen A Stress-Deformation



DS 17-1101-0145 TH-1 T-2.HSD

Thompson Engineering

Direct Shear Test

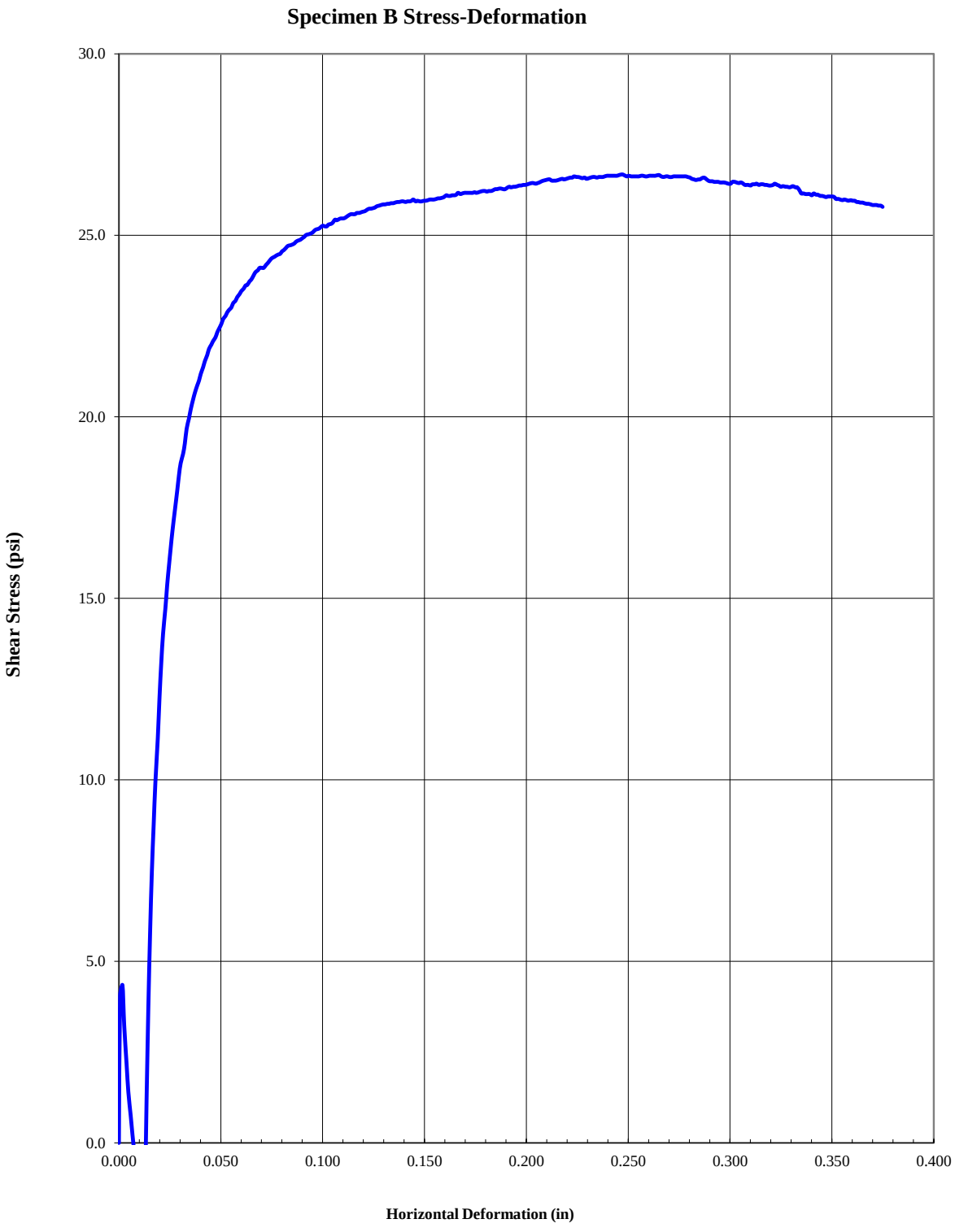
Date

Checked By

Date

Date

Tested By



DS 17-1101-0145 TH-1 T-2.HSD

Thompson Engineering

Direct Shear Test

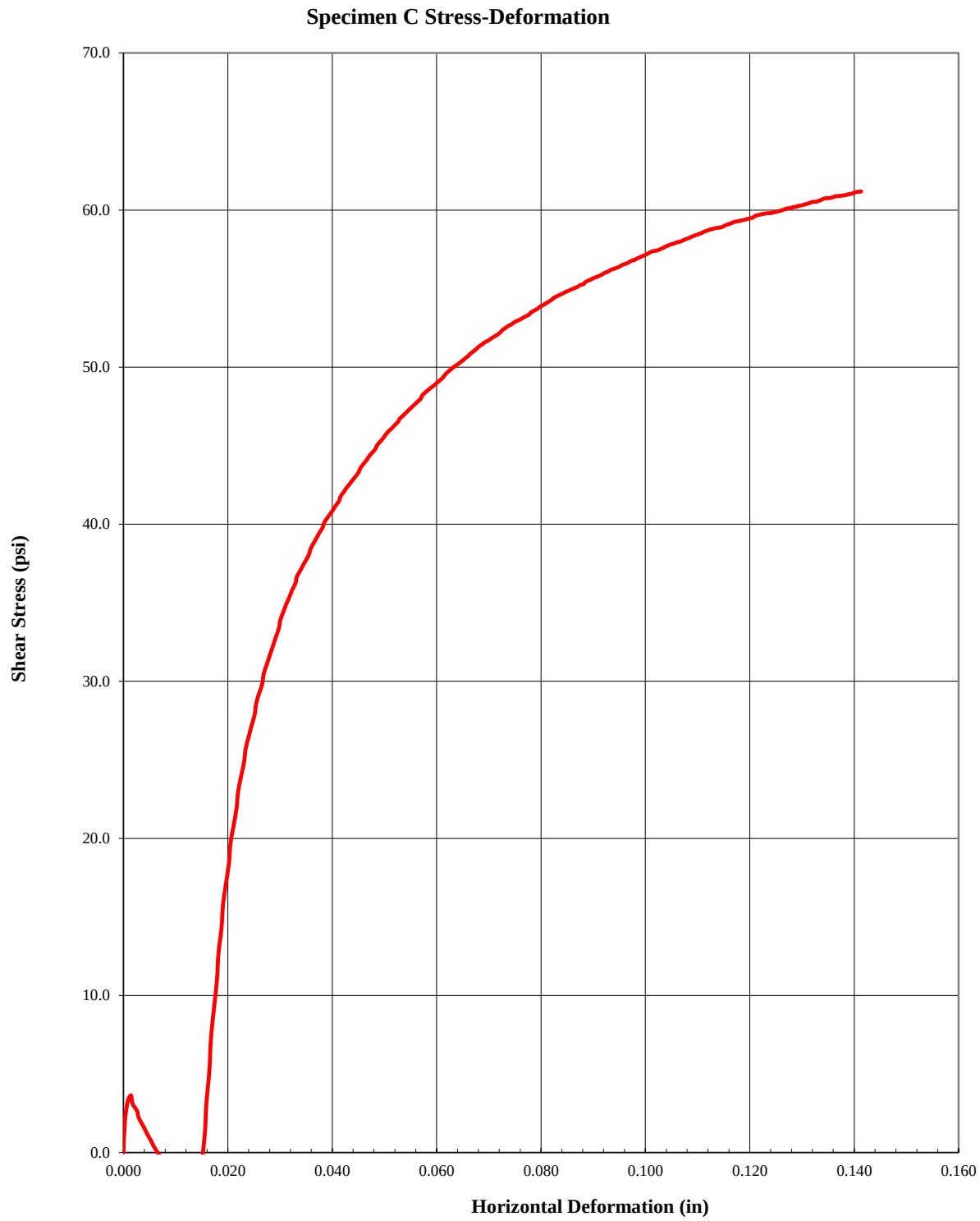
Date

Checked By

Date

Date

Tested By



DS 17-1101-0145 TH-1 T-2.HSD

Thompson Engineering

Direct Shear Test (ASTM D3080)

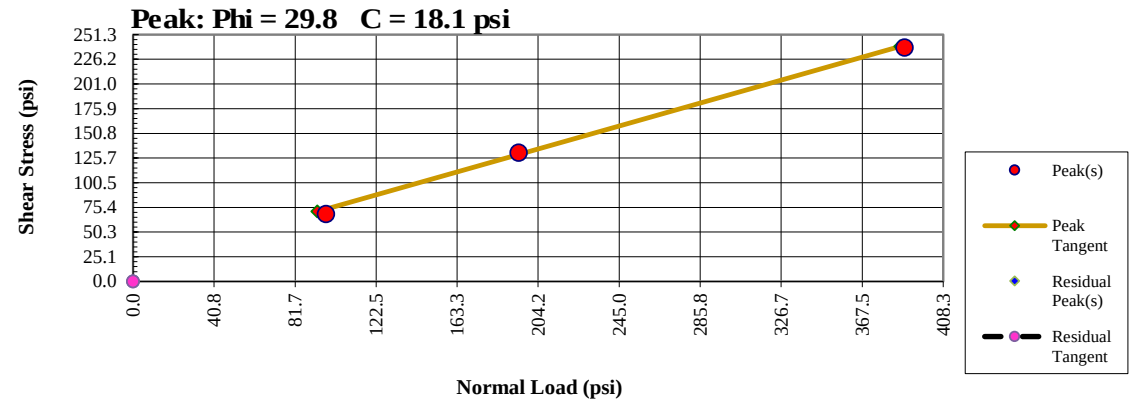
Date

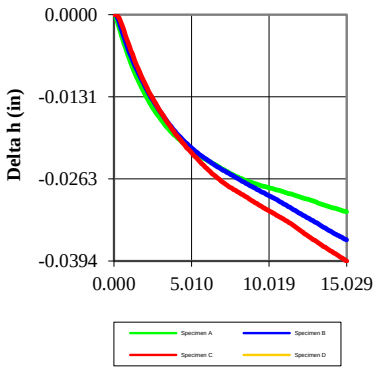
Checked By

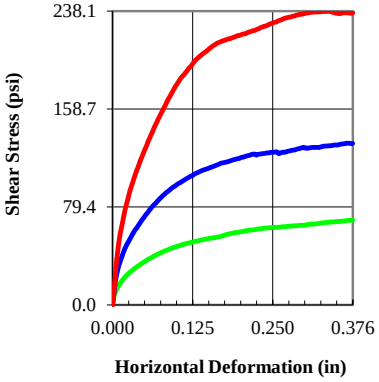
Date

Date

Tested By







Initial	Specimen A	B	C	D
Moisture (%)	15.55	15.55	15.55	
Density (pcf)	103.73	103.73	99.12	
Void Ratio	0.565	0.565	0.638	
Saturation (%)	71.60	71.60	63.42	
Diameter (in)	2.500	2.500	2.500	
Height (in)	1.000	1.000	1.000	

Final	A	B	C	D
Moisture (%)	15.59	16.34	16.68	
Density (pcf)	107.45	102.13	103.36	
Void Ratio	0.511	0.589	0.570	
Saturation (%)	100.00	100.00	100.00	
Diameter (in)	2.500	2.500	2.500	
Height (in)	0.884	0.848	0.816	
Normal Stress (psi)	97.2	194.4	388.9	
Peak Stress (psi)	68.7	131.0	238.1	
Residual Stress (psi)				
Strain (%)	14.867	15.017	15.029	
Rate (in/min)	0.00891	0.00883	0.00828	

Project Date	
Date	11/29/17

Project:	Mobile River Bridge
Location:	Soils Lab
Project Number:	8081
Boring Number	W-12
Sample Number:	SS-5
Depth:	6.0-7.5 ft.
Sample Type:	Remolded
Description:	CLAYEY SAND(SC A-2-6(0))
Test Type:	Direct Shear
Remarks:	

Failure Photographs

Thompson Engineering

Direct Shear Test (ASTM D3080)

Date

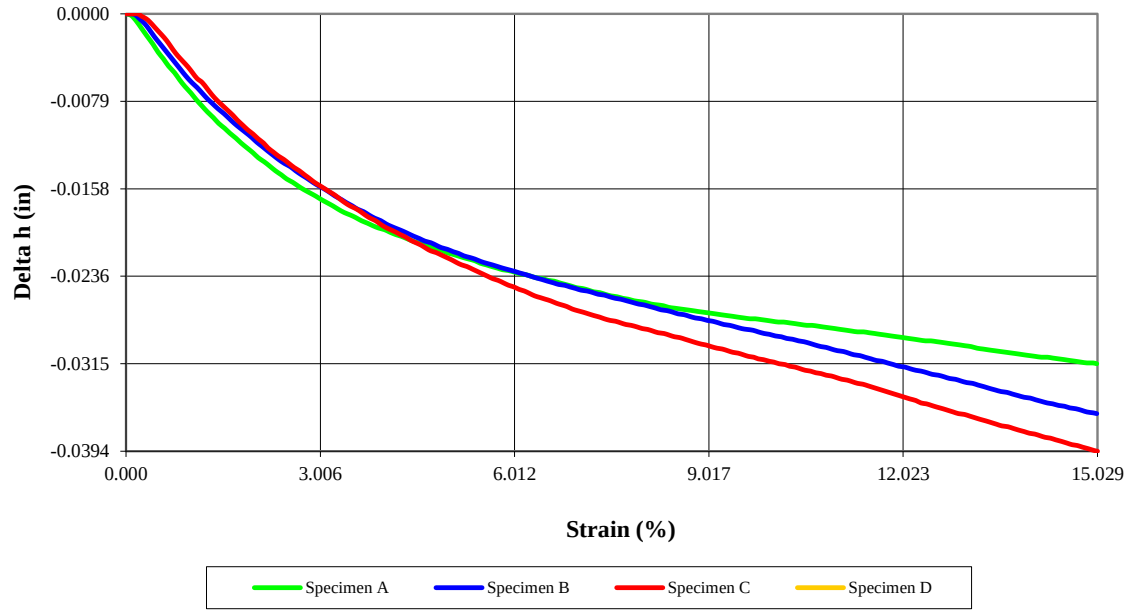
Checked By

Date

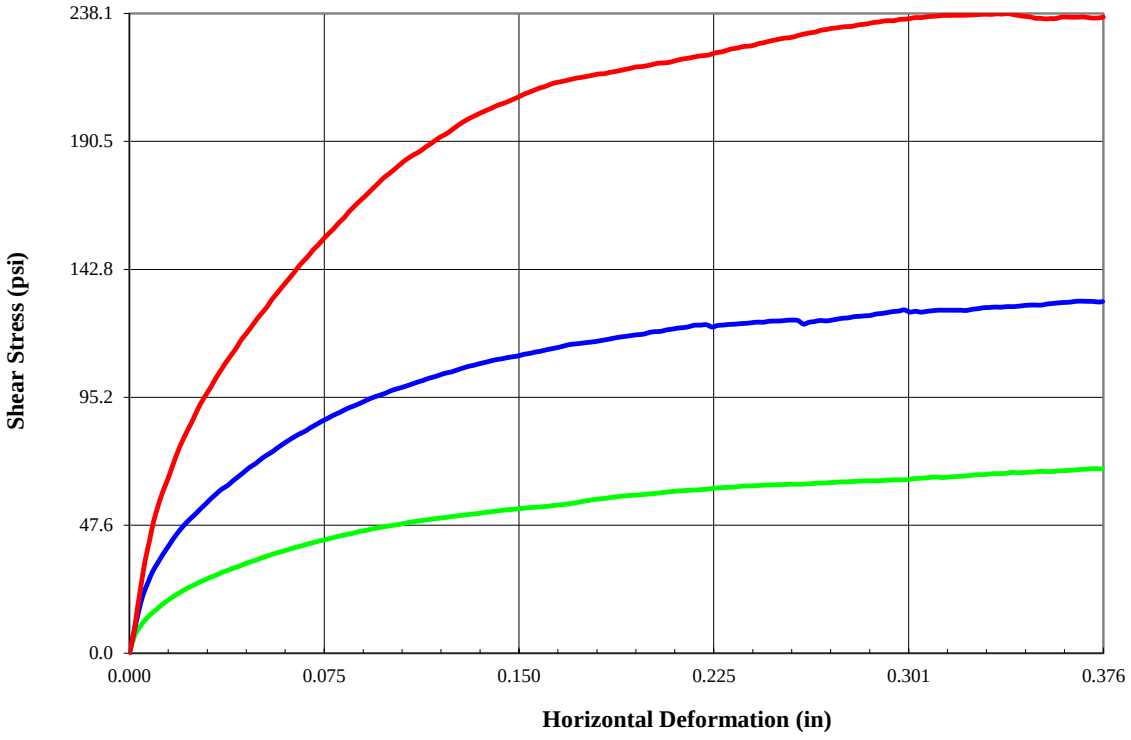
Date

Tested By

Delta h



Stress-Deformation



Thompson Engineering

Direct Shear Test

Date

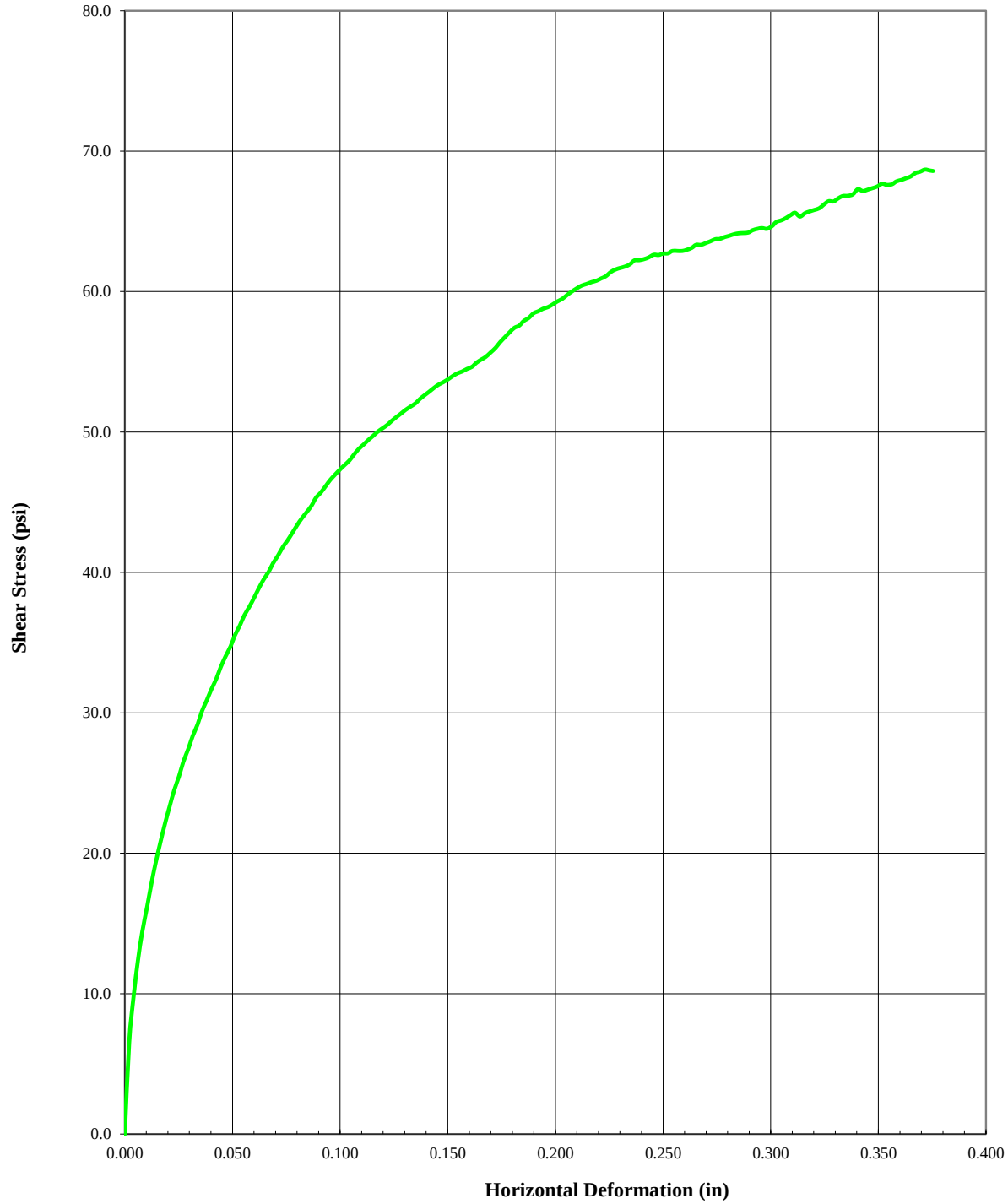
Checked By

Date

Date

Tested By

Specimen A Stress-Deformation



DS 17-1101-0145 W-12 S-5.HSD

Thompson Engineering

Direct Shear Test

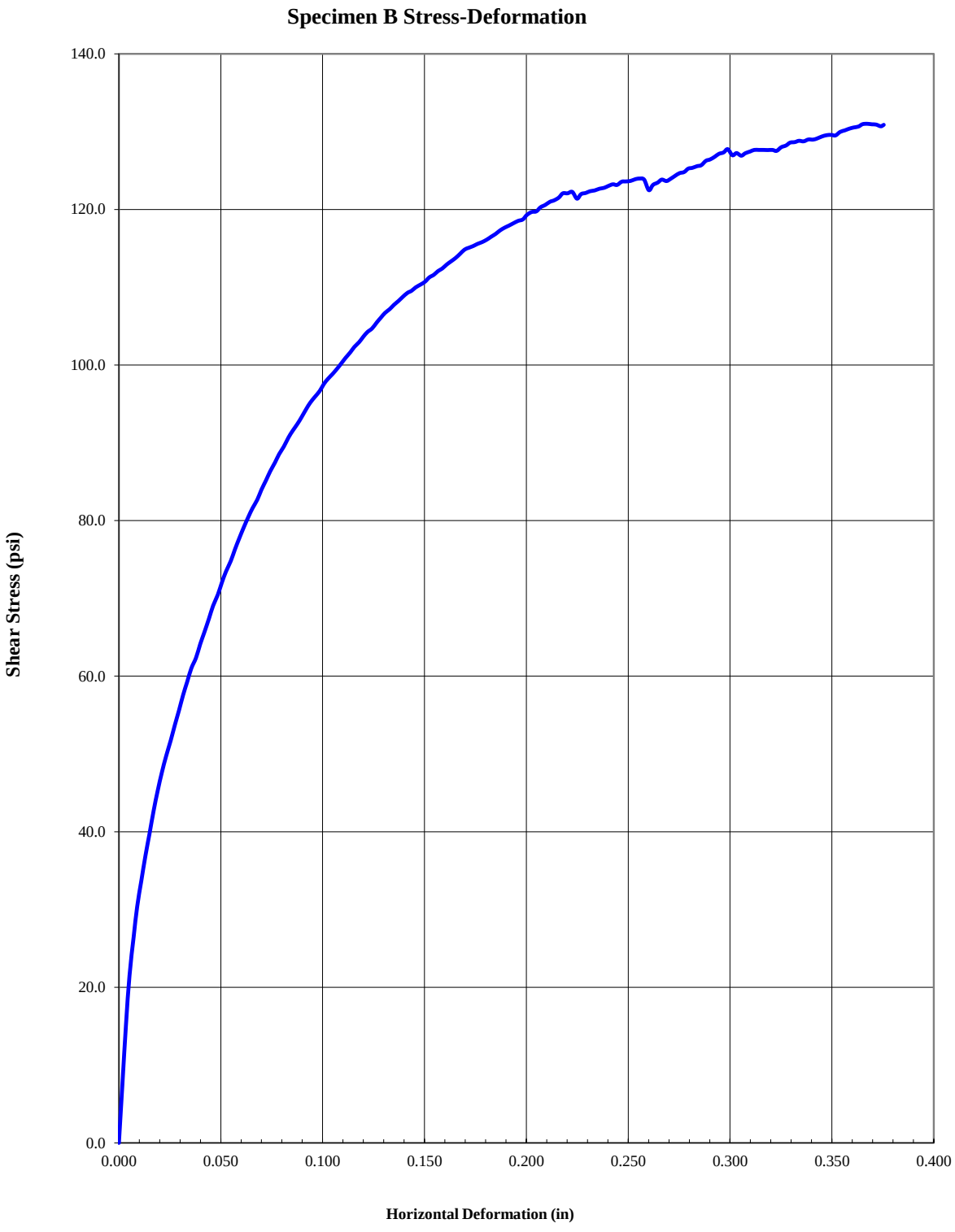
Date

Checked By

Date

Date

Tested By



DS 17-1101-0145 W-12 S-5.HSD

Thompson Engineering

Direct Shear Test

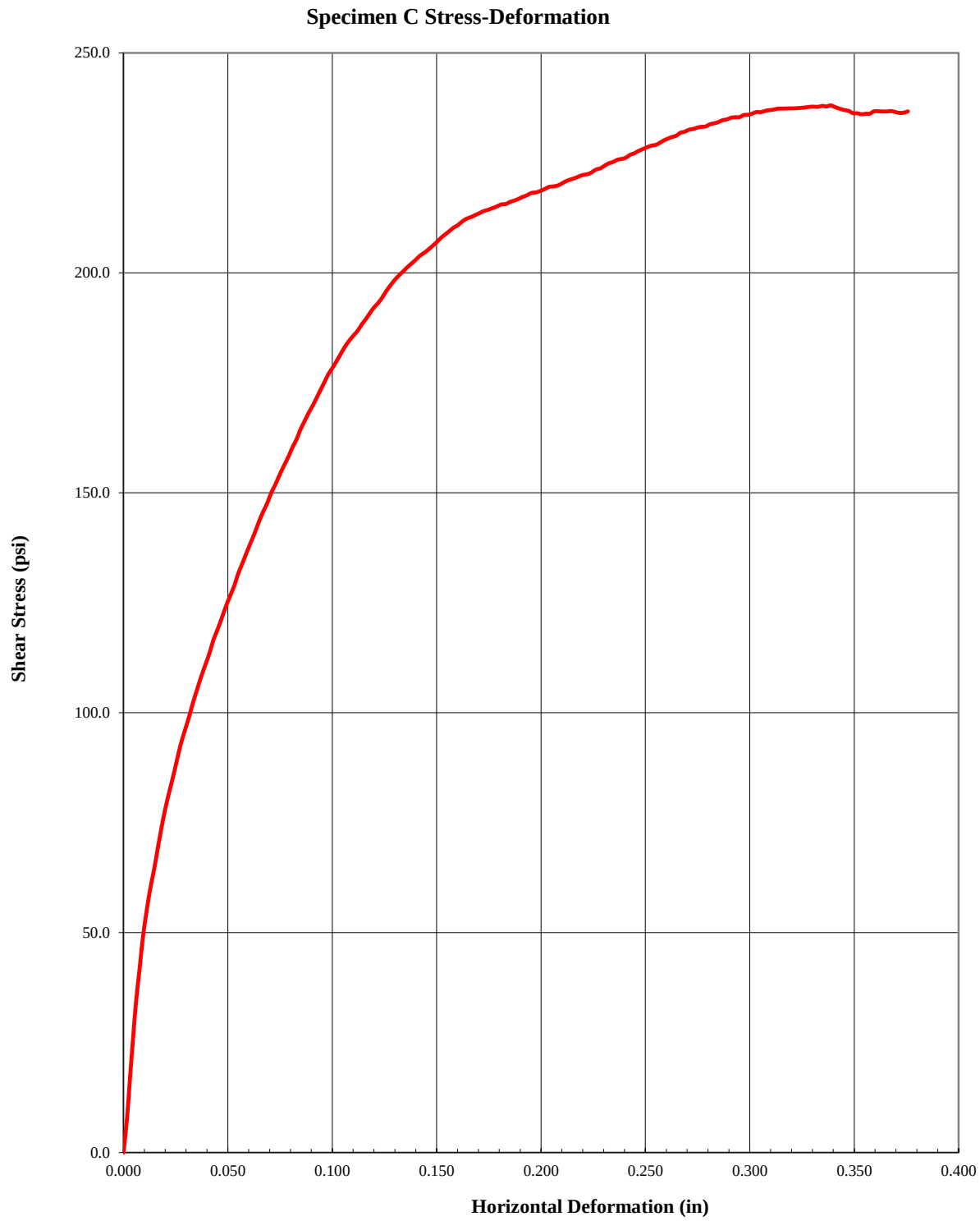
Date

Checked By

Date

Date

Tested By



DS 17-1101-0145 W-12 S-5.HSD

Thompson Engineering

Direct Shear Test (ASTM D3080)

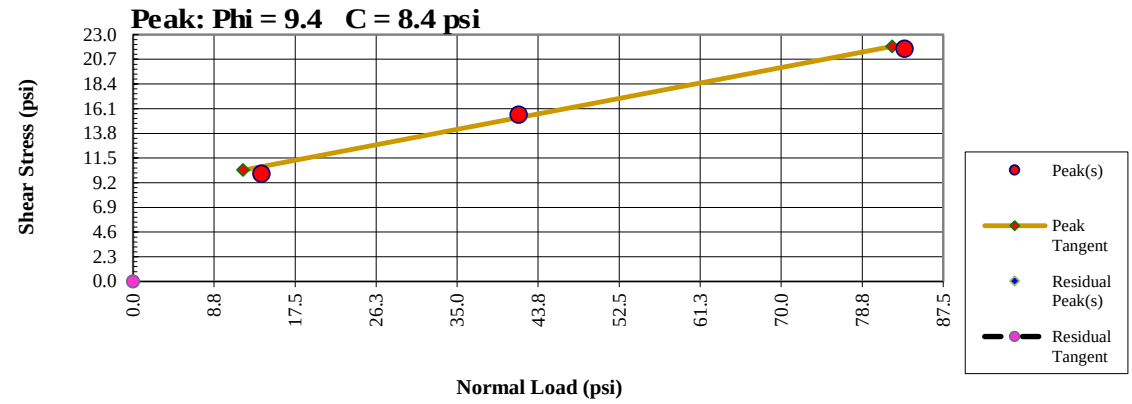
Date

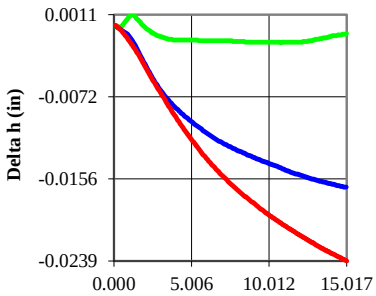
Checked By

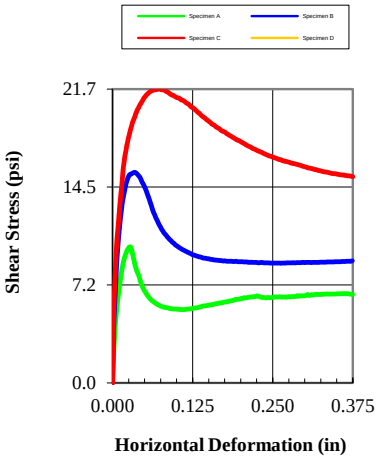
Date

Date

Tested By





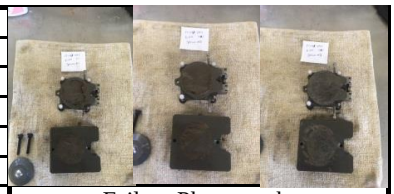


Initial	Specimen A	B	C	D
Moisture (%)	88.91	87.12	63.80	
Density (pcf)	47.39	48.82	58.96	
Void Ratio	1.566	1.491	1.063	
Saturation (%)	100.00	100.00	100.00	
Diameter (in)	2.500	2.500	2.500	
Height (in)	1.000	1.000	1.000	

Final	A	B	C	D
Moisture (%)	86.25	76.89	54.70	
Density (pcf)	51.01	53.47	61.76	
Void Ratio	1.384	1.274	0.969	
Saturation (%)	100.00	100.00	100.00	
Diameter (in)	2.500	2.500	2.500	
Height (in)	0.972	0.951	0.880	
Normal Stress (psi)	13.9	41.7	83.3	
Peak Stress (psi)	10.0	15.6	21.7	
Residual Stress (psi)				
Strain (%)	15.006	14.983	15.017	
Rate (in/min)	0.00722	0.00706	0.00523	

Project Date	
Date	10/17/17

Project:	Mobile River Bridge
Location:	Soils Lab
Project Number:	8063
Boring Number	W-24
Sample Number:	T-1
Depth:	18.5-20.0 ft.
Sample Type:	Undisturbed
Description:	FAT CLAY(CH A-7-5(59))
Test Type:	Direct Shear
Remarks:	



Failure Photographs

Thompson Engineering

Direct Shear Test (ASTM D3080)

Date

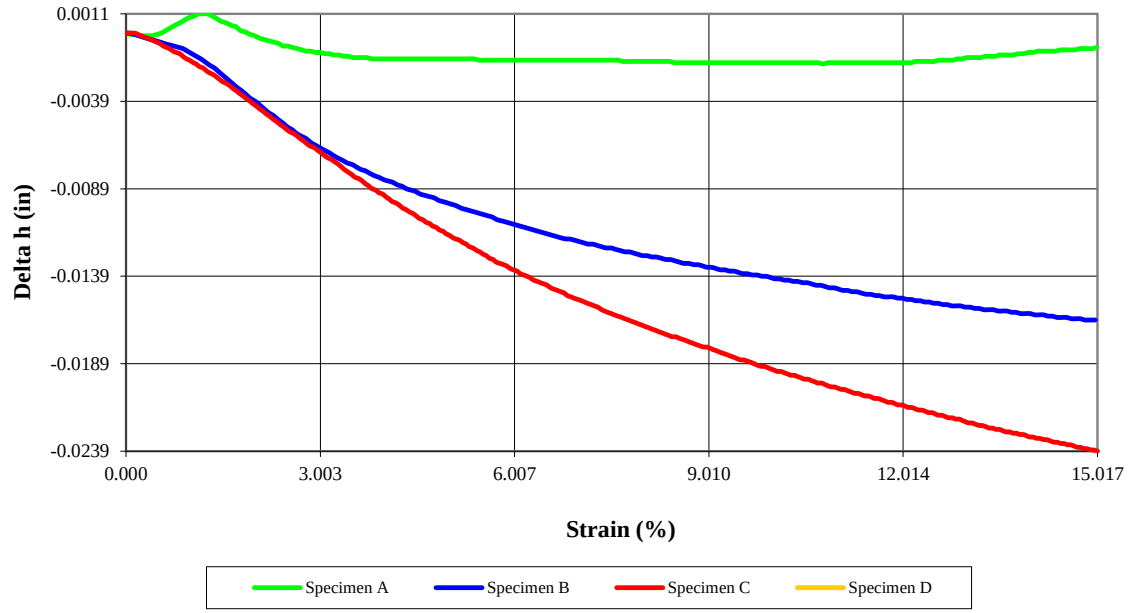
Checked By

Date

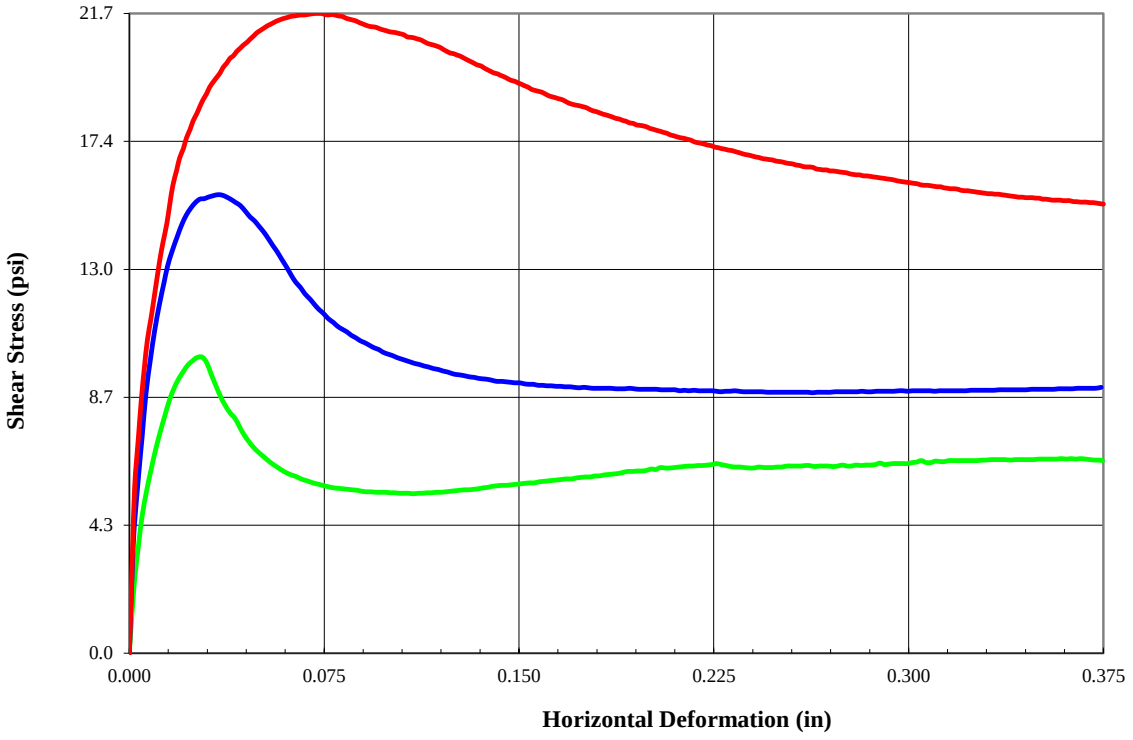
Date

Tested By

Delta h



Stress-Deformation



DS 17-1101-0145 W-24 T-1.HSD

Thompson Engineering

Direct Shear Test

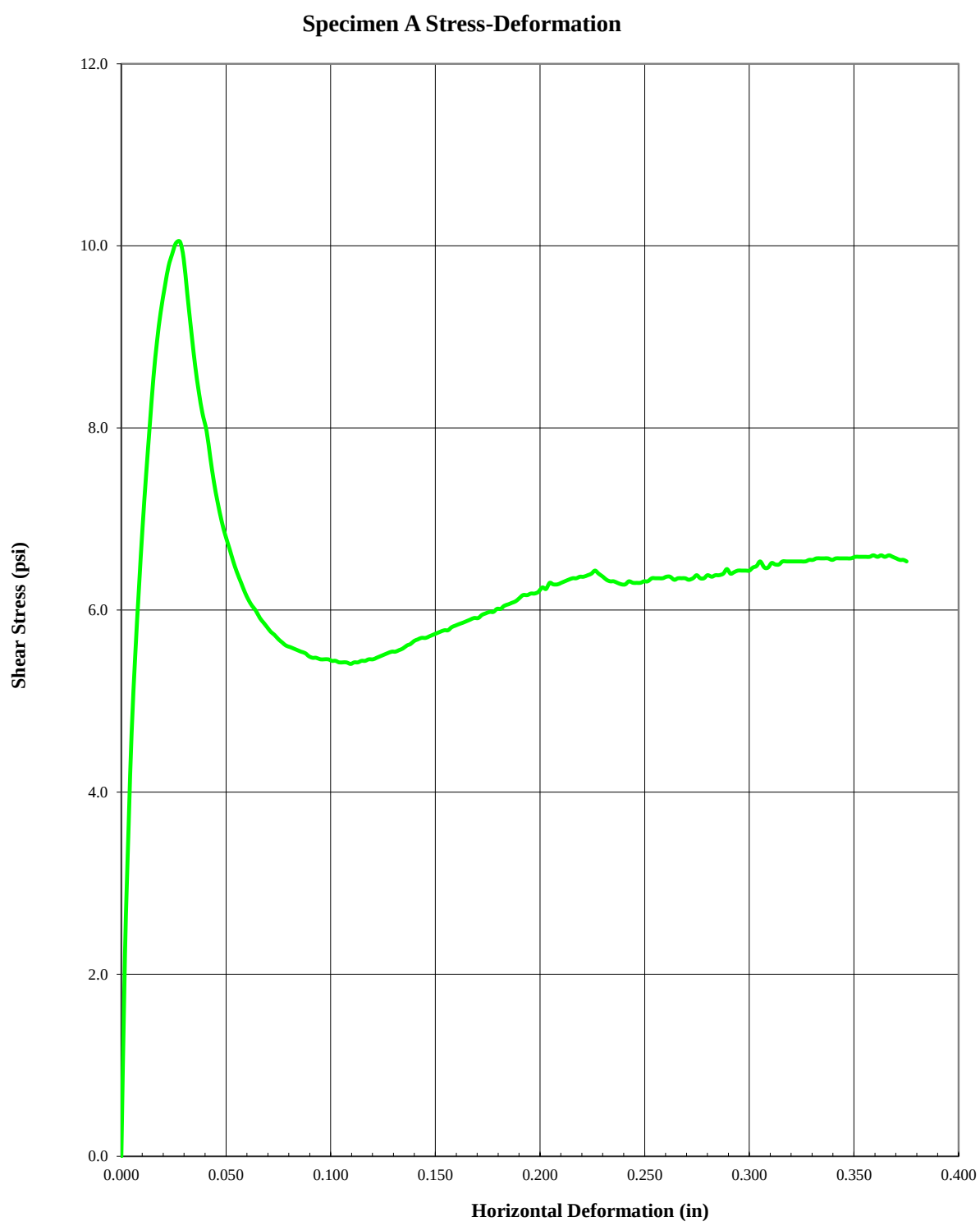
Date

Checked By

Date

Date

Tested By



DS 17-1101-0145 W-24 T-1.HSD

Thompson Engineering

Direct Shear Test

Date

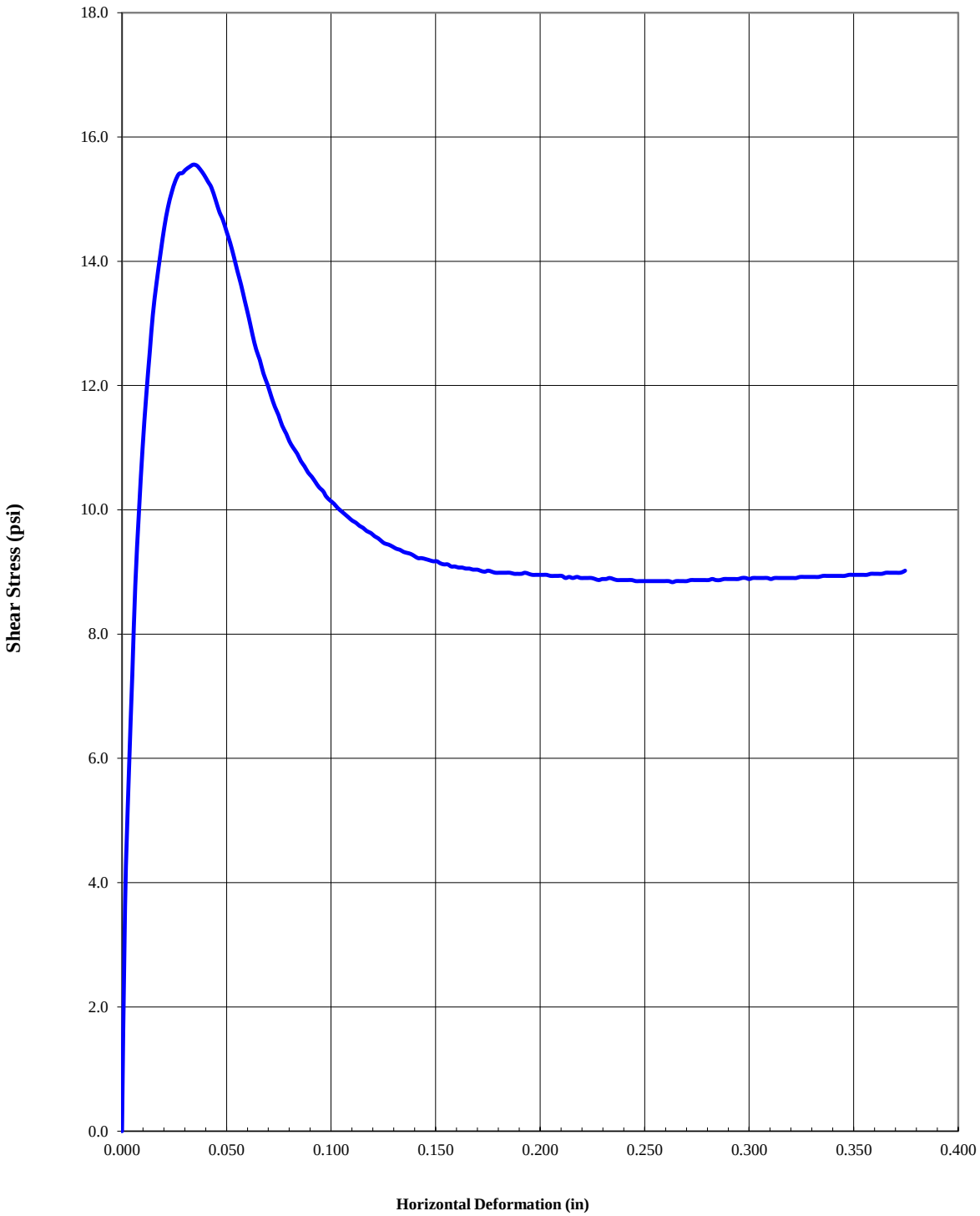
Checked By

Date

Date

Tested By

Specimen B Stress-Deformation



DS 17-1101-0145 W-24 T-1.HSD

Thompson Engineering

Direct Shear Test

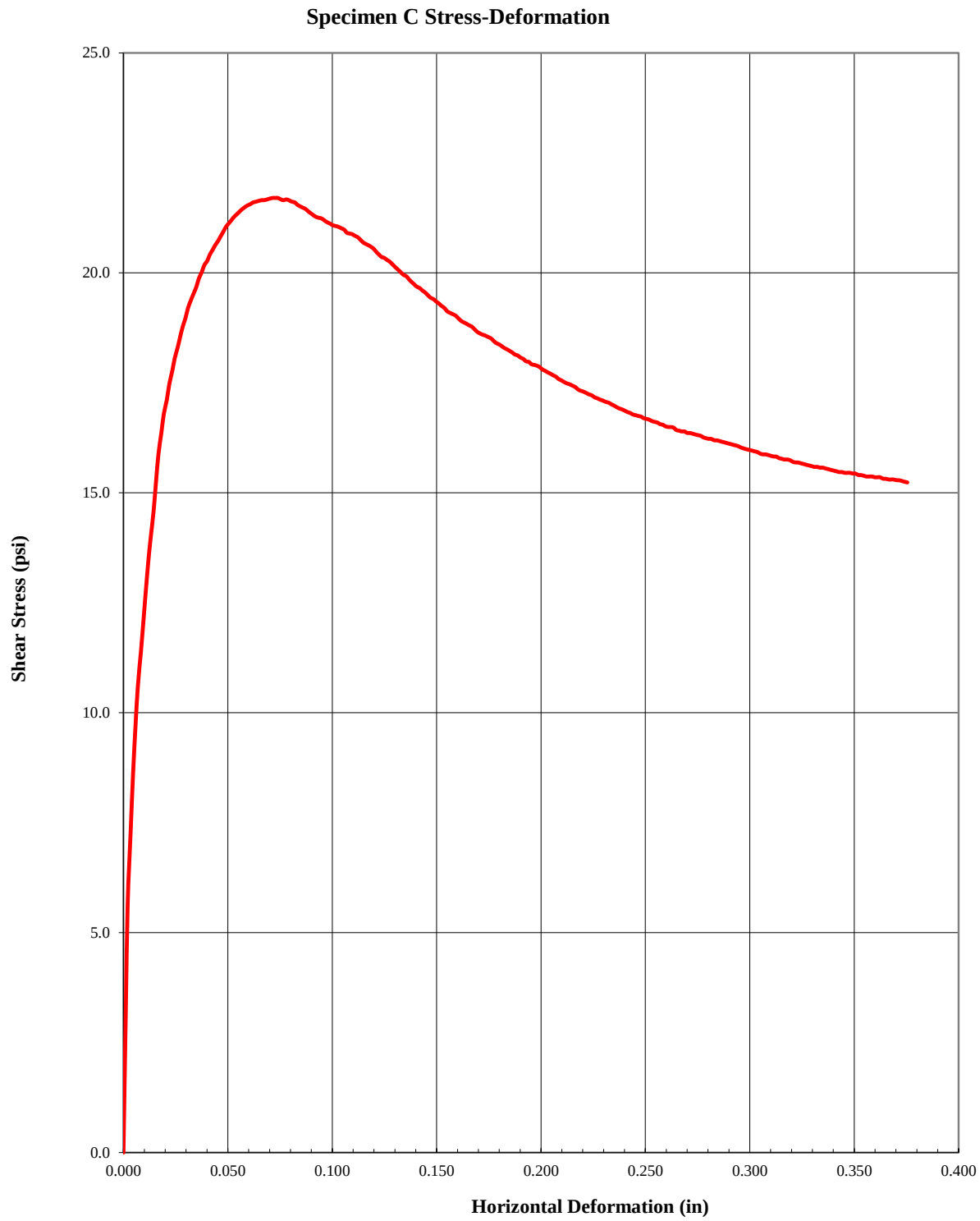
Date

Checked By

Date

Date

Tested By



DS 17-1101-0145 W-24 T-1.HSD

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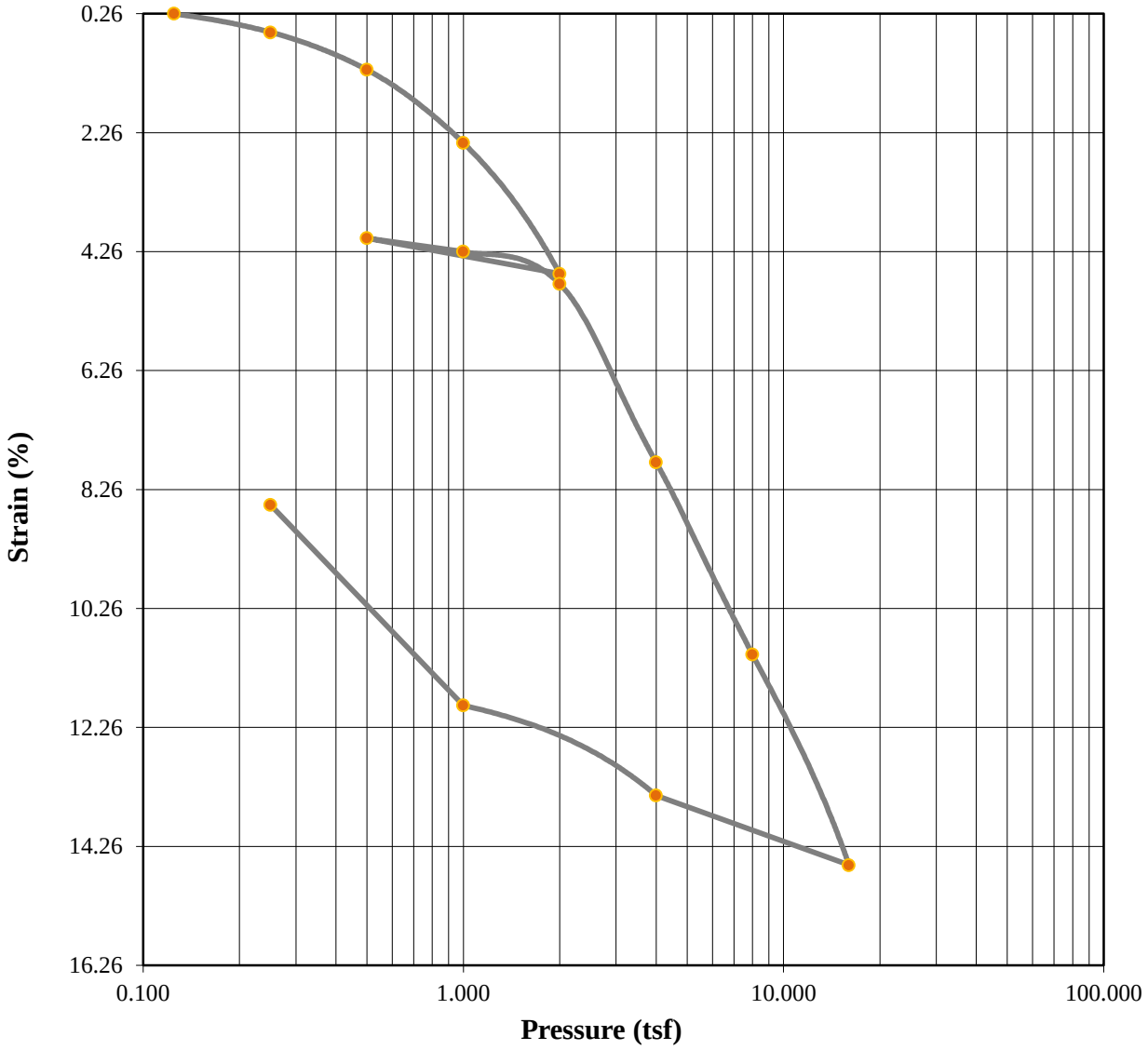
Consolidation Test
Test Results



	Before	After				
Moisture (%):	23.38	20.23	**Liquid Limits:**	0	**Test Date:**	11/20/17
Dry Density (pcf):	98.44	107.69	**Plastic Limits:**	0		
Saturation (%):	87.24	94.75	**Plasticity Index (%):**	0		
Void Ratio:	0.7271	0.5800	**Specific Gravity:**	2.731	Measured	

Sample Description:	CLAYEY SAND(SC A-6(2))			
Project Number:	8076	**Depth:**	13.5-15.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-6	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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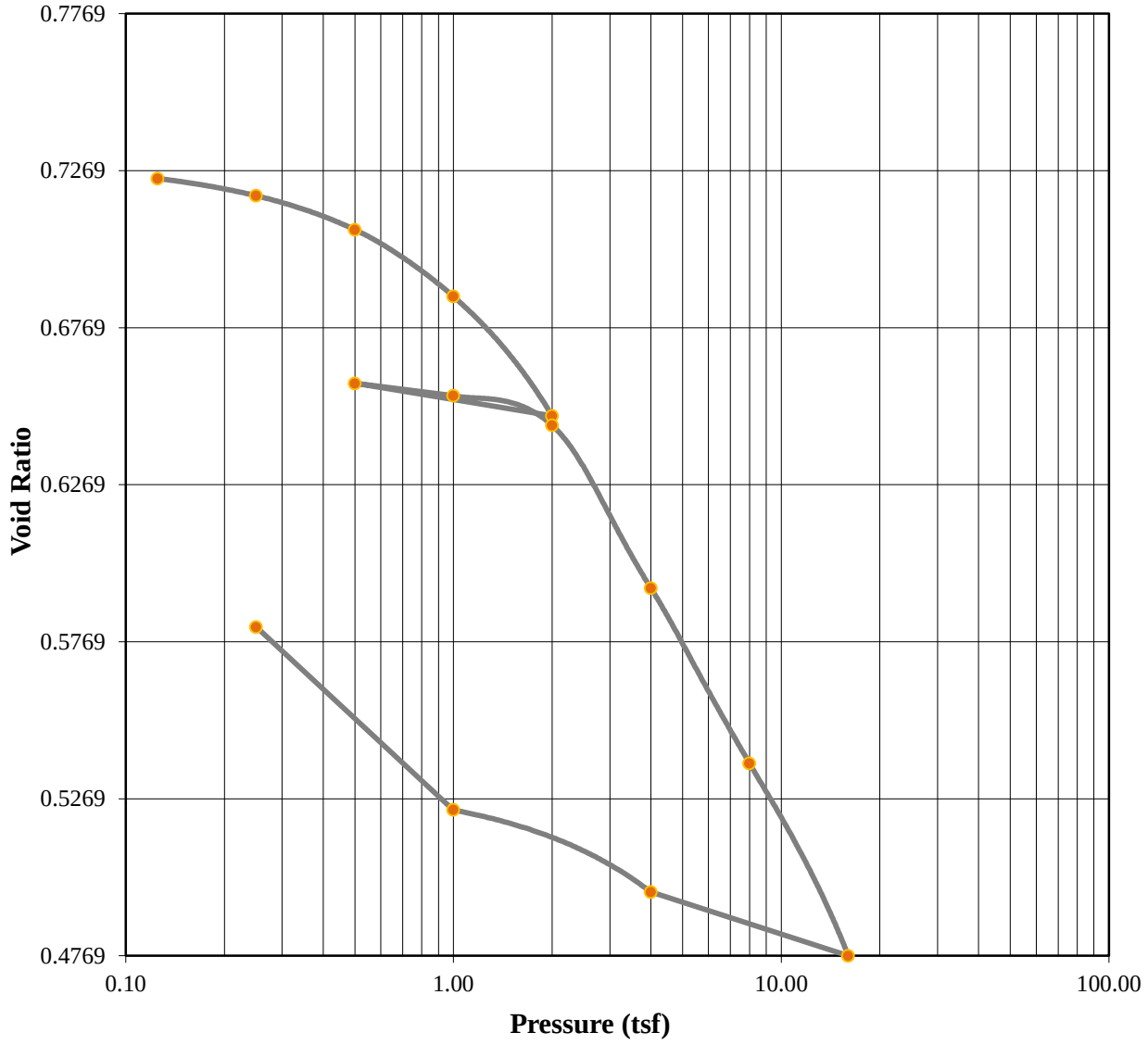
Consolidation Test
Test Results



	Before	After				
Moisture (%):	23.38	20.23	**Liquid Limits:**	0	**Test Date:**	11/20/17
Dry Density (pcf):	98.44	107.69	**Plastic Limits:**	0		
Saturation (%):	87.24	94.75	**Plasticity Index (%):**	0		
Void Ratio:	0.7271	0.5800	**Specific Gravity:**	2.731	Measured	

Soil Description:	CLAYEY SAND(SC A-6(2))			
Project Number:	8076	**Depth:**	13.5-15.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-6	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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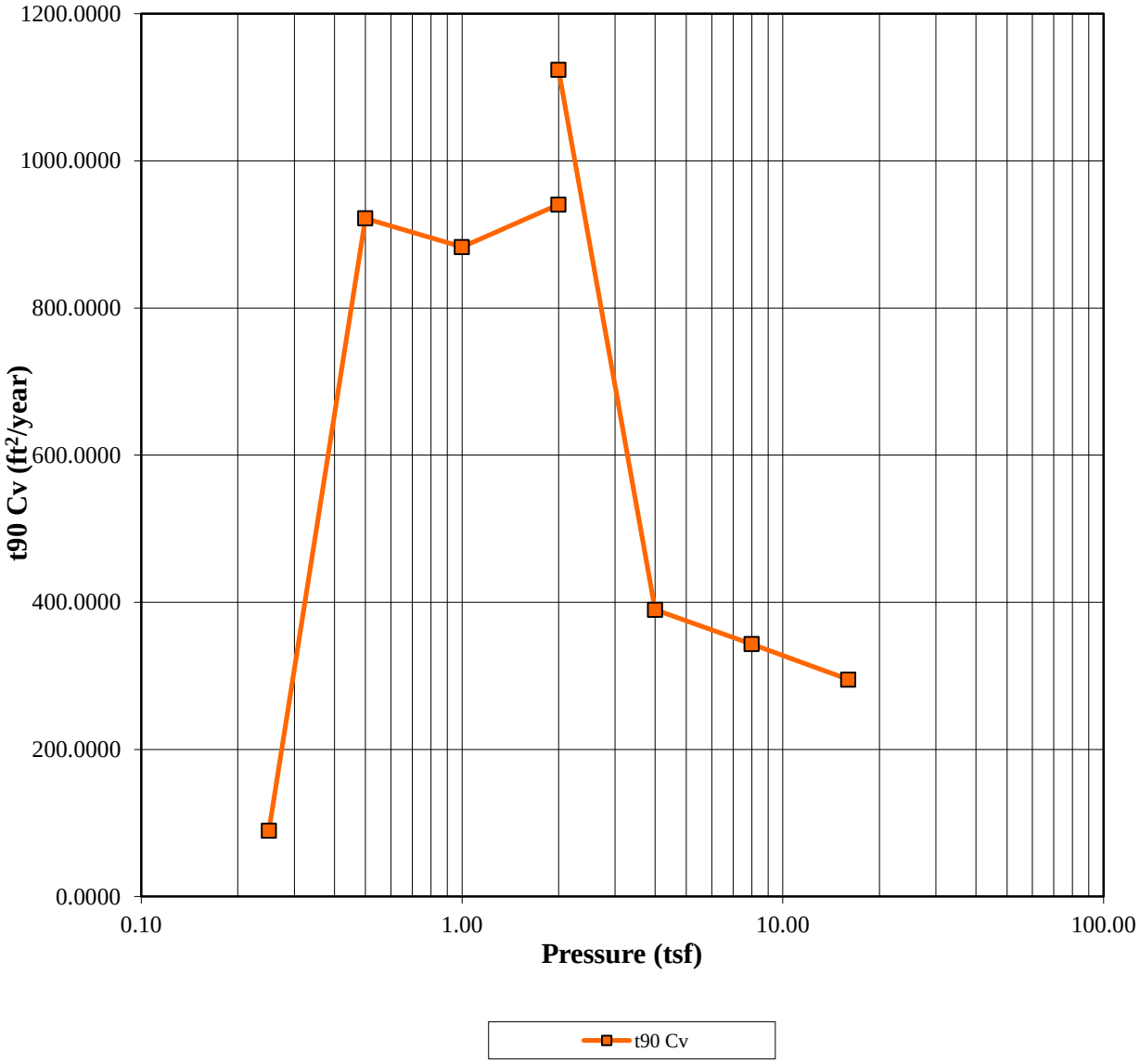
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	0	**Test Date:**	11/20/17
Moisture (%):	23.38	20.23	**Plastic Limits:**	0		
Dry Density (pcf):	98.44	107.69	**Plasticity Index (%):**	0		
Saturation (%):	87.24	94.75				
Void Ratio:	0.7271	0.5800	**Specific Gravity:**	2.731	Measured	

Soil Description:	CLAYEY SAND(SC A-6(2))			
Project Number:	8076	**Depth:**	13.5-15.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-6	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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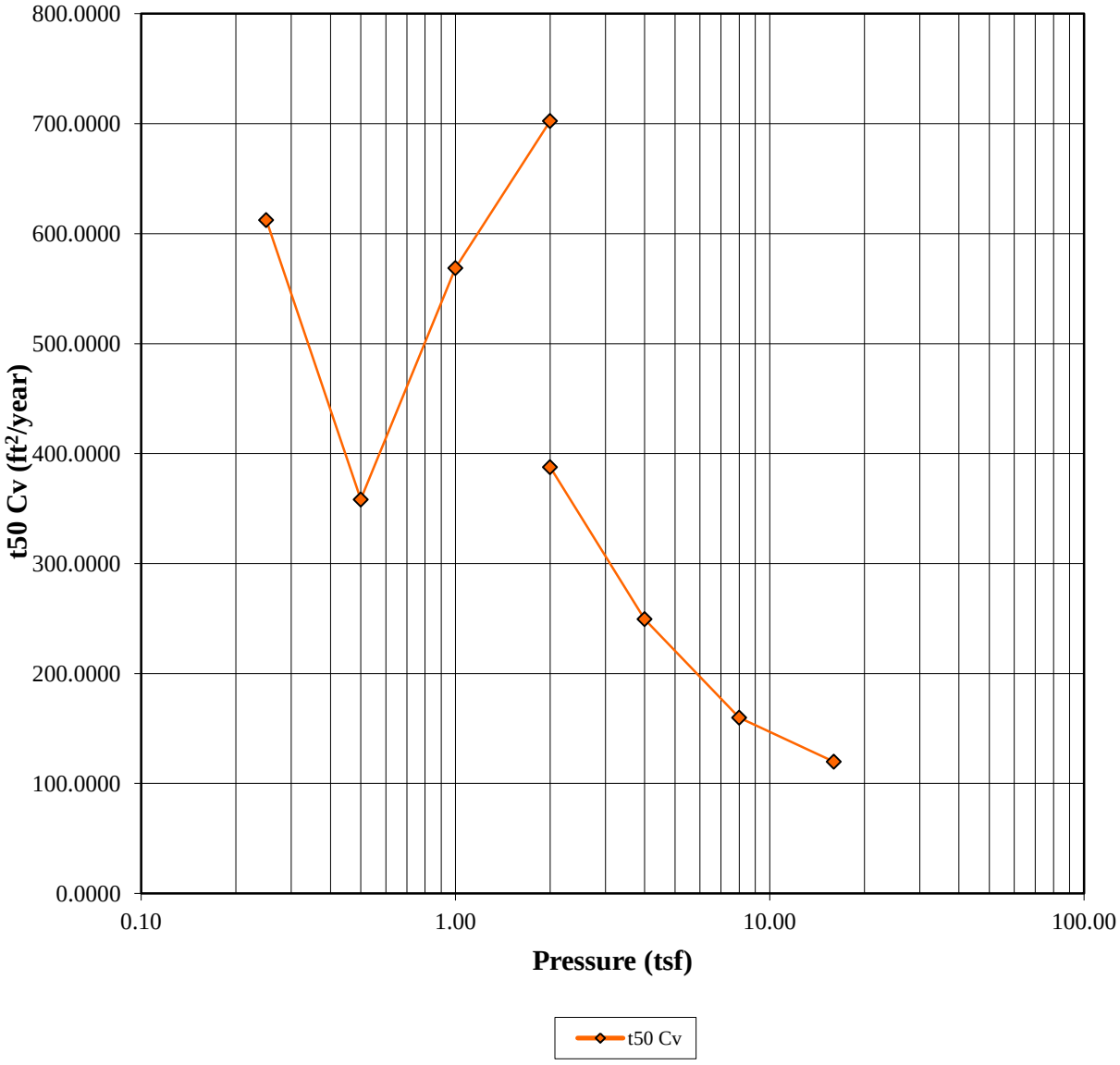
Consolidation Test
Test Results



	Before	After				
Moisture (%):	23.38	20.23	**Liquid Limits:**	0	**Test Date:**	11/20/17
Dry Density (pcf):	98.44	107.69	**Plastic Limits:**	0		
Saturation (%):	87.24	94.75	**Plasticity Index (%):**	0		
Void Ratio:	0.7271	0.5800	**Specific Gravity:**	2.731	Measured	

Soil Description:	CLAYEY SAND(SC A-6(2))			
Project Number:	8076	**Depth:**	13.5-15.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-6	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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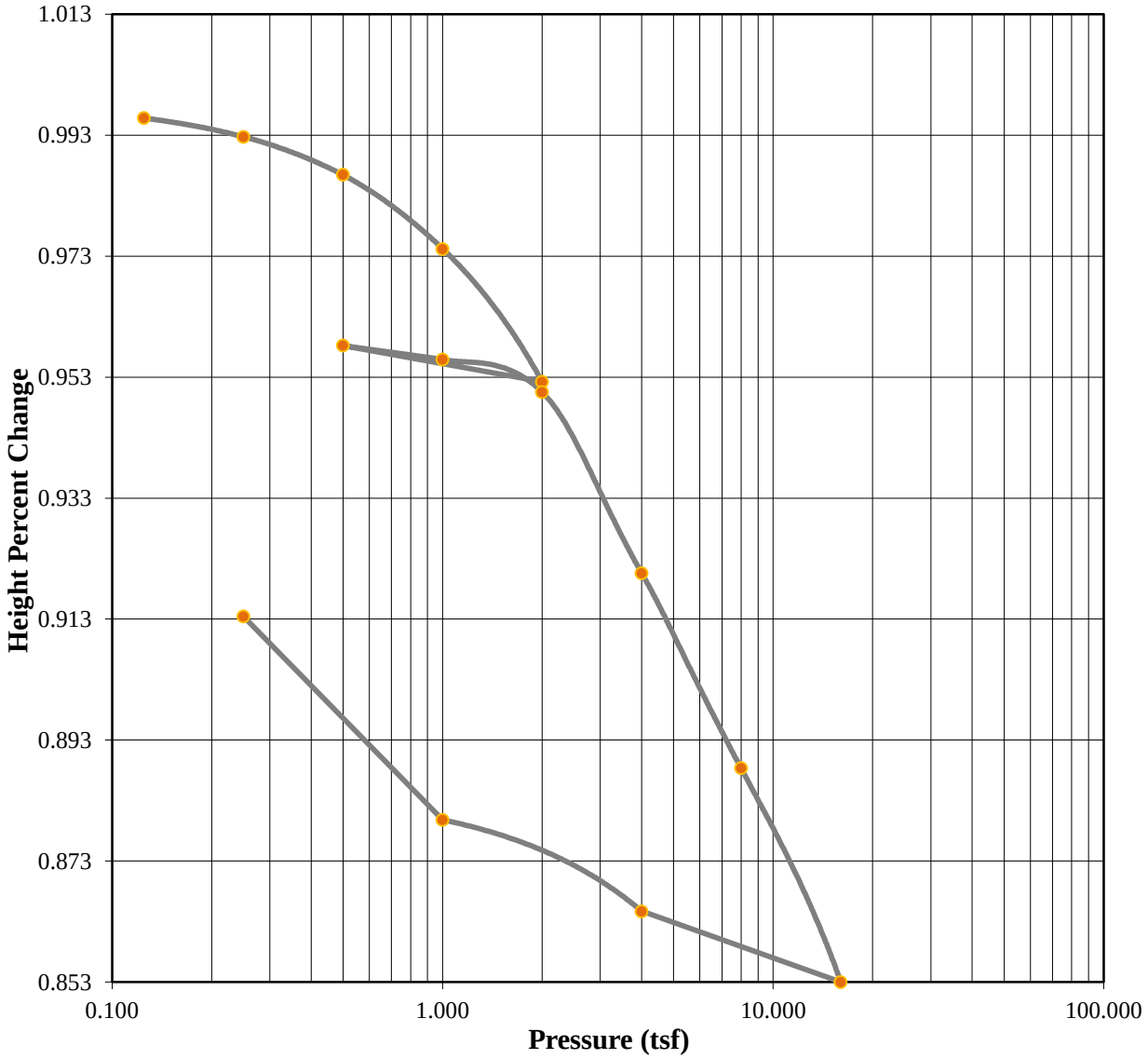
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	0	**Test Date:**	11/20/17
Moisture (%):	23.38	20.23	**Plastic Limits:**	0		
Dry Density (pcf):	98.44	107.69	**Plasticity Index (%):**	0		
Saturation (%):	87.24	94.75				
Void Ratio:	0.7271	0.5800	**Specific Gravity:**	2.731	Measured	

Soil Description:	CLAYEY SAND(SC A-6(2))			
Project Number:	8076	**Depth:**	13.5-15.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-6	
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: 8076

Sample Number: T-1
Boring Number: TH-6
Depth: 13.5-15.5 ft.
Sample Type: Undisturbed

Sample Description: CLAYEY SAND(SC A-6(2))
Remarks:

Test Number:
Test Date: 11/20/17

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	0.9980	0.4207	0.00	0.7288	0.000	0.000	0.000	0.000
1	0.125	0.0026	0.9954	0.4182	0.26	0.7244	0.000	0.000	0.000	0.000
2	0.250	0.0057	0.9923	0.4150	0.57	0.7189	8.503	0.289	89.602	612.282
3	0.500	0.0120	0.9860	0.4088	1.20	0.7081	0.816	0.488	921.825	358.309
4	1.000	0.0242	0.9738	0.3965	2.43	0.6868	0.831	0.300	882.902	568.620
5	2.000	0.0462	0.9518	0.3745	4.63	0.6488	0.745	0.232	940.609	702.427
6	0.500	0.0402	0.9578	0.3805	4.03	0.6592	0.000	0.000	0.000	0.000
7	1.000	0.0425	0.9555	0.3782	4.26	0.6552	0.000	0.000	0.000	0.000
8	2.000	0.0479	0.9501	0.3728	4.80	0.6458	0.622	0.419	1123.650	387.661
9	4.000	0.0778	0.9202	0.3429	7.80	0.5940	1.681	0.610	389.750	249.394
10	8.000	0.1101	0.8879	0.3107	11.03	0.5382	1.778	0.887	343.158	159.775
11	16.000	0.1454	0.8526	0.2753	14.57	0.4769	1.907	1.090	294.926	119.885
12	4.000	0.1337	0.8643	0.2870	13.40	0.4972	0.000	0.000	0.000	0.000
13	1.000	0.1186	0.8794	0.3021	11.89	0.5233	0.000	0.000	0.000	0.000
14	0.250	0.0850	0.9130	0.3357	8.52	0.5816	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:** 8076
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 11/20/17

Sample Number: T-1 **Sample Description:**
Boring Number: TH-6 CLAYEY SAND(SC A-6(2))
Depth: 13.5-15.5 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 0.0000 **Initial Void Ratio:** 0.7271 **Initial Height (in):** 0.9980
Plastic Limit: 0.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.4990
Specific Gravity: 2.7310 Measured **Weight of Ring (g):** 110.7100

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	151.63	279.84
Dry Soil + Container (g)	128.98	254.29
Weight of Container (g)	32.09	128.00
Moisture Content (%)	23.38	20.23
Void Ratio	0.7271	0.5800
Saturation (%)	87.24	94.75
Dry Density (pcf)	98.44	107.69

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

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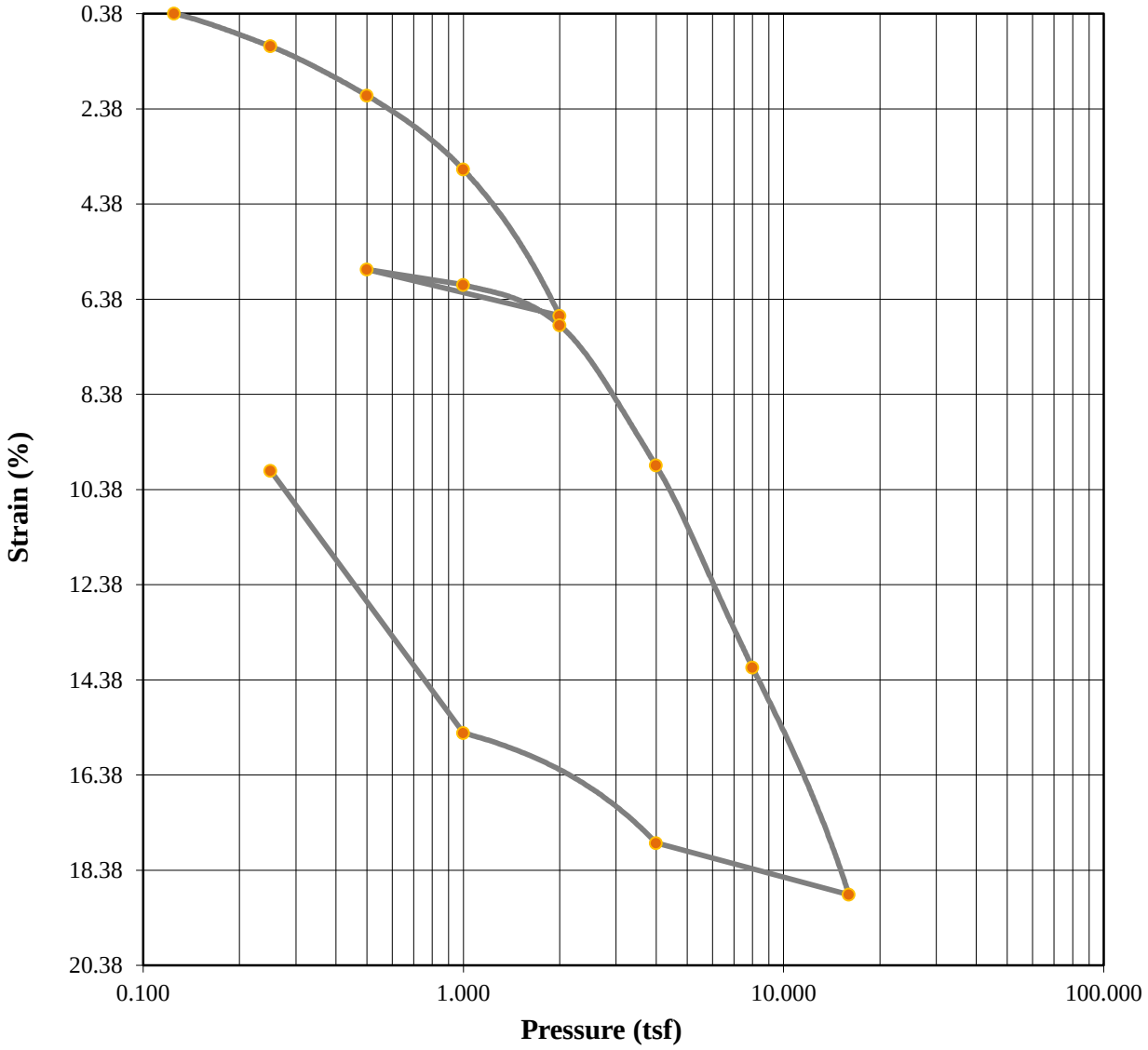
Consolidation Test
Test Results



	Before	After				
Moisture (%):	33.05	27.98	**Liquid Limits:**	50	**Test Date:**	12/16/17
Dry Density (pcf):	88.42	96.47	**Plastic Limits:**	27		
Saturation (%):	100.91	104.16	**Plasticity Index (%):**	0		
Void Ratio:	0.8603	0.6744	**Specific Gravity:**	2.642	Measured	

Sample Description:	FAT CLAY(CH A-7-6(25))			
Project Number:	8086	**Depth:**	103.0-105.0 f	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-7	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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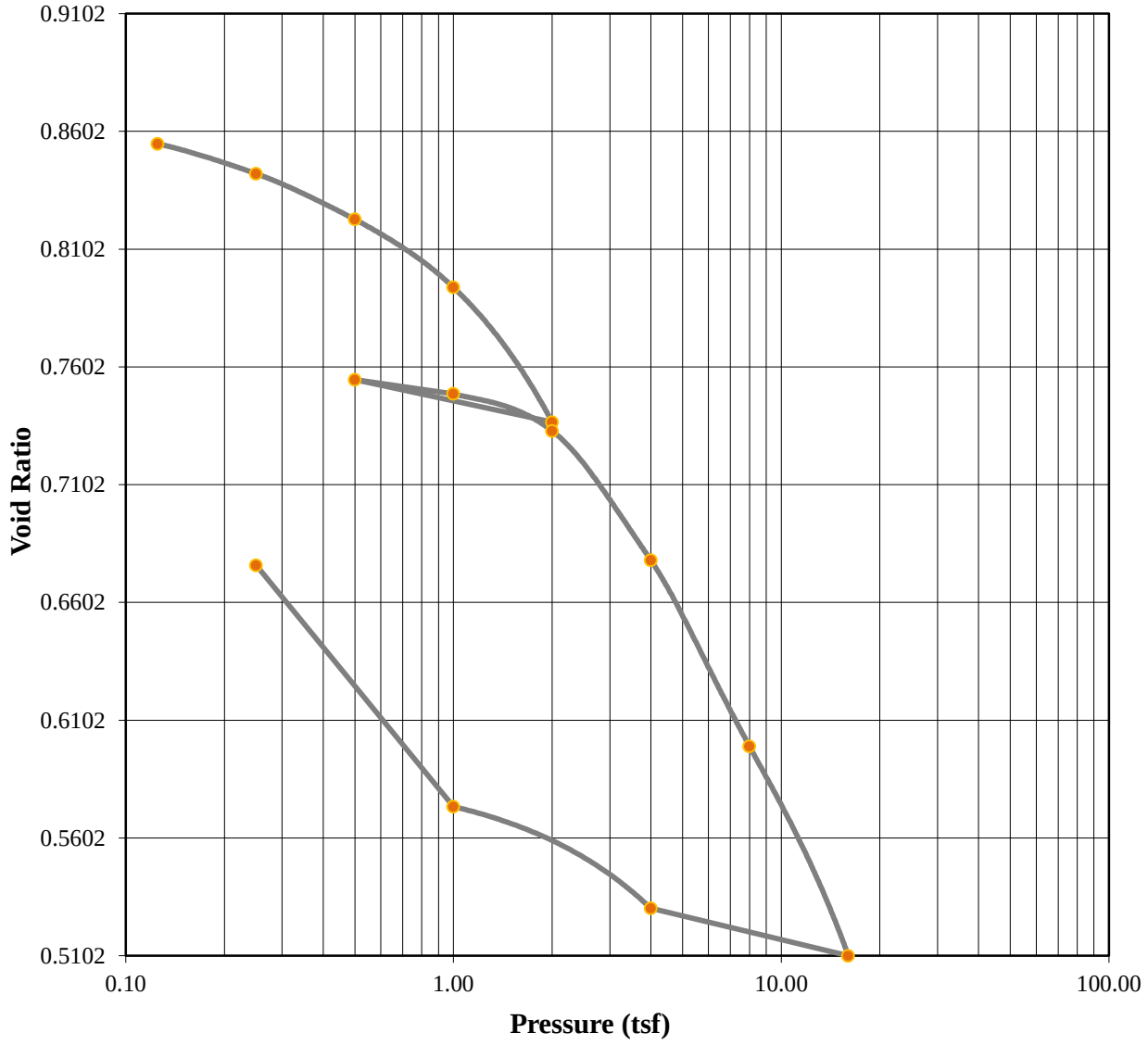
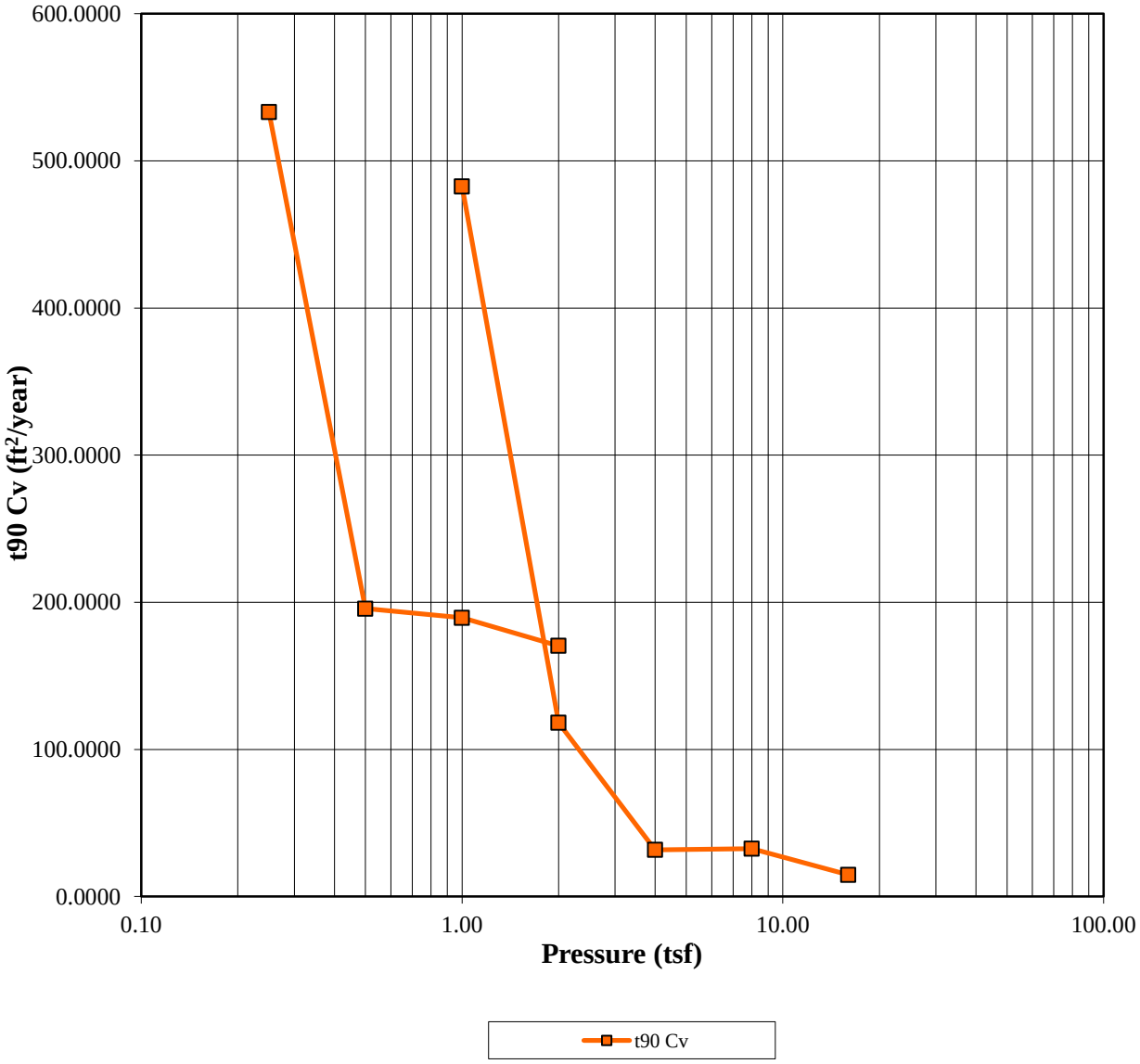
Consolidation Test
Test Results



	Before	After				
Moisture (%):	33.05	27.98	**Liquid Limits:**	50	**Test Date:**	12/16/17
Dry Density (pcf):	88.42	96.47	**Plastic Limits:**	27		
Saturation (%):	100.91	104.16	**Plasticity Index (%):**	0		
Void Ratio:	0.8603	0.6744	**Specific Gravity:**	2.642	Measured	

Soil Description:	FAT CLAY(CH A-7-6(25))			
Project Number:	8086	**Depth:**	103.0-105.0 f	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-7	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	50	**Test Date:**	12/16/17
Moisture (%):	33.05	27.98	**Plastic Limits:**	27		
Dry Density (pcf):	88.42	96.47	**Plasticity Index (%):**	0		
Saturation (%):	100.91	104.16				
Void Ratio:	0.8603	0.6744	**Specific Gravity:**	2.642	Measured	

Soil Description:	FAT CLAY(CH A-7-6(25))			
Project Number:	8086	**Depth:**	103.0-105.0 f	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-7	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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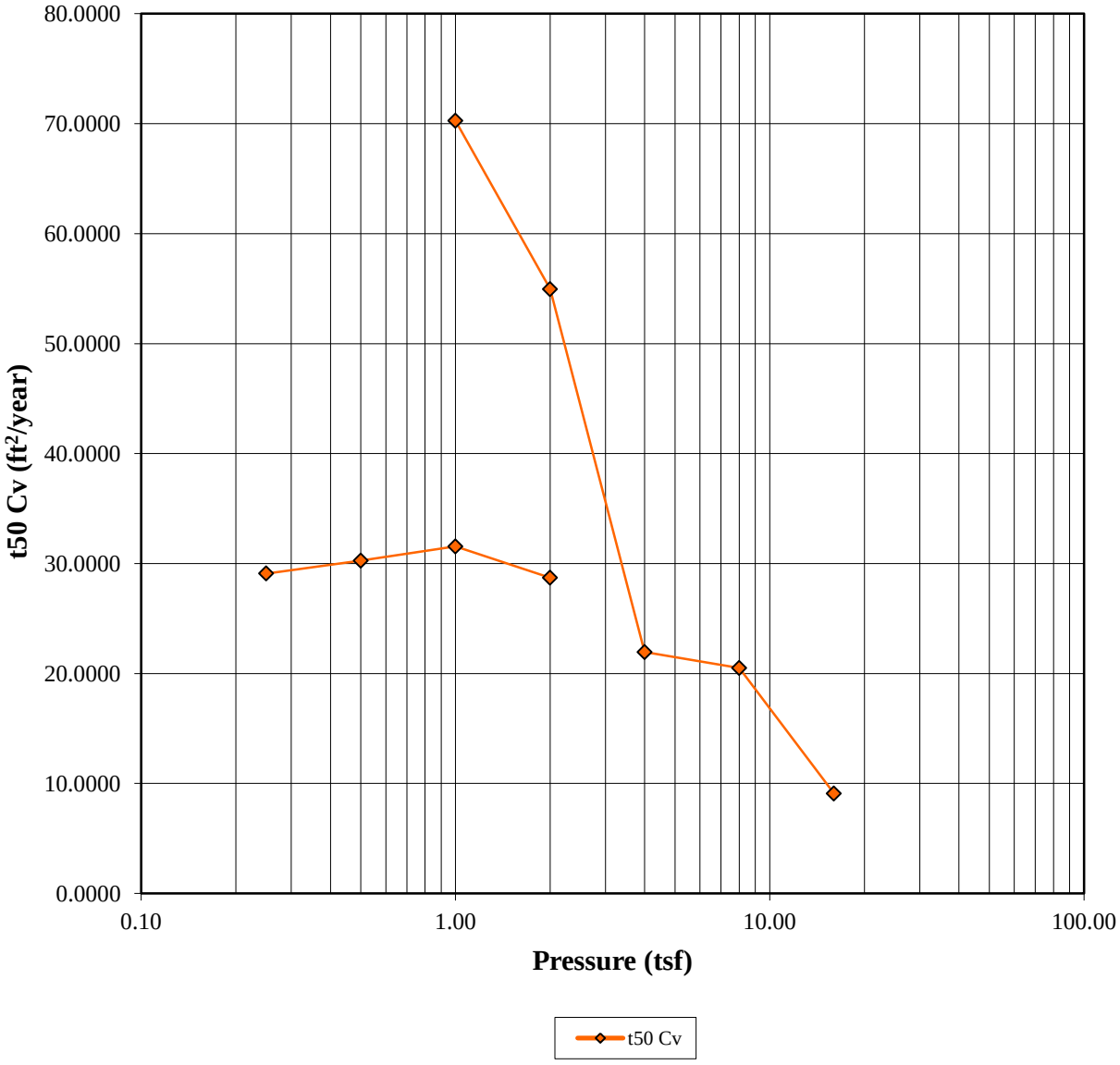
Consolidation Test
Test Results



	Before	After				
Moisture (%):	33.05	27.98	**Liquid Limits:**	50	**Test Date:**	12/16/17
Dry Density (pcf):	88.42	96.47	**Plastic Limits:**	27		
Saturation (%):	100.91	104.16	**Plasticity Index (%):**	0		
Void Ratio:	0.8603	0.6744	**Specific Gravity:**	2.642	Measured	

Soil Description:	FAT CLAY(CH A-7-6(25))			
Project Number:	8086	**Depth:**	103.0-105.0 f	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-7	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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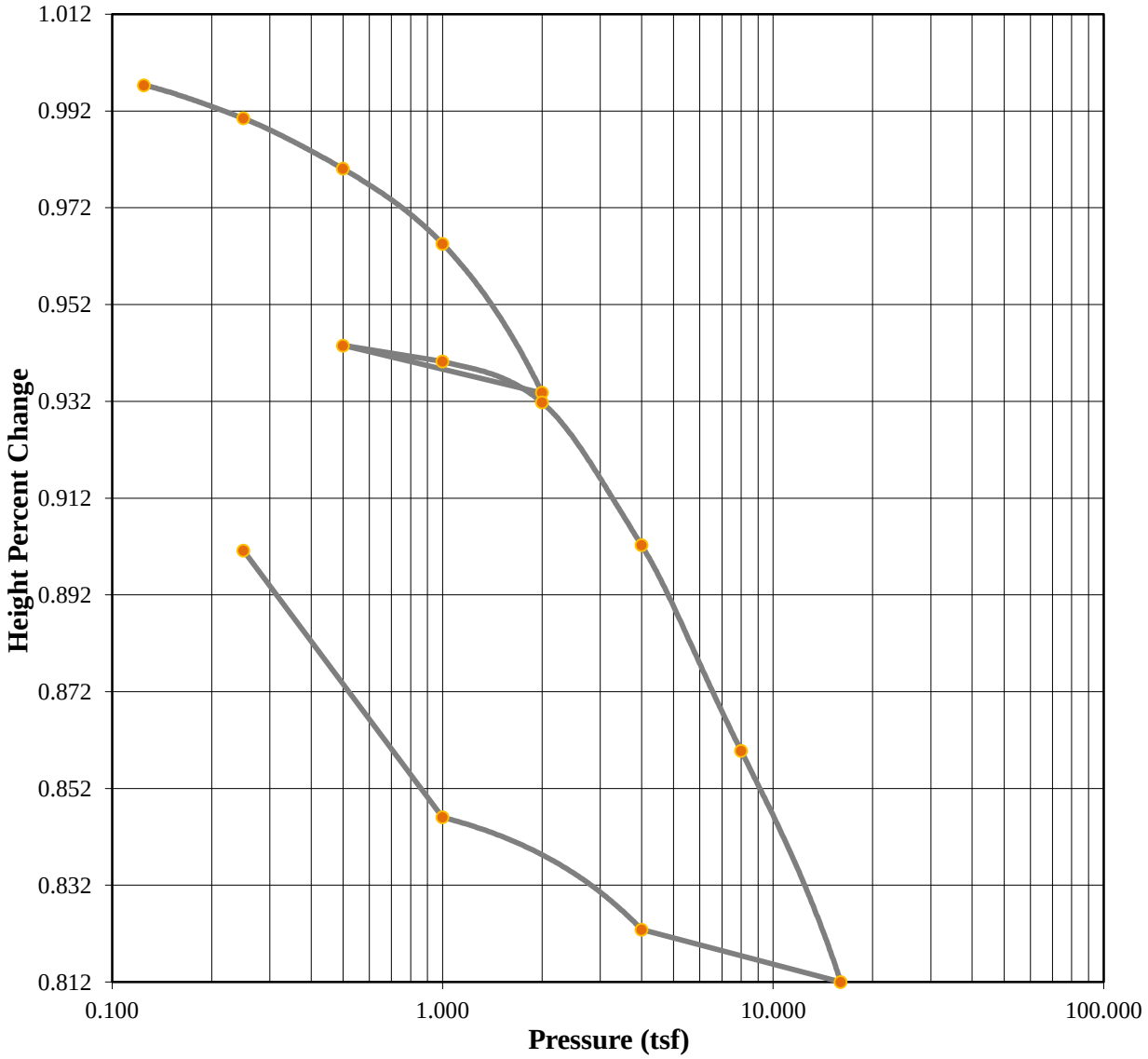
Consolidation Test
Test Results



	Before	After				
Moisture (%):	33.05	27.98	**Liquid Limits:**	50	**Test Date:**	12/16/17
Dry Density (pcf):	88.42	96.47	**Plastic Limits:**	27		
Saturation (%):	100.91	104.16	**Plasticity Index (%):**	0		
Void Ratio:	0.8603	0.6744	**Specific Gravity:**	2.642	Measured	

Soil Description:	FAT CLAY(CH A-7-6(25))			
Project Number:	8086	**Depth:**	103.0-105.0 f	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-7	
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: 8086

Sample Number: T-2
Boring Number: TH-7
Depth: 103.0-105.0 ft.
Sample Type: Undisturbed

Sample Description: FAT CLAY(CH A-7-6(25))
Remarks:

Test Number:
Test Date: 12/16/17

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	1.0010	0.4634	0.00	0.8620	0.000	0.000	0.000	0.000
1	0.125	0.0038	0.9972	0.4596	0.38	0.8549	0.000	0.000	0.000	0.000
2	0.250	0.0107	0.9903	0.4527	1.07	0.8422	1.423	6.060	533.226	29.094
3	0.500	0.0211	0.9799	0.4424	2.10	0.8228	3.796	5.704	195.730	30.264
4	1.000	0.0366	0.9644	0.4268	3.66	0.7939	3.799	5.299	189.423	31.555
5	2.000	0.0674	0.9336	0.3960	6.73	0.7367	3.959	5.457	170.393	28.714
6	0.500	0.0576	0.9434	0.4058	5.76	0.7548	0.000	0.000	0.000	0.000
7	1.000	0.0609	0.9401	0.4025	6.08	0.7487	1.417	2.261	482.741	70.259
8	2.000	0.0694	0.9316	0.3941	6.93	0.7330	5.686	2.839	118.129	54.951
9	4.000	0.0989	0.9021	0.3645	9.88	0.6781	19.847	6.666	31.729	21.947
10	8.000	0.1414	0.8596	0.3221	14.12	0.5991	17.615	6.475	32.463	20.516
11	16.000	0.1891	0.8119	0.2743	18.90	0.5102	34.595	13.030	14.743	9.093
12	4.000	0.1783	0.8227	0.2851	17.81	0.5303	0.000	0.000	0.000	0.000
13	1.000	0.1551	0.8459	0.3083	15.50	0.5735	0.000	0.000	0.000	0.000
14	0.250	0.1000	0.9010	0.3634	9.99	0.6760	0.000	0.000	0.000	0.000

Predicted value indicated with *

Tested By: B. Hak

Checked By: C. Dugger

Consolidation Test
Consolidation Specimen Information

Project: Mobile River Bridge **Project Number:** 8086
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 12/16/17

Sample Number: T-2 **Sample Description:**
Boring Number: TH-7 FAT CLAY(CH A-7-6(25))
Depth: 103.0-105.0 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 50.0000 **Initial Void Ratio:** 0.8603 **Initial Height (in):** 1.0010
Plastic Limit: 27.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5010
Specific Gravity: 2.6420 Measured **Weight of Ring (g):** 110.7200

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	86.82	271.36
Dry Soil + Container (g)	73.24	240.00
Weight of Container (g)	32.15	127.91
Moisture Content (%)	33.05	27.98
Void Ratio	0.8603	0.6744
Saturation (%)	100.91	104.16
Dry Density (pcf)	88.42	96.47

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

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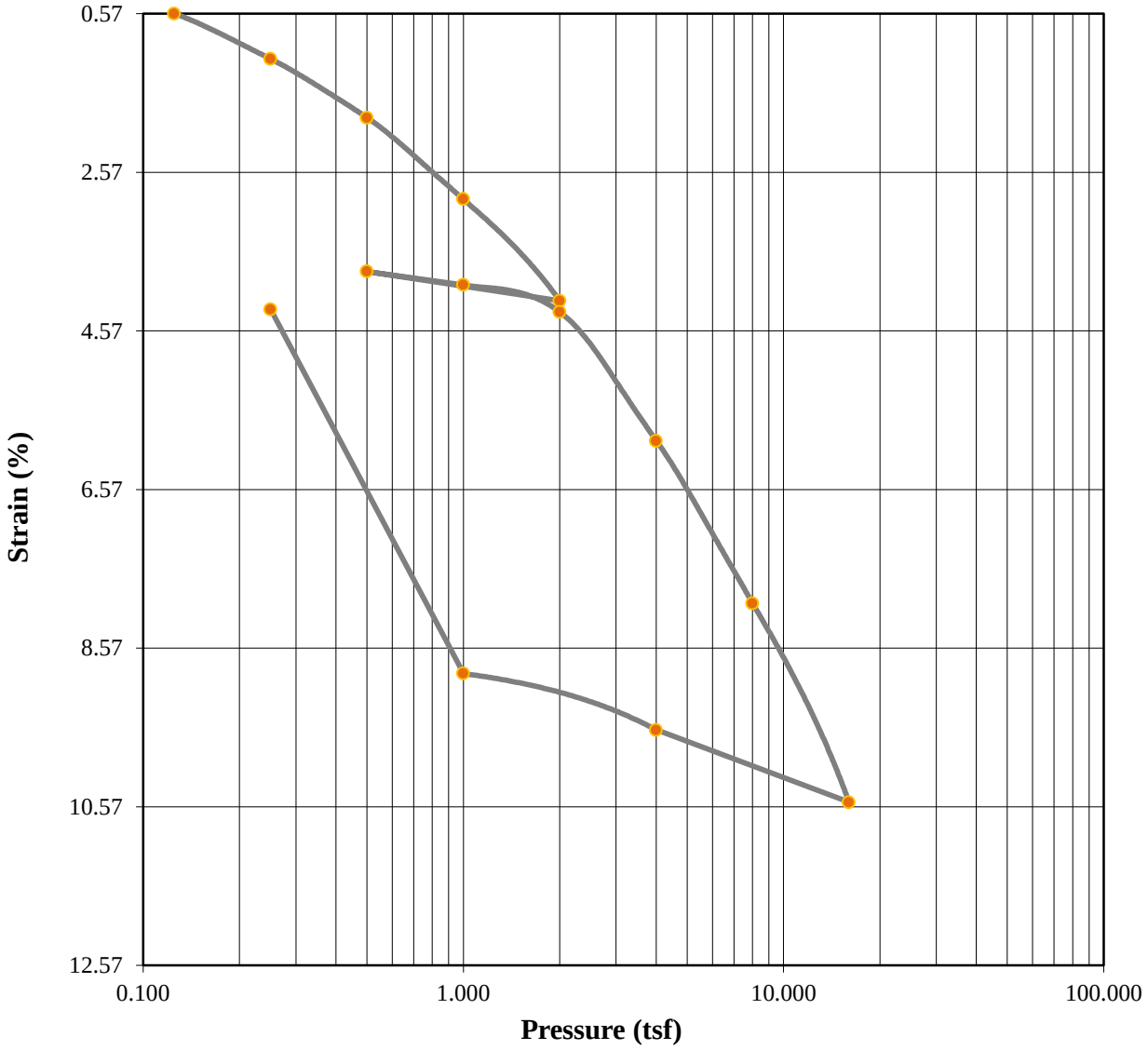
Consolidation Test
Test Results



	Before	After				
Moisture (%):	30.49	26.68	**Liquid Limits:**	0	**Test Date:**	12/11/17
Dry Density (pcf):	92.19	96.07	**Plastic Limits:**	0		
Saturation (%):	100.98	97.17	**Plasticity Index (%):**	0		
Void Ratio:	0.8061	0.7286	**Specific Gravity:**	2.665	Measured	

Sample Description:	SILTY SAND(SM A-2-4(0))			
Project Number:	8081	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-8	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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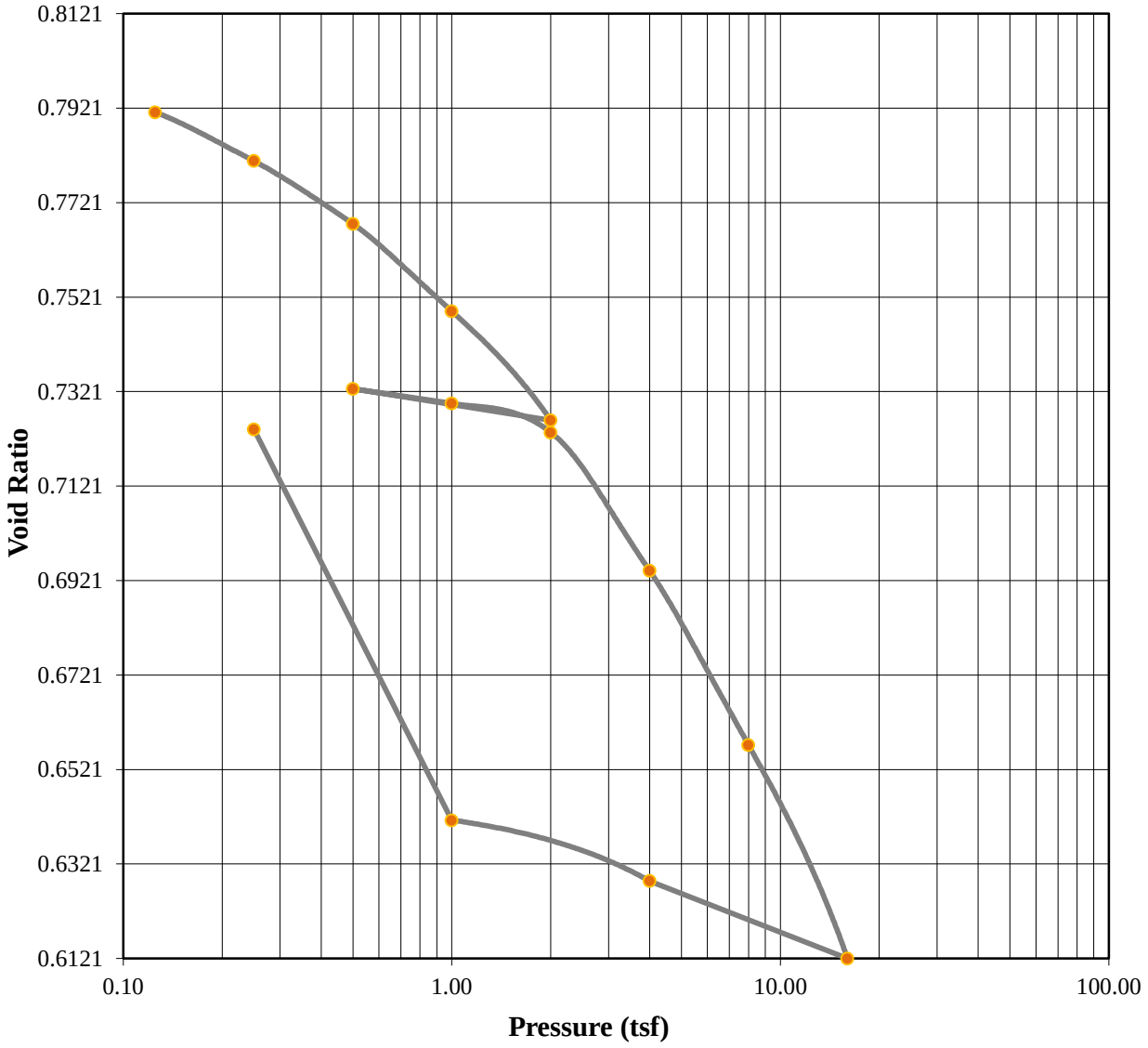
Consolidation Test
Test Results



	Before	After				
Moisture (%):	30.49	26.68	**Liquid Limits:**	0	**Test Date:**	12/11/17
Dry Density (pcf):	92.19	96.07	**Plastic Limits:**	0		
Saturation (%):	100.98	97.17	**Plasticity Index (%):**	0		
Void Ratio:	0.8061	0.7286	**Specific Gravity:**	2.665	Measured	

Soil Description:	SILTY SAND(SM A-2-4(0))			
Project Number:	8081	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-8	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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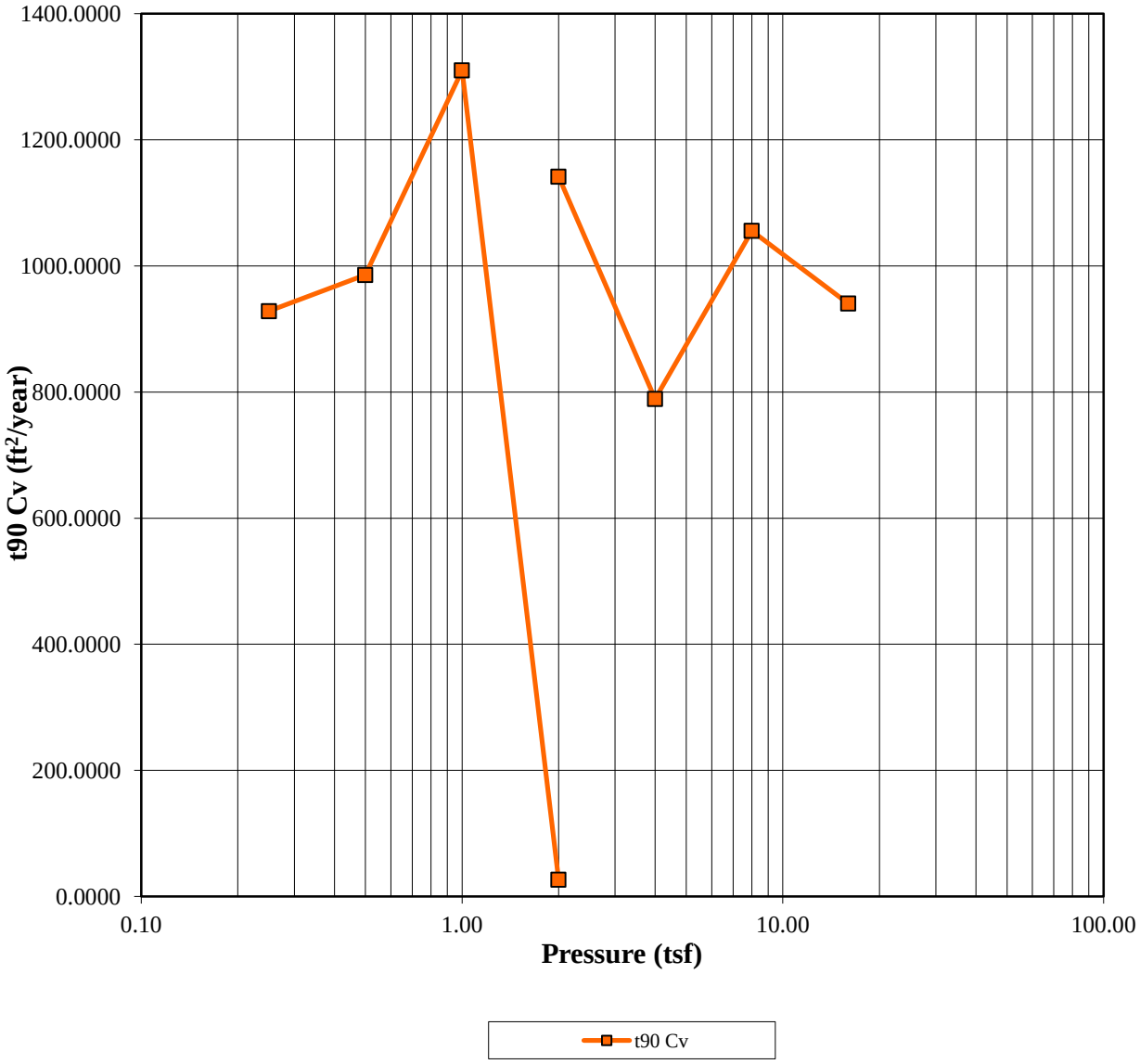
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	0	**Test Date:**	12/11/17
Moisture (%):	30.49	26.68	**Plastic Limits:**	0		
Dry Density (pcf):	92.19	96.07	**Plasticity Index (%):**	0		
Saturation (%):	100.98	97.17				
Void Ratio:	0.8061	0.7286	**Specific Gravity:**	2.665	Measured	

Soil Description:	SILTY SAND(SM A-2-4(0))			
Project Number:	8081	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-8	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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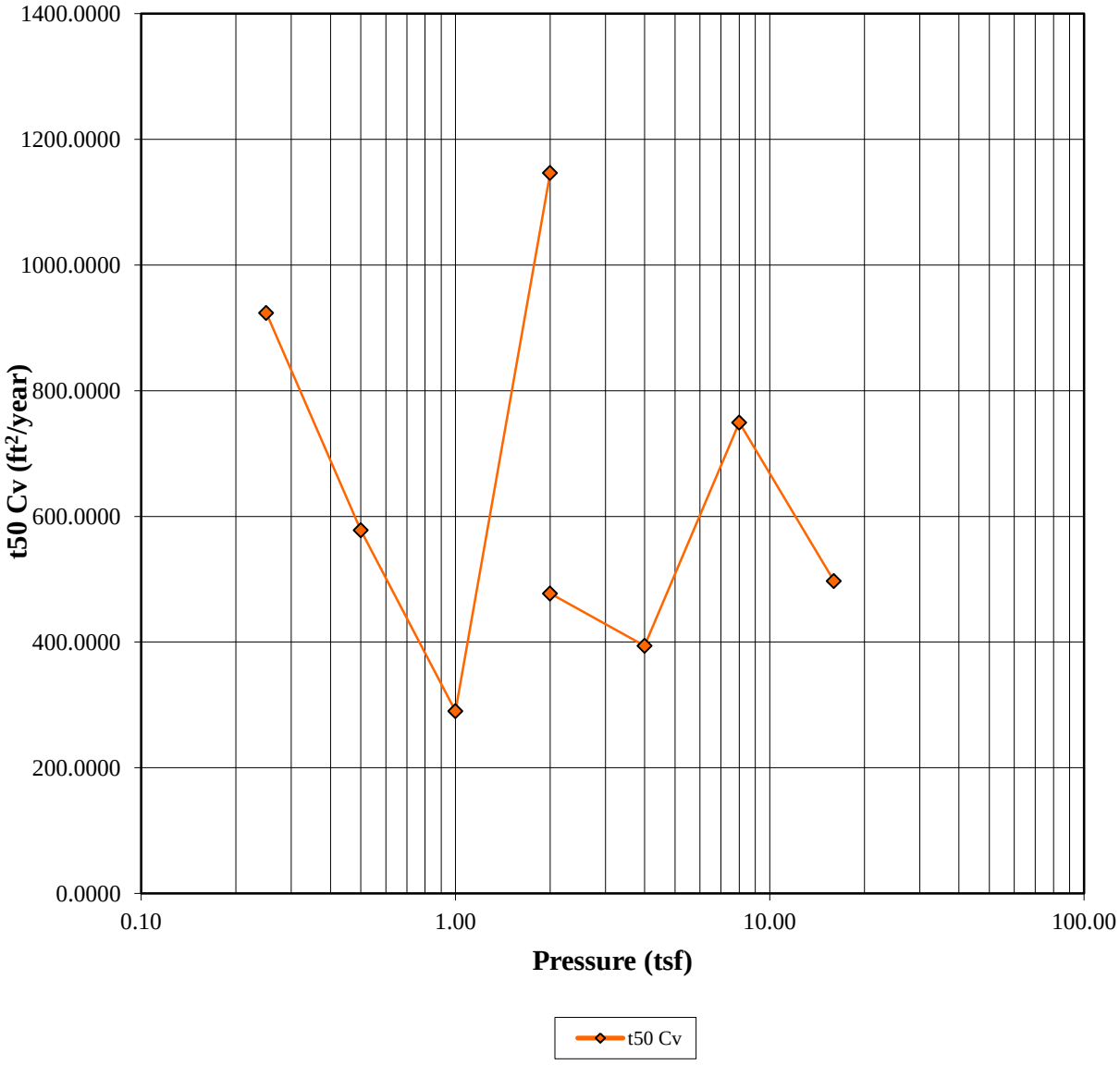
Consolidation Test
Test Results



	Before	After				
Moisture (%):	30.49	26.68	**Liquid Limits:**	0	**Test Date:**	12/11/17
Dry Density (pcf):	92.19	96.07	**Plastic Limits:**	0		
Saturation (%):	100.98	97.17	**Plasticity Index (%):**	0		
Void Ratio:	0.8061	0.7286	**Specific Gravity:**	2.665	Measured	

Soil Description:	SILTY SAND(SM A-2-4(0))			
Project Number:	8081	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-8	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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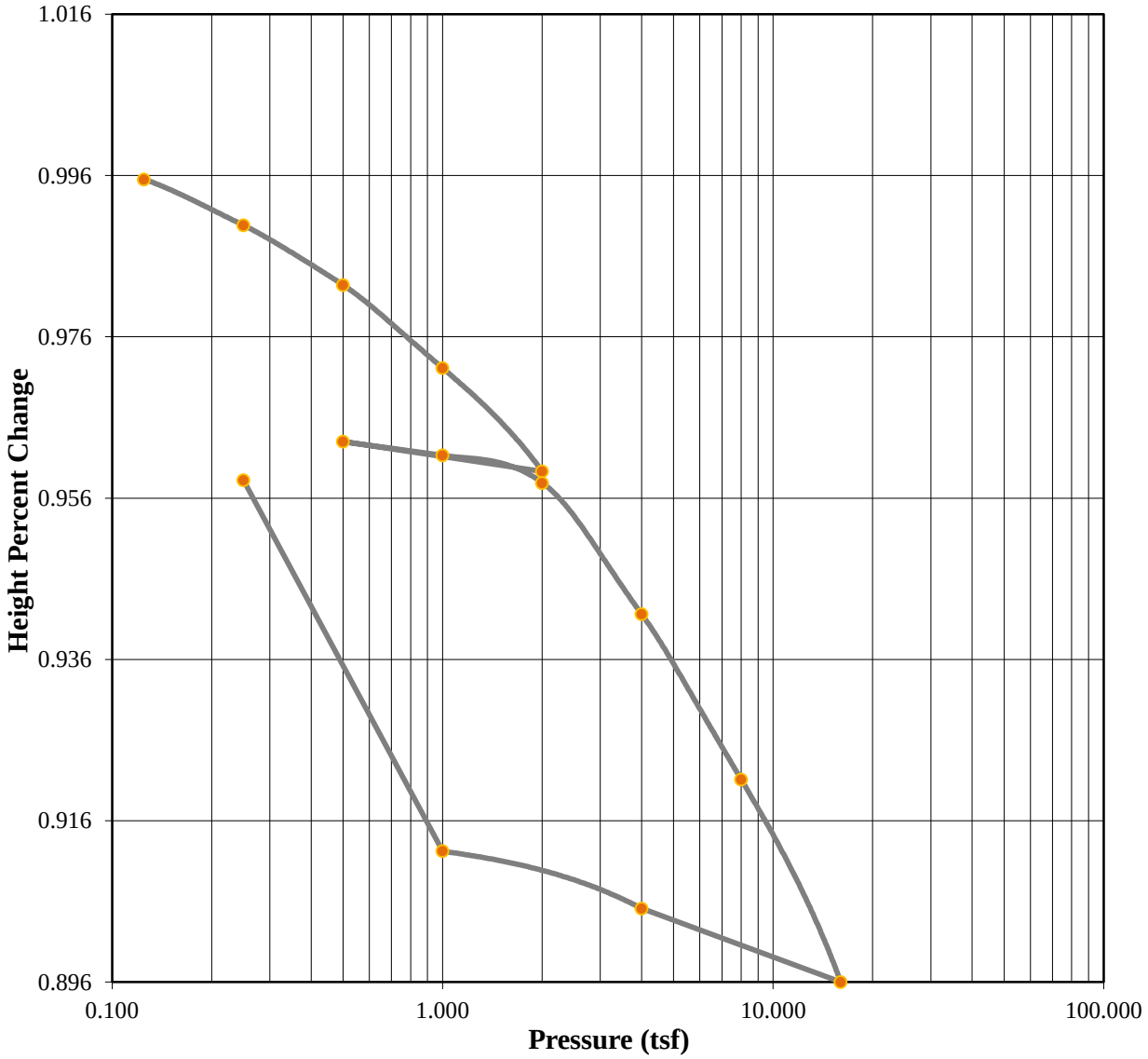
Consolidation Test
Test Results



	Before	After				
Moisture (%):	30.49	26.68	**Liquid Limits:**	0	**Test Date:**	12/11/17
Dry Density (pcf):	92.19	96.07	**Plastic Limits:**	0		
Saturation (%):	100.98	97.17	**Plasticity Index (%):**	0		
Void Ratio:	0.8061	0.7286	**Specific Gravity:**	2.665	Measured	

Soil Description:	SILTY SAND(SM A-2-4(0))			
Project Number:	8081	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-8	
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: 8081

Sample Number: T-1
Boring Number: TH-8
Depth: 28.0-30.0 ft.
Sample Type: Undisturbed

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

Test Number:
Test Date: 12/11/17

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	1.0010	0.4453	0.00	0.8015	0.000	0.000	0.000	0.000
1	0.125	0.0057	0.9953	0.4396	0.57	0.7912	0.000	0.000	0.000	0.000
2	0.250	0.0114	0.9896	0.4339	1.14	0.7809	0.816	0.191	928.513	923.949
3	0.500	0.0188	0.9822	0.4265	1.88	0.7676	0.757	0.300	985.905	578.074
4	1.000	0.0291	0.9719	0.4163	2.91	0.7491	0.558	0.586	1310.235	290.021
5	2.000	0.0419	0.9591	0.4034	4.19	0.7260	26.829	0.144	26.530	1146.472
6	0.500	0.0382	0.9628	0.4071	3.82	0.7327	0.000	0.000	0.000	0.000
7	1.000	0.0399	0.9611	0.4054	3.99	0.7296	0.000	0.000	0.000	0.000
8	2.000	0.0433	0.9577	0.4020	4.33	0.7235	0.622	* 0.3453	1141.753	477.445
9	4.000	0.0596	0.9414	0.3857	5.95	0.6942	0.869	0.404	789.105	394.159
10	8.000	0.0801	0.9209	0.3652	8.00	0.6573	0.622	0.203	1055.730	749.473
11	16.000	0.1052	0.8958	0.3401	10.51	0.6121	0.660	0.290	940.419	496.991
12	4.000	0.0961	0.9049	0.3492	9.60	0.6285	0.000	0.000	0.000	0.000
13	1.000	0.0890	0.9120	0.3564	8.89	0.6414	0.000	0.000	0.000	0.000
14	0.250	0.0430	0.9580	0.4023	4.30	0.7241	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:** 8081
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 12/11/17

Sample Number: T-1 **Sample Description:**
Boring Number: TH-8 SILTY SAND(SM A-2-4(0))
Depth: 28.0-30.0 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 0.0000 **Initial Void Ratio:** 0.8061 **Initial Height (in):** 1.0010
Plastic Limit: 0.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5050
Specific Gravity: 2.6650 **Weight of Ring (g):** 110.7100
Measured

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	122.90	278.96
Dry Soil + Container (g)	101.76	247.30
Weight of Container (g)	32.43	128.64
Moisture Content (%)	30.49	26.68
Void Ratio	0.8061	0.7286
Saturation (%)	100.98	97.17
Dry Density (pcf)	92.19	96.07

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

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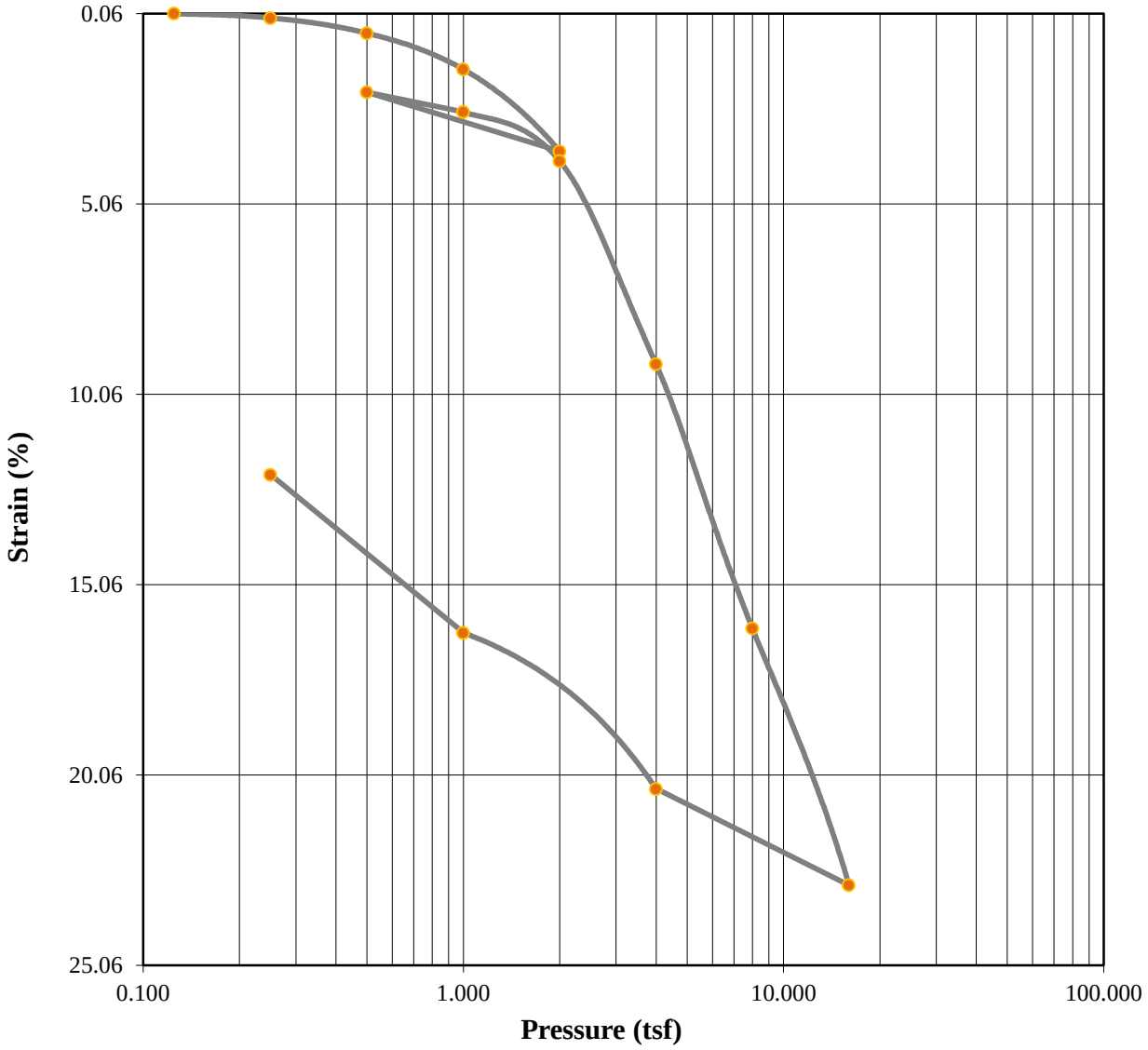
Consolidation Test
Test Results



	Before	After				
Moisture (%):	40.20	32.71	**Liquid Limits:**	78	**Test Date:**	12/14/17
Dry Density (pcf):	80.44	90.69	**Plastic Limits:**	25		
Saturation (%):	97.01	100.13	**Plasticity Index (%):**	0		
Void Ratio:	1.1456	0.8844	**Specific Gravity:**	2.765	Measured	

Sample Description:	FAT CLAY(CH A-7-6(61))			
Project Number:	8081	**Depth:**	48.0-50.0 ft.	**Remarks:**
Sample Number:	T-3	**Boring Number:**	TH-8	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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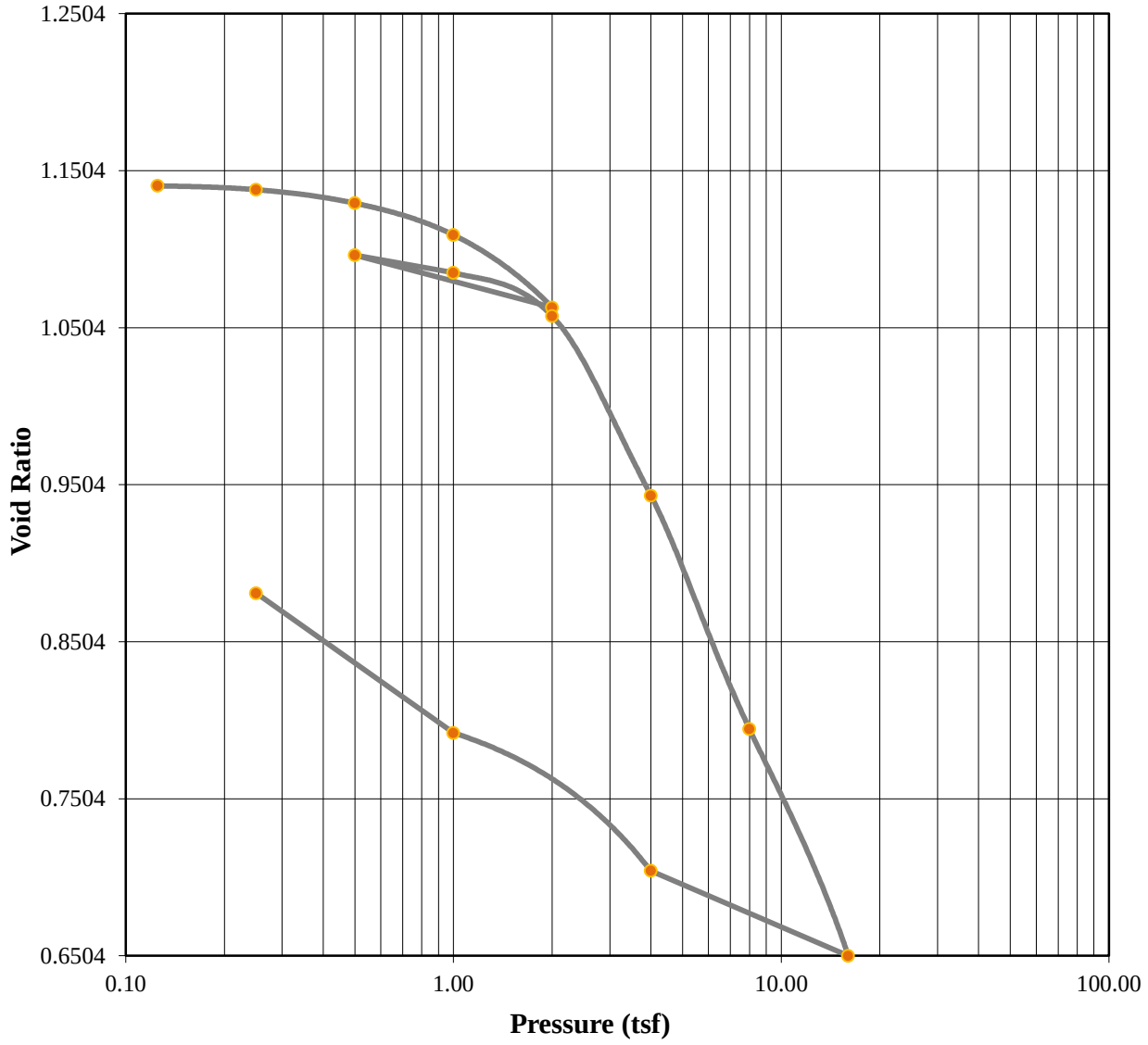
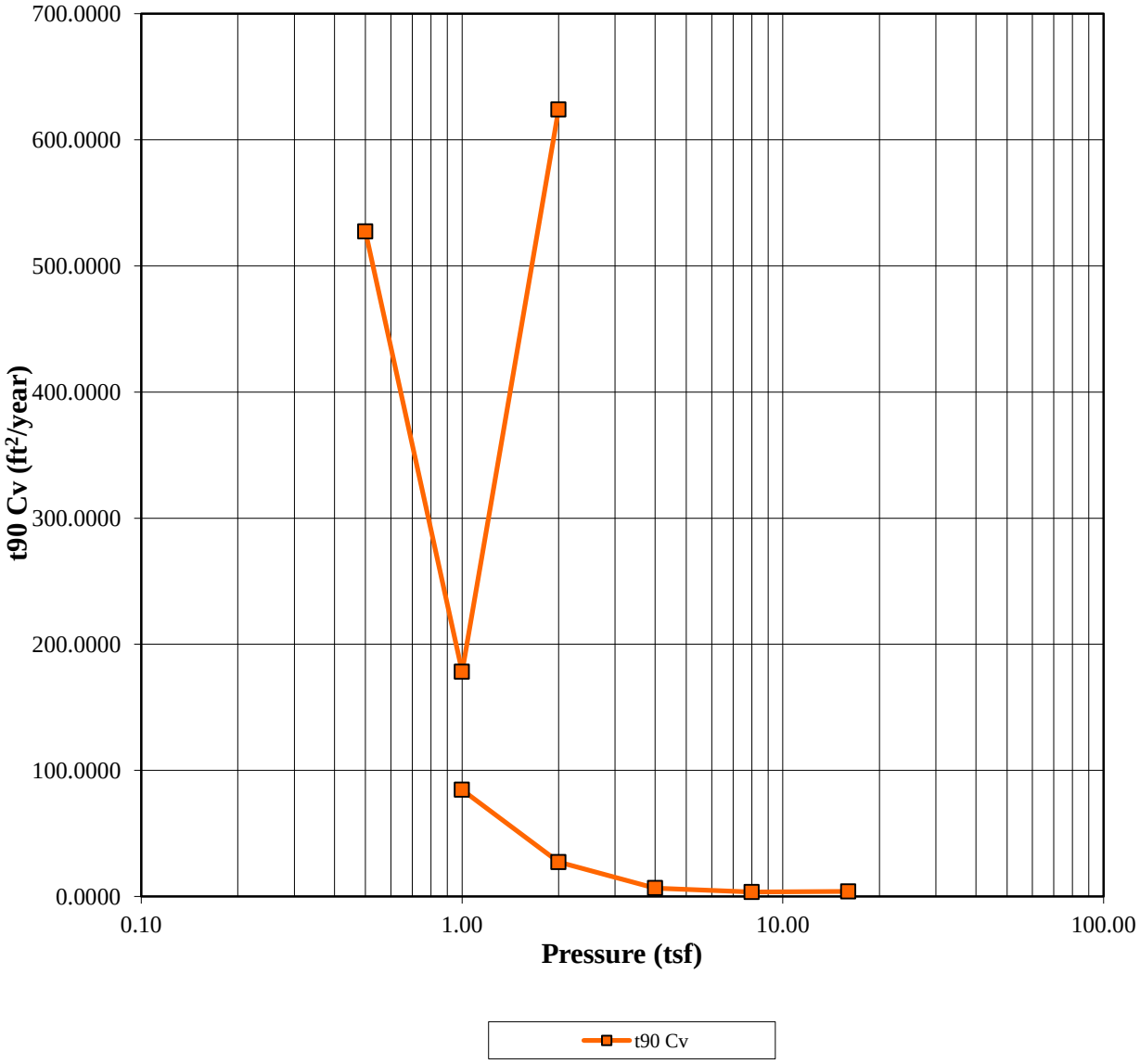
Consolidation Test
Test Results



	Before	After				
Moisture (%):	40.20	32.71	**Liquid Limits:**	78	**Test Date:**	12/14/17
Dry Density (pcf):	80.44	90.69	**Plastic Limits:**	25		
Saturation (%):	97.01	100.13	**Plasticity Index (%):**	0		
Void Ratio:	1.1456	0.8844	**Specific Gravity:**	2.765	Measured	

Soil Description:	FAT CLAY(CH A-7-6(61))			
Project Number:	8081	**Depth:**	48.0-50.0 ft.	**Remarks:**
Sample Number:	T-3	**Boring Number:**	TH-8	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

Consolidation Test
Test Results



	Before	After				
Moisture (%):	40.20	32.71	**Liquid Limits:**	78	**Test Date:**	12/14/17
Dry Density (pcf):	80.44	90.69	**Plastic Limits:**	25		
Saturation (%):	97.01	100.13	**Plasticity Index (%):**	0		
Void Ratio:	1.1456	0.8844	**Specific Gravity:**	2.765	Measured	

Soil Description:	FAT CLAY(CH A-7-6(61))			
Project Number:	8081	**Depth:**	48.0-50.0 ft.	**Remarks:**
Sample Number:	T-3	**Boring Number:**	TH-8	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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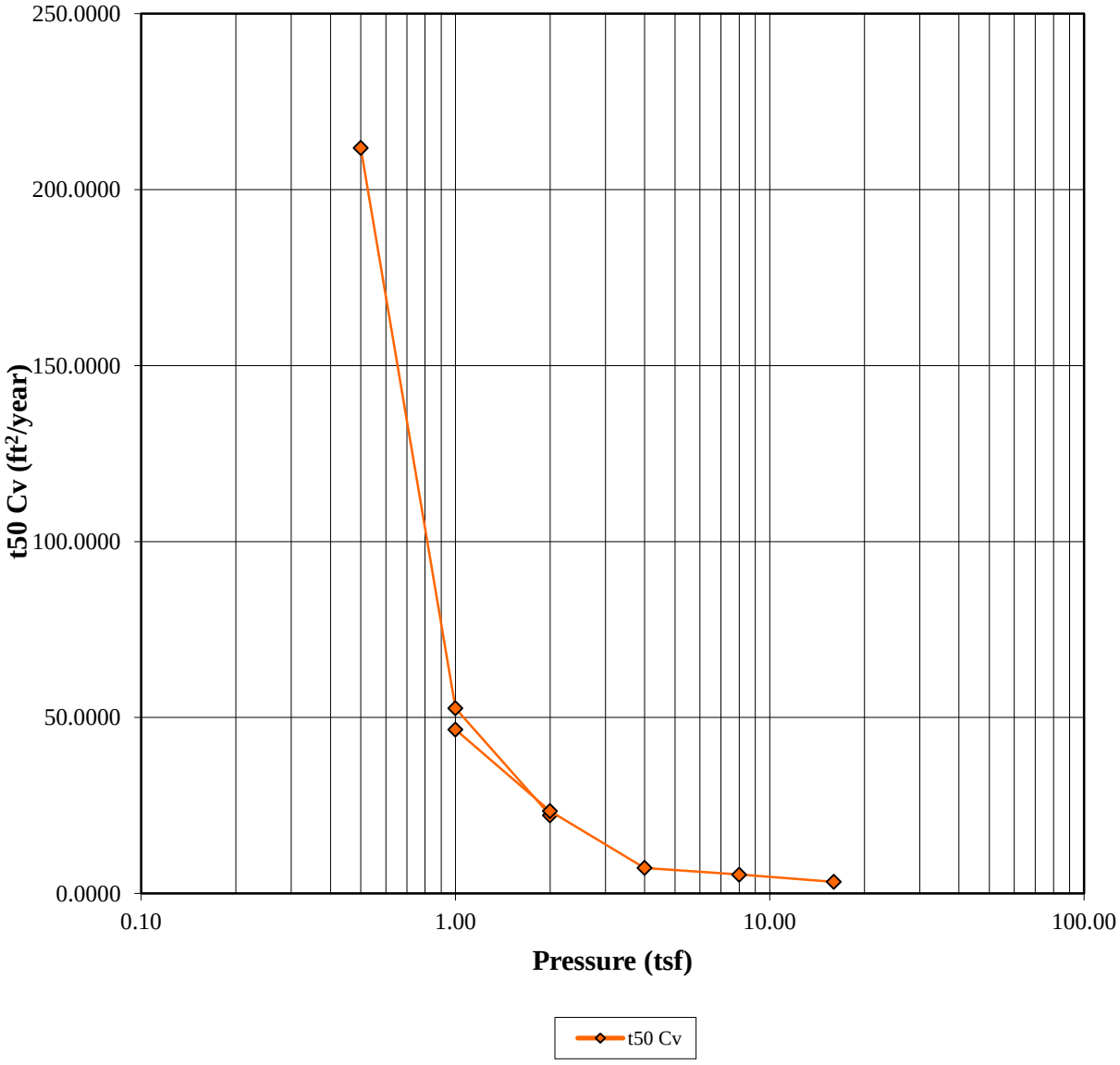
Consolidation Test
Test Results



	Before	After				
Moisture (%):	40.20	32.71	**Liquid Limits:**	78	**Test Date:**	12/14/17
Dry Density (pcf):	80.44	90.69	**Plastic Limits:**	25		
Saturation (%):	97.01	100.13	**Plasticity Index (%):**	0		
Void Ratio:	1.1456	0.8844	**Specific Gravity:**	2.765	Measured	

Soil Description:	FAT CLAY(CH A-7-6(61))			
Project Number:	8081	**Depth:**	48.0-50.0 ft.	**Remarks:**
Sample Number:	T-3	**Boring Number:**	TH-8	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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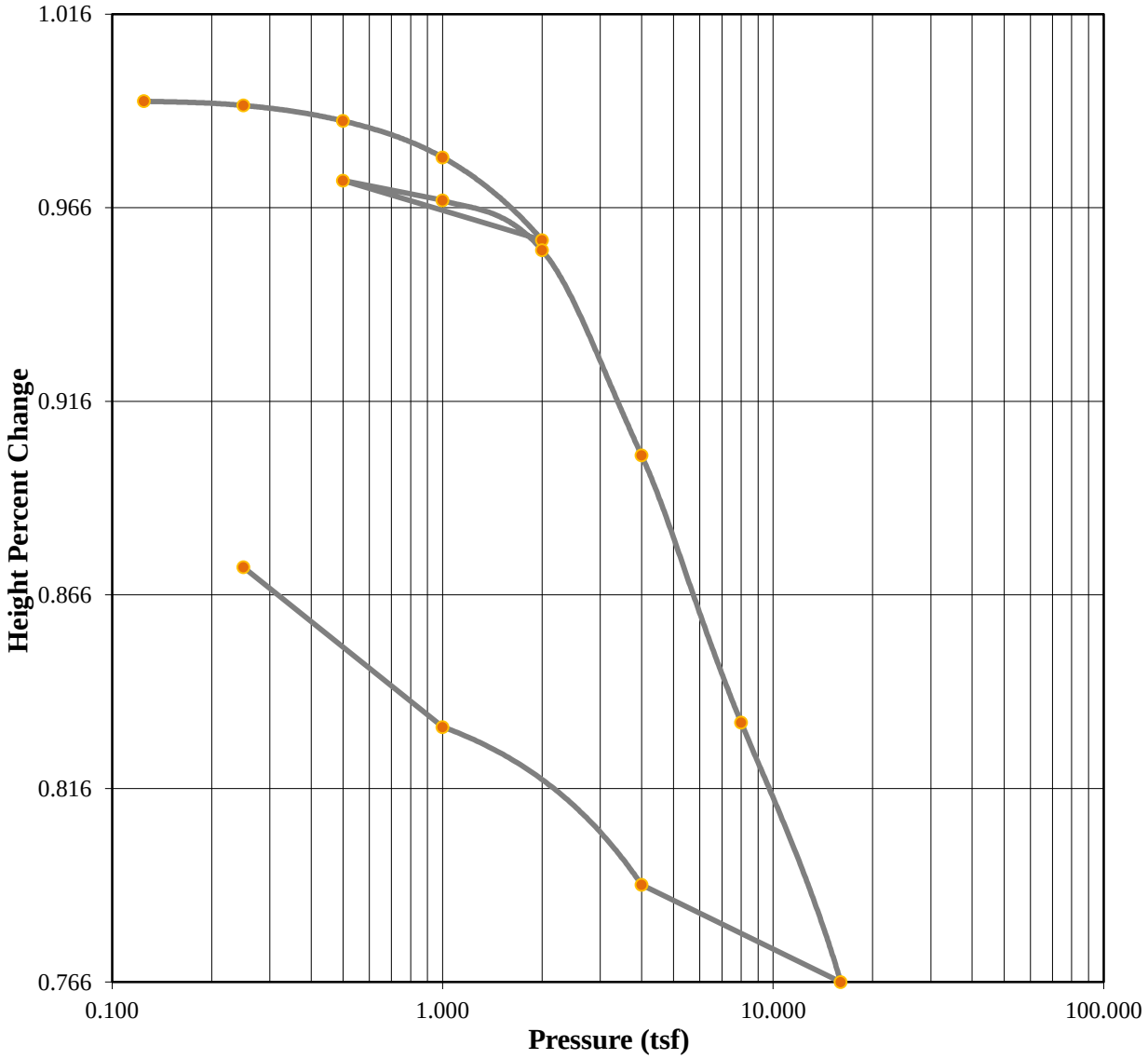
Consolidation Test
Test Results



	Before	After				
Moisture (%):	40.20	32.71	**Liquid Limits:**	78	**Test Date:**	12/14/17
Dry Density (pcf):	80.44	90.69	**Plastic Limits:**	25		
Saturation (%):	97.01	100.13	**Plasticity Index (%):**	0		
Void Ratio:	1.1456	0.8844	**Specific Gravity:**	2.765	Measured	

Soil Description:	FAT CLAY(CH A-7-6(61))			
Project Number:	8081	**Depth:**	48.0-50.0 ft.	**Remarks:**
Sample Number:	T-3	**Boring Number:**	TH-8	
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: 8081

Sample Number: T-3
Boring Number: TH-8
Depth: 48.0-50.0 ft.
Sample Type: Undisturbed

Sample Description: FAT CLAY(CH A-7-6(61))
Remarks:

Test Number:
Test Date: 12/14/17

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	0.5300	0.00	1.1420	0.000	0.000	0.000	0.000
1	0.125	0.0006	0.9934	0.5294	0.06	1.1408	0.000	0.000	0.000	0.000
2	0.250	0.0017	0.9923	0.5282	0.17	1.1383	0.000	0.000	0.000	0.000
3	0.500	0.0057	0.9883	0.5243	0.57	1.1297	1.433	0.829	527.477	211.820
4	1.000	0.0151	0.9789	0.5148	1.52	1.1095	4.159	3.274	178.297	52.611
5	2.000	0.0365	0.9575	0.4935	3.67	1.0634	1.137	7.419	624.208	22.215
6	0.500	0.0211	0.9729	0.5089	2.12	1.0966	0.000	0.000	0.000	0.000
7	1.000	0.0262	0.9678	0.5037	2.64	1.0855	8.561	3.613	84.657	46.597
8	2.000	0.0391	0.9549	0.4909	3.93	1.0578	25.784	7.014	27.367	23.371
9	4.000	0.0921	0.9019	0.4379	9.27	0.9436	94.066	20.127	6.691	7.265
10	8.000	0.1611	0.8329	0.3688	16.21	0.7948	151.686	23.246	3.539	5.365
11	16.000	0.2281	0.7659	0.3018	22.95	0.6504	112.726	31.902	4.027	3.305
12	4.000	0.2030	0.7910	0.3269	20.42	0.7045	0.000	0.000	0.000	0.000
13	1.000	0.1622	0.8318	0.3677	16.32	0.7924	0.000	0.000	0.000	0.000
14	0.250	0.1210	0.8730	0.4090	12.17	0.8813	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:** 8081
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 12/14/17

Sample Number: T-3 **Sample Description:**
Boring Number: TH-8 FAT CLAY(CH A-7-6(61))
Depth: 48.0-50.0 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 78.0000 **Initial Void Ratio:** 1.1456 **Initial Height (in):** 0.9940
Plastic Limit: 25.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5010
Specific Gravity: 2.7650 **Weight of Ring (g):** 98.6300
Measured

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	152.18	264.08
Dry Soil + Container (g)	117.76	230.81
Weight of Container (g)	32.14	129.09
Moisture Content (%)	40.20	32.71
Void Ratio	1.1456	0.8844
Saturation (%)	97.01	100.13
Dry Density (pcf)	80.44	90.69

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

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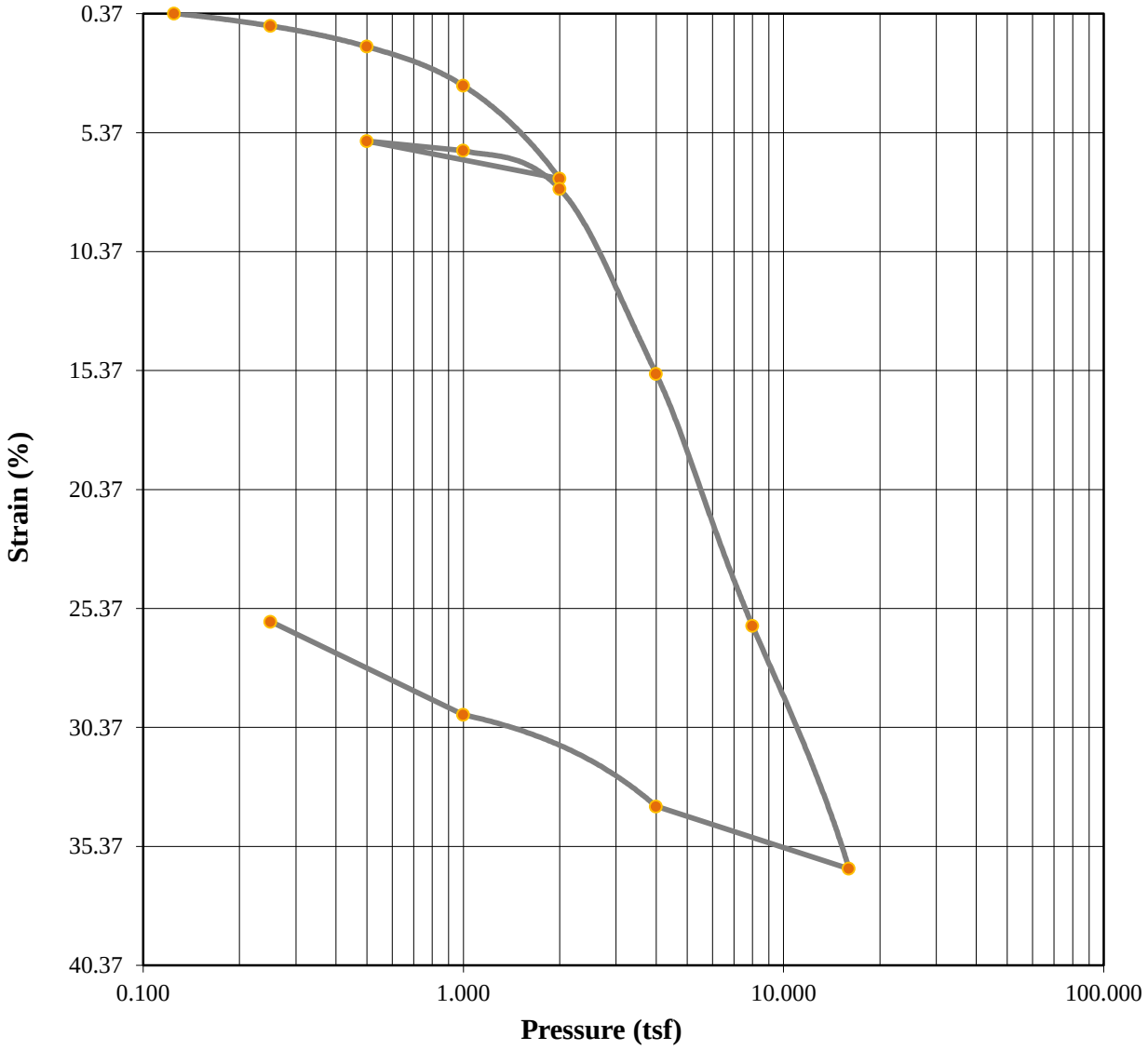
Consolidation Test
Test Results



	Before	After				
Moisture (%):	80.90	59.60	**Liquid Limits:**	33	**Test Date:**	11/22/17
Dry Density (pcf):	48.65	61.53	**Plastic Limits:**	70		
Saturation (%):	89.77	94.21	**Plasticity Index (%):**	0		
Void Ratio:	2.3556	1.4854	**Specific Gravity:**	2.618	Measured	

Sample Description:	SANDY FAT CLAY(CH A-7-5(24))			
Project Number:	8076	**Depth:**	13.5-15.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-9	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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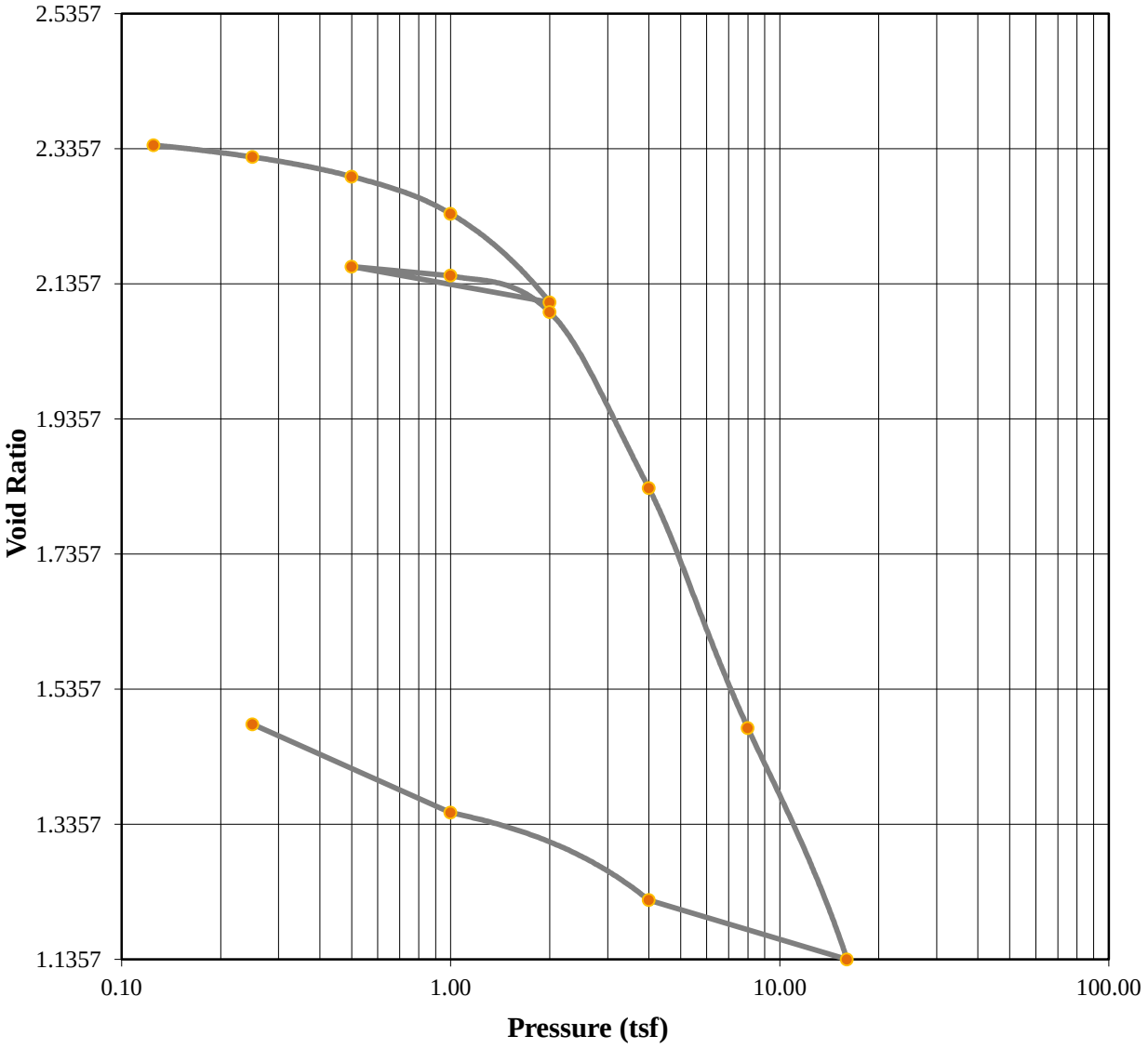
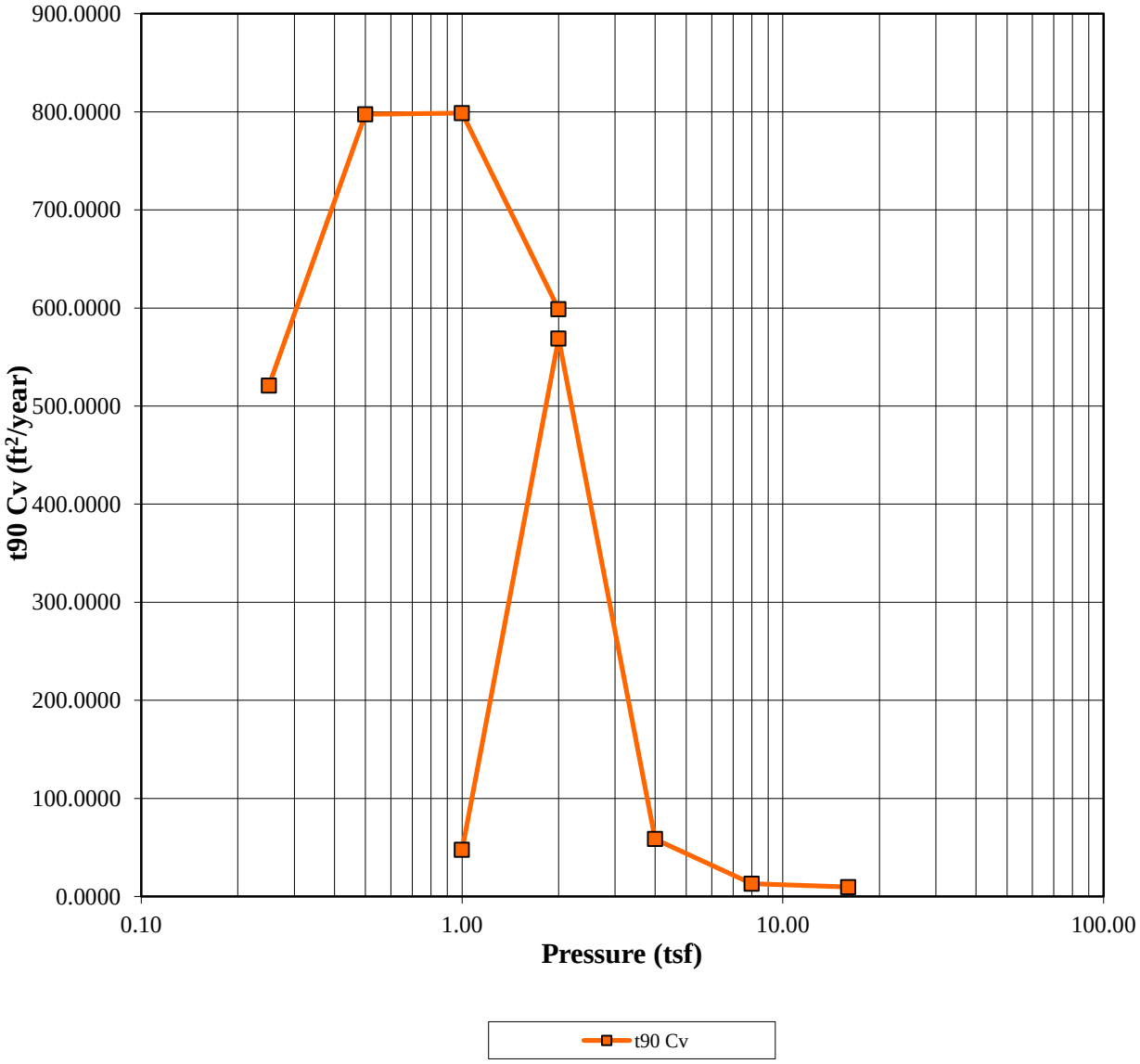
Consolidation Test
Test Results



	Before	After				
Moisture (%):	80.90	59.60	**Liquid Limits:**	33	**Test Date:**	11/22/17
Dry Density (pcf):	48.65	61.53	**Plastic Limits:**	70		
Saturation (%):	89.77	94.21	**Plasticity Index (%):**	0		
Void Ratio:	2.3556	1.4854	**Specific Gravity:**	2.618	Measured	

Soil Description:	SANDY FAT CLAY(CH A-7-5(24))			
Project Number:	8076	**Depth:**	13.5-15.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-9	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

Consolidation Test
Test Results



	Before	After				
Moisture (%):	80.90	59.60	**Liquid Limits:**	33	**Test Date:**	11/22/17
Dry Density (pcf):	48.65	61.53	**Plastic Limits:**	70		
Saturation (%):	89.77	94.21	**Plasticity Index (%):**	0		
Void Ratio:	2.3556	1.4854	**Specific Gravity:**	2.618	Measured	

Soil Description:	SANDY FAT CLAY(CH A-7-5(24))			
Project Number:	8076	**Depth:**	13.5-15.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-9	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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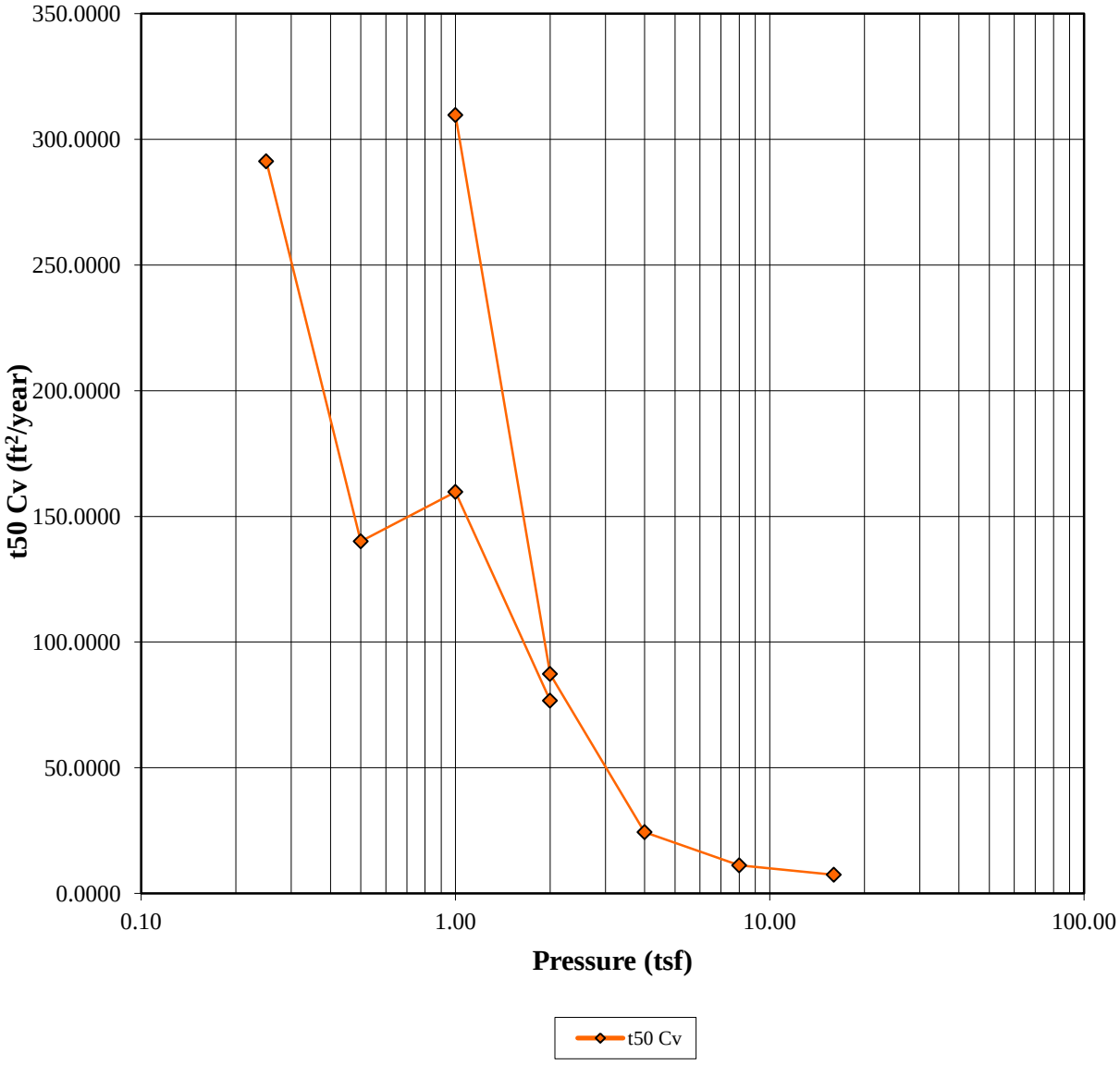
Consolidation Test
Test Results



	Before	After				
Moisture (%):	80.90	59.60	**Liquid Limits:**	33	**Test Date:**	11/22/17
Dry Density (pcf):	48.65	61.53	**Plastic Limits:**	70		
Saturation (%):	89.77	94.21	**Plasticity Index (%):**	0		
Void Ratio:	2.3556	1.4854	**Specific Gravity:**	2.618	Measured	

Soil Description:	SANDY FAT CLAY(CH A-7-5(24))			
Project Number:	8076	**Depth:**	13.5-15.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-9	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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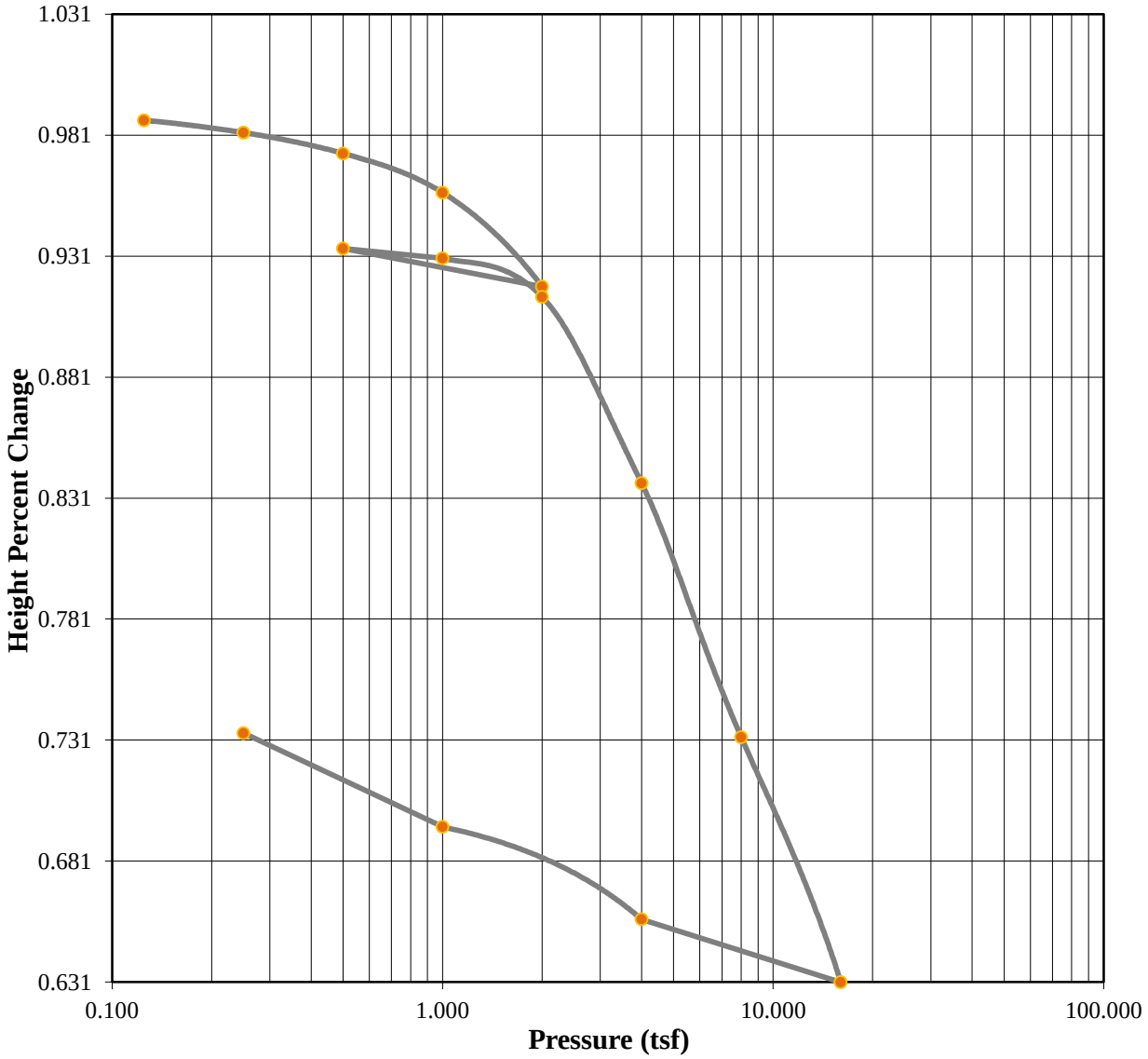
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	33	**Test Date:**	11/22/17
Moisture (%):	80.90	59.60	**Plastic Limits:**	70		
Dry Density (pcf):	48.65	61.53	**Plasticity Index (%):**	0		
Saturation (%):	89.77	94.21				
Void Ratio:	2.3556	1.4854	**Specific Gravity:**	2.618	Measured	

Soil Description:	SANDY FAT CLAY(CH A-7-5(24))			
Project Number:	8076	**Depth:**	13.5-15.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-9	
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: 8076

Sample Number: T-1
Boring Number: TH-9
Depth: 13.5-15.5 ft.
Sample Type: Undisturbed

Sample Description: SANDY FAT CLAY(CH A-7-5(24))
Remarks:

Test Number:
Test Date: 11/22/17

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	0.9910	0.6955	0.00	2.3534	0.000	0.000	0.000	0.000
1	0.125	0.0037	0.9873	0.6918	0.37	2.3409	0.000	0.000	0.000	0.000
2	0.250	0.0088	0.9822	0.6866	0.89	2.3235	1.433	0.595	520.947	291.334
3	0.500	0.0174	0.9736	0.6781	1.76	2.2946	0.920	1.217	797.405	140.078
4	1.000	0.0336	0.9574	0.6618	3.40	2.2396	0.888	1.032	798.712	159.724
5	2.000	0.0724	0.9186	0.6231	7.31	2.1083	1.091	1.976	598.680	76.767
6	0.500	0.0567	0.9343	0.6387	5.73	2.1614	0.000	0.000	0.000	0.000
7	1.000	0.0607	0.9303	0.6347	6.13	2.1479	14.036	0.502	47.710	309.706
8	2.000	0.0767	0.9143	0.6188	7.74	2.0939	1.137	1.722	568.972	87.287
9	4.000	0.1537	0.8373	0.5418	15.51	1.8333	9.259	5.165	58.594	24.402
10	8.000	0.2586	0.7324	0.4369	26.10	1.4783	31.705	8.595	13.091	11.219
11	16.000	0.3599	0.6311	0.3356	36.31	1.1357	31.784	9.597	9.698	7.462
12	4.000	0.3339	0.6571	0.3616	33.69	1.2235	0.000	0.000	0.000	0.000
13	1.000	0.2957	0.6953	0.3998	29.84	1.3528	0.000	0.000	0.000	0.000
14	0.250	0.2570	0.7340	0.4385	25.93	1.4838	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:** 8076
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 11/22/17

Sample Number: T-1 **Sample Description:**
Boring Number: TH-9 SANDY FAT CLAY(CH A-7-5(24))
Depth: 13.5-15.5 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 33.0000 **Initial Void Ratio:** 2.3556 **Initial Height (in):** 0.9910
Plastic Limit: 70.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5010
Specific Gravity: 2.6180 **Weight of Ring (g):** 98.6300
Measured

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	133.79	223.54
Dry Soil + Container (g)	88.29	189.01
Weight of Container (g)	32.05	131.07
Moisture Content (%)	80.90	59.60
Void Ratio	2.3556	1.4854
Saturation (%)	89.77	94.21
Dry Density (pcf)	48.65	61.53

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

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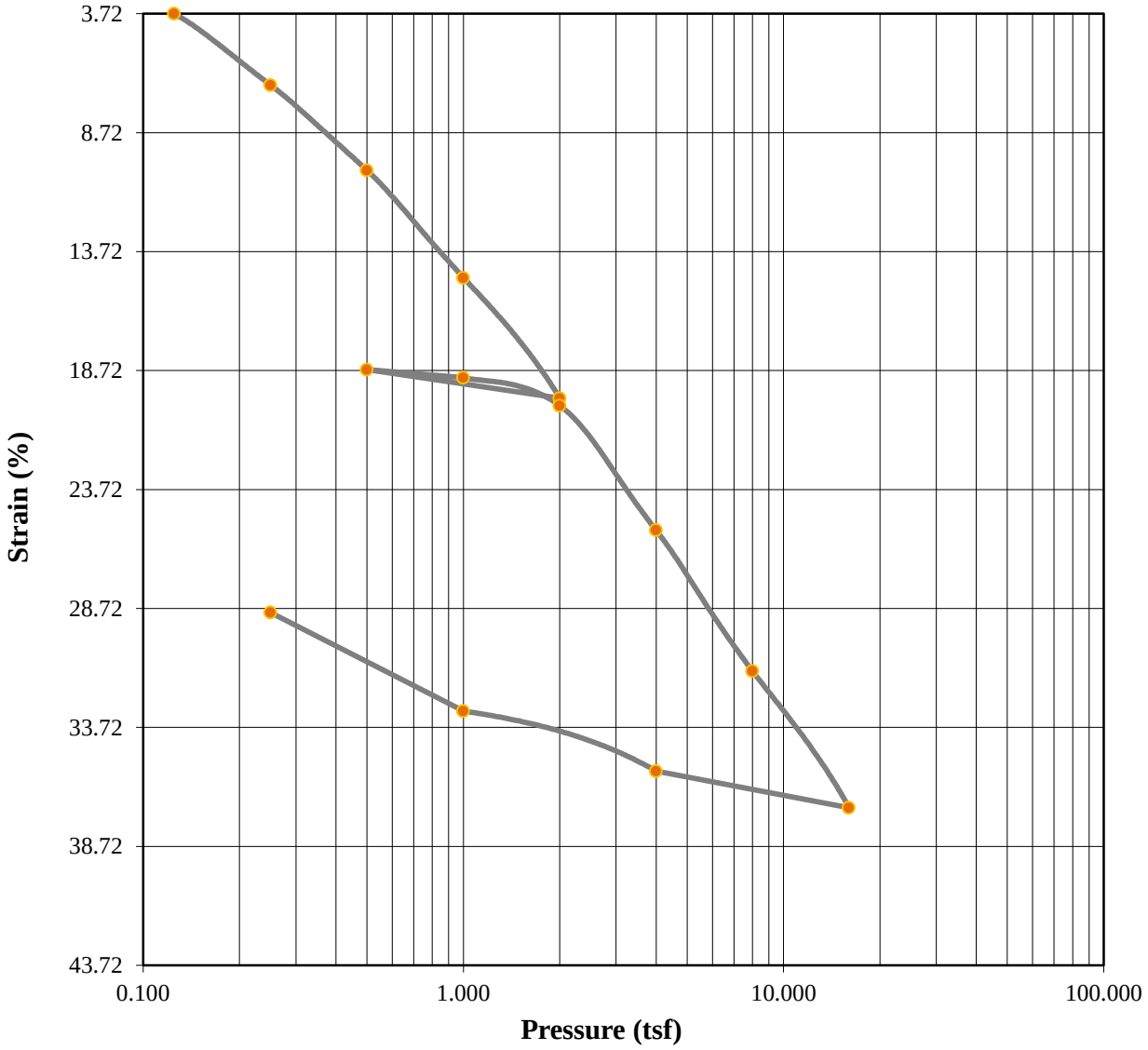
Consolidation Test
Test Results



	Before	After				
Moisture (%):	63.39	35.63	**Liquid Limits:**	53	**Test Date:**	11/24/17
Dry Density (pcf):	60.82	83.96	**Plastic Limits:**	24		
Saturation (%):	96.70	95.62	**Plasticity Index (%):**	0		
Void Ratio:	1.7648	0.9661	**Specific Gravity:**	2.696	Measured	

Sample Description:	SANDY FAT CLAY with GRAVEL(CH A-7-6(12))			
Project Number:	8076	**Depth:**	23.5-25.5 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-9	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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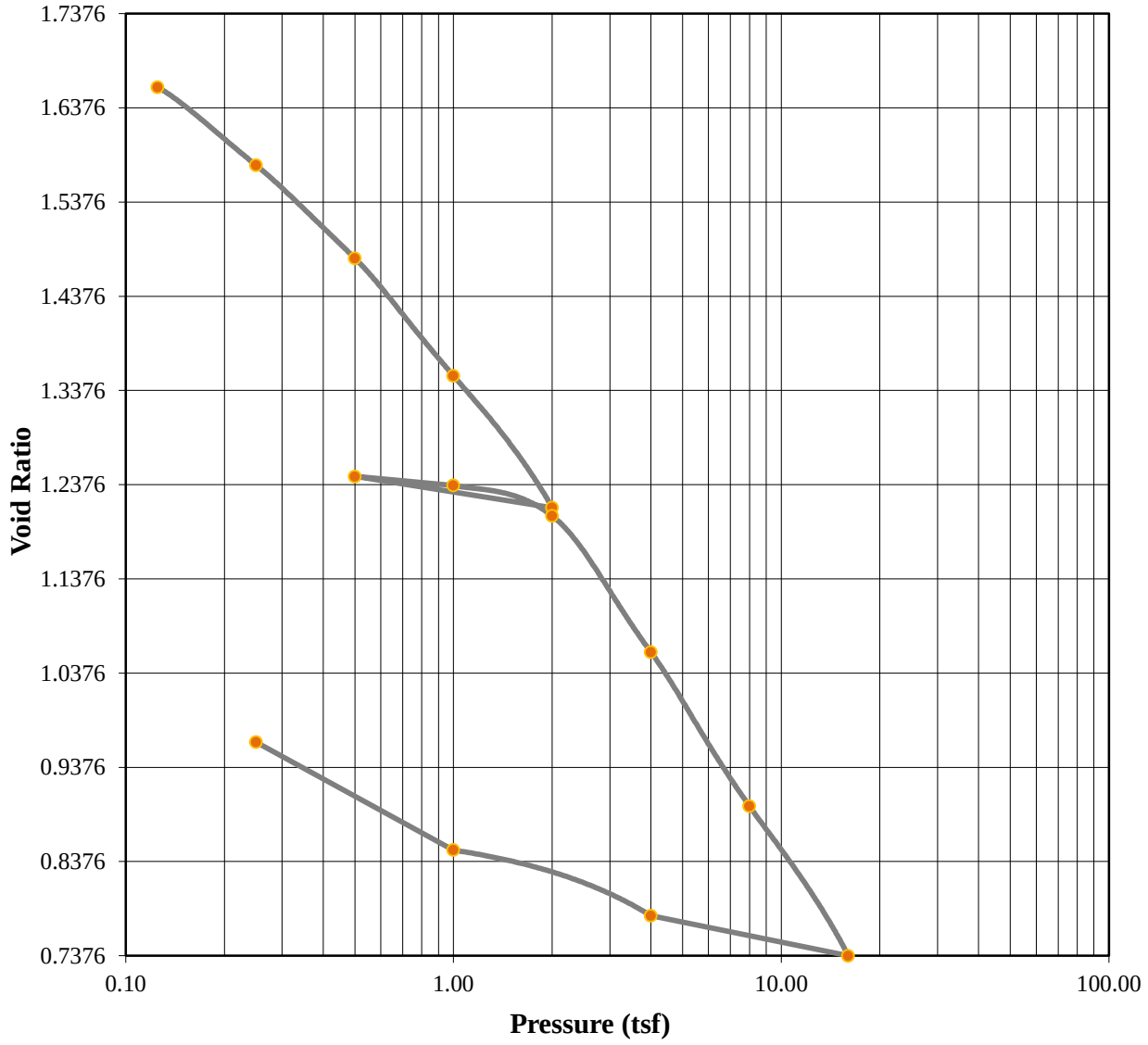
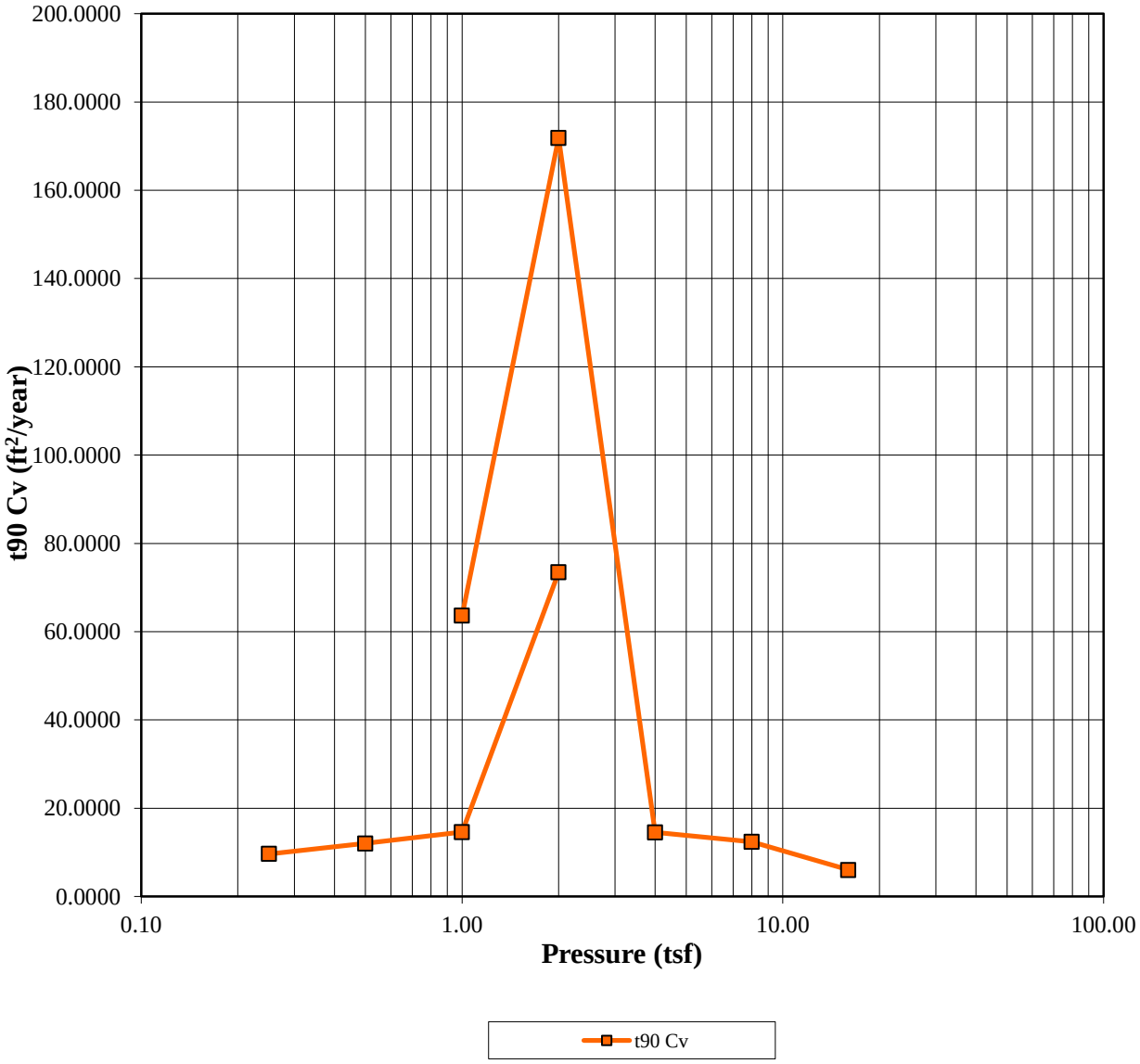
Consolidation Test
Test Results



	Before	After				
Moisture (%):	63.39	35.63	**Liquid Limits:**	53	**Test Date:**	11/24/17
Dry Density (pcf):	60.82	83.96	**Plastic Limits:**	24		
Saturation (%):	96.70	95.62	**Plasticity Index (%):**	0		
Void Ratio:	1.7648	0.9661	**Specific Gravity:**	2.696	Measured	

Soil Description:	SANDY FAT CLAY with GRAVEL(CH A-7-6(12))			
Project Number:	8076	**Depth:**	23.5-25.5 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-9	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

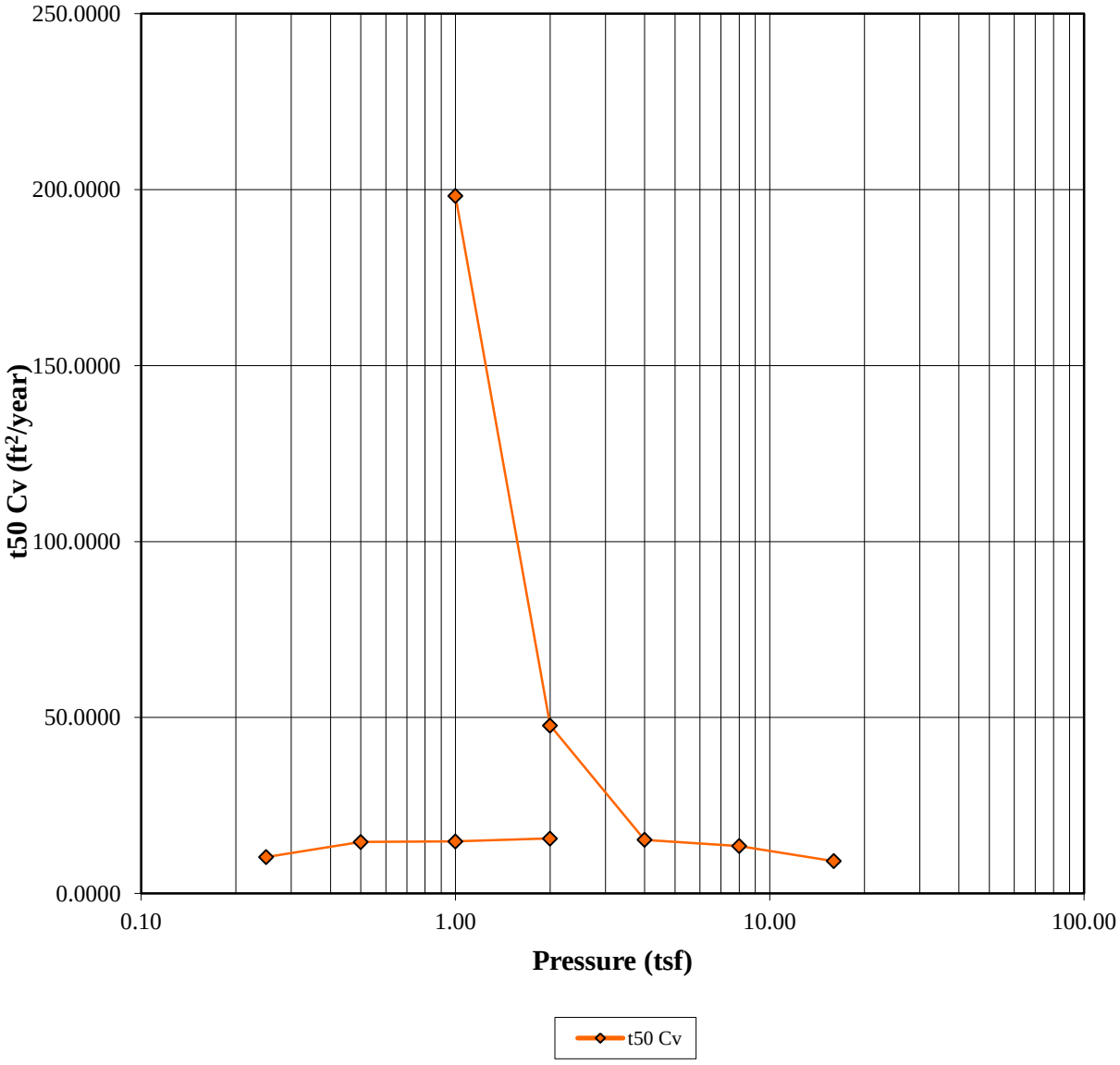
Consolidation Test
Test Results



	Before	After				
Moisture (%):	63.39	35.63	**Liquid Limits:**	53	**Test Date:**	11/24/17
Dry Density (pcf):	60.82	83.96	**Plastic Limits:**	24		
Saturation (%):	96.70	95.62	**Plasticity Index (%):**	0		
Void Ratio:	1.7648	0.9661	**Specific Gravity:**	2.696	Measured	

Soil Description:	SANDY FAT CLAY with GRAVEL(CH A-7-6(12))			
Project Number:	8076	**Depth:**	23.5-25.5 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-9	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

Consolidation Test
Test Results



	Before	After				
Moisture (%):	63.39	35.63	**Liquid Limits:**	53	**Test Date:**	11/24/17
Dry Density (pcf):	60.82	83.96	**Plastic Limits:**	24		
Saturation (%):	96.70	95.62	**Plasticity Index (%):**	0		
Void Ratio:	1.7648	0.9661	**Specific Gravity:**	2.696	Measured	

Soil Description:	SANDY FAT CLAY with GRAVEL(CH A-7-6(12))			
Project Number:	8076	**Depth:**	23.5-25.5 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-9	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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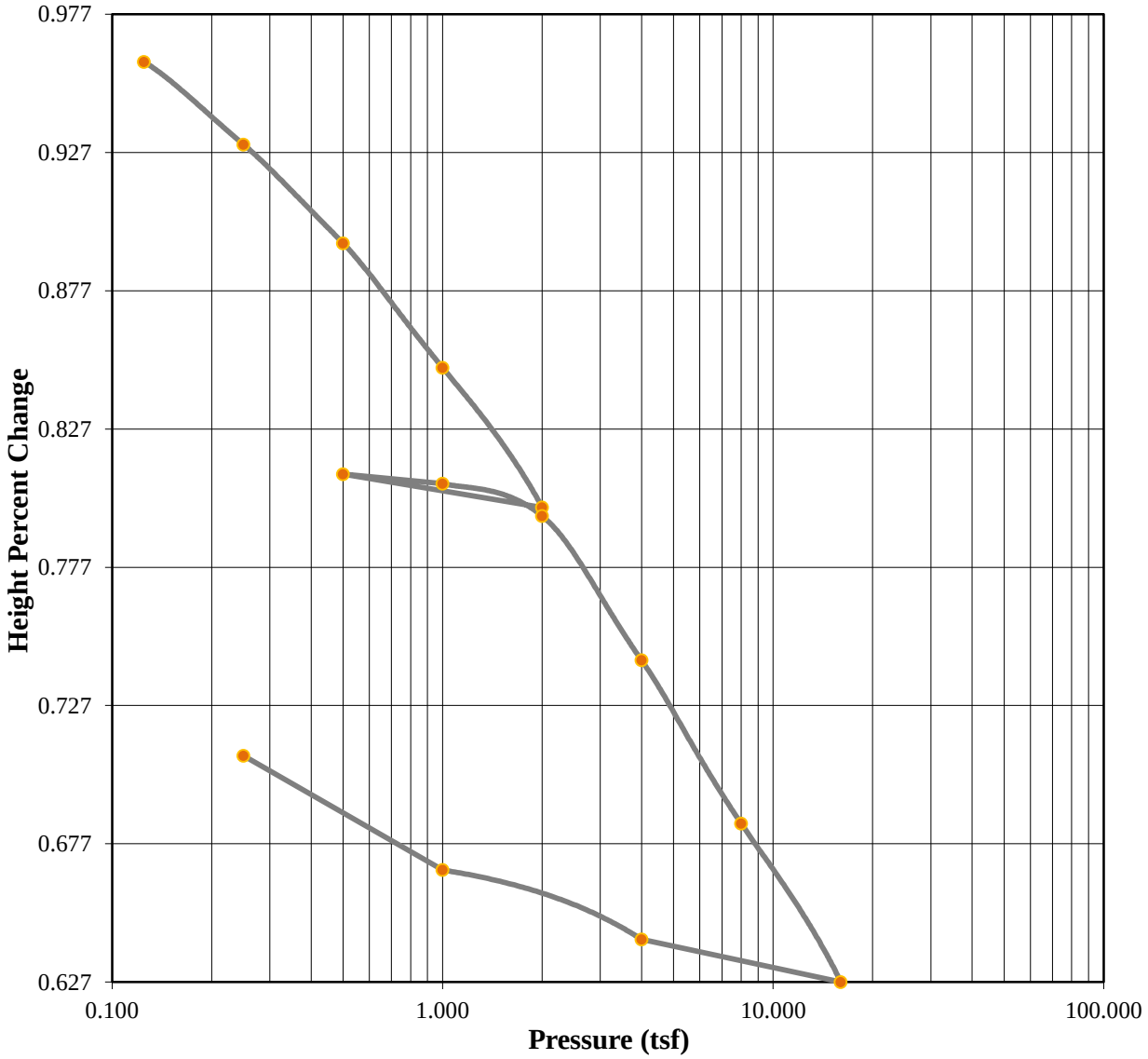
Consolidation Test
Test Results



	Before	After				
Moisture (%):	63.39	35.63	**Liquid Limits:**	53	**Test Date:**	11/24/17
Dry Density (pcf):	60.82	83.96	**Plastic Limits:**	24		
Saturation (%):	96.70	95.62	**Plasticity Index (%):**	0		
Void Ratio:	1.7648	0.9661	**Specific Gravity:**	2.696	Measured	

Soil Description:	SANDY FAT CLAY with GRAVEL(CH A-7-6(12))			
Project Number:	8076	**Depth:**	23.5-25.5 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-9	
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: 8076

Sample Number: T-2
Boring Number: TH-9
Depth: 23.5-25.5 ft.
Sample Type: Undisturbed

Sample Description: SANDY FAT CLAY with GRAVEL(CH A-7-6(12))
Remarks:

Test Number:
Test Date: 11/24/17

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	0.9970	0.6361	0.00	1.7623	0.000	0.000	0.000	0.000
1	0.125	0.0371	0.9599	0.5990	3.72	1.6596	0.000	0.000	0.000	0.000
2	0.250	0.0670	0.9300	0.5691	6.72	1.5766	69.277	15.049	9.661	10.331
3	0.500	0.1027	0.8943	0.5334	10.30	1.4779	51.401	9.828	12.041	14.631
4	1.000	0.1477	0.8493	0.4884	14.81	1.3531	38.241	8.770	14.596	14.785
5	2.000	0.1982	0.7988	0.4379	19.88	1.2132	6.723	7.345	73.451	15.618
6	0.500	0.1862	0.8108	0.4499	18.68	1.2464	0.000	0.000	0.000	0.000
7	1.000	0.1896	0.8074	0.4464	19.02	1.2369	7.925	0.591	63.651	198.193
8	2.000	0.2013	0.7957	0.4348	20.19	1.2045	2.850	2.384	171.885	47.737
9	4.000	0.2535	0.7435	0.3826	25.43	1.0600	29.459	6.508	14.521	15.270
10	8.000	0.3125	0.6845	0.3236	31.35	0.8964	29.245	6.264	12.397	13.446
11	16.000	0.3698	0.6272	0.2662	37.09	0.7376	50.467	7.696	6.031	9.187
12	4.000	0.3544	0.6426	0.2816	35.55	0.7803	0.000	0.000	0.000	0.000
13	1.000	0.3293	0.6677	0.3067	33.03	0.8498	0.000	0.000	0.000	0.000
14	0.250	0.2880	0.7090	0.3481	28.89	0.9644	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:** 8076
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 11/24/17

Sample Number: T-2 **Sample Description:**
Boring Number: TH-9 SANDY FAT CLAY with GRAVEL(CH A-7-6(12))
Depth: 23.5-25.5 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 53.0000 **Initial Void Ratio:** 1.7648 **Initial Height (in):** 0.9970
Plastic Limit: 24.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.4990
Specific Gravity: 2.6960 **Weight of Ring (g):** 110.7200
Measured

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	125.64	232.53
Dry Soil + Container (g)	89.36	205.34
Weight of Container (g)	32.13	129.02
Moisture Content (%)	63.39	35.63
Void Ratio	1.7648	0.9661
Saturation (%)	96.70	95.62
Dry Density (pcf)	60.82	83.96

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

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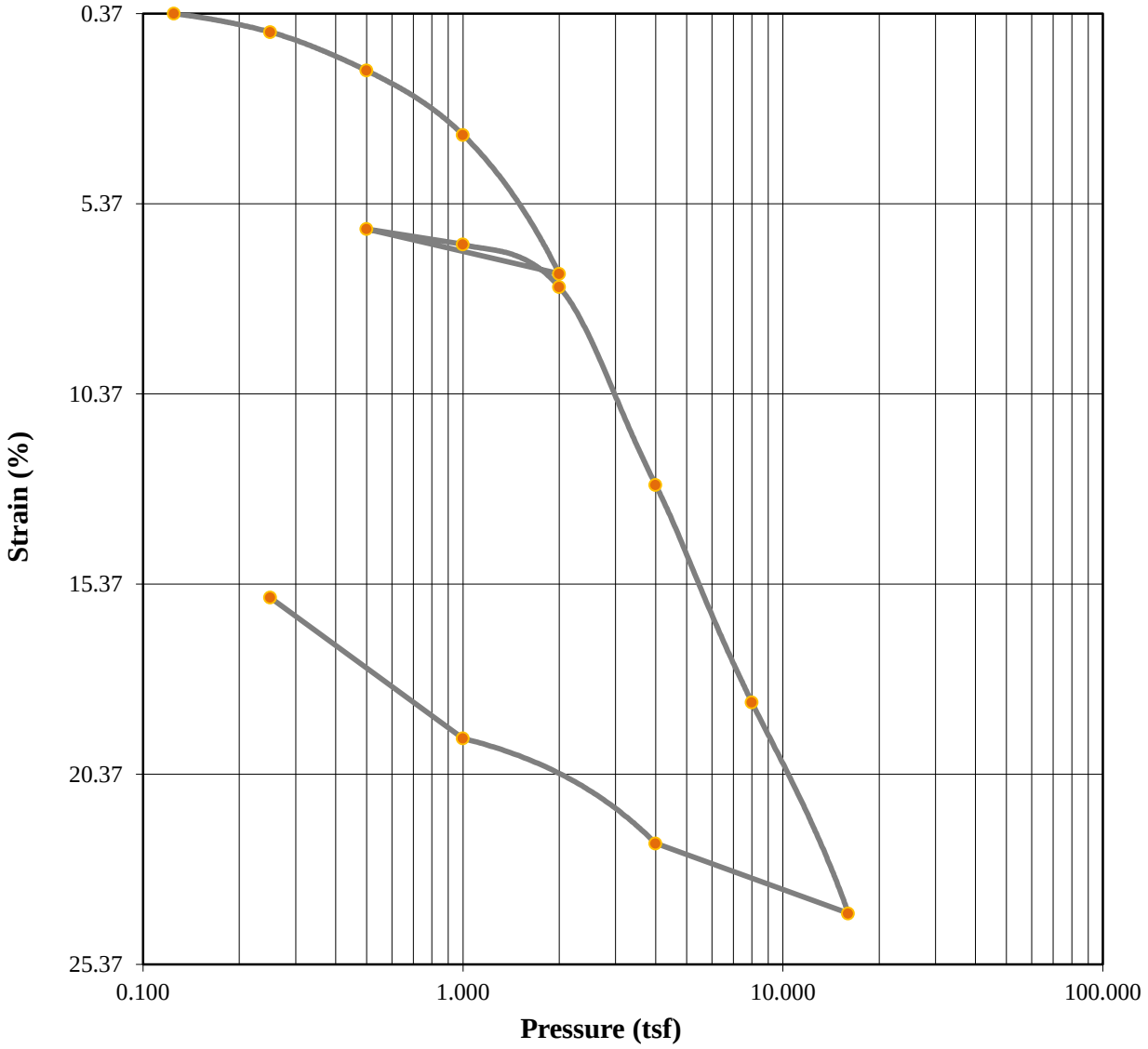
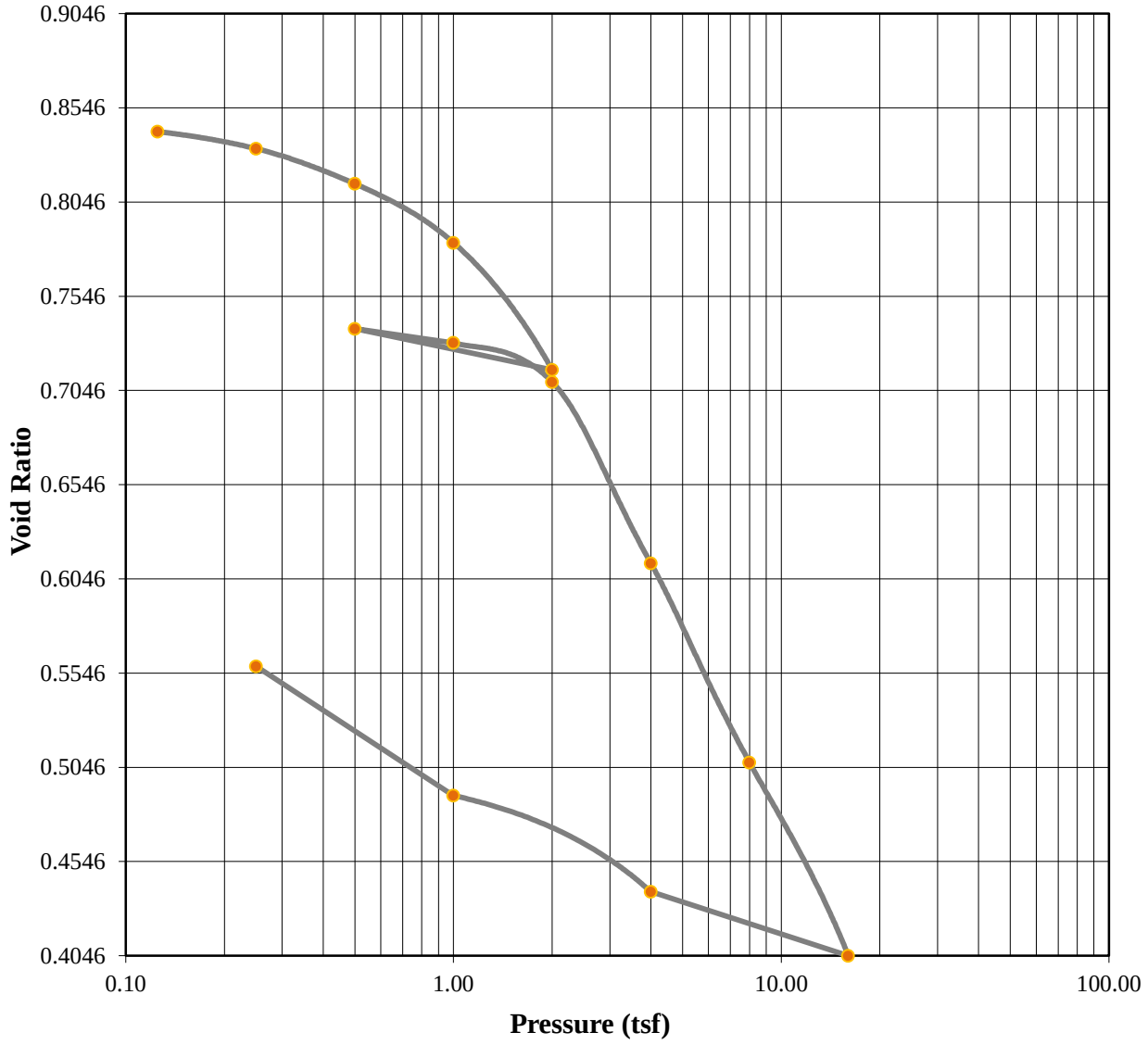
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	39	**Test Date:**	9/11/17
Moisture (%):	38.60	30.18	**Plastic Limits:**	16		
Dry Density (pcf):	80.56	93.07	**Plasticity Index (%):**	0		
Saturation (%):	108.26	119.59				
Void Ratio:	0.8509	0.5598	**Specific Gravity:**	2.390	Measured	

Sample Description:	LEAN CLAY with SAND(CL A-6(15))			
Project Number:	8052	**Depth:**	18.0-20.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-10	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

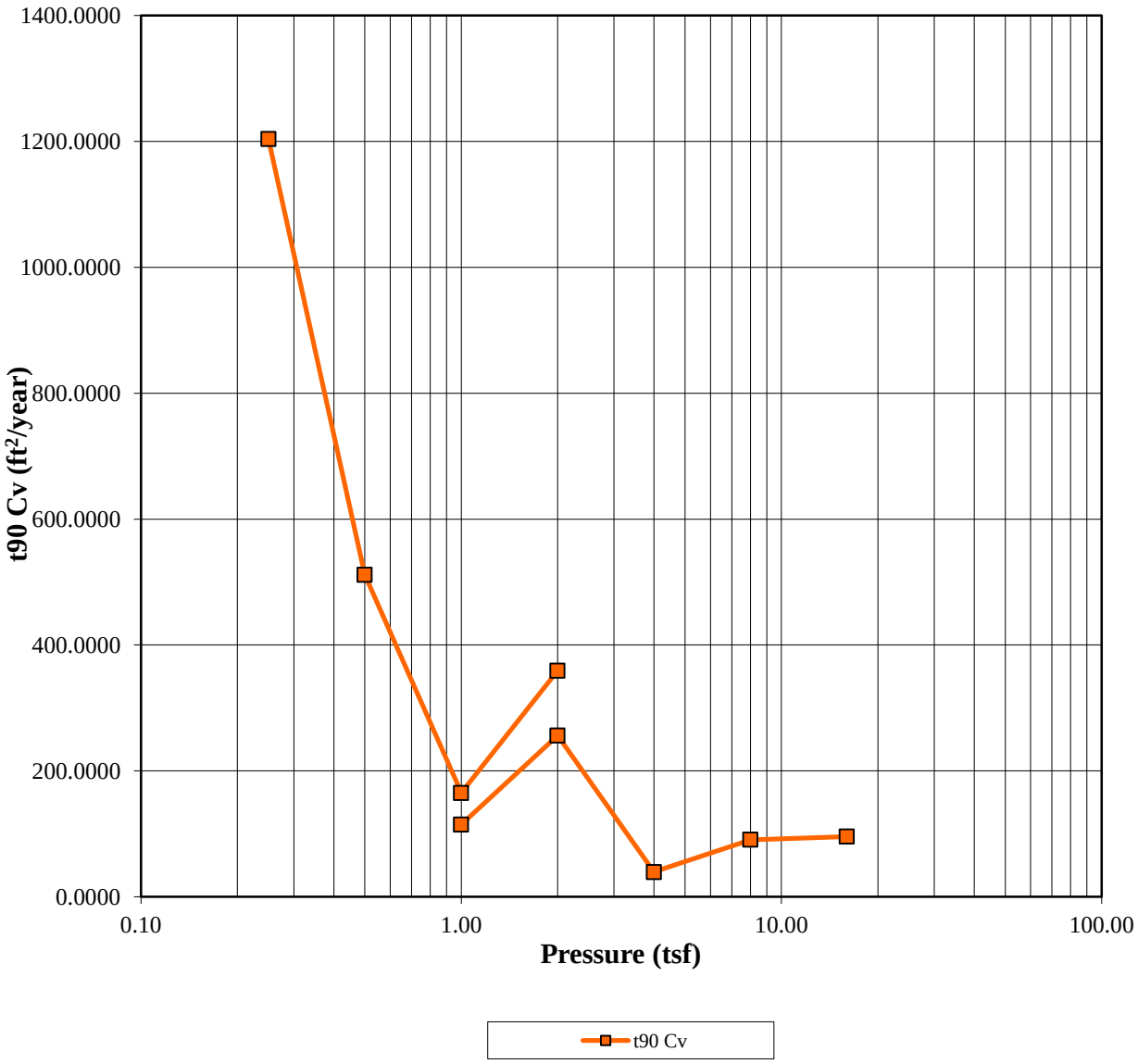
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	39	**Test Date:**	9/11/17
Moisture (%):	38.60	30.18	**Plastic Limits:**	16		
Dry Density (pcf):	80.56	93.07	**Plasticity Index (%):**	0		
Saturation (%):	108.26	119.59				
Void Ratio:	0.8509	0.5598	**Specific Gravity:**	2.390	Measured	

Soil Description:	LEAN CLAY with SAND(CL A-6(15))			
Project Number:	8052	**Depth:**	18.0-20.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-10	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	39	**Test Date:**	9/11/17
Moisture (%):	38.60	30.18	**Plastic Limits:**	16		
Dry Density (pcf):	80.56	93.07	**Plasticity Index (%):**	0		
Saturation (%):	108.26	119.59				
Void Ratio:	0.8509	0.5598	**Specific Gravity:**	2.390	Measured	

Soil Description:	LEAN CLAY with SAND(CL A-6(15))			
Project Number:	8052	**Depth:**	18.0-20.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-10	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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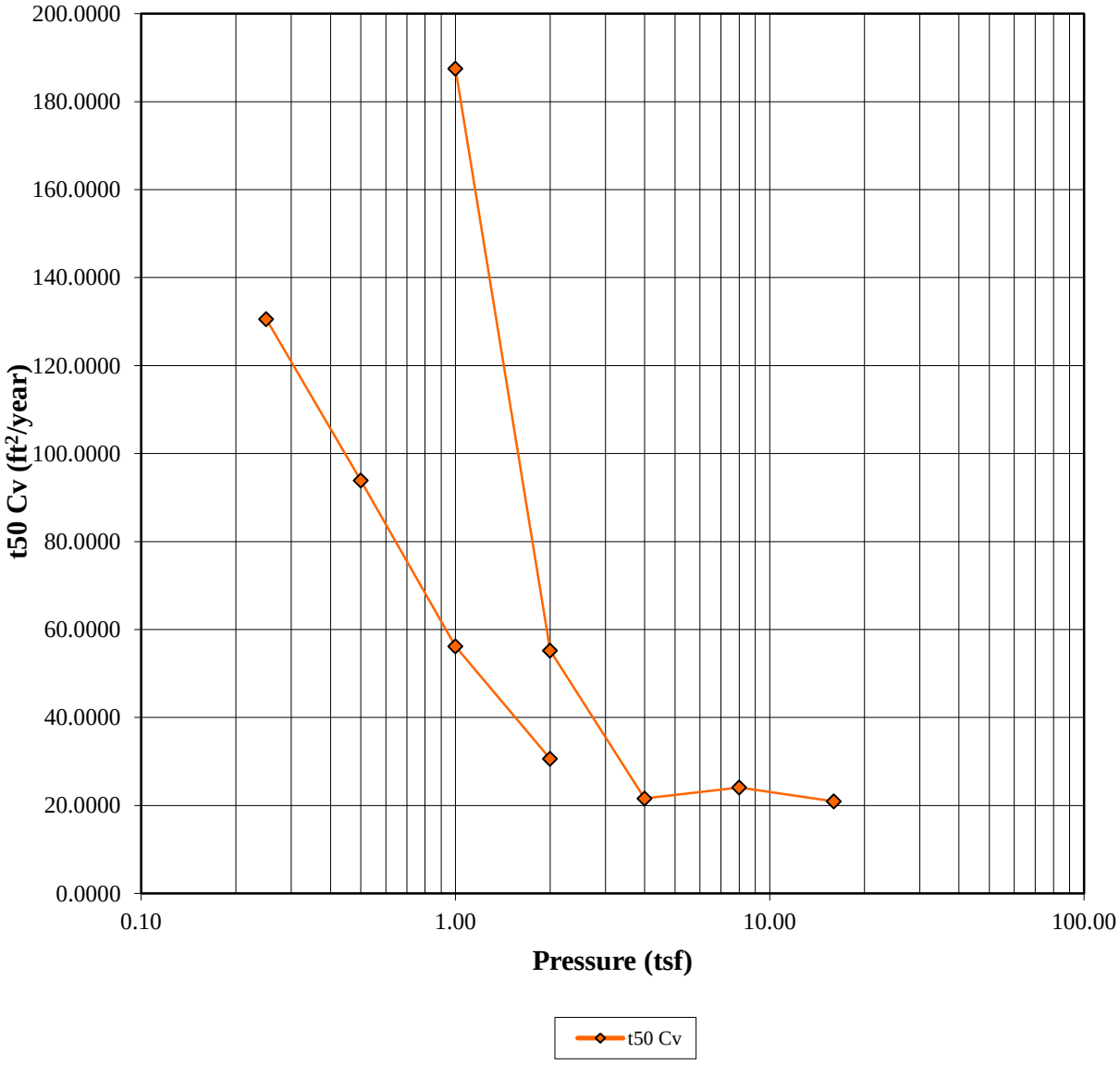
Consolidation Test
Test Results



	Before	After				
Moisture (%):	38.60	30.18	**Liquid Limits:**	39	**Test Date:**	9/11/17
Dry Density (pcf):	80.56	93.07	**Plastic Limits:**	16		
Saturation (%):	108.26	119.59	**Plasticity Index (%):**	0		
Void Ratio:	0.8509	0.5598	**Specific Gravity:**	2.390	Measured	

Soil Description:	LEAN CLAY with SAND(CL A-6(15))			
Project Number:	8052	**Depth:**	18.0-20.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-10	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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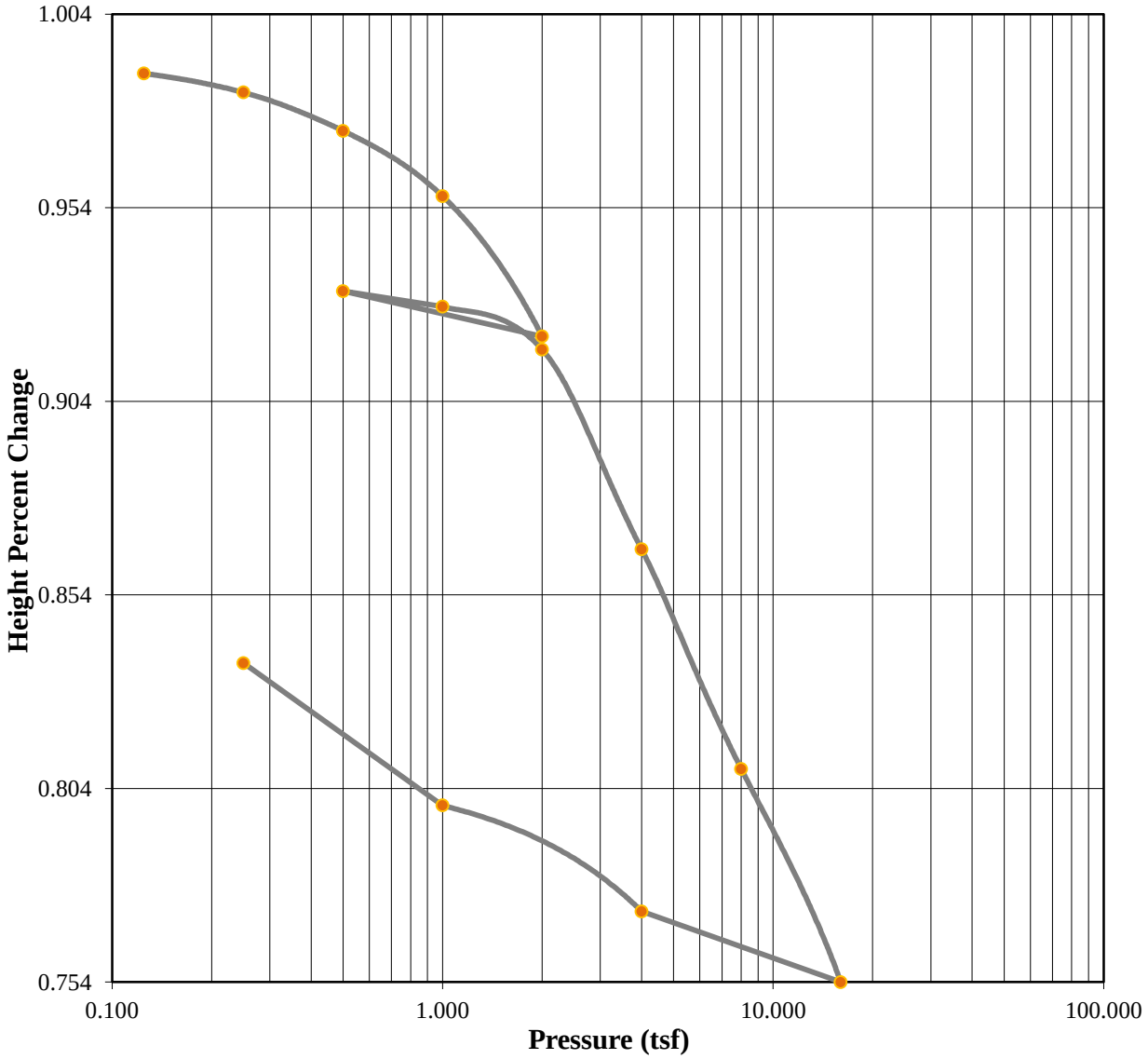
Consolidation Test
Test Results



	Before	After				
Moisture (%):	38.60	30.18	**Liquid Limits:**	39	**Test Date:**	9/11/17
Dry Density (pcf):	80.56	93.07	**Plastic Limits:**	16		
Saturation (%):	108.26	119.59	**Plasticity Index (%):**	0		
Void Ratio:	0.8509	0.5598	**Specific Gravity:**	2.390	Measured	

Soil Description:	LEAN CLAY with SAND(CL A-6(15))			
Project Number:	8052	**Depth:**	18.0-20.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	TH-10	
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: 8052

Sample Number: T-1
Boring Number: TH-10
Depth: 18.0-20.0 ft.
Sample Type: Undisturbed

Sample Description: LEAN CLAY with SAND(CL A-6(15))
Remarks:

Test Number:
Test Date: 9/11/17

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	0.9920	0.4555	0.00	0.8489	0.000	0.000	0.000	0.000
1	0.125	0.0037	0.9883	0.4517	0.37	0.8420	0.000	0.000	0.000	0.000
2	0.250	0.0086	0.9834	0.4469	0.86	0.8329	0.622	1.332	1204.067	130.531
3	0.500	0.0185	0.9735	0.4369	1.87	0.8143	1.433	1.814	511.762	93.899
4	1.000	0.0354	0.9566	0.4201	3.56	0.7830	4.289	2.928	165.114	56.182
5	2.000	0.0716	0.9204	0.3839	7.21	0.7155	1.824	4.976	359.372	30.608
6	0.500	0.0599	0.9321	0.3956	6.04	0.7373	0.000	0.000	0.000	0.000
7	1.000	0.0639	0.9281	0.3916	6.44	0.7298	5.800	0.826	114.934	187.499
8	2.000	0.0750	0.9170	0.3805	7.56	0.7091	2.538	2.738	256.370	55.212
9	4.000	0.1266	0.8654	0.3289	12.76	0.6129	14.656	6.235	39.541	21.592
10	8.000	0.1833	0.8087	0.2721	18.48	0.5072	5.579	4.878	90.693	24.099
11	16.000	0.2384	0.7536	0.2171	24.03	0.4046	4.591	4.880	95.718	20.920
12	4.000	0.2201	0.7719	0.2353	22.19	0.4386	0.000	0.000	0.000	0.000
13	1.000	0.1928	0.7992	0.2627	19.43	0.4896	0.000	0.000	0.000	0.000
14	0.250	0.1560	0.8360	0.2995	15.73	0.5581	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:** 8052
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 9/11/17

Sample Number: T-1 **Sample Description:**
Boring Number: TH-10 LEAN CLAY with SAND(CL A-6(15))
Depth: 18.0-20.0 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 39.0000 **Initial Void Ratio:** 0.8509 **Initial Height (in):** 0.9920
Plastic Limit: 16.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5020
Specific Gravity: 2.3900 **Weight of Ring (g):** 98.6500
Measured

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	153.11	260.40
Dry Soil + Container (g)	119.51	230.11
Weight of Container (g)	32.47	129.73
Moisture Content (%)	38.60	30.18
Void Ratio	0.8509	0.5598
Saturation (%)	108.26	119.59
Dry Density (pcf)	80.56	93.07

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

Consolidation Test Results
(Sequence 1) Load 0.125 tsf

Project: Mobile River Bridge Procurement Phase **Project Number:** 8052
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 9/11/17
Test Number:

Sample Number: T-1 **Soil Description:**
Boring Number: TH-10 Yellowish brown and gray, Sandy Clay
Depth: 18.0-20.0 ft. **Remarks:**
Sample Type: Undisturbed

Index	Time	Displacement (in)	Settlement (in)	Axial Strain (%)	Void Ratio
0	00:00:00	0.9669	0.0000	0.0000	0.8509
1	00:00:01	0.9669	0.0000	0.0000	0.8509
2	00:00:02	0.9666	0.0003	0.0287	0.8504
3	00:00:03	0.9666	0.0003	0.0287	0.8504
4	00:00:04	0.9666	0.0003	0.0287	0.8504
5	00:00:05	0.9664	0.0006	0.0575	0.8498
6	00:00:06	0.9664	0.0006	0.0575	0.8498
7	00:00:12	0.9661	0.0009	0.0862	0.8493
8	00:00:15	0.9661	0.0009	0.0862	0.8493
9	00:00:30	0.9658	0.0011	0.1150	0.8488
10	00:01:00	0.9652	0.0017	0.1725	0.8477
11	00:02:00	0.9649	0.0020	0.2012	0.8472
12	00:05:01	0.9644	0.0026	0.2587	0.8461
13	00:10:01	0.9641	0.0029	0.2874	0.8456
14	00:20:01	0.9638	0.0031	0.3162	0.8450
15	00:40:03	0.9635	0.0034	0.3449	0.8445
16	01:00:04	0.9635	0.0034	0.3449	0.8445
17	02:00:07	0.9632	0.0037	0.3737	0.8440
18	03:22:11	0.9632	0.0037	0.3737	0.8440

Tested By: **Checked By:**

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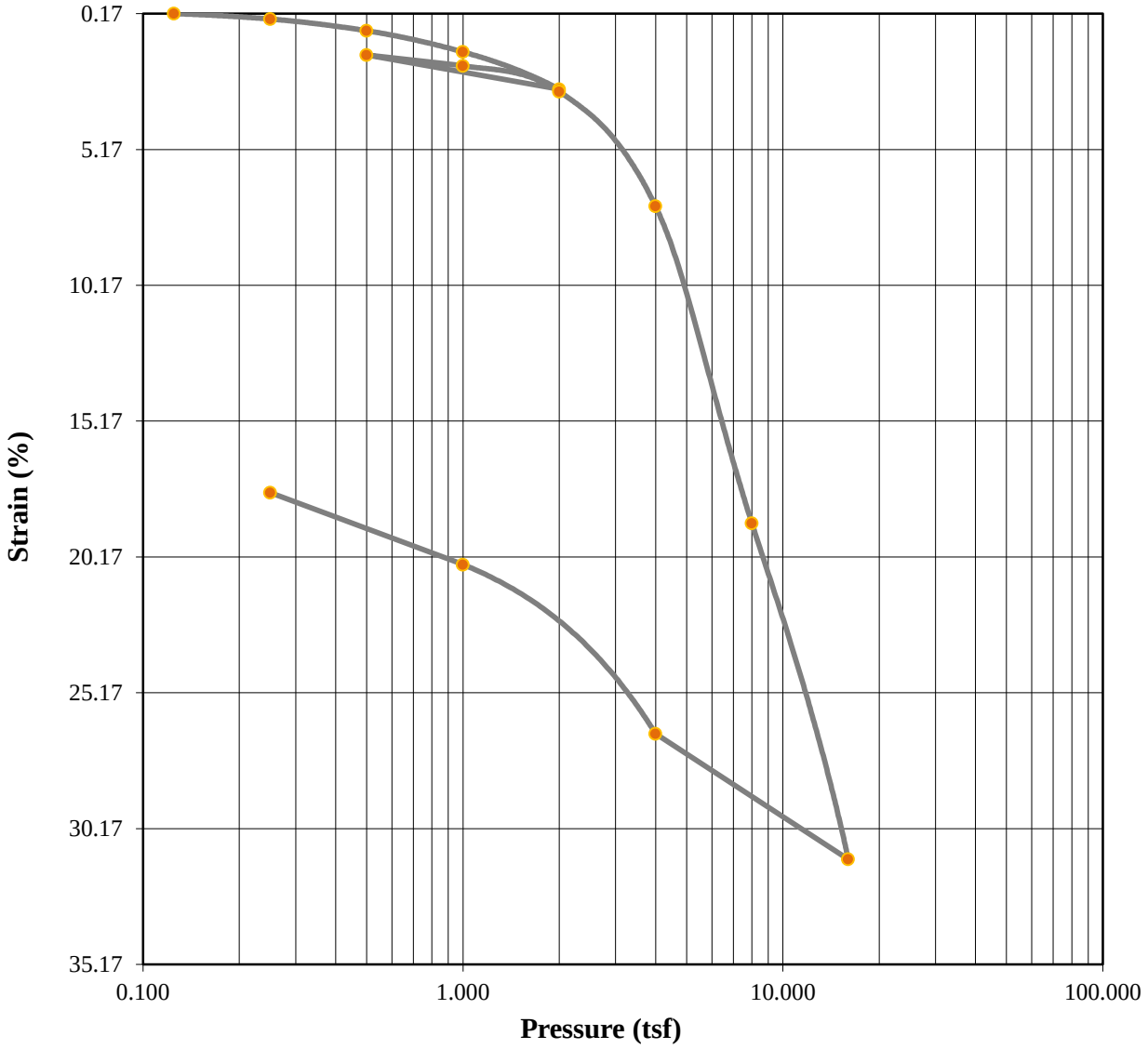
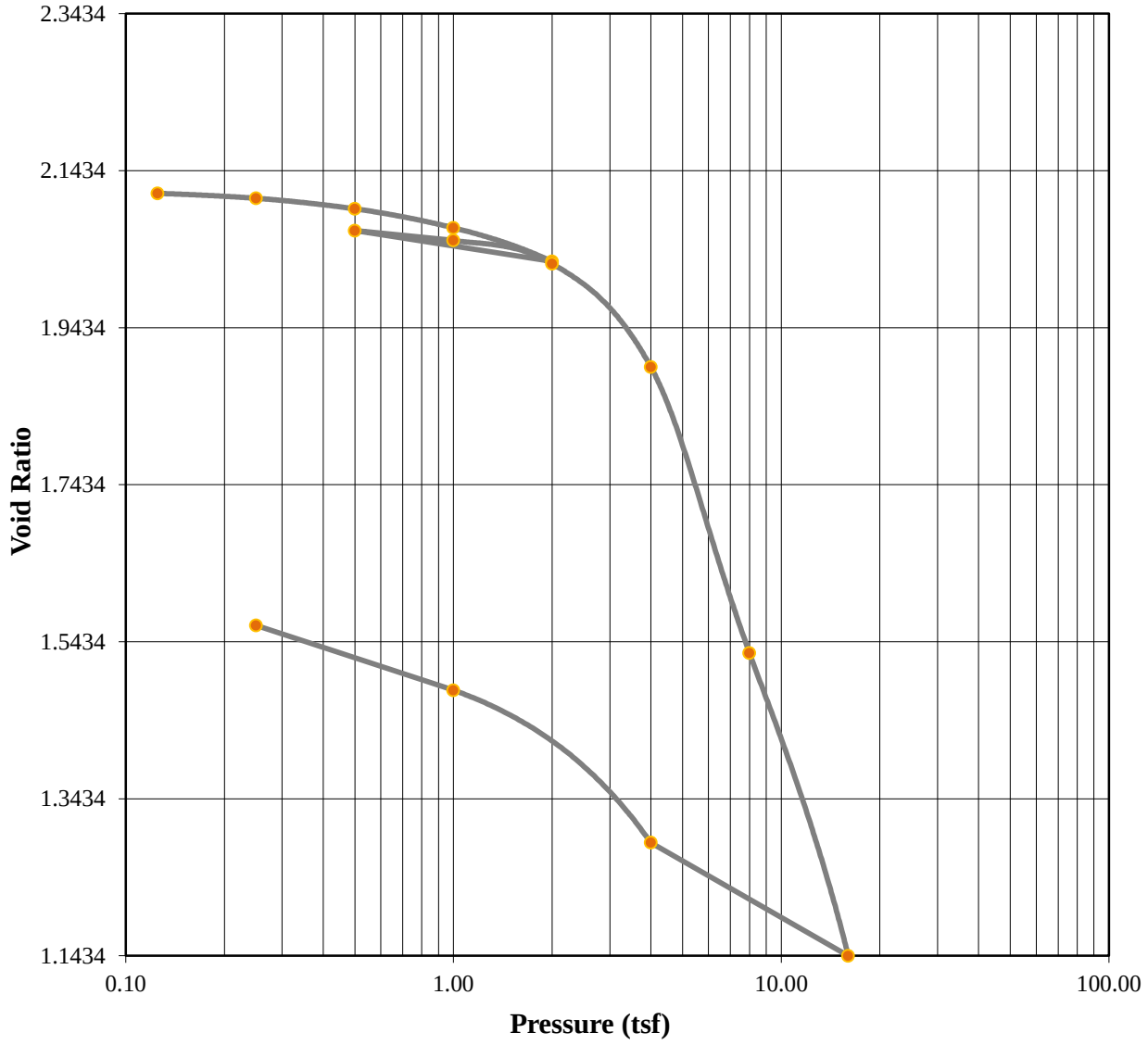
Consolidation Test
Test Results



	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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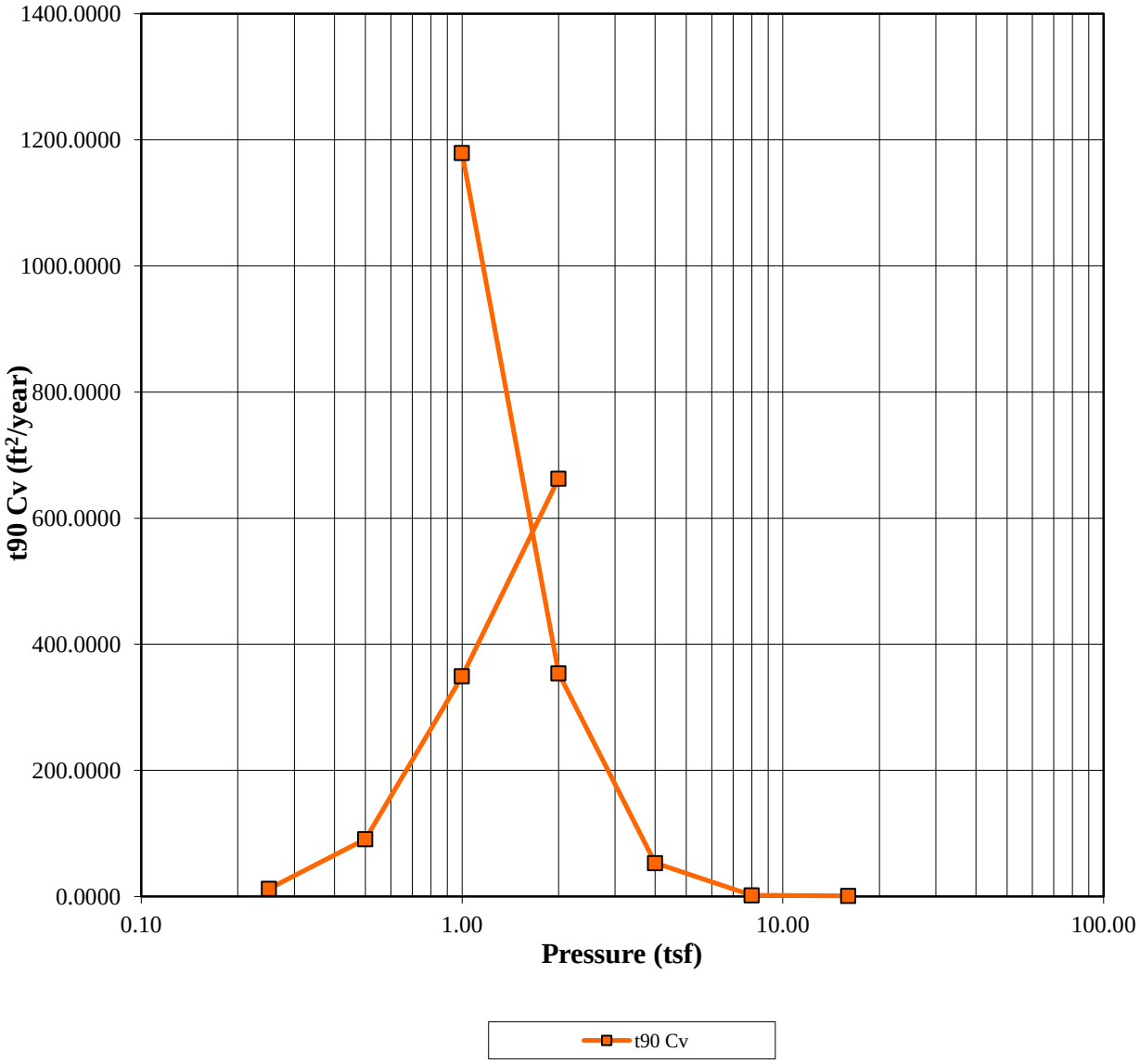
Consolidation Test
Test Results



	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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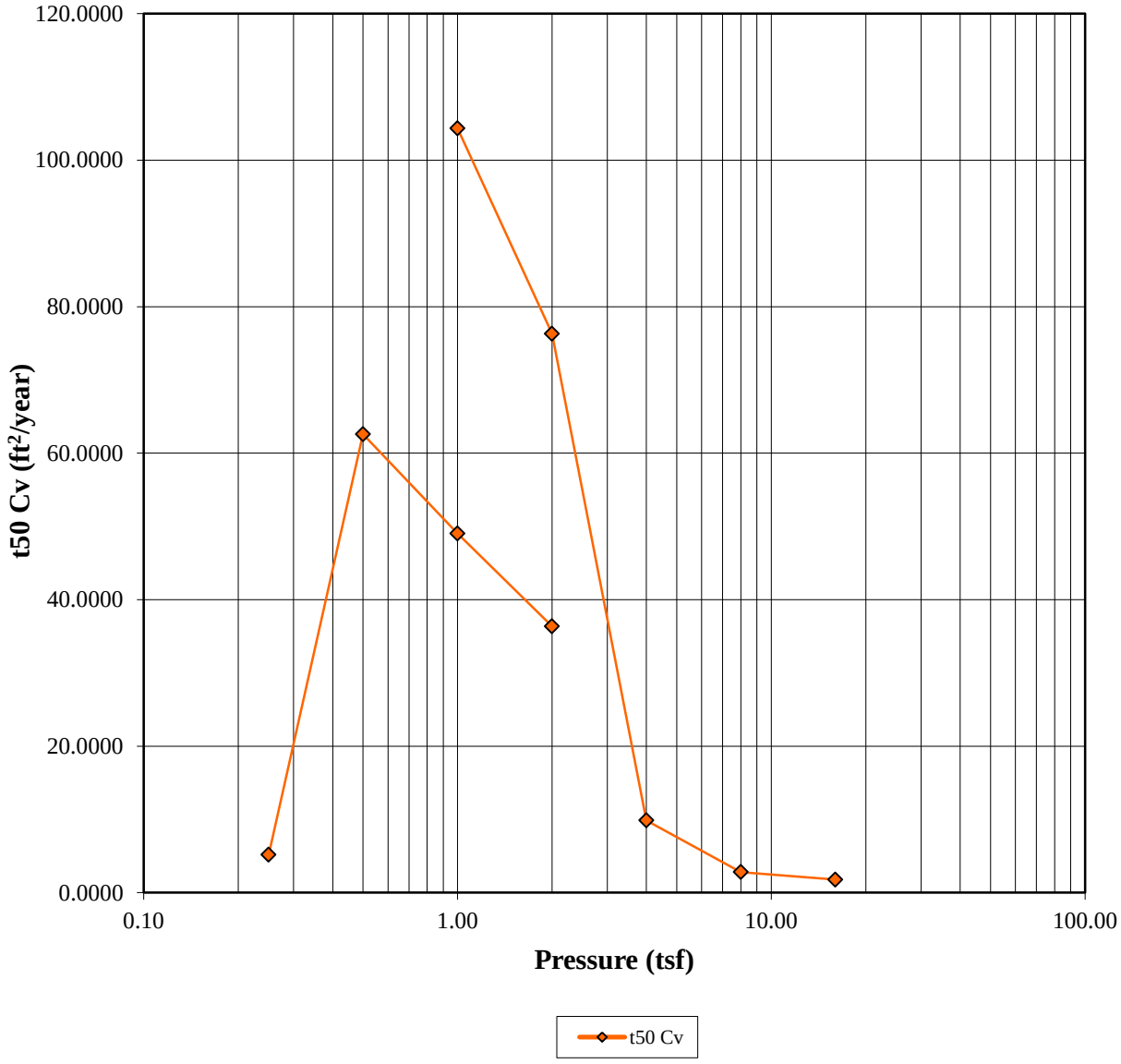
Consolidation Test
Test Results



	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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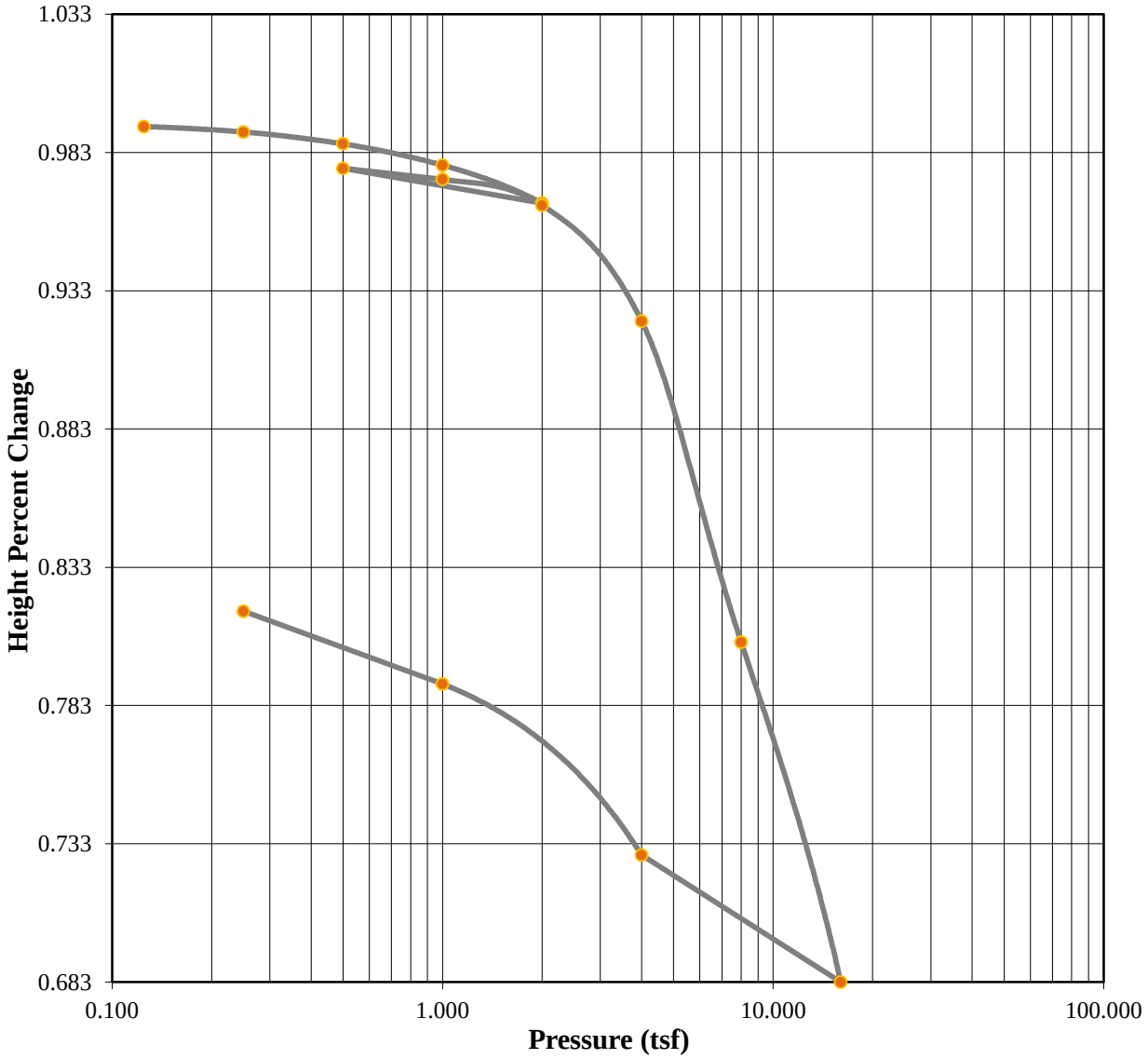
Consolidation Test
Test Results



	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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ENGINEERING

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

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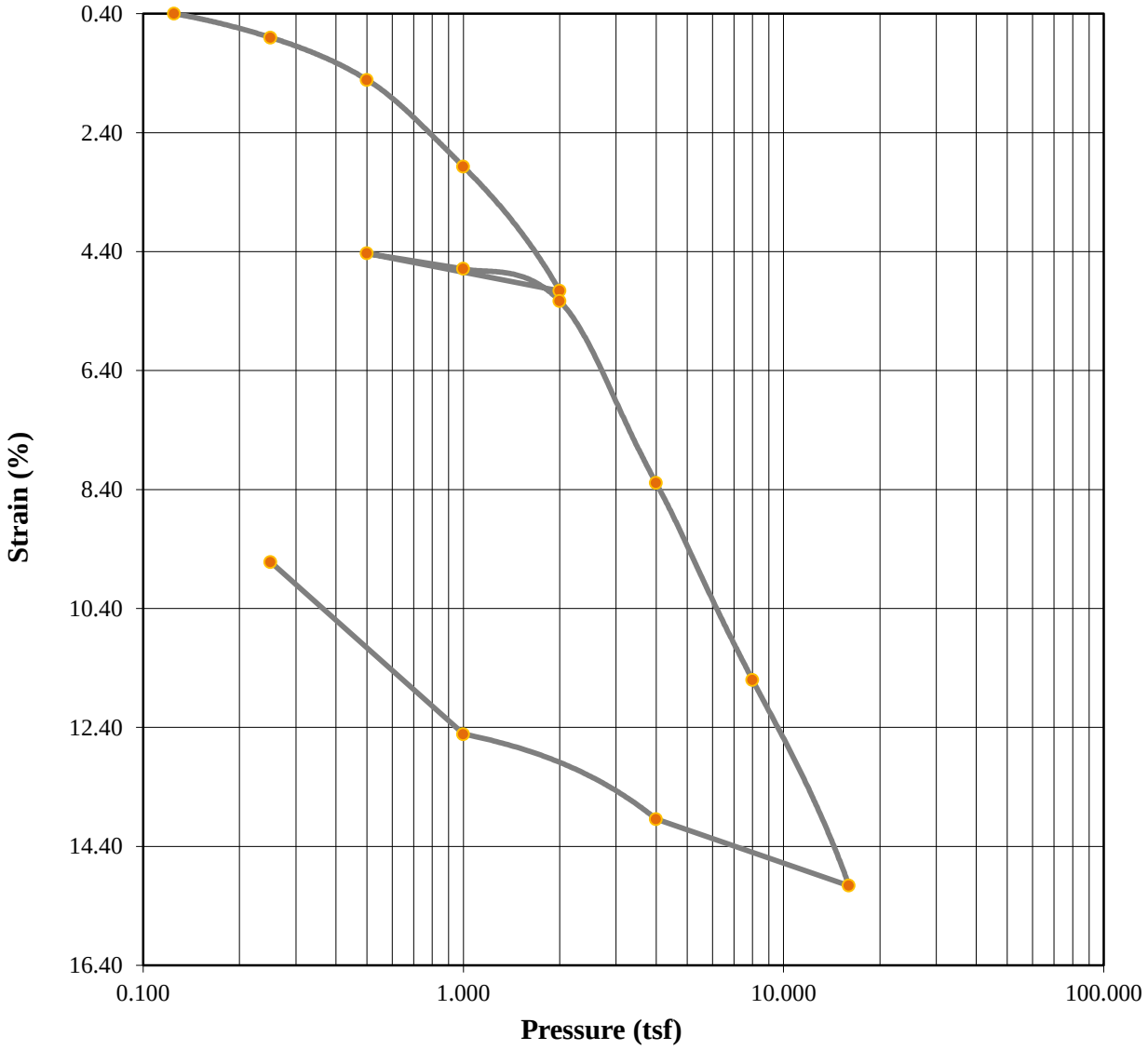
Consolidation Test
Test Results



	Before	After				
Moisture (%):	20.54	16.25	**Liquid Limits:**	37	**Test Date:**	11/6/17
Dry Density (pcf):	105.68	116.51	**Plastic Limits:**	13		
Saturation (%):	95.06	100.85	**Plasticity Index (%):**	0		
Void Ratio:	0.5749	0.4234	**Specific Gravity:**	2.669	Measured	

Sample Description:	SANDY LEAN CLAY(CL A-6(12))			
Project Number:	8085	**Depth:**	8.0-10.0 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-15	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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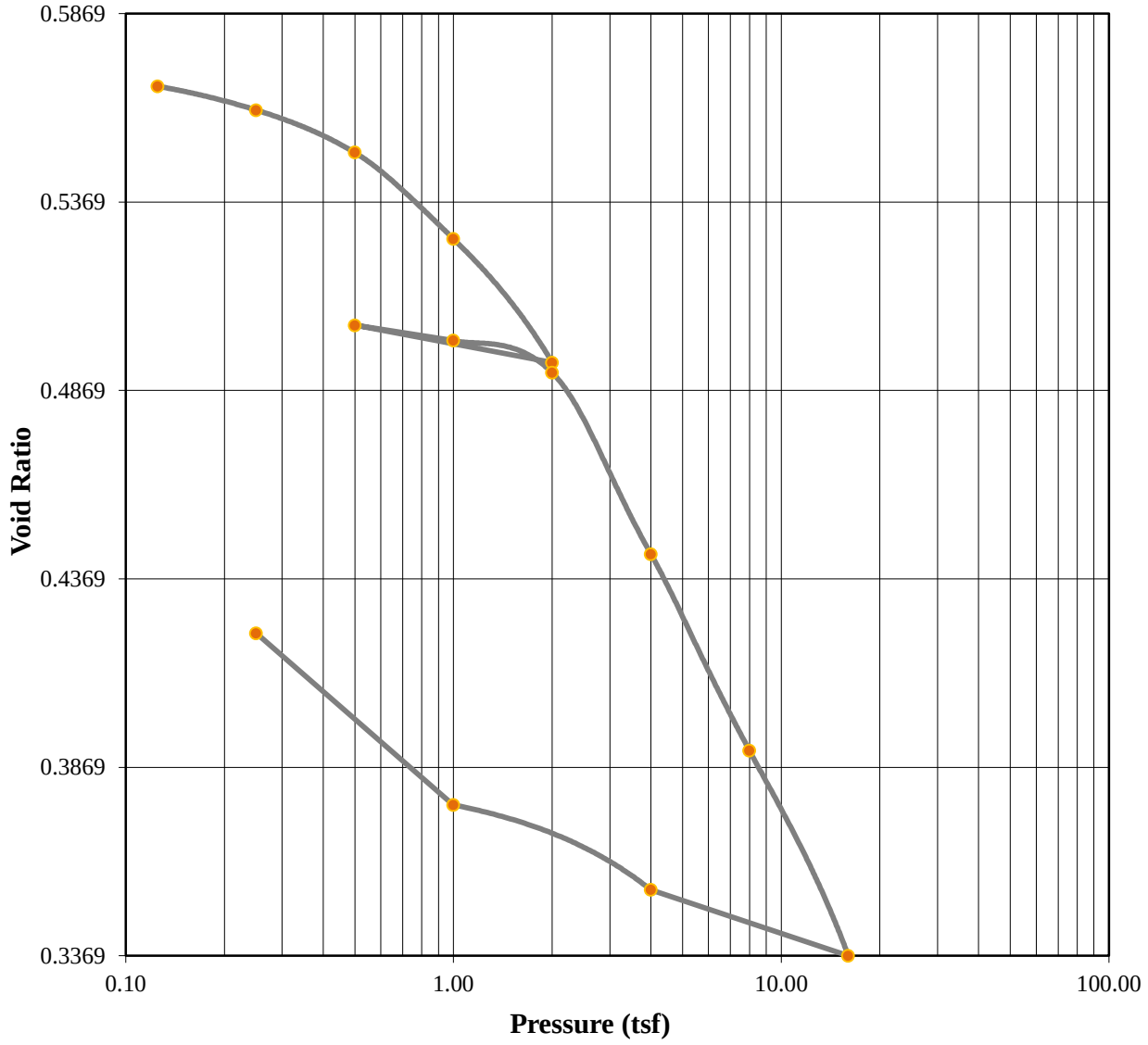
Consolidation Test
Test Results



	Before	After				
Moisture (%):	20.54	16.25	**Liquid Limits:**	37	**Test Date:**	11/6/17
Dry Density (pcf):	105.68	116.51	**Plastic Limits:**	13		
Saturation (%):	95.06	100.85	**Plasticity Index (%):**	0		
Void Ratio:	0.5749	0.4234	**Specific Gravity:**	2.669	Measured	

Soil Description:	SANDY LEAN CLAY(CL A-6(12))			
Project Number:	8085	**Depth:**	8.0-10.0 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-15	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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MOBILE, ALABAMA

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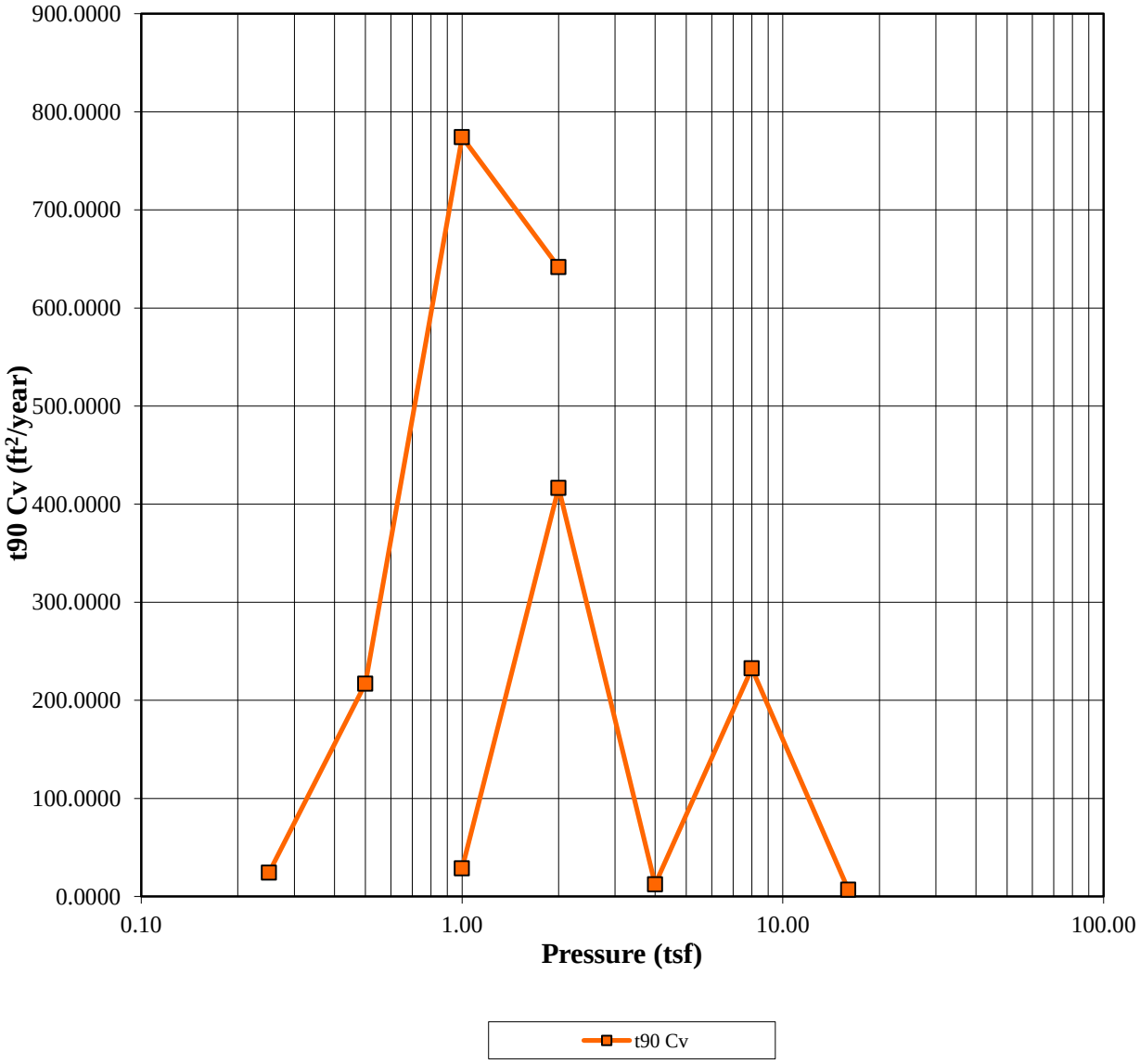
ENGINEERING

Consolidation Test
Test Results



	Before	After				
Moisture (%):	20.54	16.25	**Liquid Limits:**	37	**Test Date:**	11/6/17
Dry Density (pcf):	105.68	116.51	**Plastic Limits:**	13		
Saturation (%):	95.06	100.85	**Plasticity Index (%):**	0		
Void Ratio:	0.5749	0.4234	**Specific Gravity:**	2.669	Measured	

Soil Description:	SANDY LEAN CLAY(CL A-6(12))			
Project Number:	8085	**Depth:**	8.0-10.0 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-15	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

THOMPSON ENGINNERING
MOBILE, ALABAMA

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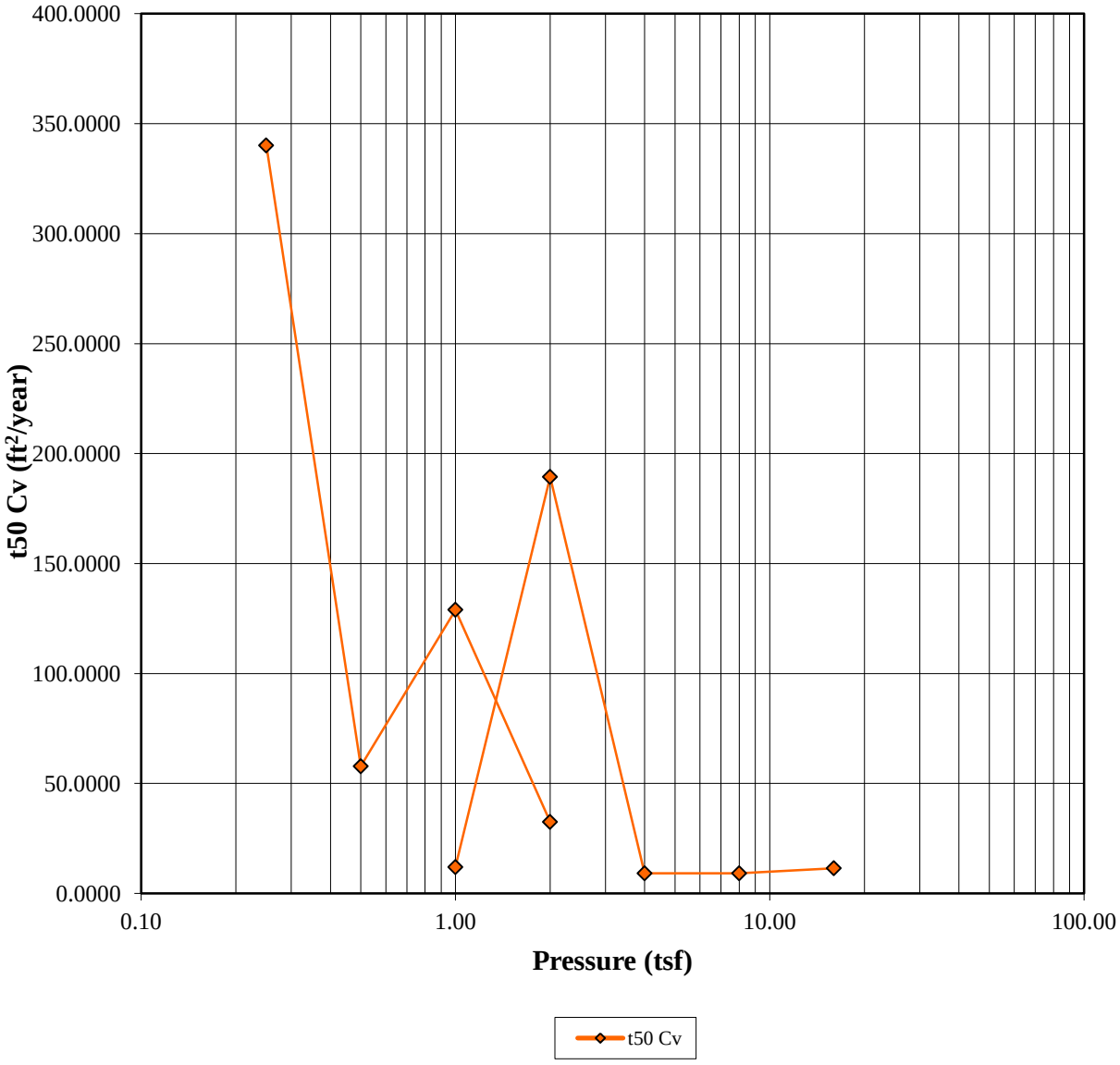
ENGINEERING

Consolidation Test
Test Results



	Before	After				
Moisture (%):	20.54	16.25	**Liquid Limits:**	37	**Test Date:**	11/6/17
Dry Density (pcf):	105.68	116.51	**Plastic Limits:**	13		
Saturation (%):	95.06	100.85	**Plasticity Index (%):**	0		
Void Ratio:	0.5749	0.4234	**Specific Gravity:**	2.669	Measured	

Soil Description:	SANDY LEAN CLAY(CL A-6(12))			
Project Number:	8085	**Depth:**	8.0-10.0 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-15	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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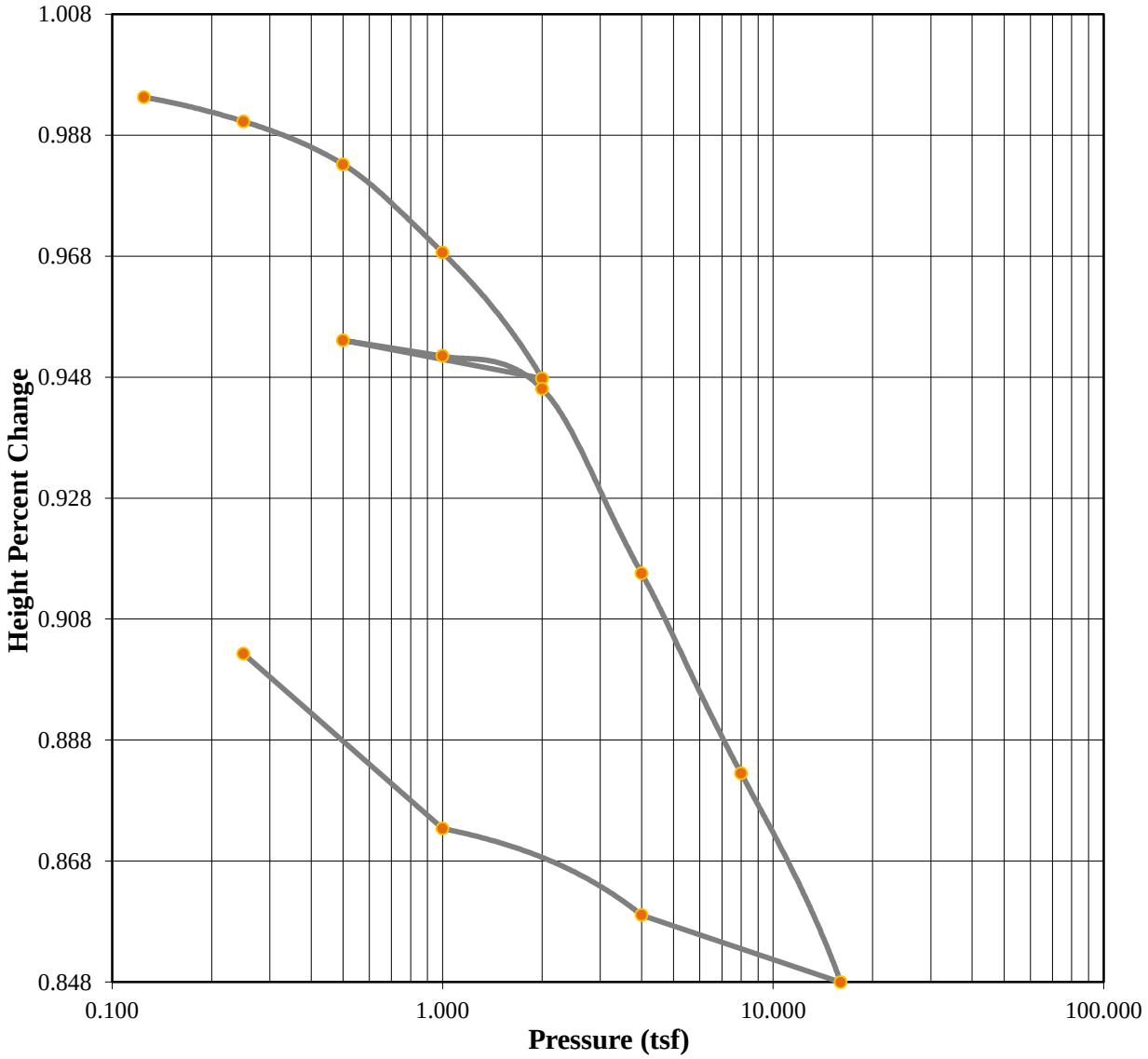
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	37	**Test Date:**	11/6/17
Moisture (%):	20.54	16.25	**Plastic Limits:**	13		
Dry Density (pcf):	105.68	116.51	**Plasticity Index (%):**	0		
Saturation (%):	95.06	100.85				
Void Ratio:	0.5749	0.4234	**Specific Gravity:**	2.669	Measured	

Soil Description:	SANDY LEAN CLAY(CL A-6(12))			
Project Number:	8085	**Depth:**	8.0-10.0 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	TH-15	
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: 8085

Sample Number: T-2
Boring Number: TH-15
Depth: 8.0-10.0 ft.
Sample Type: Undisturbed

Sample Description: SANDY LEAN CLAY(CL A-6(12))
Remarks:

Test Number:
Test Date: 11/6/17

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	0.9980	0.3639	0.00	0.5739	0.000	0.000	0.000	0.000
1	0.125	0.0040	0.9940	0.3599	0.40	0.5676	0.000	0.000	0.000	0.000
2	0.250	0.0080	0.9900	0.3559	0.80	0.5613	31.159	0.518	24.340	340.152
3	0.500	0.0151	0.9829	0.3488	1.51	0.5500	3.442	2.998	217.187	57.918
4	1.000	0.0297	0.9683	0.3342	2.97	0.5271	0.937	1.307	774.144	128.942
5	2.000	0.0505	0.9475	0.3134	5.06	0.4943	1.083	4.955	641.761	32.570
6	0.500	0.0442	0.9538	0.3197	4.43	0.5042	0.000	0.000	0.000	0.000
7	1.000	0.0468	0.9512	0.3171	4.69	0.5001	24.262	* 13.4787	28.859	12.068
8	2.000	0.0522	0.9458	0.3117	5.23	0.4916	1.661	0.849	416.759	189.441
9	4.000	0.0827	0.9153	0.2812	8.29	0.4435	51.879	16.352	12.496	9.210
10	8.000	0.1158	0.8822	0.2481	11.60	0.3913	2.589	15.252	232.590	9.174
11	16.000	0.1503	0.8477	0.2136	15.06	0.3369	79.032	11.238	7.036	11.495
12	4.000	0.1392	0.8588	0.2247	13.94	0.3544	0.000	0.000	0.000	0.000
13	1.000	0.1249	0.8731	0.2390	12.51	0.3769	0.000	0.000	0.000	0.000
14	0.250	0.0960	0.9020	0.2679	9.62	0.4225	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:** 8085
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 11/6/17

Sample Number: T-2 **Sample Description:**
Boring Number: TH-15 SANDY LEAN CLAY(CL A-6(12))
Depth: 8.0-10.0 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 37.0000 **Initial Void Ratio:** 0.5749 **Initial Height (in):** 0.9980
Plastic Limit: 13.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5030
Specific Gravity: 2.6690 **Weight of Ring (g):** 110.7200
Measured

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	150.71	286.86
Dry Soil + Container (g)	130.51	264.86
Weight of Container (g)	32.18	129.49
Moisture Content (%)	20.54	16.25
Void Ratio	0.5749	0.4234
Saturation (%)	95.06	100.85
Dry Density (pcf)	105.68	116.51

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

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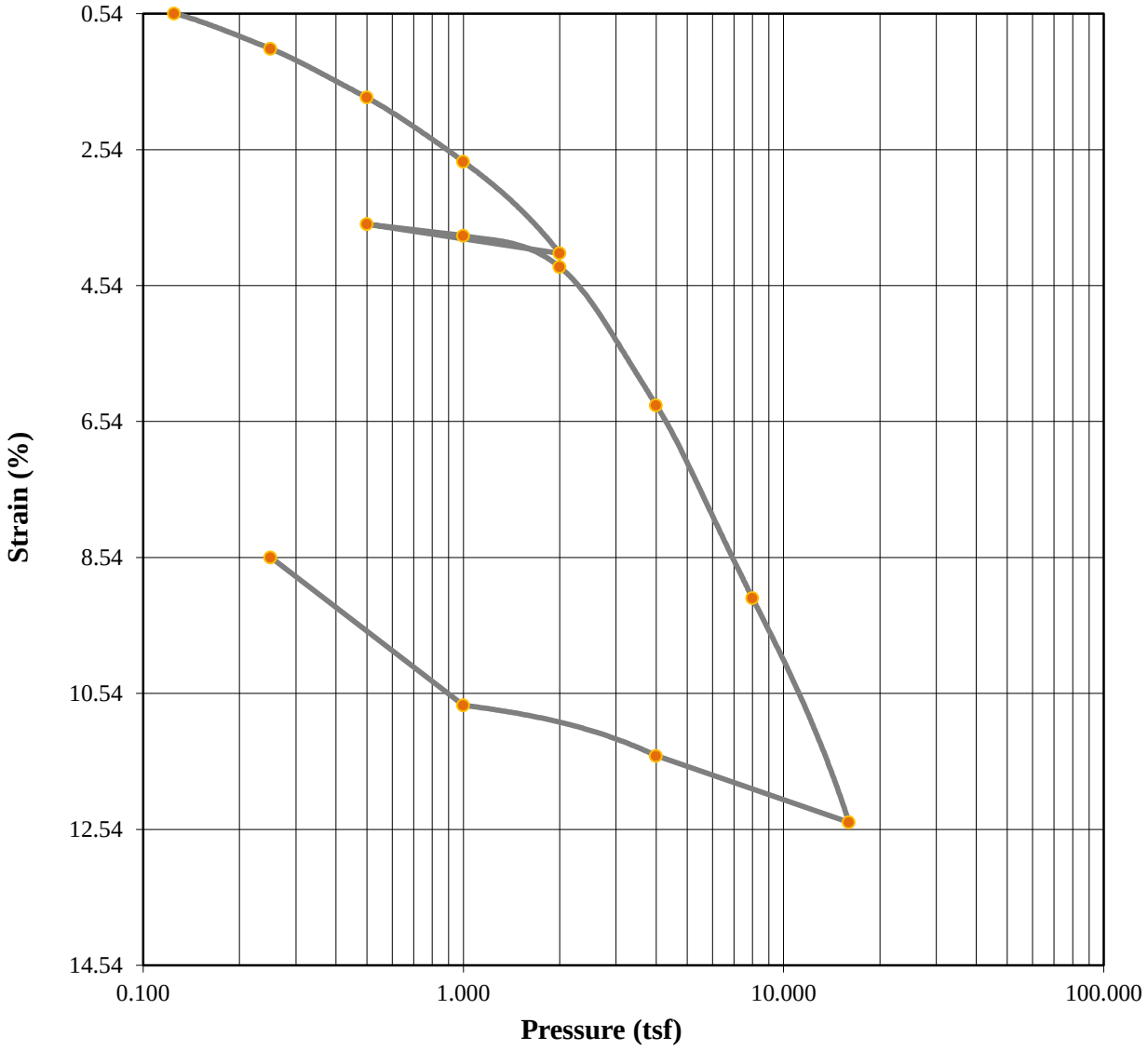
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	0	**Test Date:**	11/27/17
Moisture (%):	29.38	24.74	**Plastic Limits:**	0		
Dry Density (pcf):	92.62	101.25	**Plasticity Index (%):**	0		
Saturation (%):	100.19	104.94				
Void Ratio:	0.7713	0.6200	**Specific Gravity:**	2.626	Measured	

Sample Description:	SILTY SAND(SM A-4(0))			
Project Number:	8076	**Depth:**	18.0-20.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-02	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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MOBILE, ALABAMA

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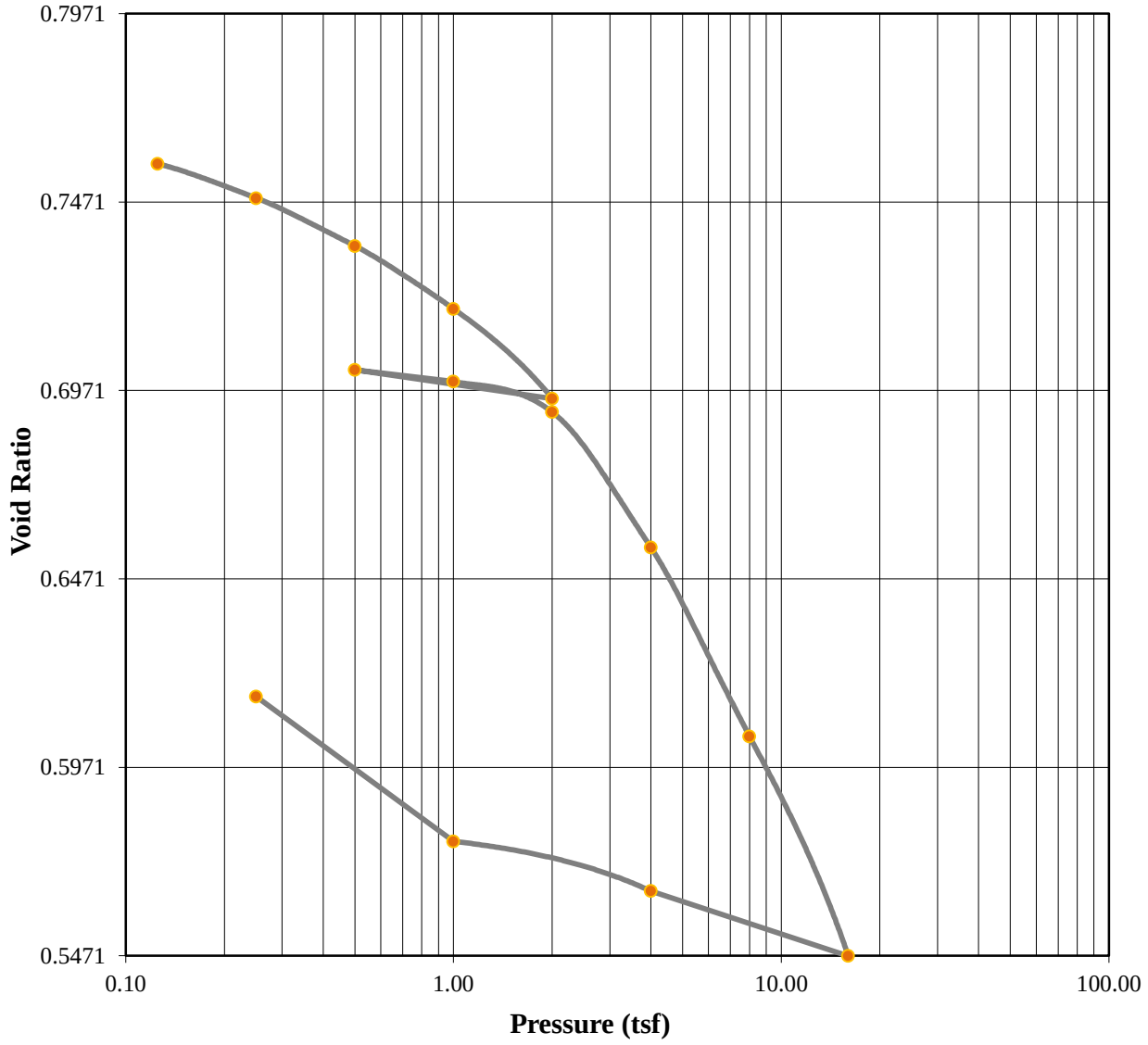
Consolidation Test
Test Results



	Before	After				
Moisture (%):	29.38	24.74	**Liquid Limits:**	0	**Test Date:**	11/27/17
Dry Density (pcf):	92.62	101.25	**Plastic Limits:**	0		
Saturation (%):	100.19	104.94	**Plasticity Index (%):**	0		
Void Ratio:	0.7713	0.6200	**Specific Gravity:**	2.626	Measured	

Soil Description:	SILTY SAND(SM A-4(0))			
Project Number:	8076	**Depth:**	18.0-20.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-02	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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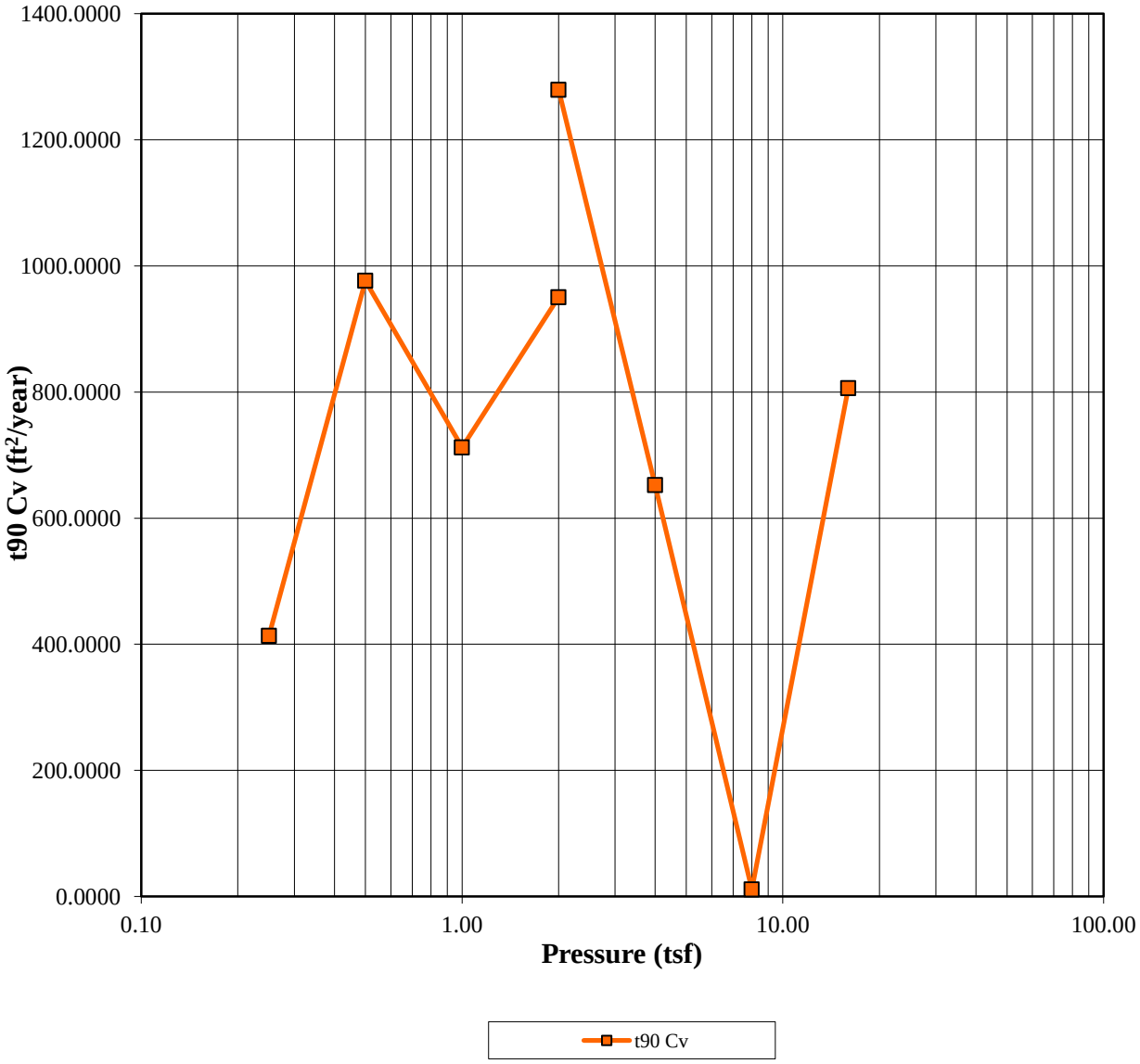
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	0	**Test Date:**	11/27/17
Moisture (%):	29.38	24.74	**Plastic Limits:**	0		
Dry Density (pcf):	92.62	101.25	**Plasticity Index (%):**	0		
Saturation (%):	100.19	104.94				
Void Ratio:	0.7713	0.6200	**Specific Gravity:**	2.626	Measured	

Soil Description:	SILTY SAND(SM A-4(0))			
Project Number:	8076	**Depth:**	18.0-20.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-02	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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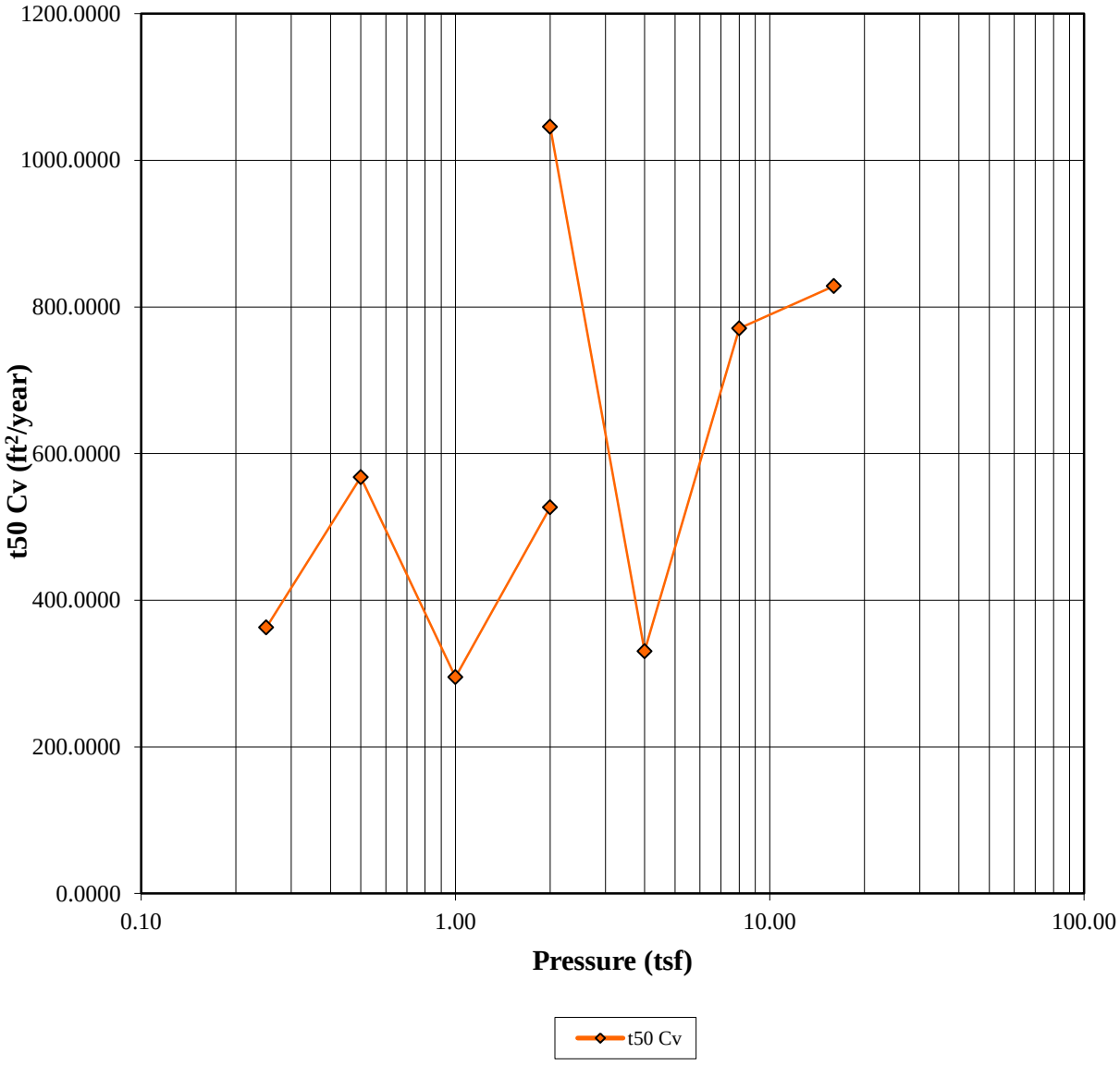
Consolidation Test
Test Results



	Before	After				
Moisture (%):	29.38	24.74	**Liquid Limits:**	0	**Test Date:**	11/27/17
Dry Density (pcf):	92.62	101.25	**Plastic Limits:**	0		
Saturation (%):	100.19	104.94	**Plasticity Index (%):**	0		
Void Ratio:	0.7713	0.6200	**Specific Gravity:**	2.626	Measured	

Soil Description:	SILTY SAND(SM A-4(0))			
Project Number:	8076	**Depth:**	18.0-20.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-02	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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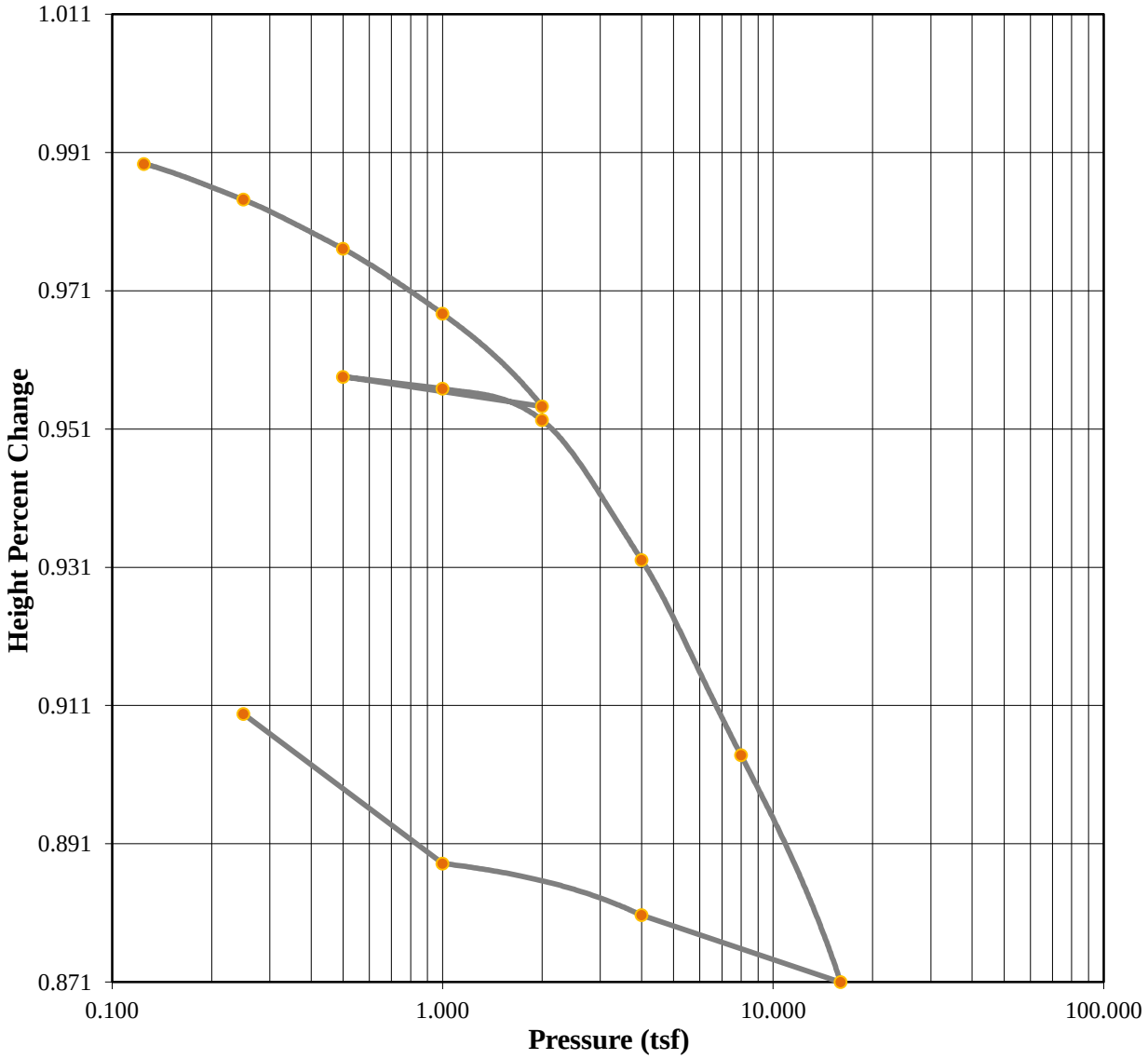
Consolidation Test
Test Results



	Before	After				
Moisture (%):	29.38	24.74	**Liquid Limits:**	0	**Test Date:**	11/27/17
Dry Density (pcf):	92.62	101.25	**Plastic Limits:**	0		
Saturation (%):	100.19	104.94	**Plasticity Index (%):**	0		
Void Ratio:	0.7713	0.6200	**Specific Gravity:**	2.626	Measured	

Soil Description:	SILTY SAND(SM A-4(0))			
Project Number:	8076	**Depth:**	18.0-20.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-02	
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: 8076

Sample Number: T-1
Boring Number: W-02
Depth: 18.0-20.0 ft.
Sample Type: Undisturbed

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

Test Number:
Test Date: 11/27/17

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	0.9950	0.4319	0.00	0.7669	0.000	0.000	0.000	0.000
1	0.125	0.0054	0.9896	0.4264	0.54	0.7573	0.000	0.000	0.000	0.000
2	0.250	0.0106	0.9844	0.4213	1.06	0.7482	1.814	0.480	413.326	362.941
3	0.500	0.0177	0.9773	0.4142	1.78	0.7355	0.757	0.302	976.469	568.014
4	1.000	0.0271	0.9679	0.4048	2.72	0.7188	1.018	0.571	712.389	295.102
5	2.000	0.0405	0.9545	0.3914	4.07	0.6950	0.742	0.311	950.407	526.719
6	0.500	0.0362	0.9588	0.3956	3.64	0.7026	0.000	0.000	0.000	0.000
7	1.000	0.0379	0.9571	0.3939	3.81	0.6995	0.000	0.000	0.000	0.000
8	2.000	0.0425	0.9525	0.3894	4.27	0.6914	0.549	0.156	1279.472	1045.979
9	4.000	0.0627	0.9323	0.3691	6.30	0.6555	1.031	0.473	652.415	330.435
10	8.000	0.0910	0.9040	0.3409	9.14	0.6054	54.905	0.191	11.518	770.834
11	16.000	0.1238	0.8712	0.3081	12.44	0.5471	0.728	0.165	806.376	828.441
12	4.000	0.1141	0.8809	0.3178	11.46	0.5643	0.000	0.000	0.000	0.000
13	1.000	0.1066	0.8884	0.3252	10.72	0.5775	0.000	0.000	0.000	0.000
14	0.250	0.0850	0.9100	0.3469	8.54	0.6159	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:** 8076
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 11/27/17

Sample Number: T-1 **Sample Description:**
Boring Number: W-02 SILTY SAND(SM A-4(0))
Depth: 18.0-20.0 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 0.0000 **Initial Void Ratio:** 0.7713 **Initial Height (in):** 0.9950
Plastic Limit: 0.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.4970
Specific Gravity: 2.6260 **Weight of Ring (g):** 98.6300
Measured

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	156.21	276.90
Dry Soil + Container (g)	128.08	247.69
Weight of Container (g)	32.32	129.60
Moisture Content (%)	29.38	24.74
Void Ratio	0.7713	0.6200
Saturation (%)	100.19	104.94
Dry Density (pcf)	92.62	101.25

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

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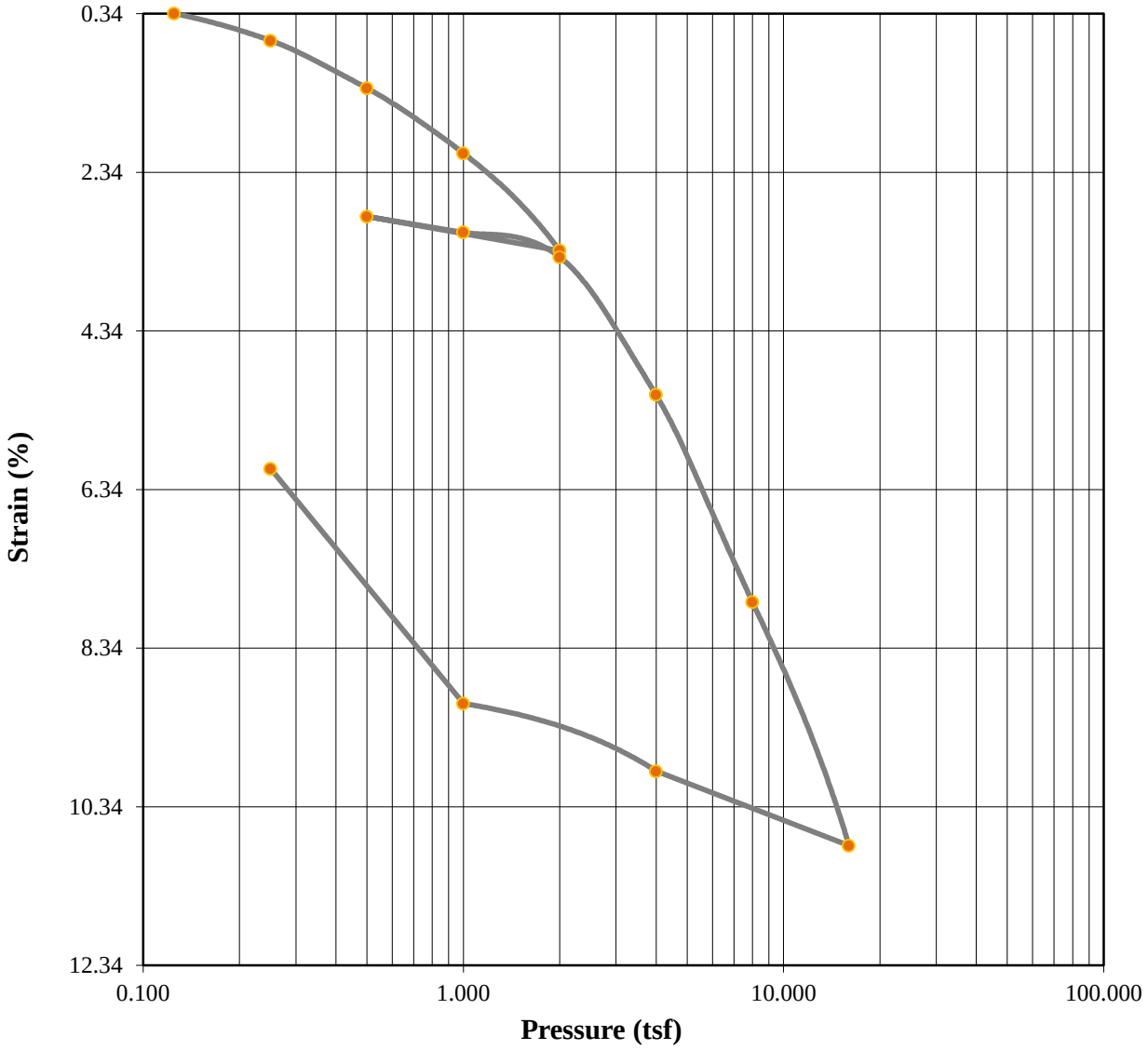
Consolidation Test
Test Results



	Before	After				
Moisture (%):	19.59	17.68	**Liquid Limits:**	25	**Test Date:**	12/19/17
Dry Density (pcf):	106.35	112.47	**Plastic Limits:**	12		
Saturation (%):	93.65	99.73	**Plasticity Index (%):**	0		
Void Ratio:	0.5525	0.4581	**Specific Gravity:**	2.647	Measured	

Sample Description:	SANDY LEAN CLAY(CL A-6(5))			
Project Number:	8086	**Depth:**	33.5-35.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-11	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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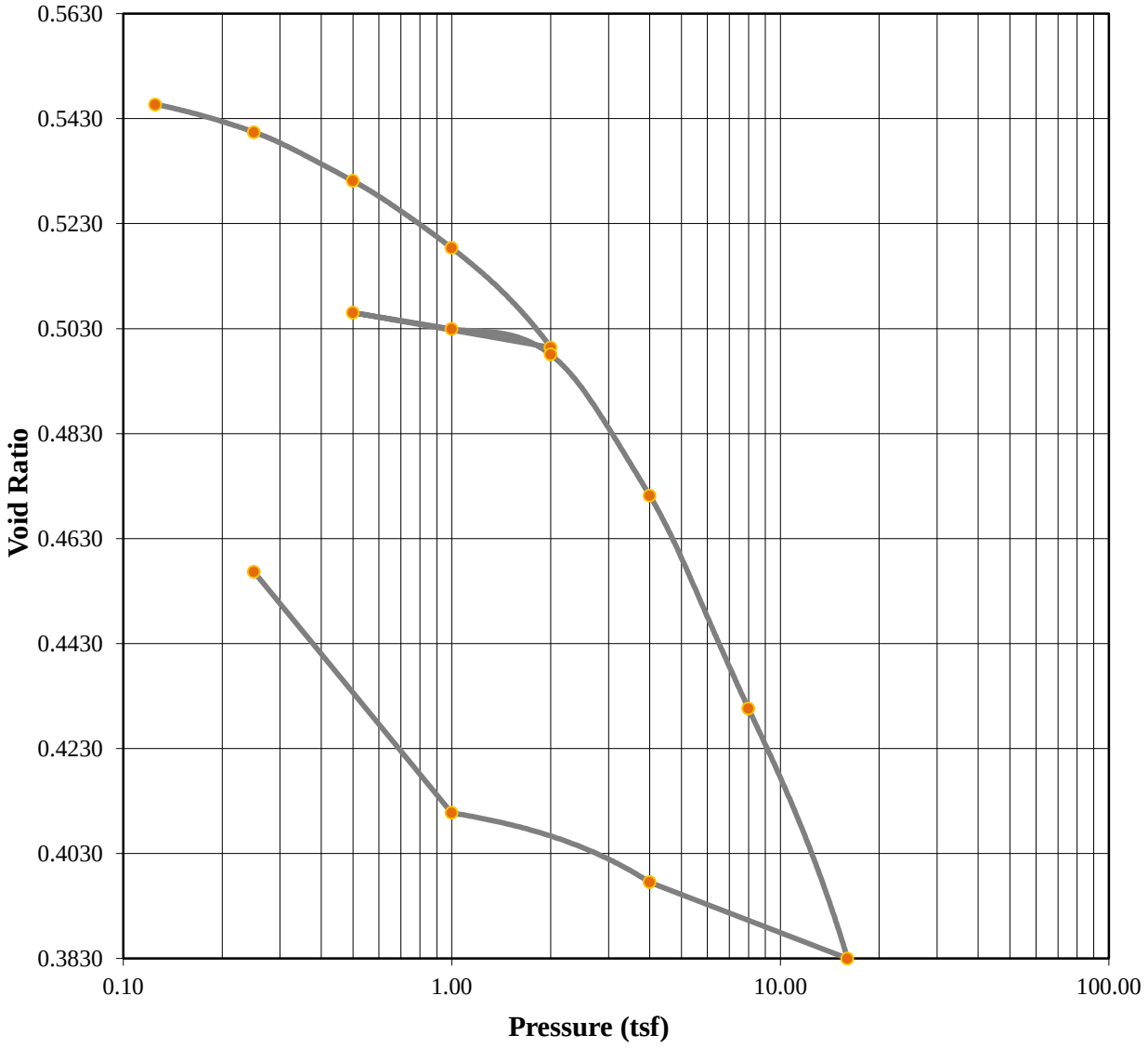
Consolidation Test
Test Results



	Before	After				
Moisture (%):	19.59	17.68	**Liquid Limits:**	25	**Test Date:**	12/19/17
Dry Density (pcf):	106.35	112.47	**Plastic Limits:**	12		
Saturation (%):	93.65	99.73	**Plasticity Index (%):**	0		
Void Ratio:	0.5525	0.4581	**Specific Gravity:**	2.647	Measured	

Soil Description:	SANDY LEAN CLAY(CL A-6(5))			
Project Number:	8086	**Depth:**	33.5-35.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-11	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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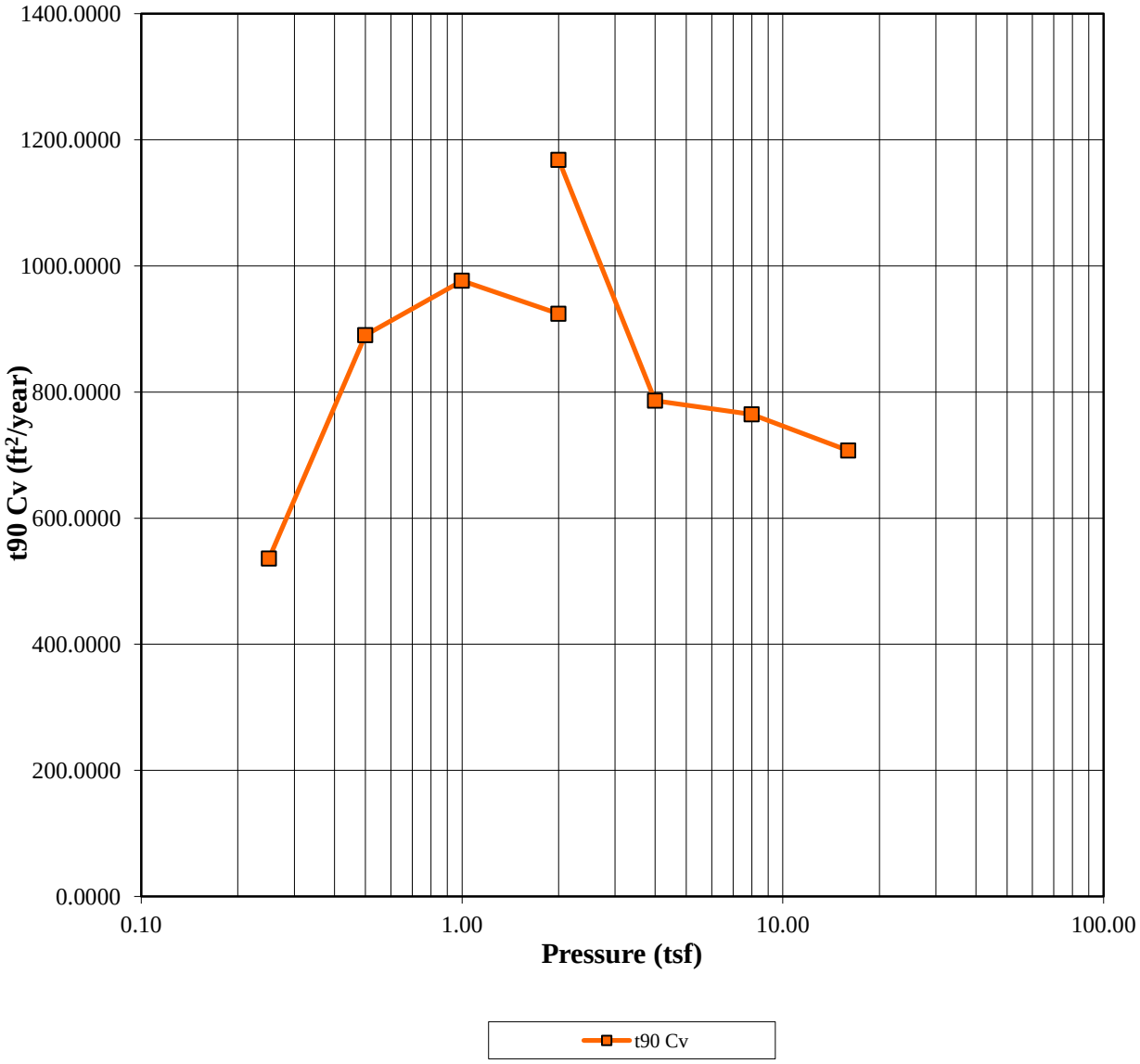
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	25	**Test Date:**	12/19/17
Moisture (%):	19.59	17.68	**Plastic Limits:**	12		
Dry Density (pcf):	106.35	112.47	**Plasticity Index (%):**	0		
Saturation (%):	93.65	99.73				
Void Ratio:	0.5525	0.4581	**Specific Gravity:**	2.647	Measured	

Soil Description:	SANDY LEAN CLAY(CL A-6(5))			
Project Number:	8086	**Depth:**	33.5-35.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-11	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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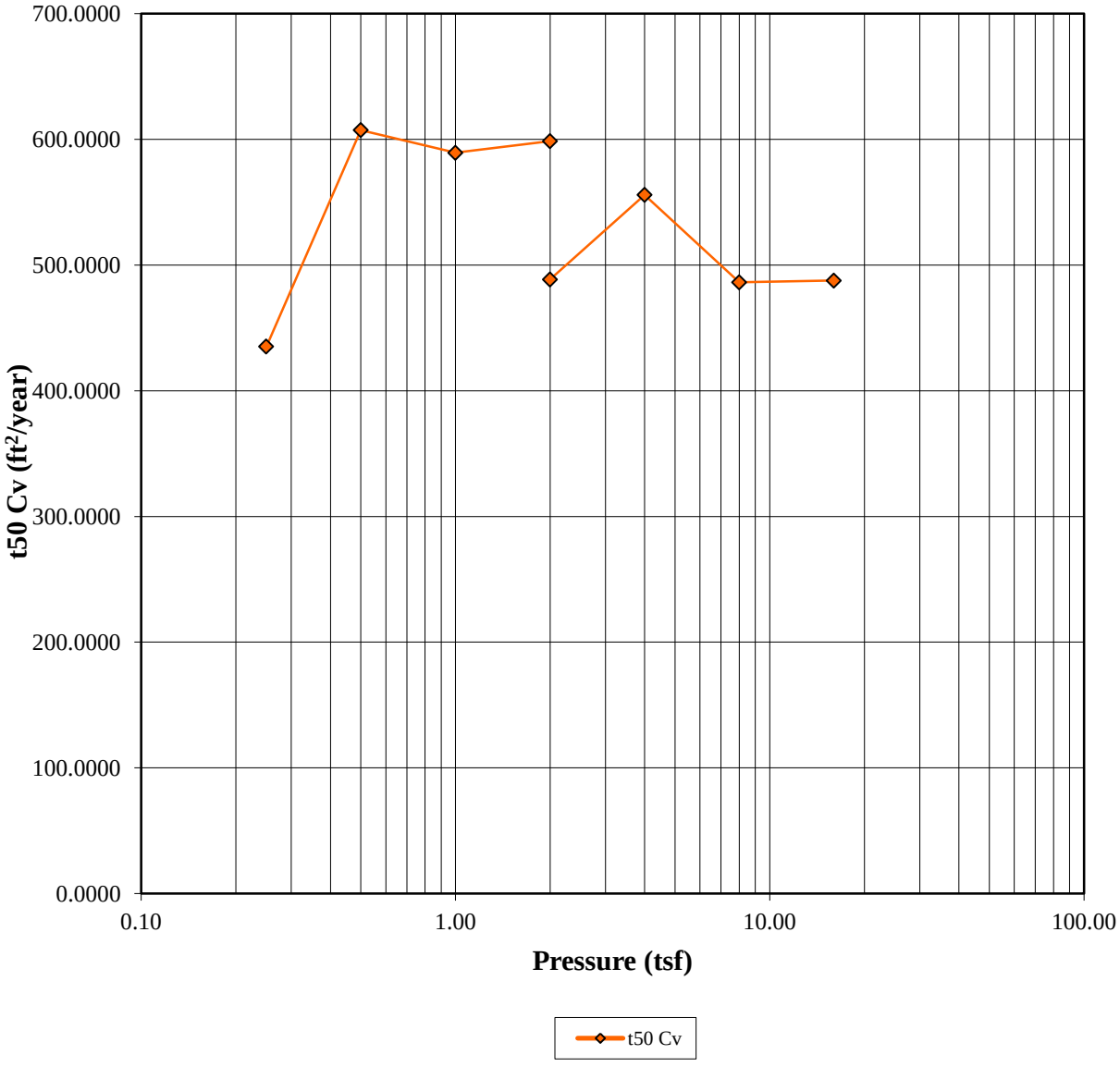
Consolidation Test
Test Results



	Before	After				
Moisture (%):	19.59	17.68	**Liquid Limits:**	25	**Test Date:**	12/19/17
Dry Density (pcf):	106.35	112.47	**Plastic Limits:**	12		
Saturation (%):	93.65	99.73	**Plasticity Index (%):**	0		
Void Ratio:	0.5525	0.4581	**Specific Gravity:**	2.647	Measured	

Soil Description:	SANDY LEAN CLAY(CL A-6(5))			
Project Number:	8086	**Depth:**	33.5-35.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-11	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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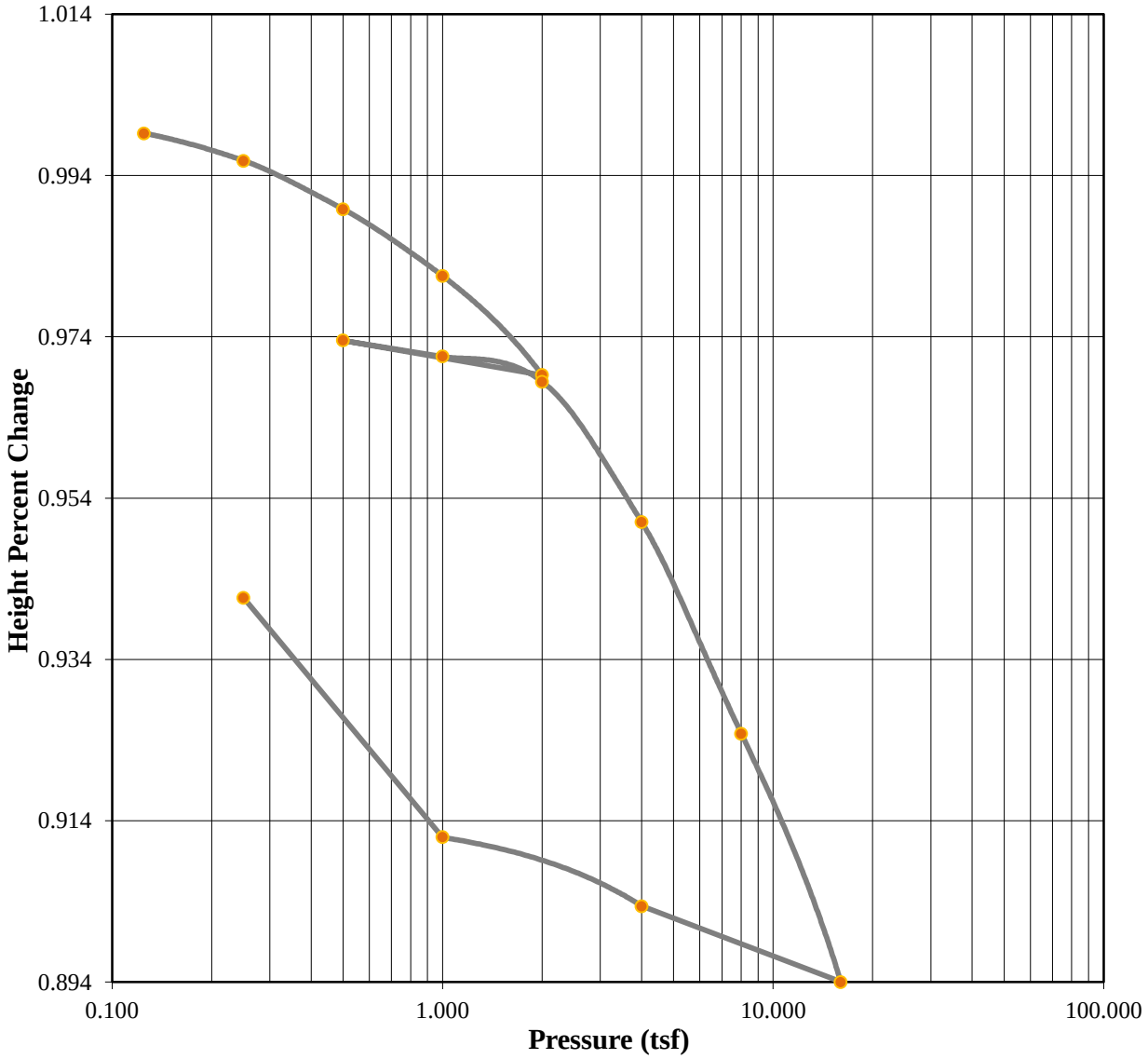
Consolidation Test
Test Results



	Before	After				
Moisture (%):	19.59	17.68	**Liquid Limits:**	25	**Test Date:**	12/19/17
Dry Density (pcf):	106.35	112.47	**Plastic Limits:**	12		
Saturation (%):	93.65	99.73	**Plasticity Index (%):**	0		
Void Ratio:	0.5525	0.4581	**Specific Gravity:**	2.647	Measured	

Soil Description:	SANDY LEAN CLAY(CL A-6(5))			
Project Number:	8086	**Depth:**	33.5-35.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-11	
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: 8086

Sample Number: T-1
Boring Number: W-11
Depth: 33.5-35.5 ft.
Sample Type: Undisturbed

Sample Description: SANDY LEAN CLAY(CL A-6(5))
Remarks:

Test Number:
Test Date: 12/19/17

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	1.0030	0.3563	0.00	0.5510	0.000	0.000	0.000	0.000
1	0.125	0.0034	0.9996	0.3529	0.34	0.5457	0.000	0.000	0.000	0.000
2	0.250	0.0068	0.9962	0.3495	0.68	0.5404	1.433	0.410	535.899	435.123
3	0.500	0.0128	0.9902	0.3435	1.28	0.5311	0.852	0.290	890.384	607.353
4	1.000	0.0211	0.9819	0.3352	2.10	0.5183	0.764	0.294	976.606	589.344
5	2.000	0.0334	0.9696	0.3229	3.33	0.4994	0.787	0.282	924.169	598.514
6	0.500	0.0291	0.9739	0.3272	2.90	0.5060	0.000	0.000	0.000	0.000
7	1.000	0.0311	0.9719	0.3252	3.10	0.5029	0.000	0.000	0.000	0.000
8	2.000	0.0342	0.9688	0.3221	3.41	0.4980	0.622	* 0.3453	1168.434	488.602
9	4.000	0.0516	0.9514	0.3047	5.15	0.4712	0.891	0.293	786.407	555.881
10	8.000	0.0778	0.9252	0.2785	7.76	0.4306	0.866	0.316	764.780	486.387
11	16.000	0.1086	0.8944	0.2477	10.83	0.3830	0.875	0.295	707.366	487.712
12	4.000	0.0992	0.9038	0.2571	9.89	0.3975	0.000	0.000	0.000	0.000
13	1.000	0.0907	0.9123	0.2656	9.04	0.4107	0.000	0.000	0.000	0.000
14	0.250	0.0610	0.9420	0.2953	6.08	0.4566	0.000	0.000	0.000	0.000

Predicted value indicated with *

Tested By: B. Hak

Checked By: C. Dugger

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ENGINEERING

Consolidation Test
Consolidation Specimen Information

Project: Mobile River Bridge **Project Number:** 8086
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 12/19/17

Sample Number: T-1 **Sample Description:**
Boring Number: W-11 SANDY LEAN CLAY(CL A-6(5))
Depth: 33.5-35.5 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 25.0000 **Initial Void Ratio:** 0.5525 **Initial Height (in):** 1.0030
Plastic Limit: 12.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5010
Specific Gravity: 2.6470 Measured **Weight of Ring (g):** 110.7100

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	162.80	288.95
Dry Soil + Container (g)	141.40	264.85
Weight of Container (g)	32.17	128.52
Moisture Content (%)	19.59	17.68
Void Ratio	0.5525	0.4581
Saturation (%)	93.65	99.73
Dry Density (pcf)	106.35	112.47

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

Consolidation Test Results
(Sequence 1) Load 0.125 tsf

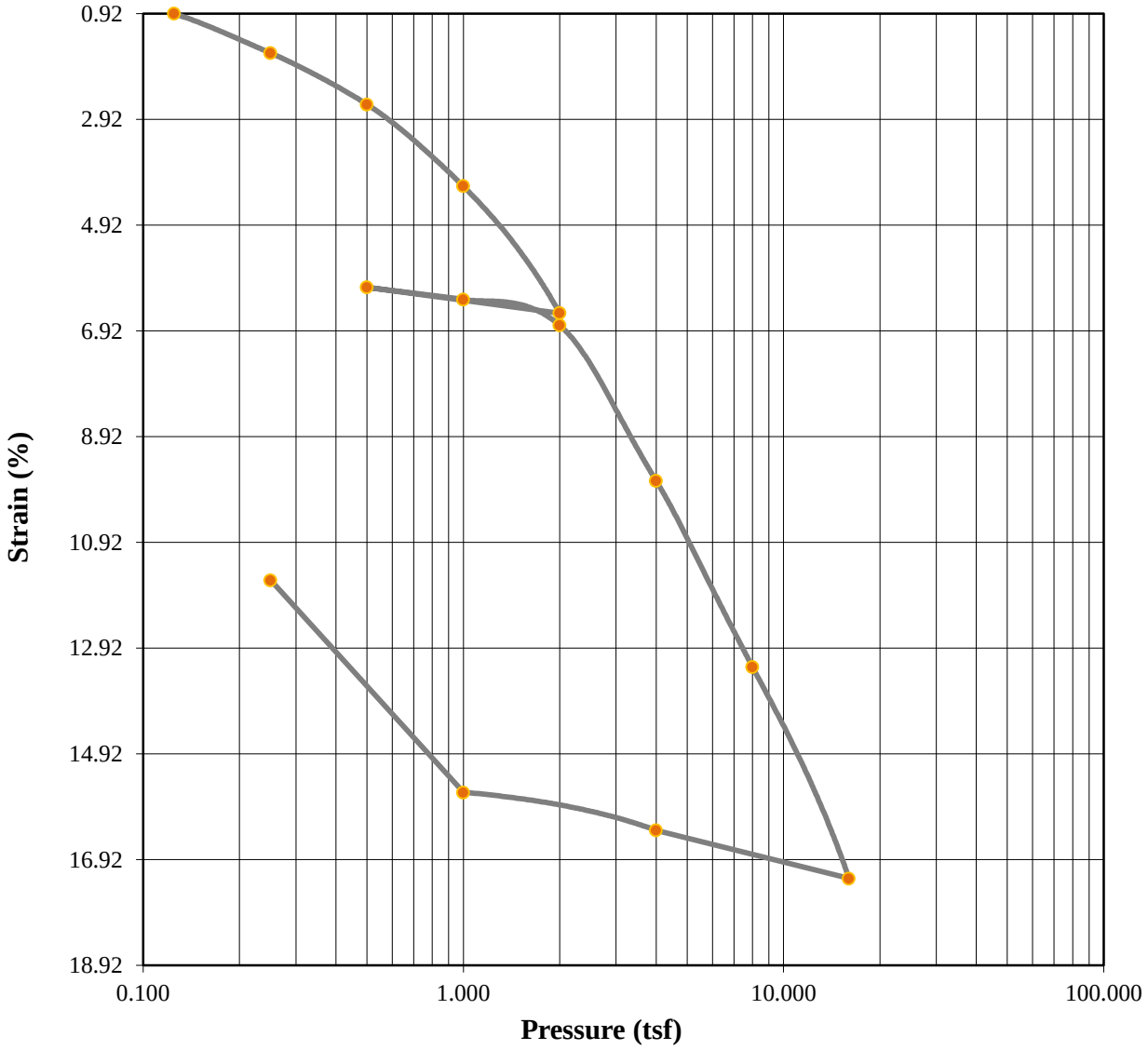
Project: Mobile River Bridge Procurement Phase **Project Number:** 8086
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 12/19/17
Test Number:

Sample Number: T-1 **Soil Description:**
Boring Number: W-11 Light gray and yellowish brown, Sandy Clay
Depth: 33.5-35.5 ft. **Remarks:**
Sample Type: Undisturbed

Index	Time	Displacement (in)	Settlement (in)	Axial Strain (%)	Void Ratio
0	00:00:00	0.9626	0.0000	0.0000	0.5525
1	00:00:01	0.9626	0.0000	0.0000	0.5525
2	00:00:02	0.9624	0.0003	0.0284	0.5520
3	00:00:03	0.9624	0.0003	0.0284	0.5520
4	00:00:04	0.9624	0.0003	0.0284	0.5520
5	00:00:05	0.9624	0.0003	0.0284	0.5520
6	00:00:06	0.9624	0.0003	0.0284	0.5520
7	00:00:12	0.9618	0.0009	0.0853	0.5512
8	00:00:15	0.9618	0.0009	0.0853	0.5512
9	00:00:30	0.9615	0.0011	0.1137	0.5507
10	00:01:00	0.9612	0.0014	0.1421	0.5503
11	00:02:00	0.9607	0.0020	0.1990	0.5494
12	00:05:00	0.9604	0.0023	0.2274	0.5490
13	00:10:00	0.9601	0.0026	0.2559	0.5485
14	00:20:01	0.9598	0.0029	0.2843	0.5481
15	00:40:02	0.9595	0.0031	0.3127	0.5476
16	01:00:03	0.9595	0.0031	0.3127	0.5476
17	02:00:06	0.9592	0.0034	0.3411	0.5472
18	03:09:35	0.9592	0.0034	0.3411	0.5472

Tested By: **Checked By:**

Consolidation Test
Test Results

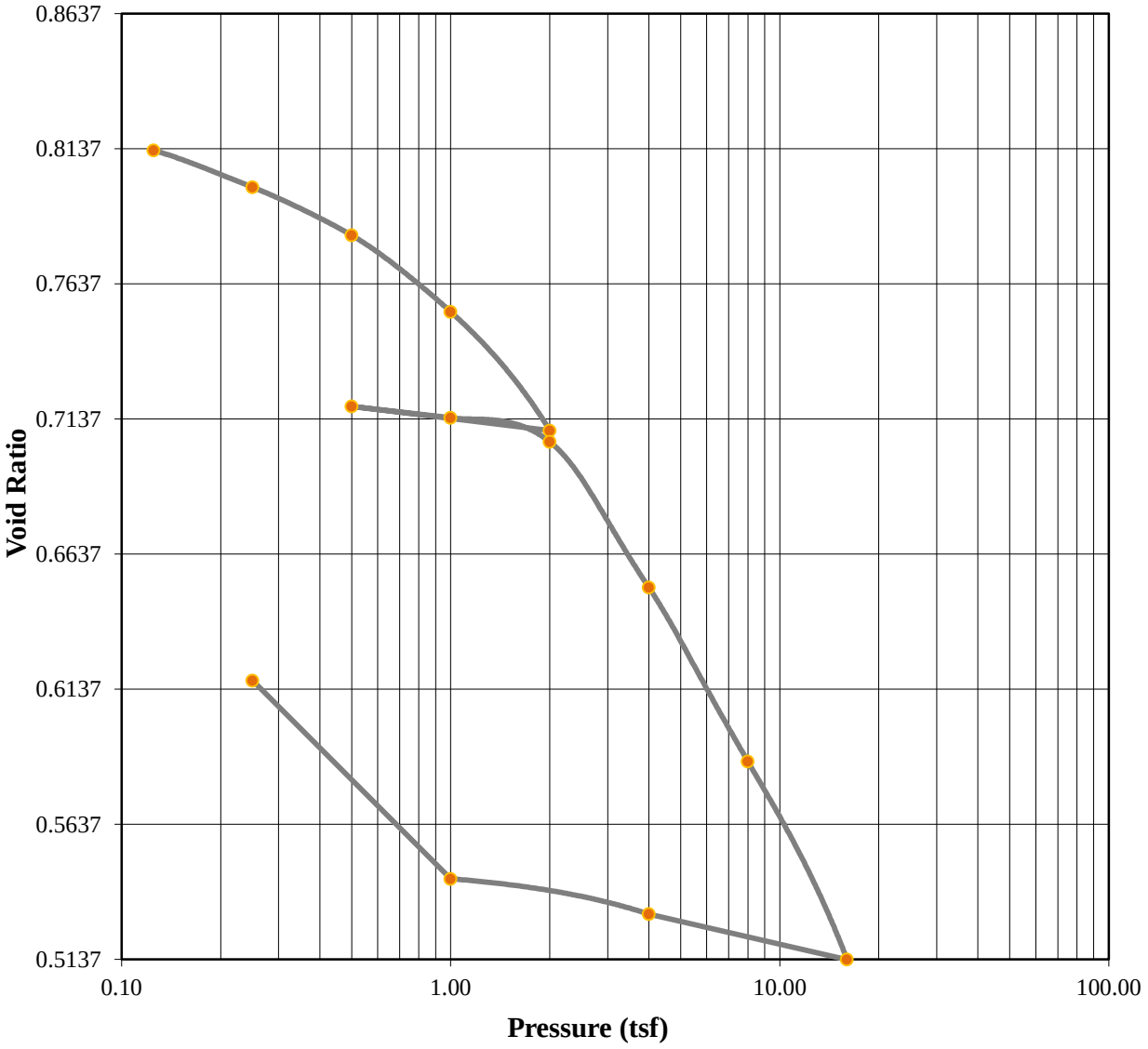


	Before	After				
Moisture (%):	32.10	24.77	**Liquid Limits:**	0	**Test Date:**	11/30/17
Dry Density (pcf):	89.43	100.28	**Plastic Limits:**	0		
Saturation (%):	101.18	102.48	**Plasticity Index (%):**	0		
Void Ratio:	0.8332	0.6199				
			Specific Gravity:	2.626	Measured	

Sample Description:	SANDY SILT(ML A-4(0))			
Project Number:	8076	**Depth:**	8.0-10.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-15	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

thompson
ENGINEERING

Consolidation Test
Test Results



	Before	After				
Moisture (%):	32.10	24.77	**Liquid Limits:**	0	**Test Date:**	11/30/17
Dry Density (pcf):	89.43	100.28	**Plastic Limits:**	0		
Saturation (%):	101.18	102.48	**Plasticity Index (%):**	0		
Void Ratio:	0.8332	0.6199	**Specific Gravity:**	2.626	Measured	

Soil Description:	SANDY SILT(ML A-4(0))			
Project Number:	8076	**Depth:**	8.0-10.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-15	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

THOMPSON ENGINNERING
MOBILE, ALABAMA

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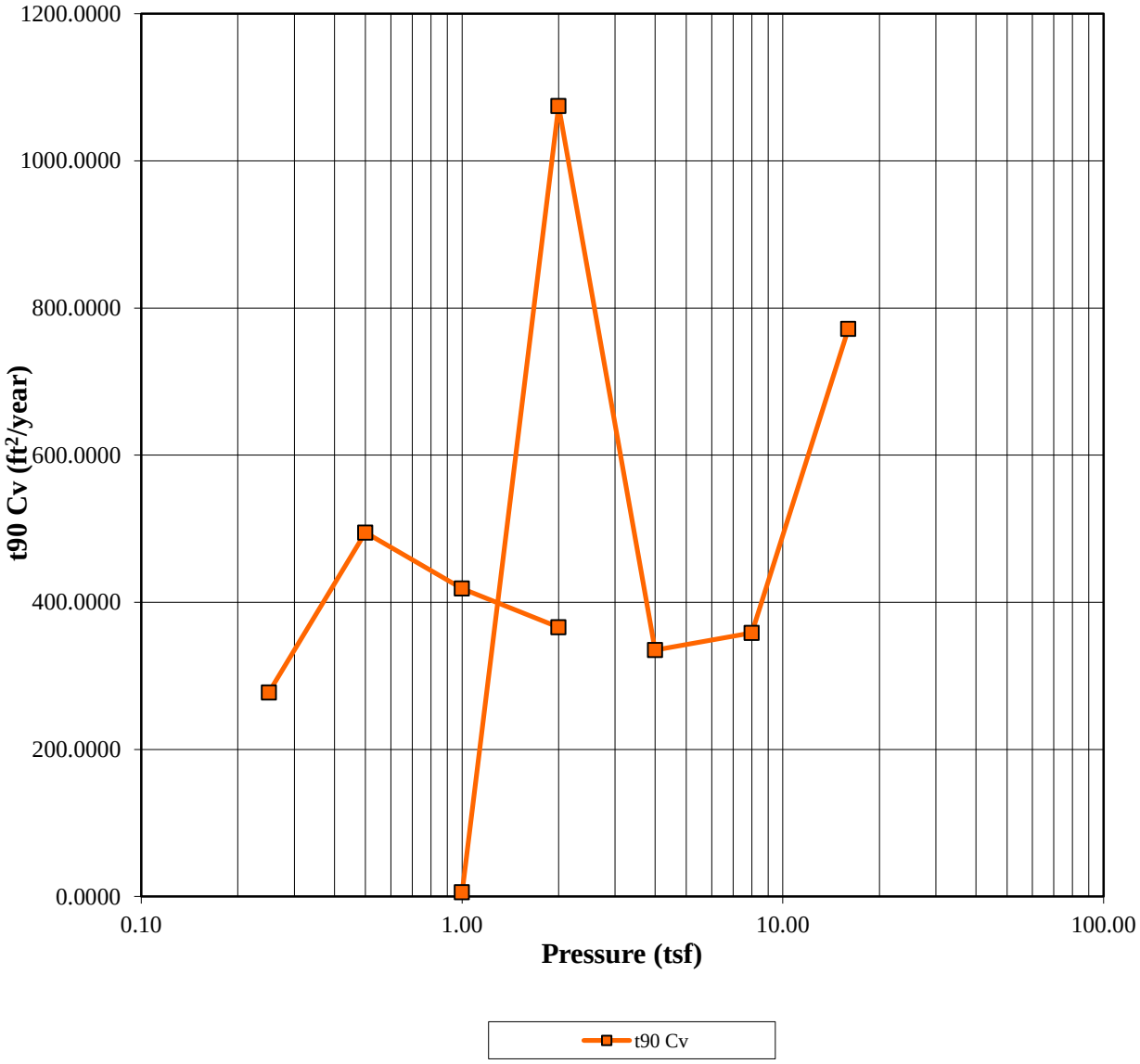
ENGINEERING

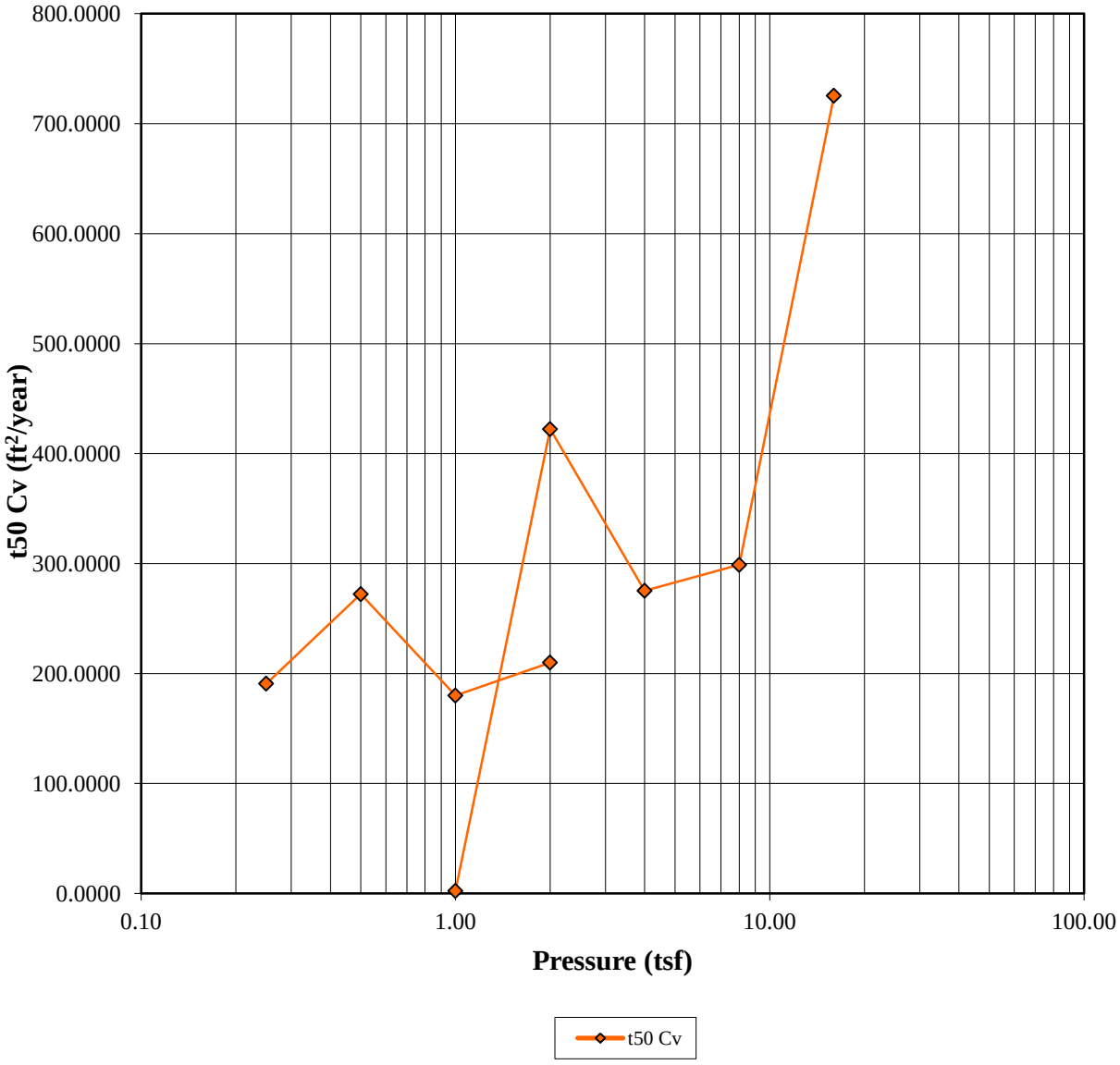
Consolidation Test
Test Results



	Before	After				
Moisture (%):	32.10	24.77	**Liquid Limits:**	0	**Test Date:**	11/30/17
Dry Density (pcf):	89.43	100.28	**Plastic Limits:**	0		
Saturation (%):	101.18	102.48	**Plasticity Index (%):**	0		
Void Ratio:	0.8332	0.6199	**Specific Gravity:**	2.626	Measured	

Soil Description:	SANDY SILT(ML A-4(0))			
Project Number:	8076	**Depth:**	8.0-10.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-15	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

Consolidation Test
Test Results



	Before	After				
Moisture (%):	32.10	24.77	**Liquid Limits:**	0	**Test Date:**	11/30/17
Dry Density (pcf):	89.43	100.28	**Plastic Limits:**	0		
Saturation (%):	101.18	102.48	**Plasticity Index (%):**	0		
Void Ratio:	0.8332	0.6199	**Specific Gravity:**	2.626	Measured	

Soil Description:	SANDY SILT(ML A-4(0))			
Project Number:	8076	**Depth:**	8.0-10.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-15	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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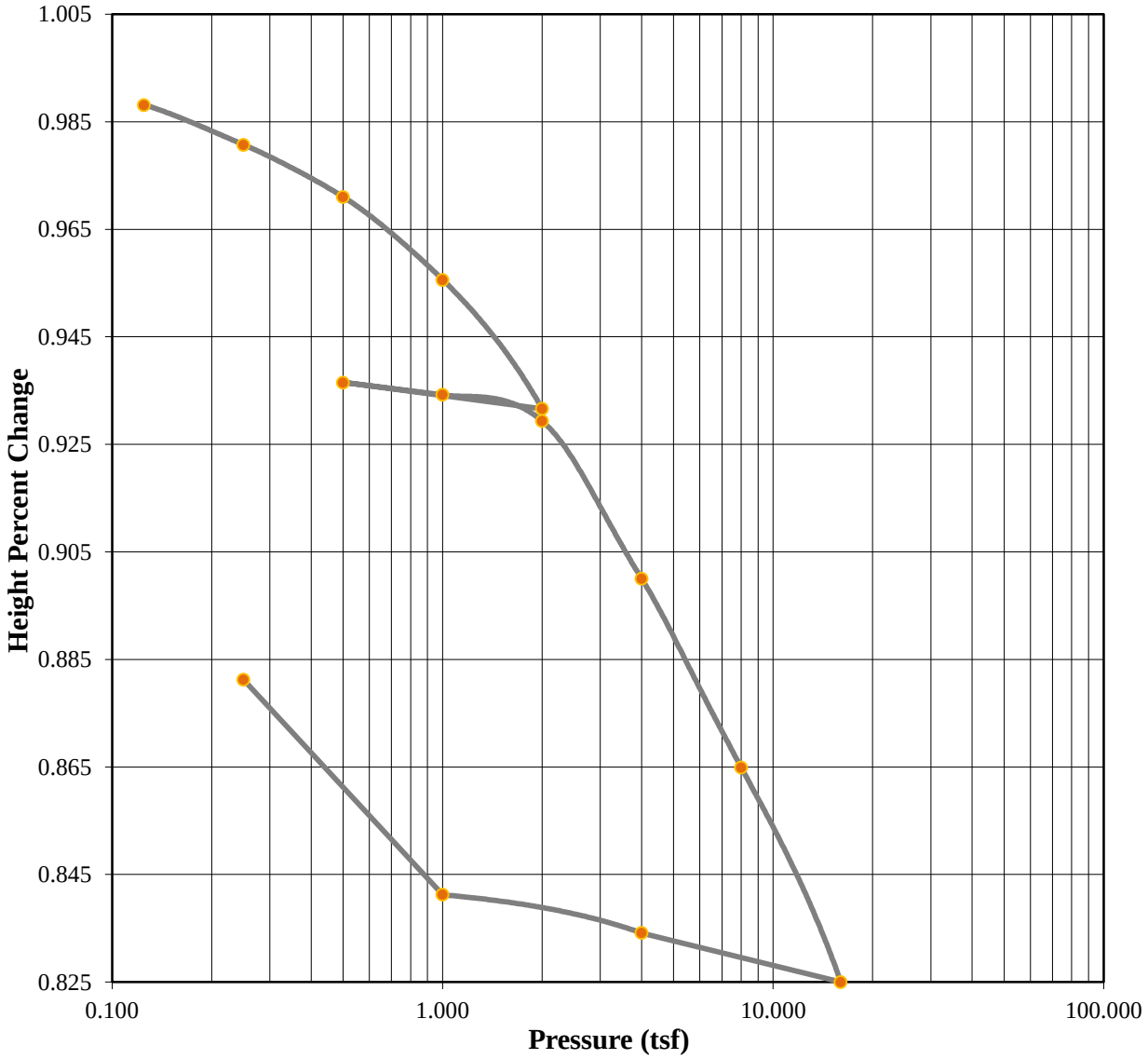
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	0	**Test Date:**	11/30/17
Moisture (%):	32.10	24.77	**Plastic Limits:**	0		
Dry Density (pcf):	89.43	100.28	**Plasticity Index (%):**	0		
Saturation (%):	101.18	102.48				
Void Ratio:	0.8332	0.6199	**Specific Gravity:**	2.626	Measured	

Soil Description:	SANDY SILT(ML A-4(0))			
Project Number:	8076	**Depth:**	8.0-10.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-15	
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: 8076

Sample Number: T-1
Boring Number: W-15
Depth: 8.0-10.0 ft.
Sample Type: Undisturbed

Sample Description: SANDY SILT(ML A-4(0))
Remarks:

Test Number:
Test Date: 11/30/17

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	0.9970	0.4521	0.00	0.8298	0.000	0.000	0.000	0.000
1	0.125	0.0091	0.9879	0.4430	0.92	0.8131	0.000	0.000	0.000	0.000
2	0.250	0.0165	0.9805	0.4356	1.66	0.7995	2.680	0.905	277.542	190.903
3	0.500	0.0262	0.9708	0.4259	2.63	0.7817	1.474	0.622	494.600	272.165
4	1.000	0.0416	0.9554	0.4105	4.18	0.7534	1.687	0.911	418.619	180.062
5	2.000	0.0656	0.9314	0.3866	6.58	0.7095	1.834	0.743	365.968	209.944
6	0.500	0.0607	0.9363	0.3914	6.09	0.7184	0.000	0.000	0.000	0.000
7	1.000	0.0630	0.9340	0.3891	6.32	0.7142	115.719	* 64.2882	5.833	2.439
8	2.000	0.0679	0.9291	0.3843	6.81	0.7053	0.622	0.368	1074.751	422.308
9	4.000	0.0972	0.8998	0.3549	9.75	0.6514	1.870	0.529	335.048	275.376
10	8.000	0.1323	0.8647	0.3198	13.27	0.5870	1.614	0.450	358.387	298.832
11	16.000	0.1722	0.8248	0.2799	17.27	0.5137	0.682	0.169	771.559	725.407
12	4.000	0.1631	0.8339	0.2890	16.36	0.5305	0.000	0.000	0.000	0.000
13	1.000	0.1560	0.8410	0.2962	15.64	0.5436	0.000	0.000	0.000	0.000
14	0.250	0.1160	0.8810	0.3361	11.63	0.6169	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:** 8076
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 11/30/17

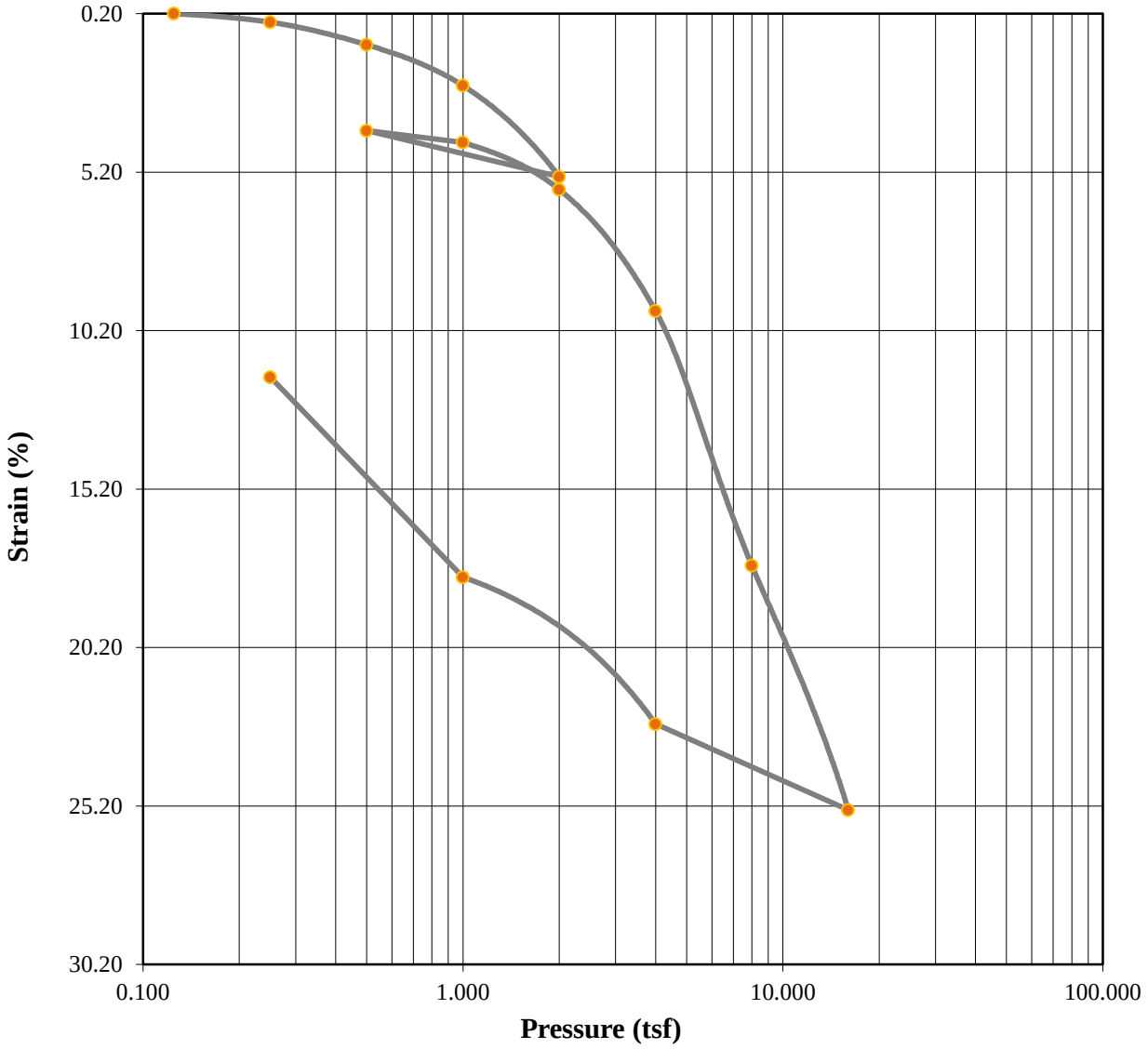
Sample Number: T-1 **Sample Description:**
Boring Number: W-15 SANDY SILT(ML A-4(0))
Depth: 8.0-10.0 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 0.0000 **Initial Void Ratio:** 0.8332 **Initial Height (in):** 0.9970
Plastic Limit: 0.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5030
Specific Gravity: 2.6260 Measured **Weight of Ring (g):** 110.7100

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	142.58	274.85
Dry Soil + Container (g)	115.75	246.63
Weight of Container (g)	32.18	132.70
Moisture Content (%)	32.10	24.77
Void Ratio	0.8332	0.6199
Saturation (%)	101.18	102.48
Dry Density (pcf)	89.43	100.28

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

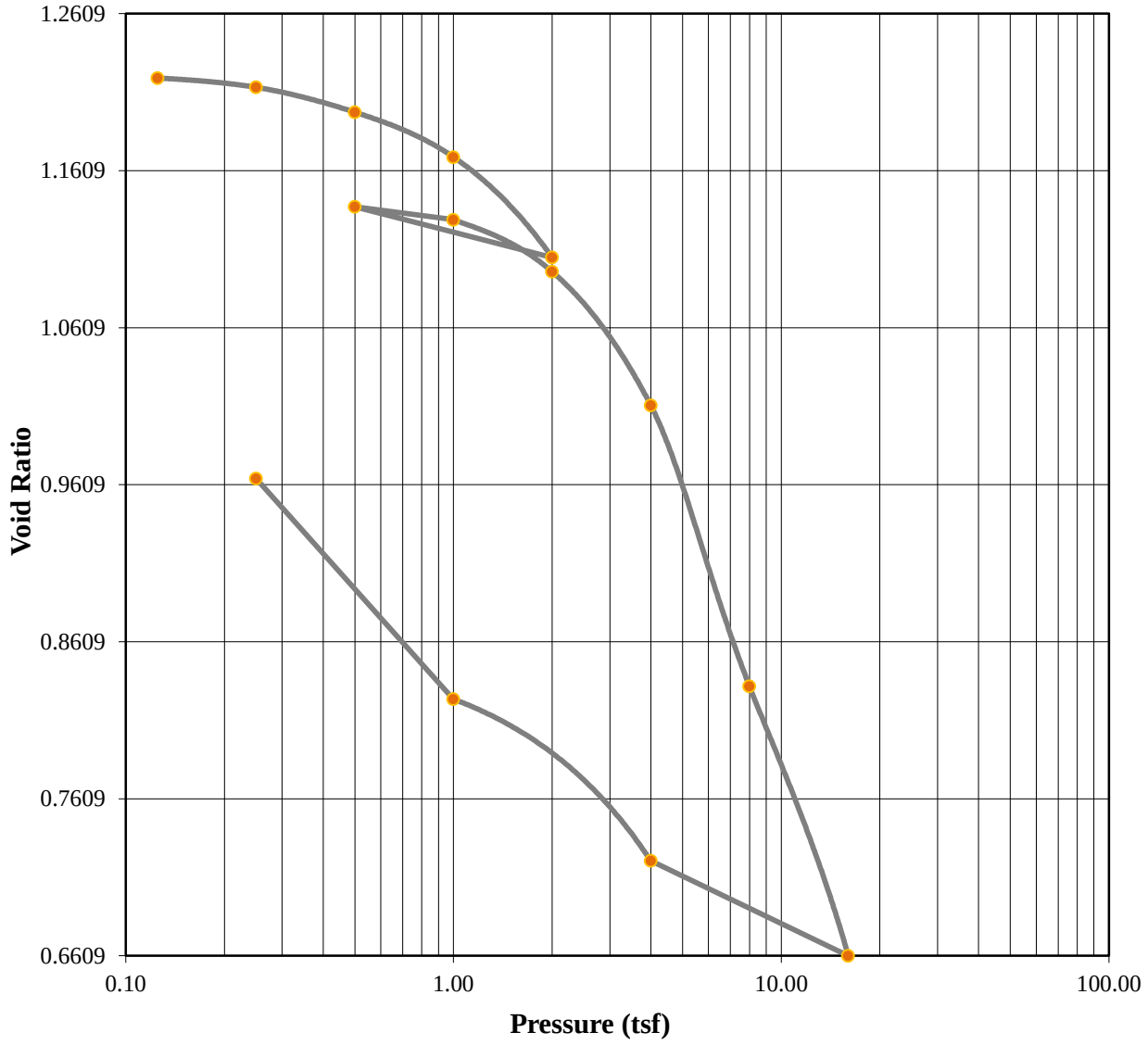
Consolidation Test
Test Results



	Before	After				
Moisture (%):	47.45	40.19	**Liquid Limits:**	82	**Test Date:**	12/1/17
Dry Density (pcf):	73.26	81.75	**Plastic Limits:**	28		
Saturation (%):	101.02	105.42	**Plasticity Index (%):**	0		
Void Ratio:	1.2285	0.9684	**Specific Gravity:**	2.615	Measured	

Sample Description:	FAT CLAY with SAND(CH A-7-6(50))			
Project Number:	8076	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	W-15	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

Consolidation Test
Test Results



	Before	After				
Moisture (%):	47.45	40.19	**Liquid Limits:**	82	**Test Date:**	12/1/17
Dry Density (pcf):	73.26	81.75	**Plastic Limits:**	28		
Saturation (%):	101.02	105.42	**Plasticity Index (%):**	0		
Void Ratio:	1.2285	0.9684	**Specific Gravity:**	2.615	Measured	

Soil Description:	FAT CLAY with SAND(CH A-7-6(50))			
Project Number:	8076	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	W-15	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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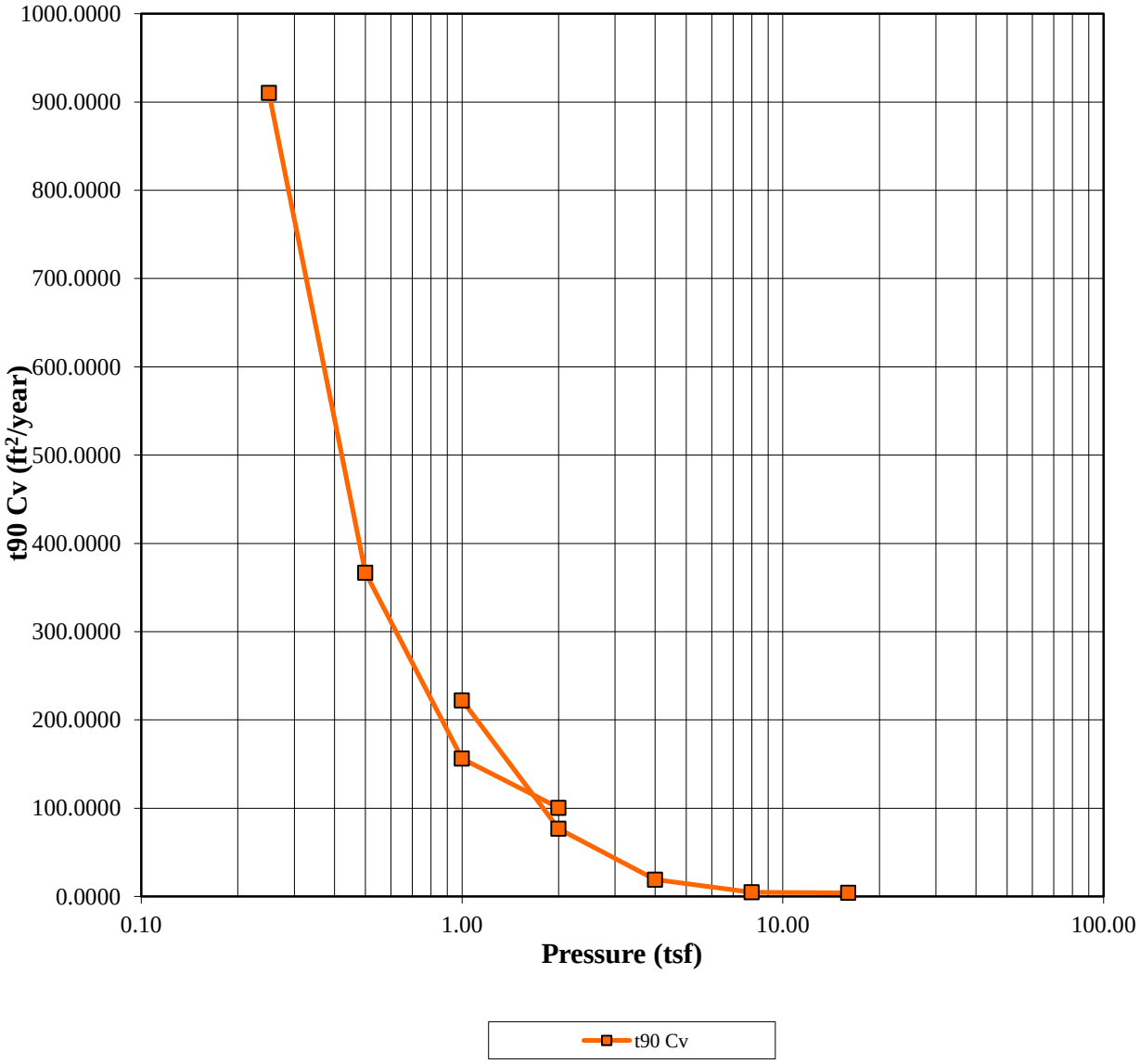
Consolidation Test
Test Results



	Before	After				
Moisture (%):	47.45	40.19	**Liquid Limits:**	82	**Test Date:**	12/1/17
Dry Density (pcf):	73.26	81.75	**Plastic Limits:**	28		
Saturation (%):	101.02	105.42	**Plasticity Index (%):**	0		
Void Ratio:	1.2285	0.9684	**Specific Gravity:**	2.615	Measured	

Soil Description:	FAT CLAY with SAND(CH A-7-6(50))			
Project Number:	8076	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	W-15	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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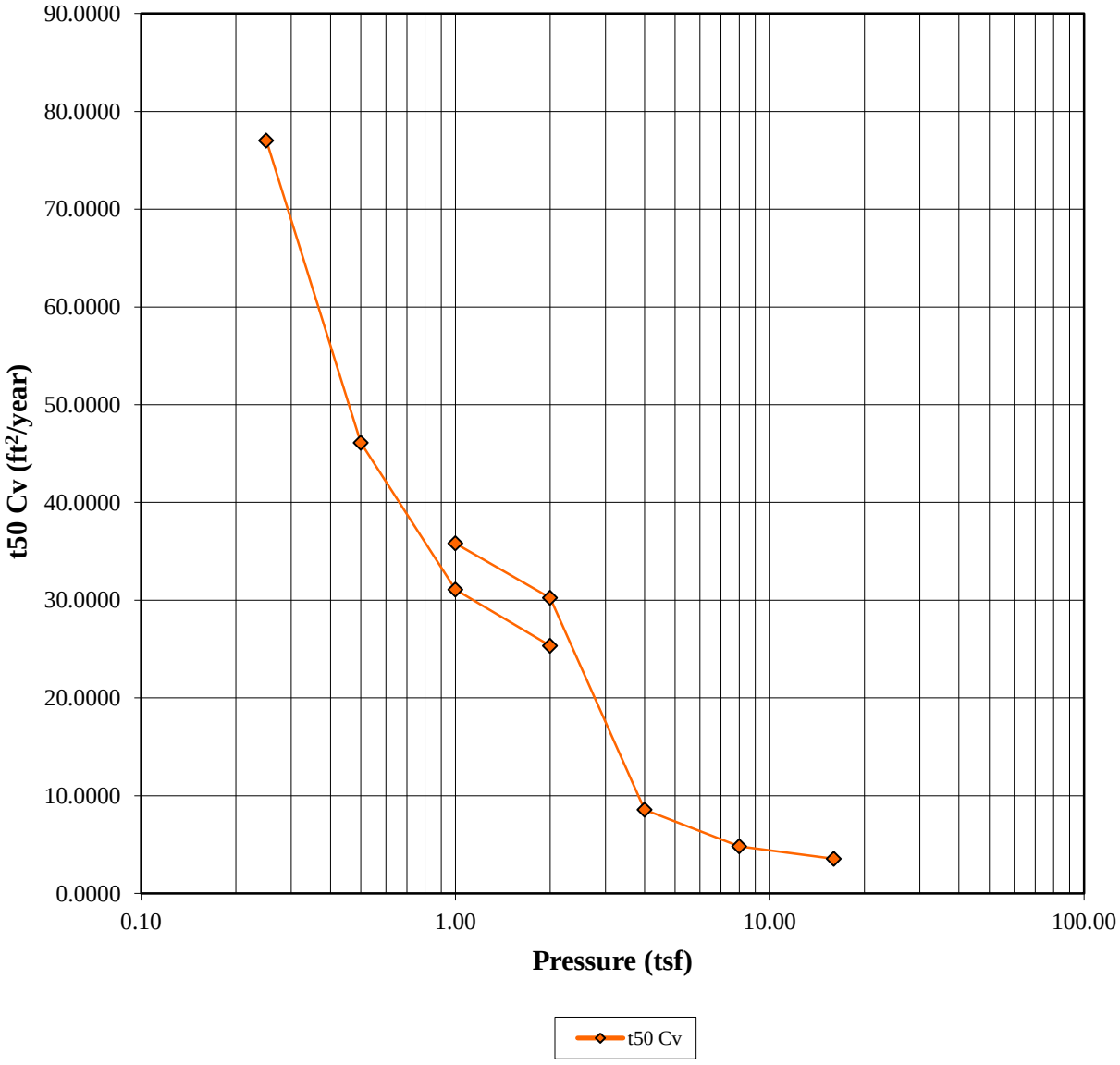
Consolidation Test
Test Results



	Before	After				
Moisture (%):	47.45	40.19	**Liquid Limits:**	82	**Test Date:**	12/1/17
Dry Density (pcf):	73.26	81.75	**Plastic Limits:**	28		
Saturation (%):	101.02	105.42	**Plasticity Index (%):**	0		
Void Ratio:	1.2285	0.9684	**Specific Gravity:**	2.615	Measured	

Soil Description:	FAT CLAY with SAND(CH A-7-6(50))			
Project Number:	8076	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-2	**Boring Number:**	W-15	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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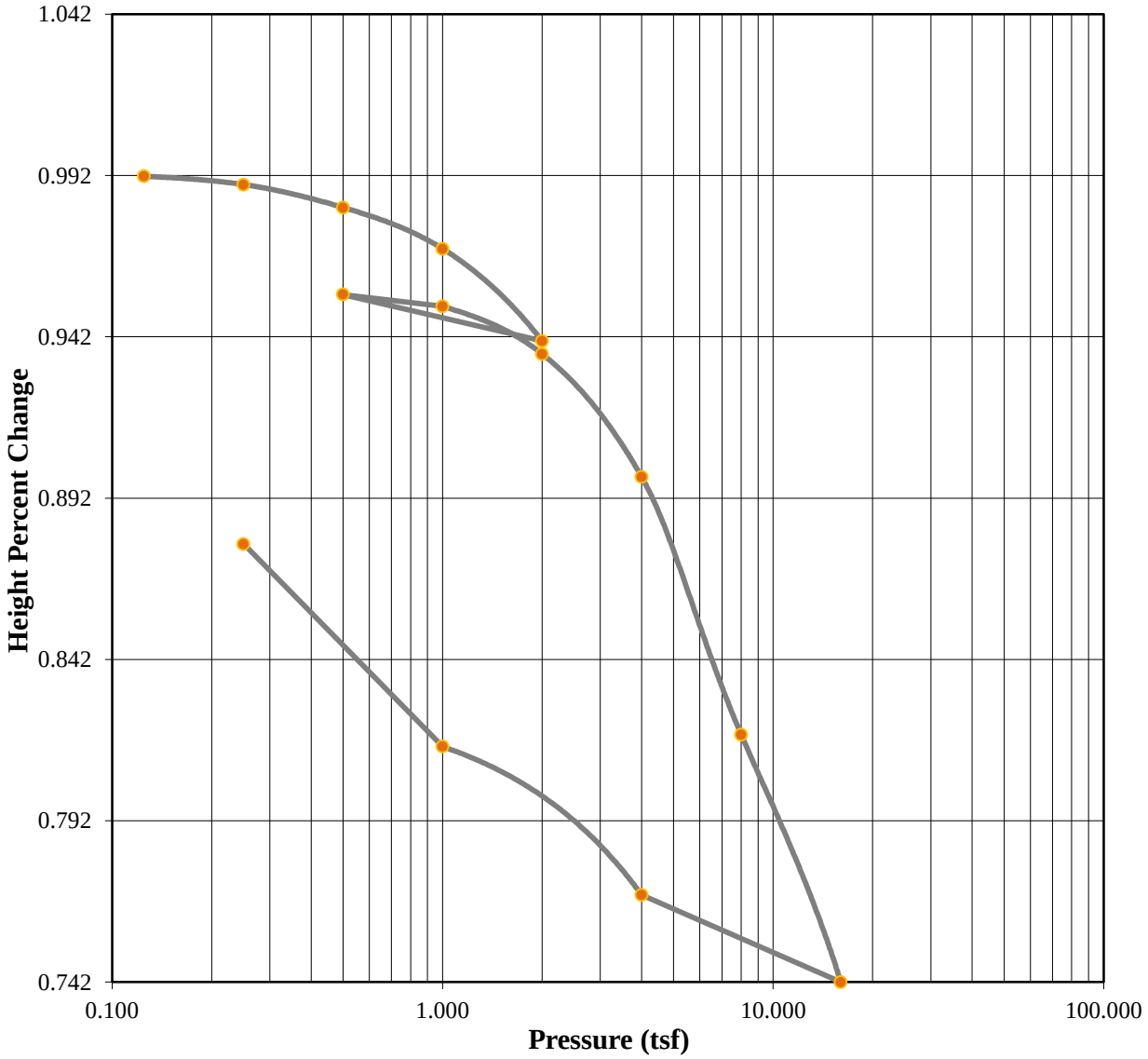
Consolidation Test
Test Results



	Before	After				
Moisture (%):	47.45	40.19	**Liquid Limits:**	82	**Test Date:**	12/1/17
Dry Density (pcf):	73.26	81.75	**Plastic Limits:**	28		
Saturation (%):	101.02	105.42	**Plasticity Index (%):**	0		
Void Ratio:	1.2285	0.9684	**Specific Gravity:**	2.615	Measured	

Soil Description:	FAT CLAY with SAND(CH A-7-6(50))			
Project Number:	8076	**Depth:** 28.0-30.0 ft.	**Remarks:**	
Sample Number:	T-2	**Boring Number:** W-15		
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: 8076

Sample Number: T-2
Boring Number: W-15
Depth: 28.0-30.0 ft.
Sample Type: Undisturbed

Sample Description: FAT CLAY with SAND(CH A-7-6(50))
Remarks:

Test Number:
Test Date: 12/1/17

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	0.9940	0.5471	0.00	1.2243	0.000	0.000	0.000	0.000
1	0.125	0.0020	0.9920	0.5451	0.20	1.2199	0.000	0.000	0.000	0.000
2	0.250	0.0046	0.9894	0.5425	0.47	1.2139	0.832	2.285	910.268	77.024
3	0.500	0.0117	0.9823	0.5354	1.18	1.1981	2.035	3.761	366.844	46.117
4	1.000	0.0245	0.9695	0.5226	2.47	1.1695	4.656	5.436	156.213	31.084
5	2.000	0.0531	0.9409	0.4940	5.34	1.1055	6.820	6.281	100.451	25.339
6	0.500	0.0387	0.9553	0.5085	3.89	1.1378	0.000	0.000	0.000	0.000
7	1.000	0.0423	0.9517	0.5048	4.26	1.1296	3.154	4.545	222.174	35.822
8	2.000	0.0571	0.9369	0.4900	5.75	1.0965	8.838	5.219	76.848	30.233
9	4.000	0.0952	0.8988	0.4519	9.58	1.0113	32.806	16.959	19.055	8.563
10	8.000	0.1751	0.8189	0.3720	17.61	0.8325	110.128	25.034	4.712	4.816
11	16.000	0.2518	0.7422	0.2953	25.33	0.6609	103.823	28.016	4.106	3.535
12	4.000	0.2248	0.7692	0.3223	22.61	0.7213	0.000	0.000	0.000	0.000
13	1.000	0.1788	0.8152	0.3684	17.98	0.8243	0.000	0.000	0.000	0.000
14	0.250	0.1160	0.8780	0.4311	11.67	0.9647	0.000	0.000	0.000	0.000

Predicted value indicated with *

Tested By: B. Hak

Checked By: C. Dugger

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ENGINEERING

Consolidation Test
Consolidation Specimen Information

Project: Mobile River Bridge **Project Number:** 8076
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 12/1/17

Sample Number: T-2 **Sample Description:**
Boring Number: W-15 FAT CLAY with SAND(CH A-7-6(50))
Depth: 28.0-30.0 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 82.0000 **Initial Void Ratio:** 1.2285 **Initial Height (in):** 0.9940
Plastic Limit: 28.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5060
Specific Gravity: 2.6150 Measured **Weight of Ring (g):** 98.6500

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	129.87	258.36
Dry Soil + Container (g)	98.43	221.02
Weight of Container (g)	32.17	128.11
Moisture Content (%)	47.45	40.19
Void Ratio	1.2285	0.9684
Saturation (%)	101.02	105.42
Dry Density (pcf)	73.26	81.75

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

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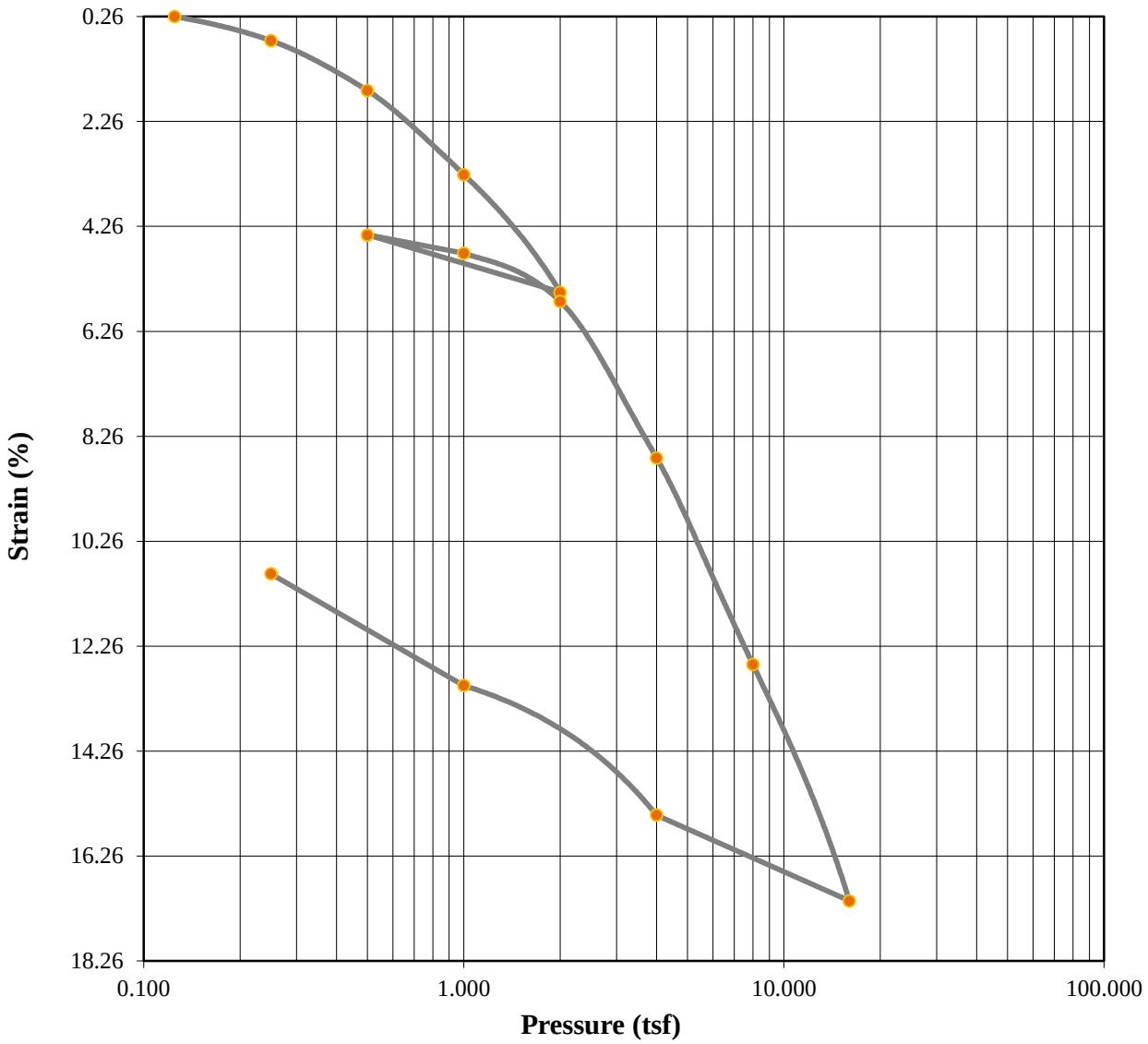
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	0	**Test Date:**	12/7/17
Moisture (%):	28.67	23.89	**Plastic Limits:**	0		
Dry Density (pcf):	93.93	104.98	**Plasticity Index (%):**	0		
Saturation (%):	99.08	108.87				
Void Ratio:	0.7703	0.5777	**Specific Gravity:**	2.665	Measured	

Sample Description:	FAT CLAY with SAND(CH A-7-6(37))			
Project Number:	8076	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-16	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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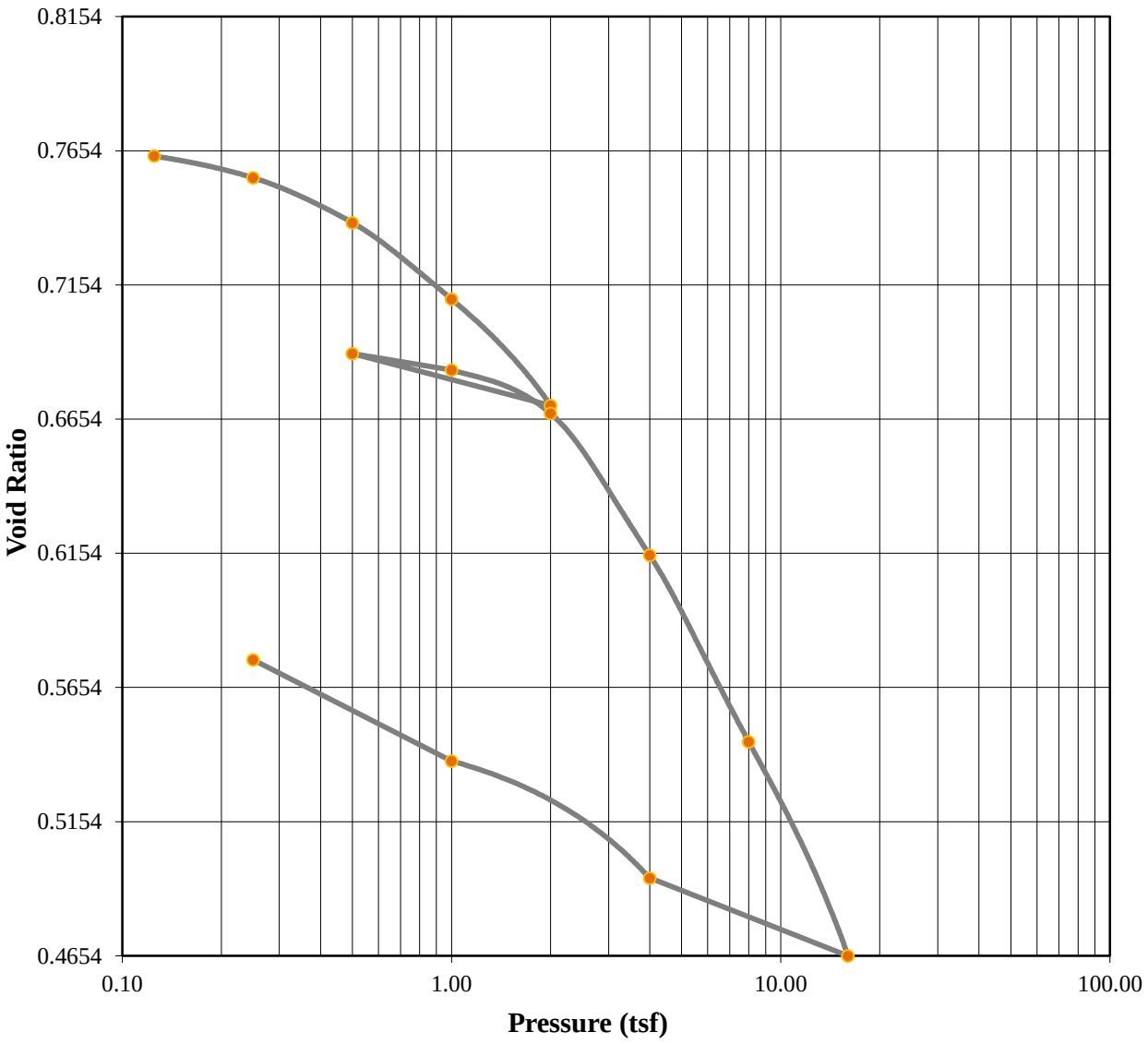
Consolidation Test
Test Results



	Before	After				
Moisture (%):	28.67	23.89	**Liquid Limits:**	0	**Test Date:**	12/7/17
Dry Density (pcf):	93.93	104.98	**Plastic Limits:**	0		
Saturation (%):	99.08	108.87	**Plasticity Index (%):**	0		
Void Ratio:	0.7703	0.5777	**Specific Gravity:**	2.665	Measured	

Soil Description:	FAT CLAY with SAND(CH A-7-6(37))			
Project Number:	8076	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-16	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

THOMPSON ENGINNERING
MOBILE, ALABAMA

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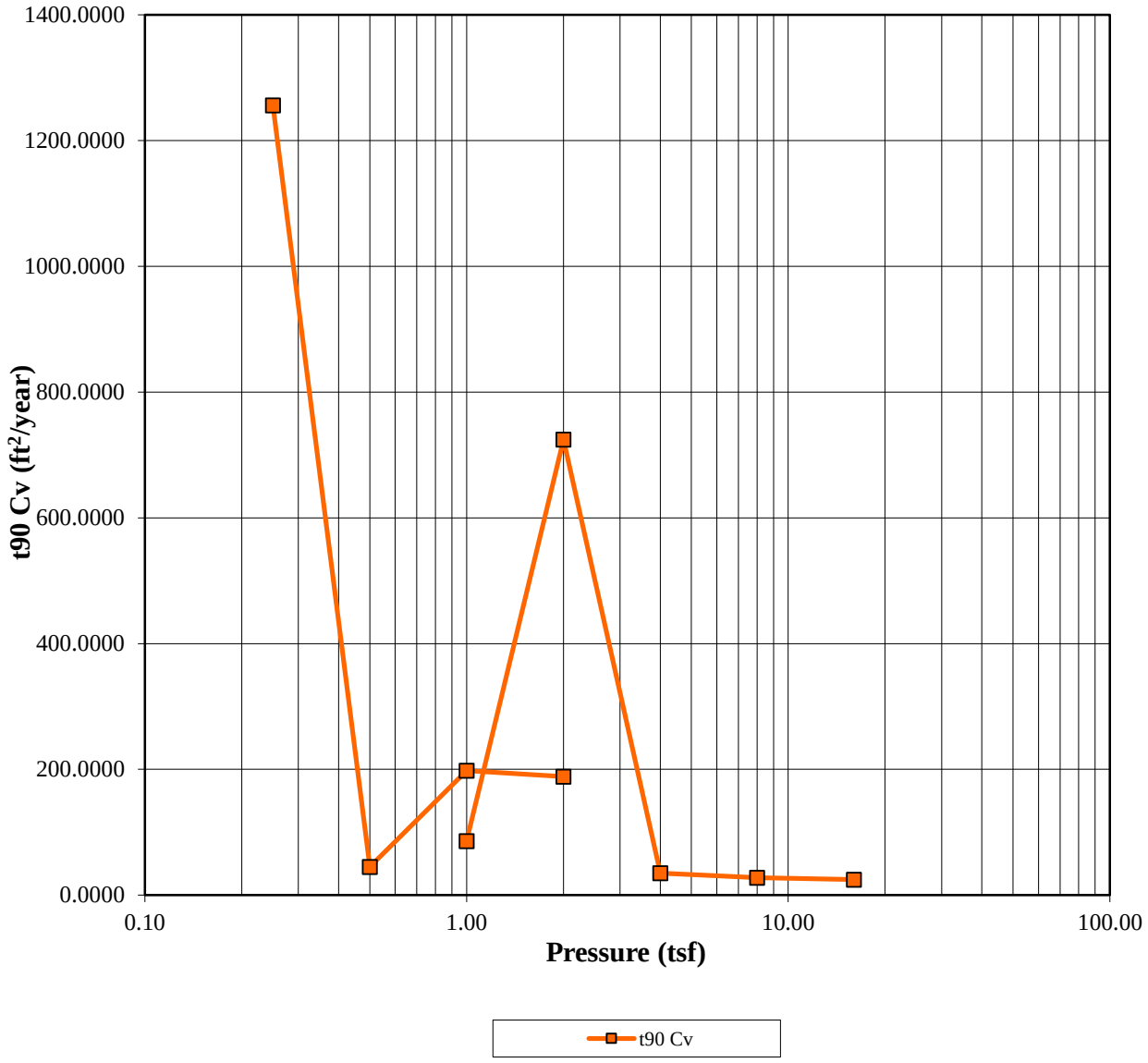
Consolidation Test
Test Results



	Before	After				
Moisture (%):	28.67	23.89	**Liquid Limits:**	0	**Test Date:**	12/7/17
Dry Density (pcf):	93.93	104.98	**Plastic Limits:**	0		
Saturation (%):	99.08	108.87	**Plasticity Index (%):**	0		
Void Ratio:	0.7703	0.5777	**Specific Gravity:**	2.665	Measured	

Soil Description:	FAT CLAY with SAND(CH A-7-6(37))			
Project Number:	8076	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-16	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

THOMPSON ENGINNERING
MOBILE, ALABAMA

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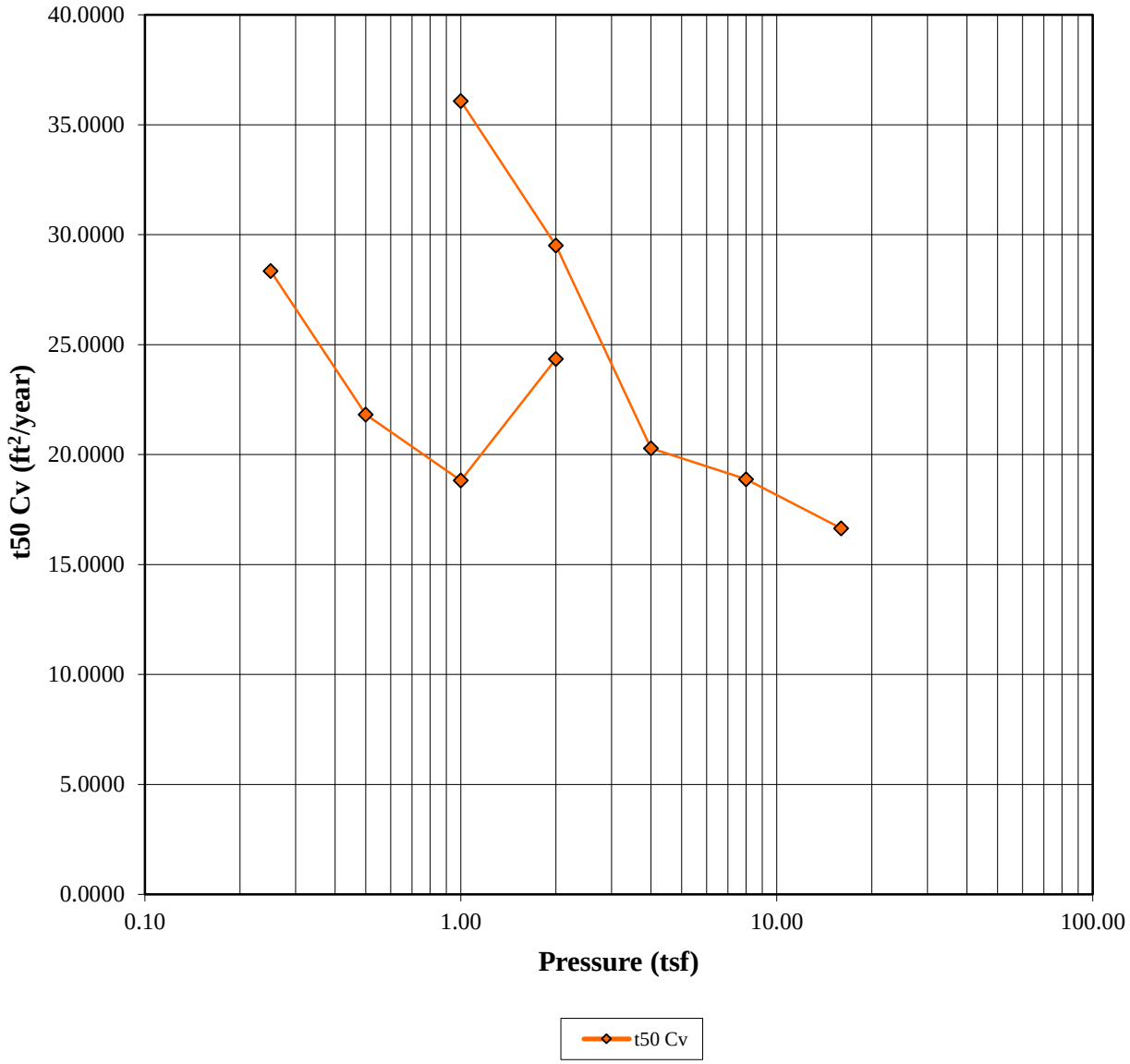
Consolidation Test
Test Results



	Before	After				
Moisture (%):	28.67	23.89	**Liquid Limits:**	0	**Test Date:**	12/7/17
Dry Density (pcf):	93.93	104.98	**Plastic Limits:**	0		
Saturation (%):	99.08	108.87	**Plasticity Index (%):**	0		
Void Ratio:	0.7703	0.5777	**Specific Gravity:**	2.665	Measured	

Soil Description:	FAT CLAY with SAND(CH A-7-6(37))			
Project Number:	8076	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-16	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

THOMPSON ENGINNERING
MOBILE, ALABAMA

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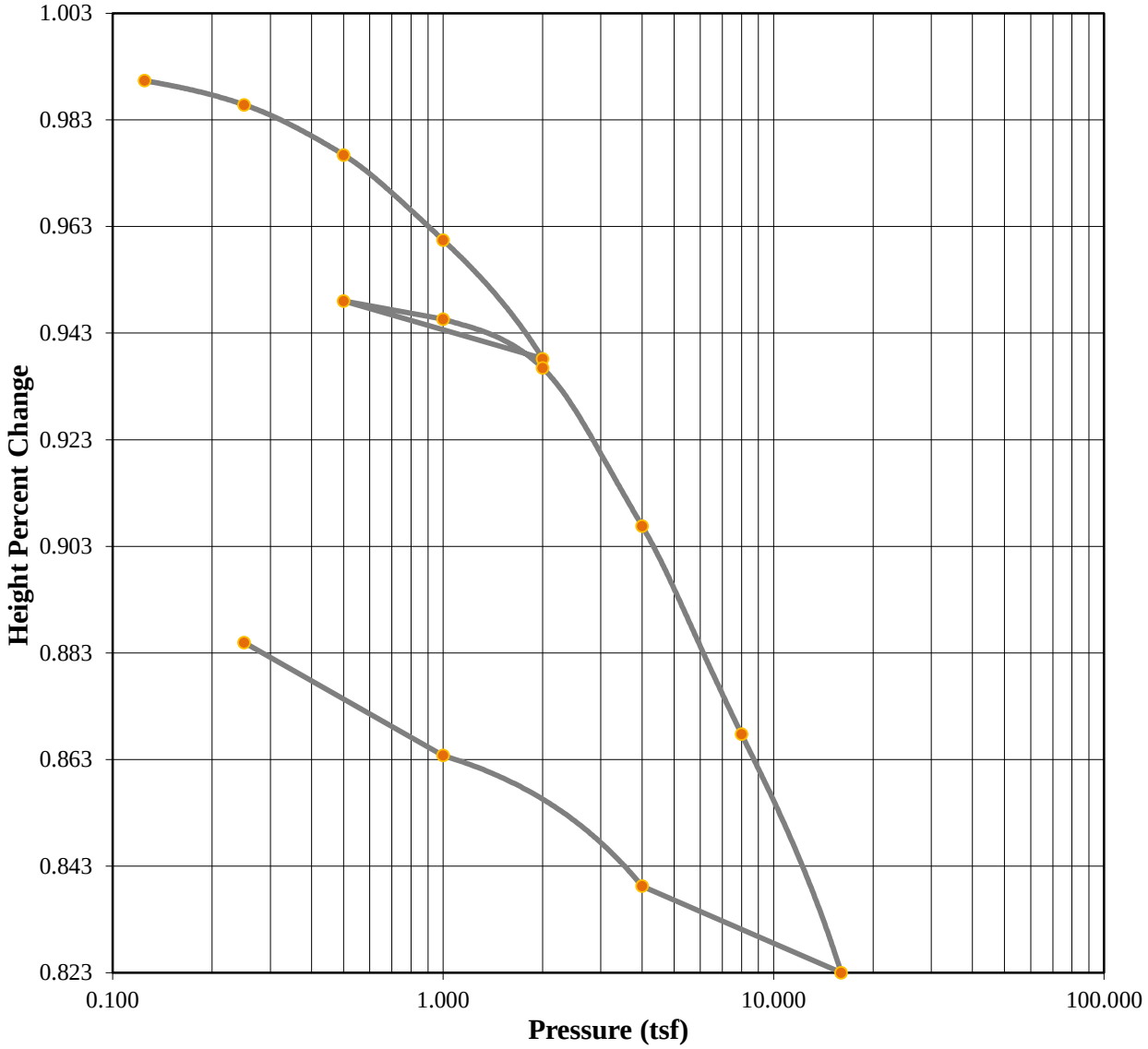
Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	0	**Test Date:**	12/7/17
Moisture (%):	28.67	23.89	**Plastic Limits:**	0		
Dry Density (pcf):	93.93	104.98	**Plasticity Index (%):**	0		
Saturation (%):	99.08	108.87				
Void Ratio:	0.7703	0.5777	**Specific Gravity:**	2.665	Measured	

Soil Description:	FAT CLAY with SAND(CH A-7-6(37))			
Project Number:	8076	**Depth:**	28.0-30.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-16	
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: 8076

Sample Number: T-1
Boring Number: W-16
Depth: 28.0-30.0 ft.
Sample Type: Undisturbed

Sample Description: FAT CLAY with SAND(CH A-7-6(37))
Remarks:

Test Number:
Test Date: 12/7/17

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	0.9930	0.4313	0.00	0.7680	0.000	0.000	0.000	0.000
1	0.125	0.0026	0.9904	0.4288	0.26	0.7634	0.000	0.000	0.000	0.000
2	0.250	0.0071	0.9859	0.4242	0.72	0.7553	0.599	6.163	1256.180	28.348
3	0.500	0.0165	0.9765	0.4148	1.67	0.7386	16.388	7.855	45.020	21.820
4	1.000	0.0325	0.9605	0.3988	3.27	0.7101	3.608	8.810	197.865	18.824
5	2.000	0.0547	0.9383	0.3766	5.51	0.6705	3.612	6.497	188.609	24.356
6	0.500	0.0439	0.9491	0.3874	4.42	0.6898	0.000	0.000	0.000	0.000
7	1.000	0.0473	0.9457	0.3840	4.77	0.6837	8.060	4.456	85.855	36.077
8	2.000	0.0565	0.9365	0.3749	5.69	0.6675	0.937	5.342	724.366	29.514
9	4.000	0.0861	0.9069	0.3452	8.67	0.6147	18.327	7.285	34.725	20.293
10	8.000	0.1252	0.8678	0.3062	12.61	0.5451	21.097	7.168	27.623	18.887
11	16.000	0.1699	0.8231	0.2614	17.11	0.4654	21.218	7.316	24.704	16.644
12	4.000	0.1537	0.8393	0.2777	15.48	0.4944	0.000	0.000	0.000	0.000
13	1.000	0.1292	0.8638	0.3022	13.01	0.5380	0.000	0.000	0.000	0.000
14	0.250	0.1080	0.8850	0.3233	10.88	0.5757	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:** 8076
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 12/7/17

Sample Number: T-1 **Sample Description:**
Boring Number: W-16 FAT CLAY with SAND(CH A-7-6(37))
Depth: 28.0-30.0 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 0.0000 **Initial Void Ratio:** 0.7703 **Initial Height (in):** 0.9930
Plastic Limit: 0.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.4990
Specific Gravity: 2.6650 Measured **Weight of Ring (g):** 98.6400

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	147.97	278.12
Dry Soil + Container (g)	122.16	249.65
Weight of Container (g)	32.15	130.47
Moisture Content (%)	28.67	23.89
Void Ratio	0.7703	0.5777
Saturation (%)	99.08	108.87
Dry Density (pcf)	93.93	104.98

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

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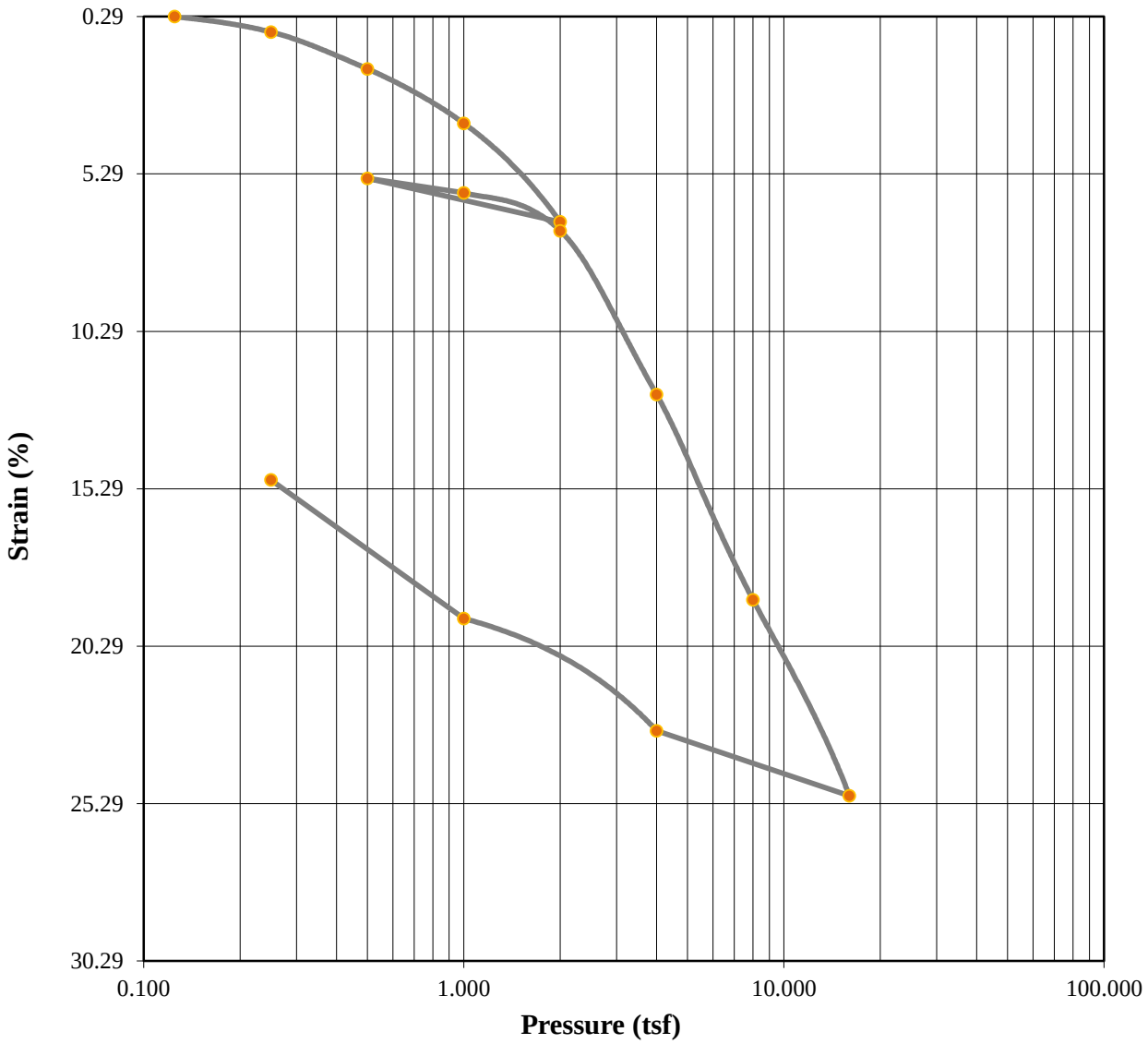
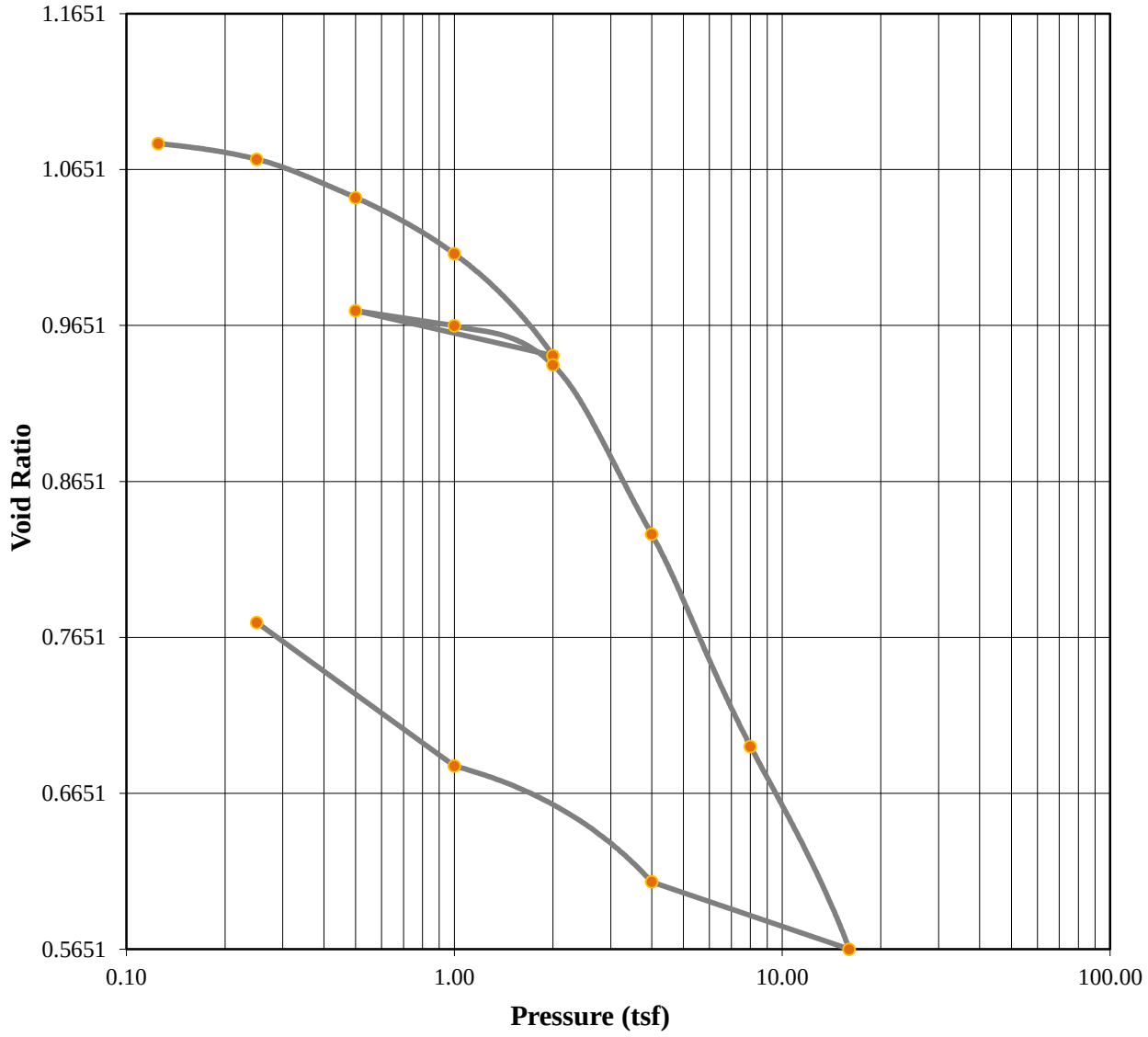
Consolidation Test
Test Results



	Before	After				
Moisture (%):	41.94	31.36	**Liquid Limits:**	50	**Test Date:**	12/27/17
Dry Density (pcf):	78.95	92.19	**Plastic Limits:**	16		
Saturation (%):	101.63	104.86	**Plasticity Index (%):**	0		
Void Ratio:	1.0936	0.7795	**Specific Gravity:**	2.645	Measured	

Sample Description:	FAT CLAY with SAND(CH A-7-6(29))			
Project Number:	8098	**Depth:**	16.0-18.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-17	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

Consolidation Test
Test Results



	Before	After				
Moisture (%):	41.94	31.36	**Liquid Limits:**	50	**Test Date:**	12/27/17
Dry Density (pcf):	78.95	92.19	**Plastic Limits:**	16		
Saturation (%):	101.63	104.86	**Plasticity Index (%):**	0		
Void Ratio:	1.0936	0.7795	**Specific Gravity:**	2.645	Measured	

Soil Description:	FAT CLAY with SAND(CH A-7-6(29))			
Project Number:	8098	**Depth:**	16.0-18.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-17	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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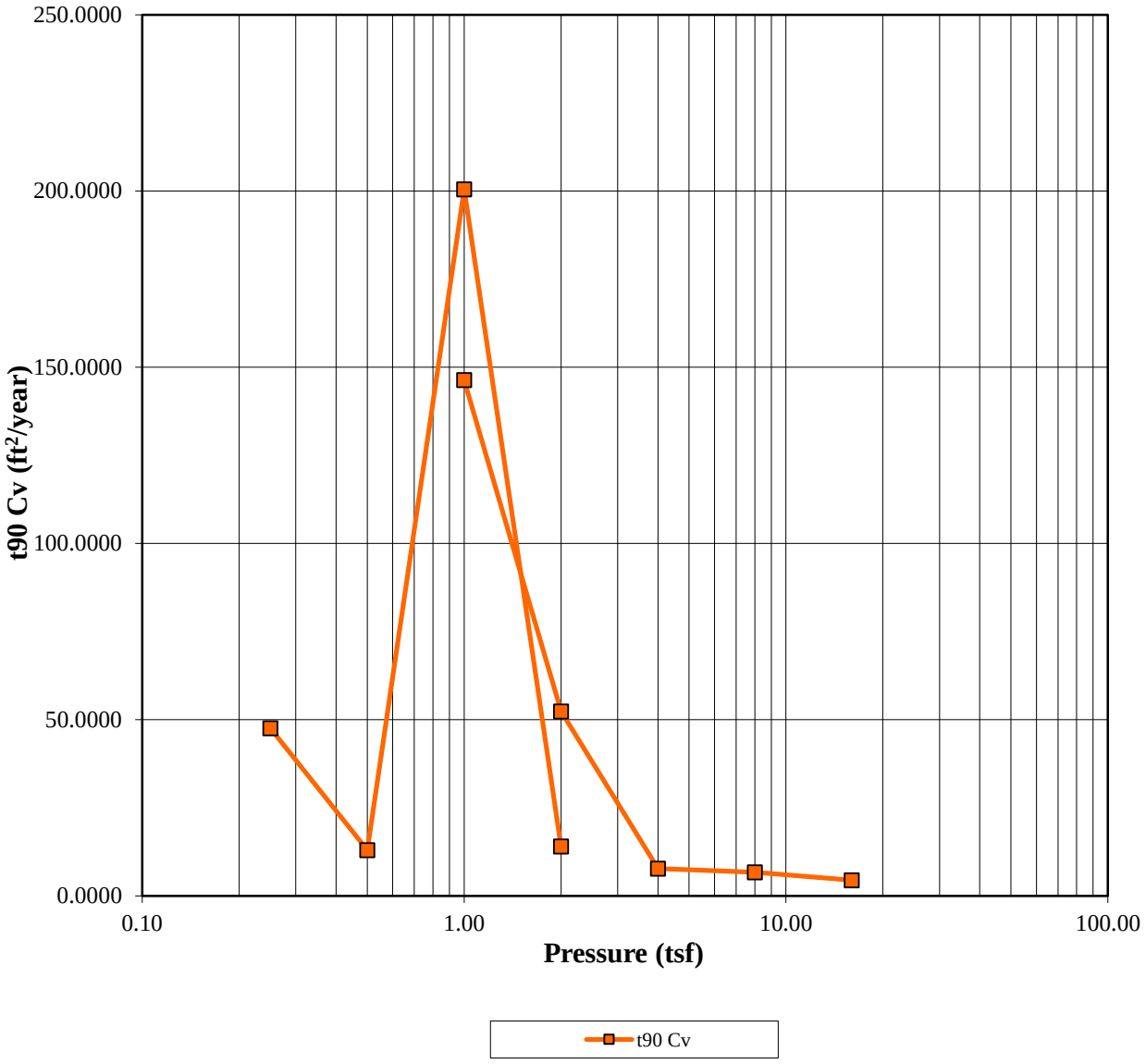
Consolidation Test
Test Results



	Before	After				
Moisture (%):	41.94	31.36	**Liquid Limits:**	50	**Test Date:**	12/27/17
Dry Density (pcf):	78.95	92.19	**Plastic Limits:**	16		
Saturation (%):	101.63	104.86	**Plasticity Index (%):**	0		
Void Ratio:	1.0936	0.7795	**Specific Gravity:**	2.645	Measured	

Soil Description:	FAT CLAY with SAND(CH A-7-6(29))			
Project Number:	8098	**Depth:**	16.0-18.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-17	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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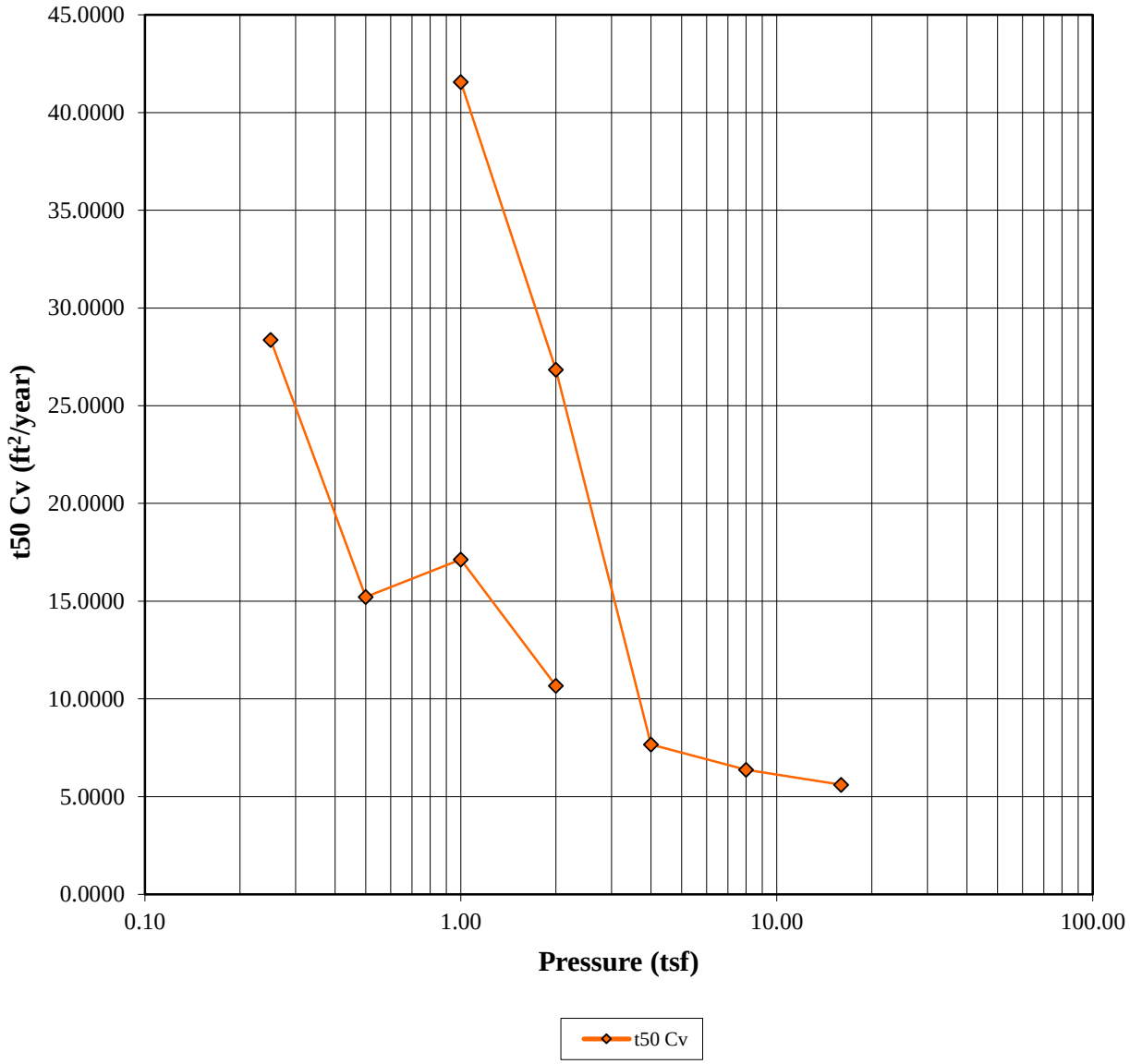
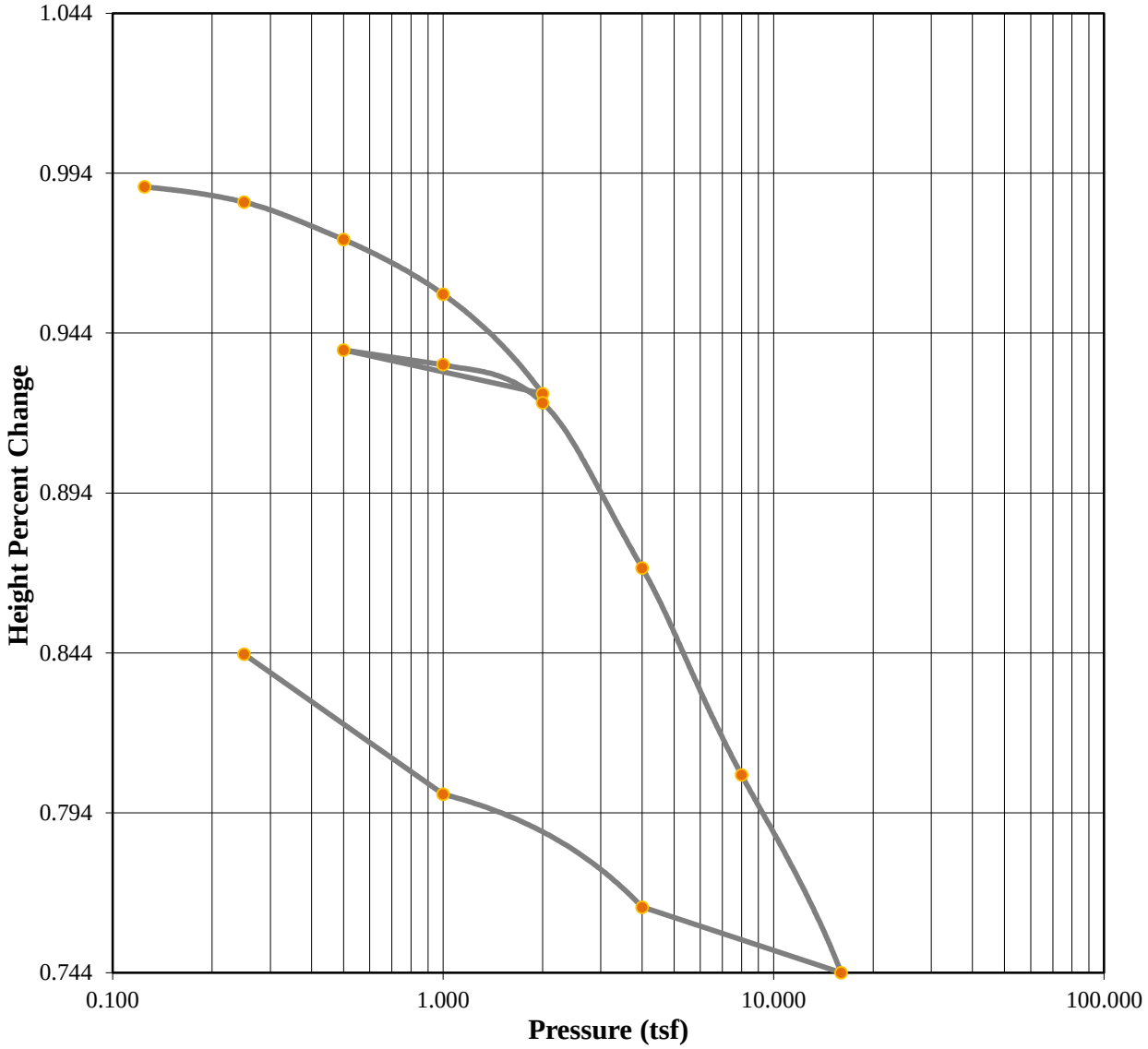
Consolidation Test
Test Results



	Before	After				
Moisture (%):	41.94	31.36	**Liquid Limits:**	50	**Test Date:**	12/27/17
Dry Density (pcf):	78.95	92.19	**Plastic Limits:**	16		
Saturation (%):	101.63	104.86	**Plasticity Index (%):**	0		
Void Ratio:	1.0936	0.7795	**Specific Gravity:**	2.645	Measured	

Soil Description:	FAT CLAY with SAND(CH A-7-6(29))			
Project Number:	8098	**Depth:**	16.0-18.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-17	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

Consolidation Test
Test Results



	Before	After				
Moisture (%):	41.94	31.36	**Liquid Limits:**	50	**Test Date:**	12/27/17
Dry Density (pcf):	78.95	92.19	**Plastic Limits:**	16		
Saturation (%):	101.63	104.86	**Plasticity Index (%):**	0		
Void Ratio:	1.0936	0.7795	**Specific Gravity:**	2.645	Measured	

Soil Description:	FAT CLAY with SAND(CH A-7-6(29))			
Project Number:	8098	**Depth:**	16.0-18.0 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-17	
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: 8098

Sample Number: T-1
Boring Number: W-17
Depth: 16.0-18.0 ft.
Sample Type: Undisturbed

Sample Description: FAT CLAY with SAND(CH A-7-6(29))
Remarks:

Test Number:
Test Date: 12/27/17

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	0.9930	0.5174	0.00	1.0878	0.000	0.000	0.000	0.000
1	0.125	0.0029	0.9901	0.5145	0.29	1.0818	0.000	0.000	0.000	0.000
2	0.250	0.0077	0.9853	0.5097	0.78	1.0717	15.791	6.152	47.573	28.367
3	0.500	0.0194	0.9736	0.4980	1.95	1.0471	56.367	11.199	13.013	15.215
4	1.000	0.0365	0.9565	0.4809	3.68	1.0111	3.530	9.601	200.539	17.130
5	2.000	0.0676	0.9254	0.4498	6.81	0.9458	47.296	14.430	14.012	10.669
6	0.500	0.0539	0.9391	0.4635	5.43	0.9745	0.000	0.000	0.000	0.000
7	1.000	0.0585	0.9345	0.4589	5.89	0.9649	4.617	3.778	146.383	41.562
8	2.000	0.0704	0.9226	0.4470	7.09	0.9398	12.576	5.700	52.372	26.840
9	4.000	0.1220	0.8710	0.3953	12.29	0.8312	75.785	17.777	7.745	7.671
10	8.000	0.1868	0.8062	0.3306	18.81	0.6952	75.259	18.336	6.683	6.372
11	16.000	0.2486	0.7444	0.2687	25.04	0.5651	95.981	17.755	4.467	5.610
12	4.000	0.2281	0.7649	0.2893	22.97	0.6082	0.000	0.000	0.000	0.000
13	1.000	0.1928	0.8002	0.3246	19.41	0.6826	0.000	0.000	0.000	0.000
14	0.250	0.1490	0.8440	0.3684	15.01	0.7746	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:** 8098
Location: Soils Lab
Job Number: 17-1101-0145 **Test Date:** 12/27/17

Sample Number: T-1 **Sample Description:**
Boring Number: W-17 FAT CLAY with SAND(CH A-7-6(29))
Depth: 16.0-18.0 ft. **Remarks:**
Sample Type: Undisturbed

Test Number:
Liquid Limit: 50.0000 **Initial Void Ratio:** 1.0936 **Initial Height (in):** 0.9930
Plastic Limit: 16.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.4920
Specific Gravity: 2.6450 Measured **Weight of Ring (g):** 98.6400

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	96.47	261.26
Dry Soil + Container (g)	77.34	230.16
Weight of Container (g)	31.73	130.99
Moisture Content (%)	41.94	31.36
Void Ratio	1.0936	0.7795
Saturation (%)	101.63	104.86
Dry Density (pcf)	78.95	92.19

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

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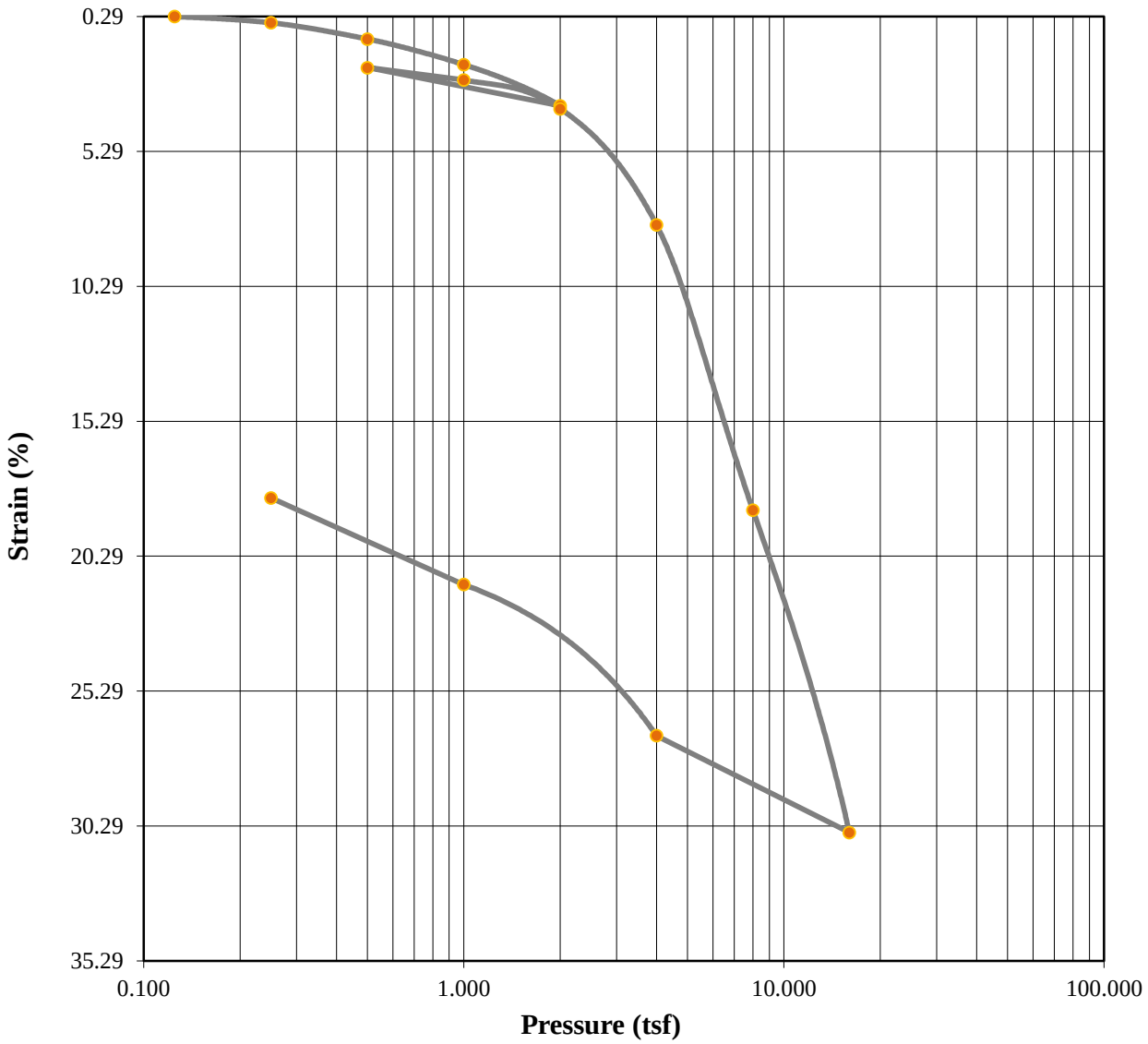
Consolidation Test
Test Results



	Before	After				
Moisture (%):	91.37	65.96	**Liquid Limits:**	89	**Test Date:**	10/28/17
Dry Density (pcf):	46.94	58.84	**Plastic Limits:**	37		
Saturation (%):	111.89	120.45	**Plasticity Index (%):**	0		
Void Ratio:	1.5916	1.1218	**Specific Gravity:**	1.948	Measured	

Sample Description:	FAT CLAY(CH A-7-5(59))			
Project Number:	8063	**Depth:**	18.5-20.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-24	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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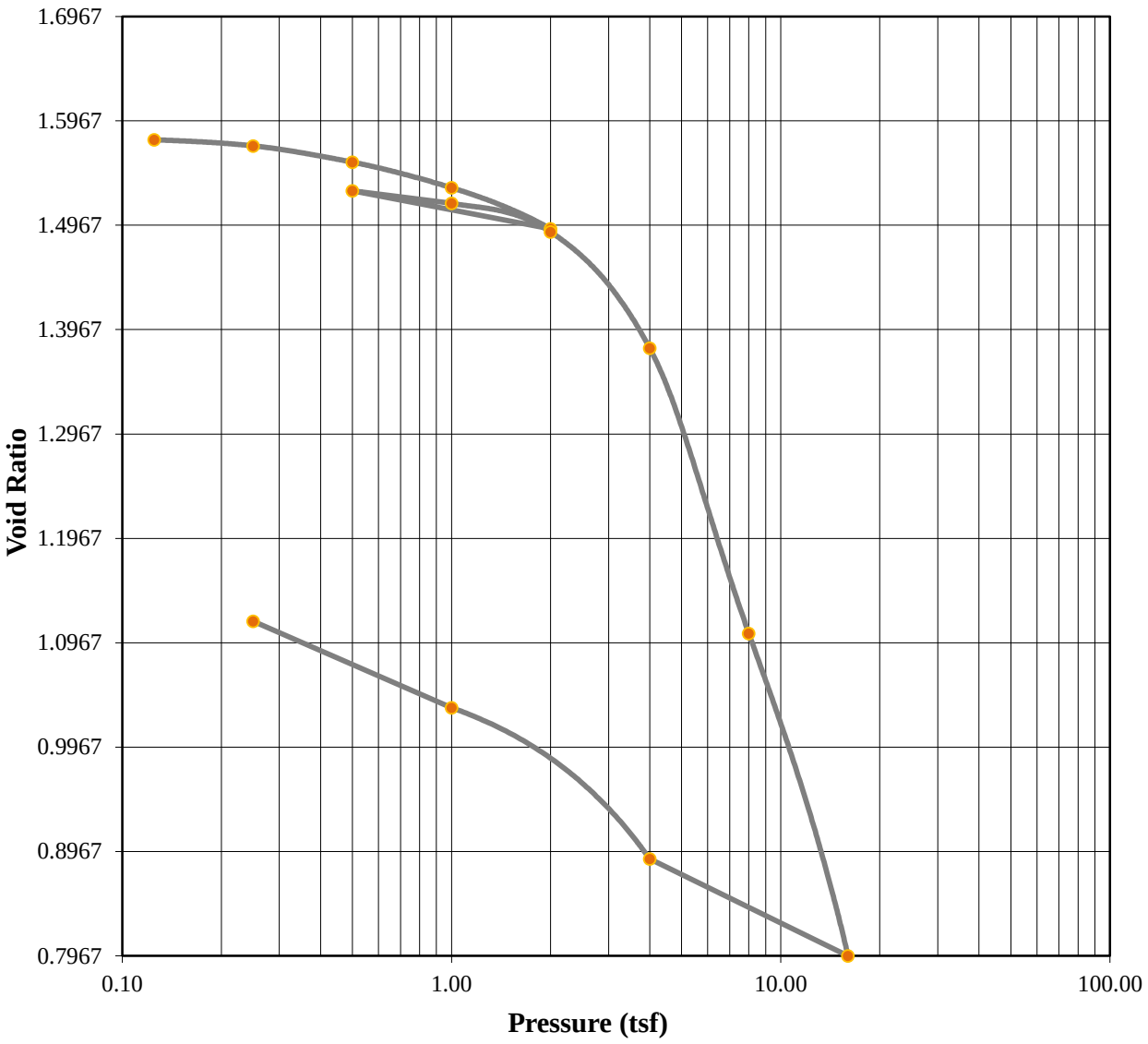
Consolidation Test
Test Results



	Before	After				
Moisture (%):	91.37	65.96	**Liquid Limits:**	89	**Test Date:**	10/28/17
Dry Density (pcf):	46.94	58.84	**Plastic Limits:**	37		
Saturation (%):	111.89	120.45	**Plasticity Index (%):**	0		
Void Ratio:	1.5916	1.1218	**Specific Gravity:**	1.948	Measured	

Soil Description:	FAT CLAY(CH A-7-5(59))			
Project Number:	8063	**Depth:**	18.5-20.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-24	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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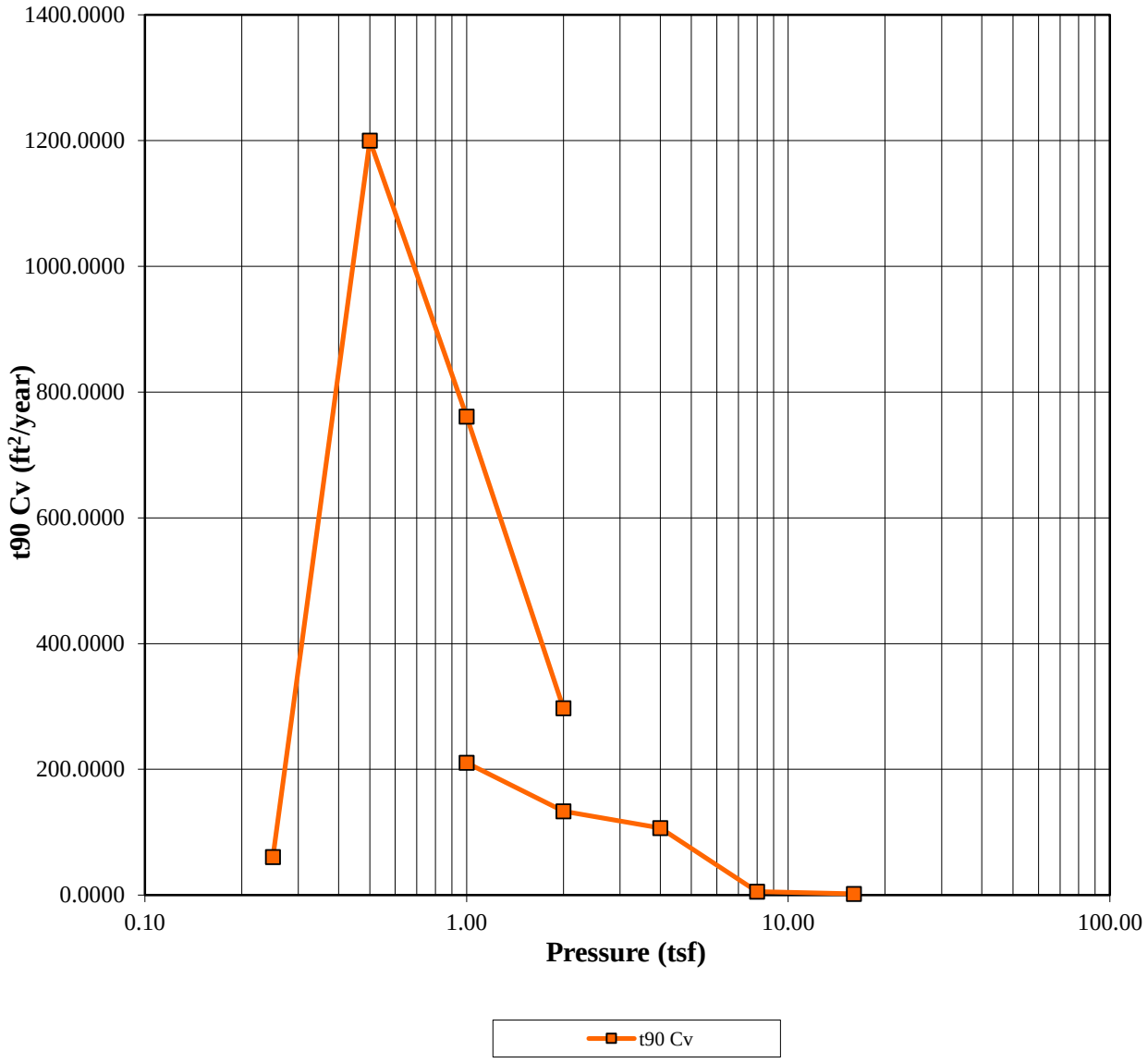
Consolidation Test
Test Results



	Before	After				
Moisture (%):	91.37	65.96	**Liquid Limits:**	89	**Test Date:**	10/28/17
Dry Density (pcf):	46.94	58.84	**Plastic Limits:**	37		
Saturation (%):	111.89	120.45	**Plasticity Index (%):**	0		
Void Ratio:	1.5916	1.1218	**Specific Gravity:**	1.948	Measured	

Soil Description:	FAT CLAY(CH A-7-5(59))			
Project Number:	8063	**Depth:**	18.5-20.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-24	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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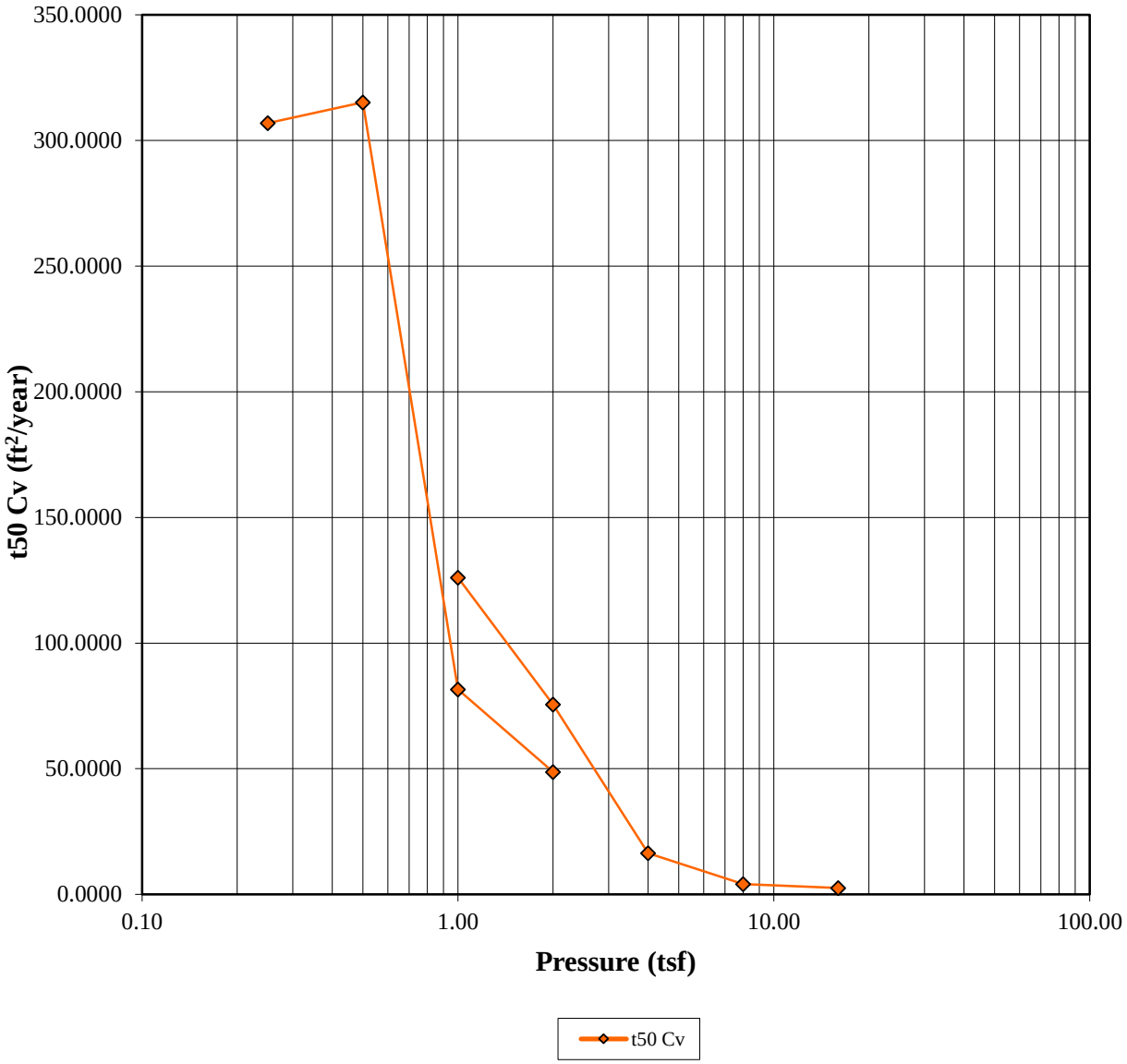
Consolidation Test
Test Results



	Before	After				
Moisture (%):	91.37	65.96	**Liquid Limits:**	89	**Test Date:**	10/28/17
Dry Density (pcf):	46.94	58.84	**Plastic Limits:**	37		
Saturation (%):	111.89	120.45	**Plasticity Index (%):**	0		
Void Ratio:	1.5916	1.1218	**Specific Gravity:**	1.948	Measured	

Soil Description:	FAT CLAY(CH A-7-5(59))			
Project Number:	8063	**Depth:**	18.5-20.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-24	
Project:	Mobile River Bridge			
Client:	ALDOT			
Location:	Soils Lab			

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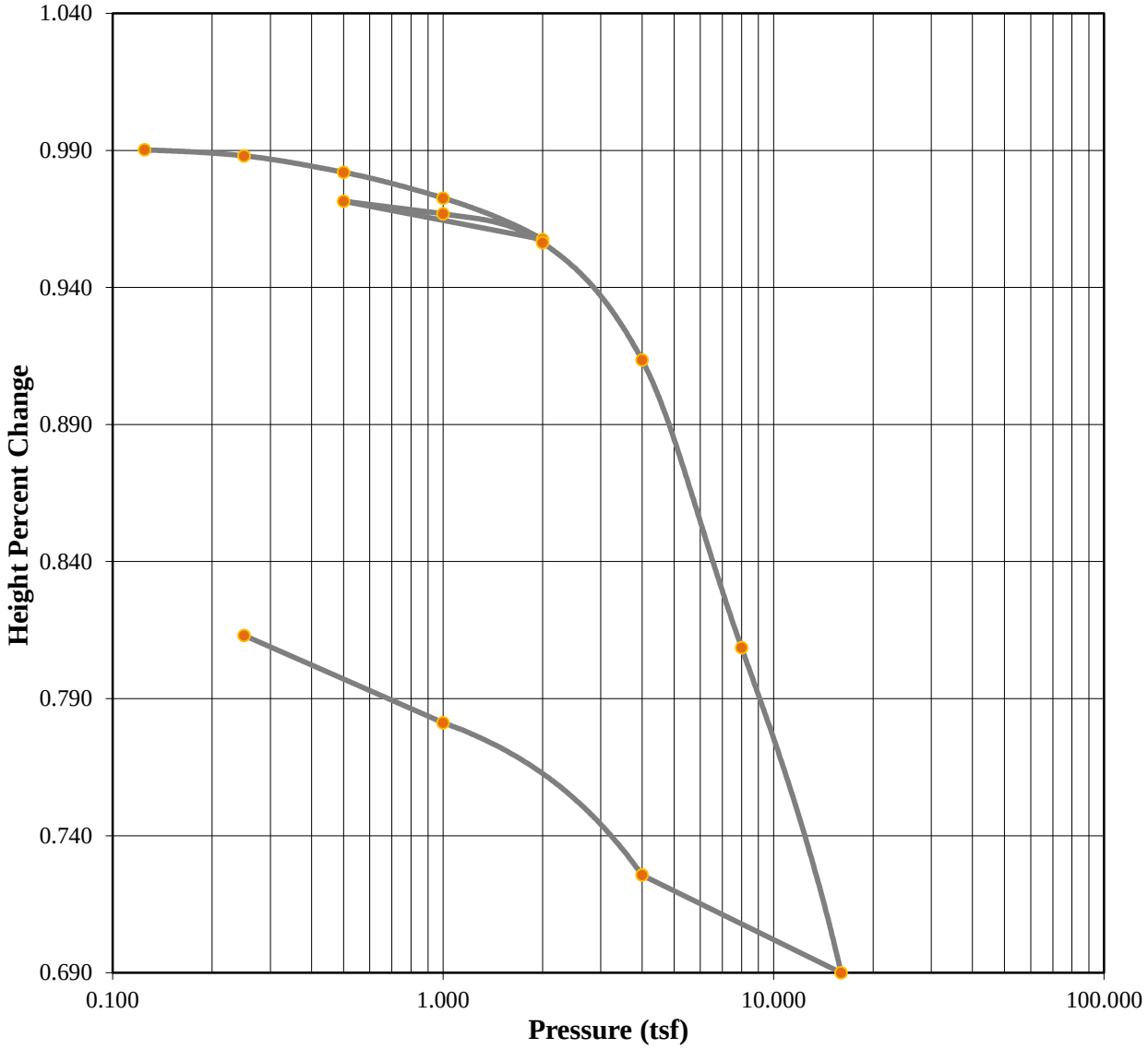
Consolidation Test
Test Results



	Before	After				
Moisture (%):	91.37	65.96	**Liquid Limits:**	89	**Test Date:**	10/28/17
Dry Density (pcf):	46.94	58.84	**Plastic Limits:**	37		
Saturation (%):	111.89	120.45	**Plasticity Index (%):**	0		
Void Ratio:	1.5916	1.1218	**Specific Gravity:**	1.948	Measured	

Soil Description:	FAT CLAY(CH A-7-5(59))			
Project Number:	8063	**Depth:**	18.5-20.5 ft.	**Remarks:**
Sample Number:	T-1	**Boring Number:**	W-24	
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-1
Boring Number: W-24
Depth: 18.5-20.5 ft.
Sample Type: Undisturbed

Sample Description: FAT CLAY(CH A-7-5(59))
Remarks:

Test Number:
Test Date: 10/28/17

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	0.9930	0.6090	0.00	1.5862	0.000	0.000	0.000	0.000
1	0.125	0.0029	0.9901	0.6062	0.29	1.5787	0.000	0.000	0.000	0.000
2	0.250	0.0051	0.9879	0.6039	0.52	1.5728	12.495	0.572	60.436	306.853
3	0.500	0.0111	0.9819	0.5979	1.12	1.5572	0.622	0.550	1200.234	315.187
4	1.000	0.0205	0.9725	0.5885	2.07	1.5327	0.962	2.086	760.927	81.516
5	2.000	0.0356	0.9574	0.5734	3.59	1.4933	2.387	3.381	297.100	48.731
6	0.500	0.0217	0.9713	0.5874	2.18	1.5297	0.000	0.000	0.000	0.000
7	1.000	0.0262	0.9668	0.5828	2.64	1.5178	3.438	1.333	210.365	126.043
8	2.000	0.0368	0.9562	0.5722	3.70	1.4904	5.314	2.175	133.145	75.572
9	4.000	0.0796	0.9134	0.5295	8.01	1.3790	6.056	9.137	106.619	16.415
10	8.000	0.1845	0.8085	0.4245	18.58	1.1057	93.190	28.760	5.428	4.086
11	16.000	0.3031	0.6899	0.3059	30.52	0.7967	185.110	33.740	1.990	2.536
12	4.000	0.2675	0.7255	0.3416	26.94	0.8896	0.000	0.000	0.000	0.000
13	1.000	0.2119	0.7811	0.3972	21.34	1.0344	0.000	0.000	0.000	0.000
14	0.250	0.1800	0.8130	0.4290	18.13	1.1174	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: 10/28/17

Sample Number: T-1
Sample Description:
Boring Number: W-24
FAT CLAY(CH A-7-5(59))
Depth: 18.5-20.5 ft.
Remarks:
Sample Type: Undisturbed

Test Number:
Liquid Limit: 89.0000
Initial Void Ratio: 1.5916
Initial Height (in): 0.9930
Plastic Limit: 37.0000
Plasticity Index (%): 0.0000
Initial Diameter (in): 2.5070
Specific Gravity: 1.9480 Measured
Weight of Ring (g): 98.6400

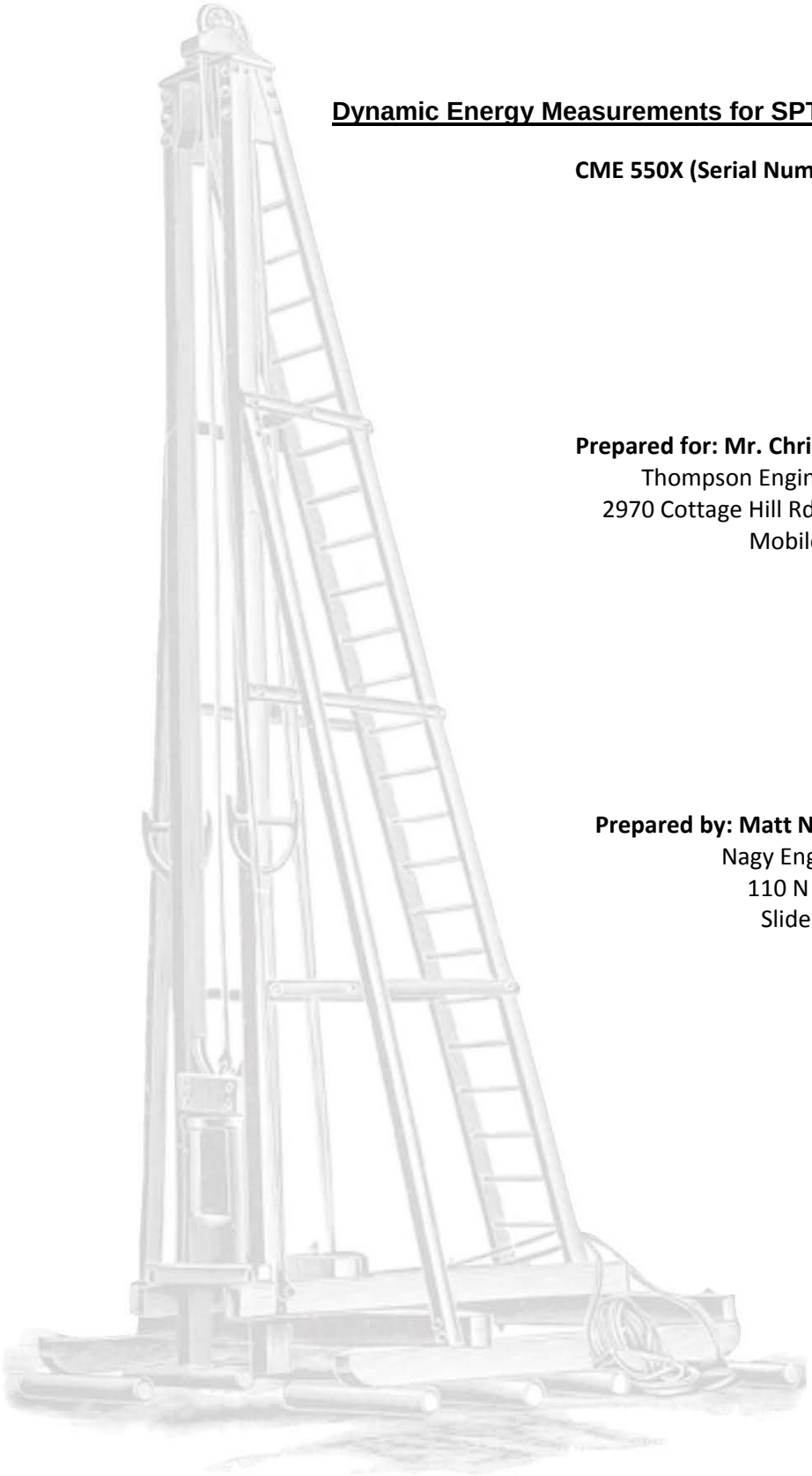
Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	112.97	230.56
Dry Soil + Container (g)	71.25	189.83
Weight of Container (g)	25.59	128.08
Moisture Content (%)	91.37	65.96
Void Ratio	1.5916	1.1218
Saturation (%)	111.89	120.45
Dry Density (pcf)	46.94	58.84

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

APPENDIX D

- **Drill Rig Hammer Energy Report**

Nagy Engineers, Inc.



Dynamic Energy Measurements for SPT Hammer

CME 550X (Serial Number 327443)

Prepared for: Mr. Chris Dugger of
Thompson Engineering, Inc.
2970 Cottage Hill Rd., Suite 190
Mobile, AL 36606

Prepared by: Matt Nagy, P.E. of
Nagy Engineers, Inc.
110 N Queens Dr.
Slidell, LA 70458

Nagy Engineers, Inc.
- Deep Foundation Specialty Testing -

October 5, 2016

Mr. Chris Dugger
Thompson Engineering, Inc.
2970 Cottage Hill Road, Suite 190
Mobile, AL 36606

Re: SPT Hammer Calibration using Dynamic Energy Measurements
Thompson Engineering Drill Rig – CME 550X (S/N 327443)
Nagy Engineers Job No. 161037-1

Dear Mr. Dugger:

This report summarizes the results from SPT Energy Measurement Testing performed at the Mobile River Bridge project on September 28, 2016. The testing was conducted to calibrate a CME 550X automatic SPT hammer. The hammer reportedly had a 140 lb drop weight and a 2.5 ft drop height. Appendix A gives a summary of the field dynamic test data and results while Appendix B contains the equipment calibration sheets. An overall summary of the test results is presented in Table 1.

OBJECTIVES

The objective of the testing was to perform SPT Energy Measurements according to ASTM D4633-10. These objectives were met using our Pile Driving Analyzer®, Model PAX – SPT Software, which acquired the SPT hammer's transfer energies using an instrumented NWJ rod section and two piezoresistive accelerometers.

TESTING AND EQUIPMENT

Drilling and SPT Hammer Equipment

SPT energy measurements were collected for a CME 550X automatic SPT hammer. The serial number on the rig was s/n 327443. Energy records were collected at various increments between the depths of 68.5 ft and 100 ft. The drilling method was mud rotary. Appendix A contains a photo of the CME 550X rig that was tested.

Instrumentation

A Model PAX Pile Driving Analyzer® (PDA) data acquisition system was used to collect and process the dynamic measurements of force and velocity. The PAX is a digital system having a low pass filter cutoff frequency of 5 kHz. The sampling frequency was therefore set to 10 times the low pass filter, or 50 kHz. A two foot long section of NWJ rod subsection was instrumented with one full bridge foil resistance strain

gage and two piezoresistive accelerometers mounted at the midpoint location of the instrumented subsection. Strain and acceleration signals were conditioned, digitized, stored and processed using the PDA. Selected output from the PDA for each recorded impact included the maximum calculated rod top force (FMX), maximum rod top velocity (VMX), maximum average compressive stress (CSX), maximum energy transfer (EMX), energy transfer ratio (ETR) and the hammer operating rate (BPM).

MEASUREMENTS AND CALCULATIONS

FV Method (EMX)

Energy transfer to the PDA gage location, EMX, was computed by the PDA using force, F(t), and velocity, v(t), records as follows:

$$EMX = \int_a^b F(t) \cdot v(t) dt$$

The time "a" corresponds to the start of the record when the energy transfer begins, and "b" is the time at which energy transferred to the rod reaches a maximum value. The FV Method is currently recognized in ASTM D4633-10, and is the theoretically correct result; therefore, no other energy calculation methods are reported.

RESULTS

Upon return to the office, the records collected by the PDA were checked for consistency and accuracy. For example, records from very weak startup or final impacts were not included in the results. Appendix A contains a representative plot of force and normalized velocity versus time and PDIPLOT results for all hammer blows at each dynamically monitored sampling depth. The PDA results include the EMX (transferred energy by the EMX method, as recommended by ASTM D4633-10), ETR (energy transfer ratio), BPM (hammer operating rate), FMX (maximum rod top force), CSX (maximum compressive stress), and VMX (maximum rod top velocity). The plots show each calculated PDA result versus sampling spoon penetration while the tables show statistical summaries for each 6 inch increment. At the end of each table, on the next page, is a statistical evaluation of the results which only include the blows that correspond to the N-Value for that sample.

Table 1 summarizes the average transfer energy values calculated by the EMX method. The records averaged consist only of the hammer blows at each dynamically monitored sampling depth that correspond to the N-Values (i.e. the blows in the initial 6 inches of split spoon driving were not considered as part of the average). The “energy transfer ratio” (ETR) is defined as the ratio of maximum transferred

energy EMX divided by the theoretical hammer potential energy of 350 ft-lbs. The average hammer operating rate is reported in blows per minute (BPM).

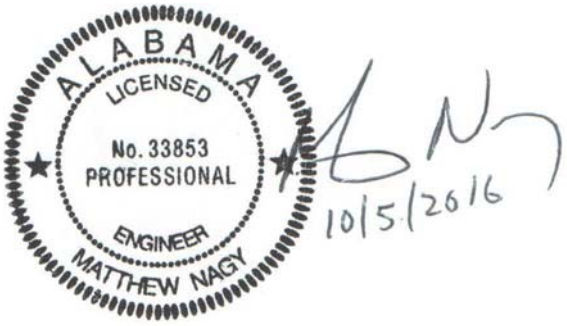
CONCLUSIONS

RIG: CME 550X (s/n: 327443) - 140 lbs Hammer – 2.5 ft Drop Height

The average maximum energy transfer (EMX) to the NWJ SPT rod using the 140 lbs drop weight was 307 ft-lbs which is approximately 88% of the 350 ft-lbs potential energy of the hammer. The standard deviation of the transfer efficiency was 1% over the seven samples that were collected. The average hammer operation rate during the time of testing was 49.2 blows/min.

We have appreciated this opportunity to be of assistance to you on this project, please contact our office if you have any questions regarding this report, or if we may be of further service.

Very truly yours,
Nagy Engineers, Inc.



Matthew Nagy, P.E. AL # 33853
Project Engineer

Firm COA Number: 4718

enclosed: Appendices A and B

TABLE 1: Summary of SPT Energy Measurements

CME 550X Automatic SPT Hammer (S/N 327443)

Rod Length Below Gages *LE*	Depth Below Top of Ground	Reported SPT Blow Counts	Maximum Transfer Force *FMX*	Maximum Compressive Stress *CSX*	Average Hammer Blow Rate *BPM*	Average Energy Transfer *EMX*	Average Transfer Efficiency *ETR*
ft	ft	blows/6"	kips	ksi	blows/min	ft-lbs	%
86.0	68.5 to 70.0	5,6,10	42	29.2	47.2	305	87%
91.0	73.5 to 75.0	6,11,15	42	29.4	49.5	310	88%
96.0	78.5 to 80.0	8,18,20	41	29.0	49.4	312	89%
101.0	83.5 to 85.0	11,14,18	41	29.2	49.5	308	88%
106.0	88.5 to 90.0	11,13,16	39	27.2	49.4	304	87%
111.0	93.5 to 95.0	12,14,19	40	28.4	50.0	302	86%
116.0	98.5 to 100.0	12,12,8	38	27.0	49.6	308	88%
		Overall Average			**49.2**	**307**	**88%**
		Standard Deviation			**0.9**	**4**	**1%**

Notes

LE - Length from the bottom of the spoon to the PDA gage location.
FMX - Maximum Force Meaused at PDA gage locationn.
CSX - Maximum Average Compressive Stress at PDA gage location.
BPM - Hammer operation rate (blows/minute)
EMX - Computed, from $\int F_v\,dt$, maximum energy transferred to PDA gage location.
ETR - Computed, from EMX/PE, maximum energy transfer efficiency

Appendix A

Results from SPT Dynamic Energy Measurements

Thompson Engineering SPT Rig Calibration

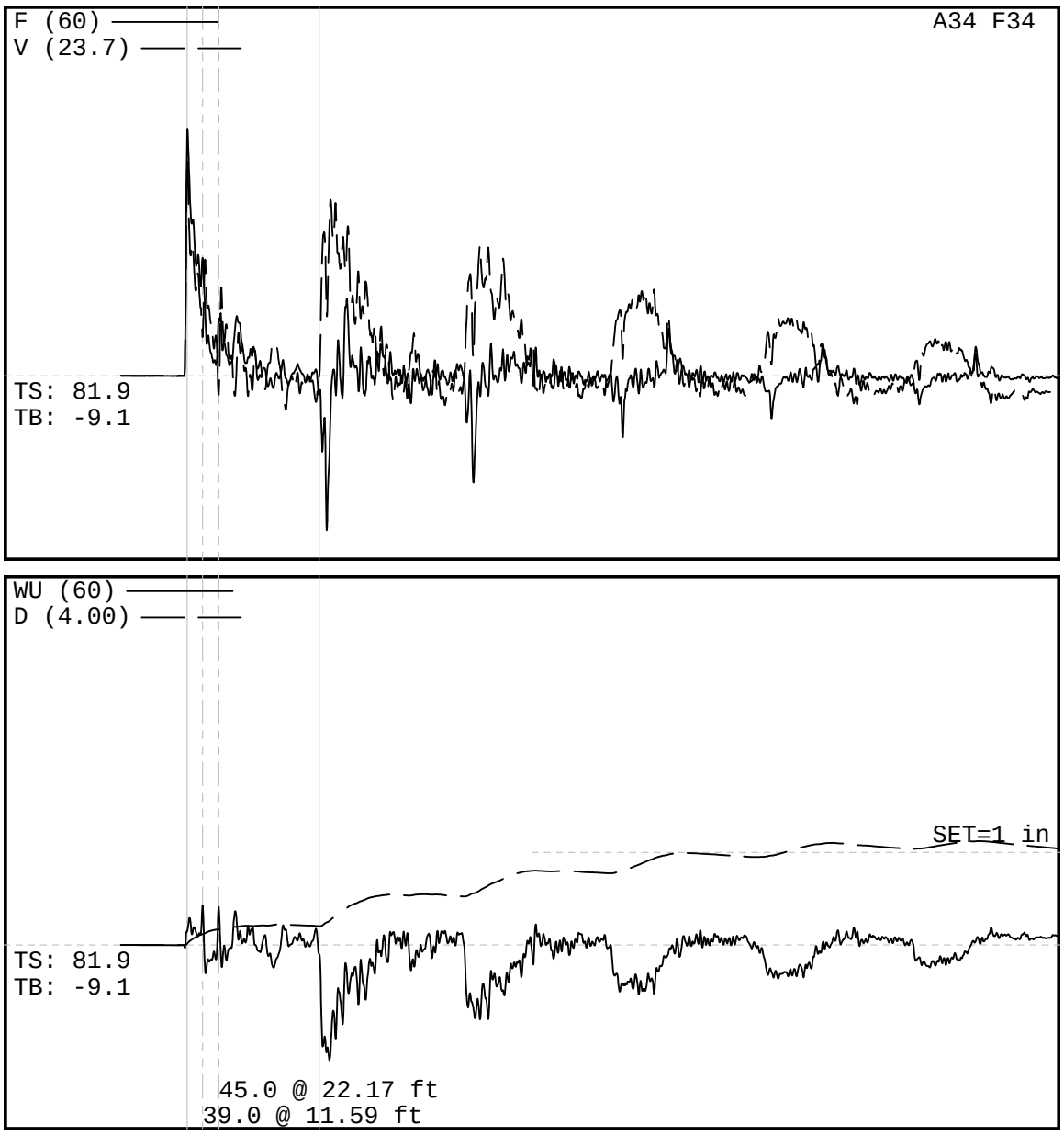
CME 550X

S/N 327443

(NWJ Rod – Mud Rotary)

Thompson Engineering's CME 550X (S/N 327443)

Thompson Engineering SPT Calibration CME 550X (SN 327443) - 68.5 to 70.0 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 327443) - 68.5 to 7
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MBP
FILE: CME 550X (SN 327443) - 68.5 to 70.0 ft
9/28/2016 9:26:10 AM
Blow Number 1

Pile Properties

LE	86.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	10.24	ms
JC		[]
LP	68.60	ft

Quantity Results

CSX	28.23	ksi
CSI f	28.76	ksi
EMX	0.3	k-ft
ETR	86.1	(%)
BPM	1.9	bpm
FMX	40	kips
VMX	13.9	f/s
QNV	0.00	[]
QNV	0.00	[]

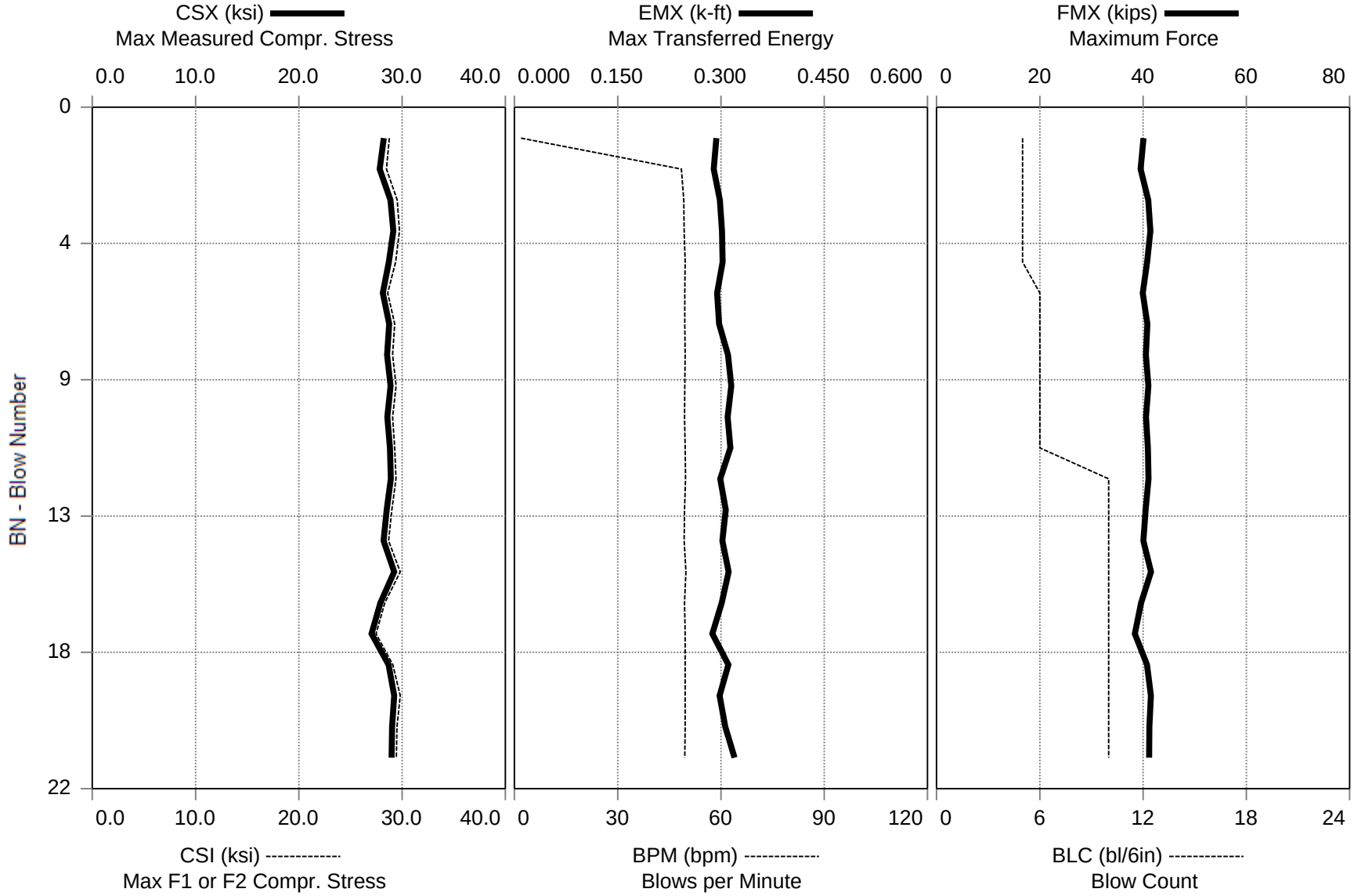
Sensors

F3: [413 NWJ-2] 213.94 (1)
F4: [413 NWJ-1] 212.28 (1)
A3: [K4676] 390 mv/5000g's (1)
A4: [K4120] 388 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 29-September-2016 Test started: 28-September-2016

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 68.5 to 70.0 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 68.5 to 70.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 86.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress FMX: Maximum Force
CSI: Max F1 or F2 Compr. Stress ETR: Energy Transfer Ratio
EMX: Max Transferred Energy VMX: Maximum Velocity
BPM: Blows per Minute

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	BPM bpm	FMX kips	ETR (%)	VMX f/s
5	69.00	5	AV5	28.6	29.2	0.297	39.7	41	84.9	14.1
			MAX	29.2	29.7	0.302	49.6	41	86.4	14.3
11	69.50	6	AV6	28.6	29.1	0.307	49.5	41	87.6	14.3
			MAX	28.9	29.4	0.315	49.6	41	90.0	14.4
21	70.00	10	AV10	28.6	29.1	0.304	49.6	41	86.9	14.4
			MAX	29.2	29.8	0.320	49.8	42	91.4	14.7
			Average	28.6	29.1	0.303	47.2	41	86.6	14.3
			Maximum	29.2	29.8	0.320	49.8	42	91.4	14.7

Total number of blows analyzed: 21

BL# Sensors

1-21 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Time Summary

Drive 24 seconds 9:26 AM - 9:26 AM BN 1 - 21

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 68.5 to 70.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 86.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
6	69.08	6	28.1	28.6	0.294	84.1	49.5	40	13.9
7	69.17	6	28.7	29.3	0.297	84.9	49.5	41	14.3
8	69.25	6	28.5	29.1	0.310	88.6	49.6	41	14.3
9	69.33	6	28.9	29.4	0.315	90.0	49.5	41	14.4
10	69.42	6	28.6	29.1	0.310	88.5	49.4	41	14.3
11	69.50	6	28.8	29.3	0.314	89.6	49.6	41	14.4
12	69.55	10	28.9	29.4	0.299	85.4	49.7	41	14.5
13	69.60	10	28.5	29.0	0.307	87.7	49.4	40	14.3
14	69.65	10	28.2	28.7	0.302	86.3	49.3	40	14.3
15	69.70	10	29.2	29.8	0.311	88.9	49.8	42	14.7
16	69.75	10	27.9	28.3	0.301	86.0	49.4	40	13.9
17	69.80	10	27.0	27.5	0.287	82.1	49.6	38	13.6
18	69.85	10	28.7	29.1	0.311	88.8	49.6	41	14.3
19	69.90	10	29.2	29.8	0.298	85.1	49.6	42	14.7
20	69.95	10	29.0	29.5	0.306	87.5	49.6	41	14.7
21	70.00	10	29.0	29.4	0.320	91.4	49.5	41	14.6
		Average	28.6	29.1	0.305	87.2	49.5	41	14.3
		Maximum	29.2	29.8	0.320	91.4	49.8	42	14.7

Total number of blows analyzed: 16

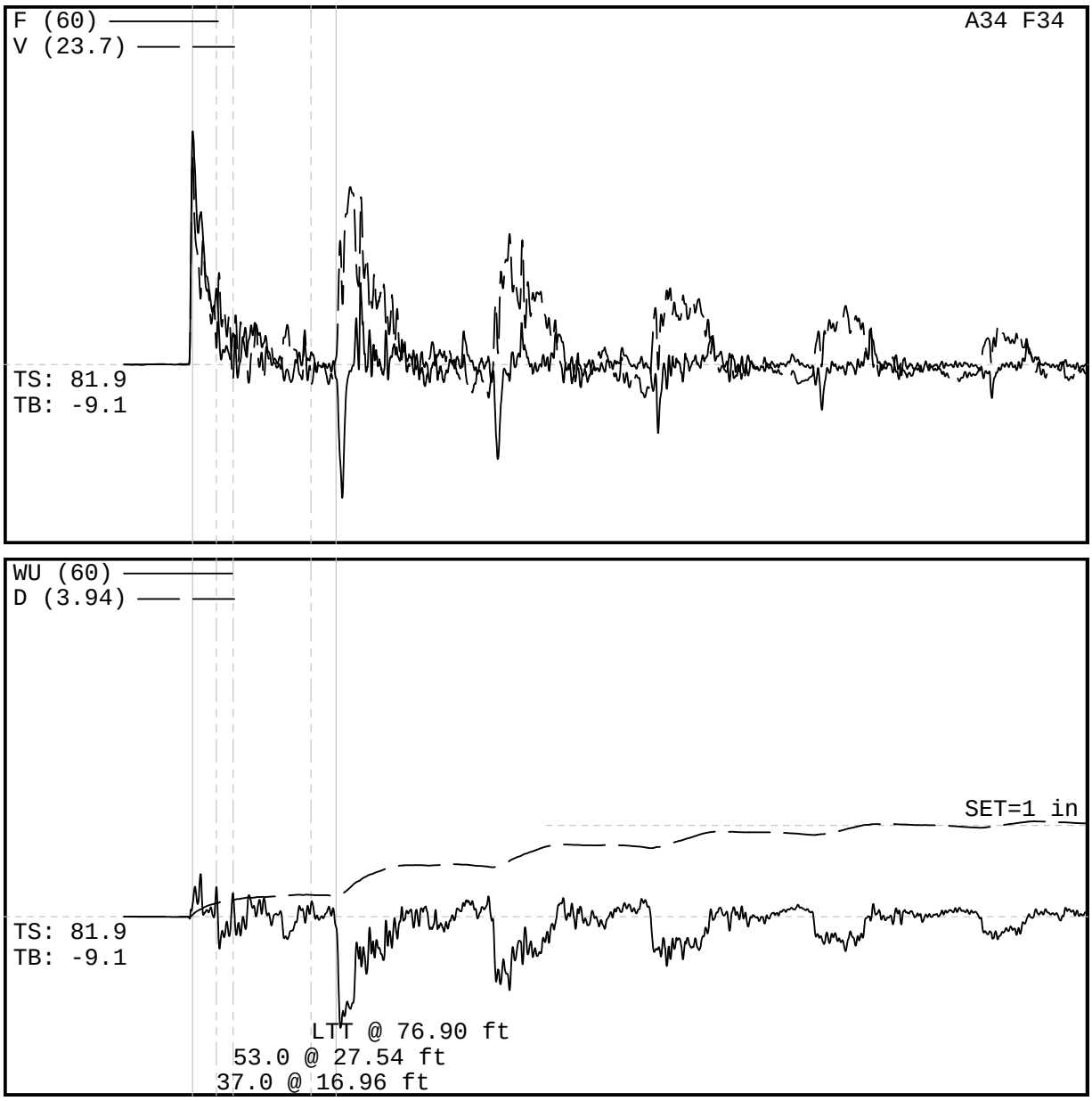
BL# Sensors

6-21 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Time Summary

Drive 24 seconds 9:26 AM - 9:26 AM BN 1 - 21

Thompson Engineering SPT Calibration CME 550X (SN 327443) - 73.5 to 75.0 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 327443) - 73.5 to 7
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MBP
FILE: CME 550X (SN 327443) - 73.5 to 75.0 ft
9/28/2016 9:46:38 AM
Blow Number 1

Pile Properties

LE	91.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	10.84	ms
JC	[]	
LP	73.58	ft

Quantity Results

CSX	27.44	ksi
CSI f	27.98	ksi
EMX	0.3	k-ft
ETR	87.6	(%)
BPM	1.9	bpm
FMX	39	kips
VMX	13.8	f/s
QNV	0.00	[]
QNV	0.00	[]

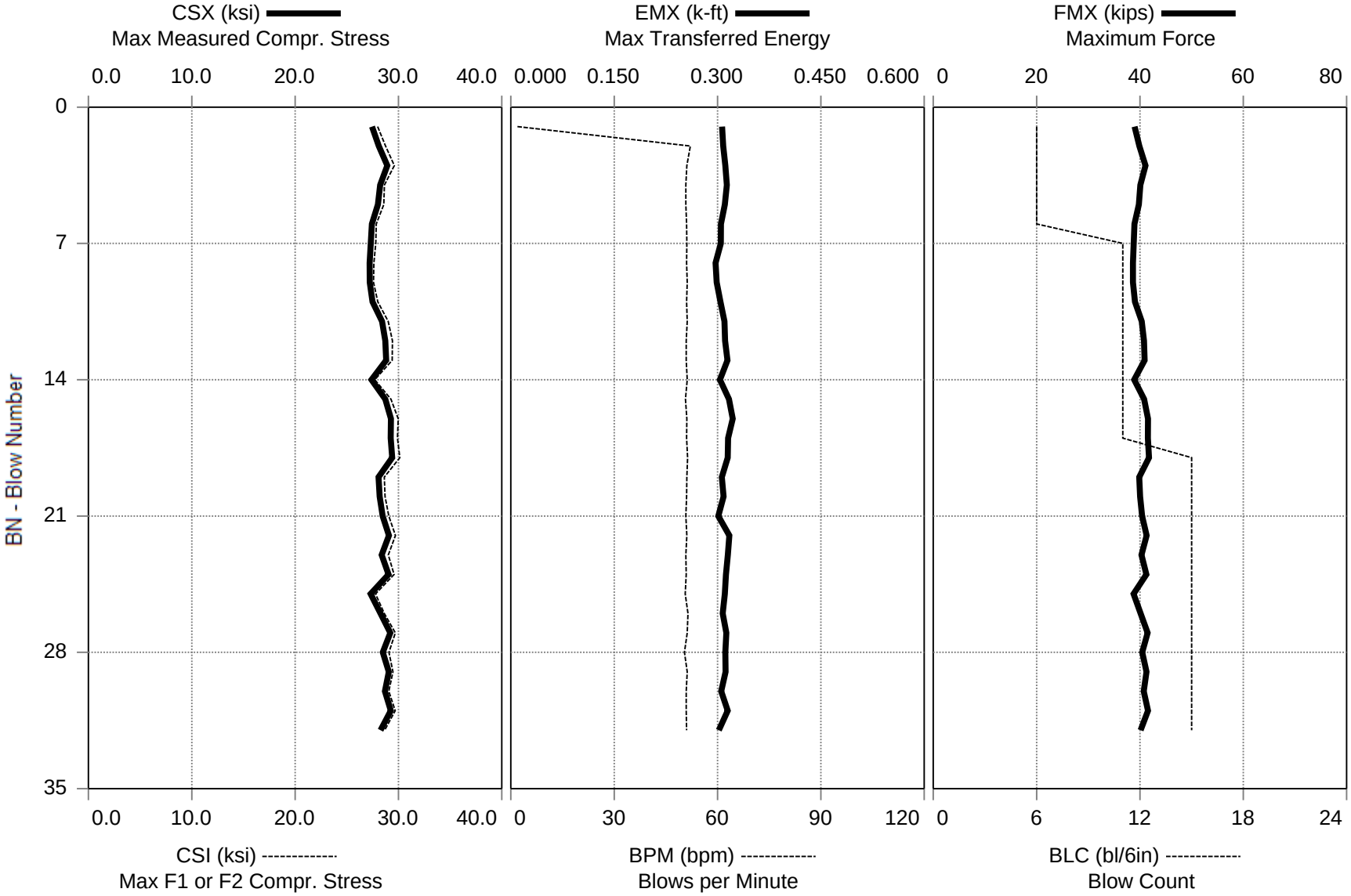
Sensors

F3: [413 NWJ-2] 213.94 (1)
F4: [413 NWJ-1] 212.28 (1)
A3: [K4676] 390 mv/5000g's (1)
A4: [K4120] 388 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 29-September-2016 Test started: 28-September-2016

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 73.5 to 75.0 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 73.5 to 75.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 91.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
6	74.00	6	AV6	28.0	28.6	0.309	88.3	43.0	40	14.2
			MAX	28.9	29.6	0.313	89.6	52.1	41	14.8
17	74.50	11	AV11	28.2	28.7	0.309	88.3	51.0	40	14.3
			MAX	29.3	30.0	0.322	92.0	51.2	42	15.0
32	75.00	15	AV15	28.6	29.1	0.310	88.6	51.0	41	14.8
			MAX	29.4	30.1	0.317	90.6	51.4	42	15.1
			Average	28.3	28.9	0.309	88.4	49.5	40	14.5
			Maximum	29.4	30.1	0.322	92.0	52.1	42	15.1

Total number of blows analyzed: 32

BL# Sensors

1-32 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Time Summary

Drive 36 seconds 9:46 AM - 9:47 AM BN 1 - 32

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 73.5 to 75.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 91.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
7	74.05	11	27.3	27.8	0.305	87.1	51.1	39	13.8
8	74.09	11	27.2	27.6	0.297	84.9	51.0	39	13.4
9	74.14	11	27.2	27.6	0.299	85.3	51.2	39	13.6
10	74.18	11	27.5	28.0	0.304	86.9	51.0	39	14.0
11	74.23	11	28.4	29.0	0.310	88.6	51.2	40	14.7
12	74.27	11	28.7	29.4	0.311	88.8	50.9	41	14.7
13	74.32	11	28.8	29.4	0.314	89.8	50.9	41	14.8
14	74.36	11	27.4	27.7	0.304	86.7	51.2	39	13.7
15	74.41	11	28.7	29.3	0.317	90.5	50.7	41	14.9
16	74.45	11	29.3	30.0	0.322	92.0	51.1	42	15.0
17	74.50	11	29.2	29.9	0.315	90.1	51.0	42	15.0
18	74.53	15	29.4	30.1	0.315	90.0	51.3	42	15.1
19	74.57	15	28.1	28.6	0.306	87.5	51.1	40	14.4
20	74.60	15	28.2	28.7	0.309	88.2	51.0	40	14.8
21	74.63	15	28.5	29.1	0.301	86.0	50.8	40	14.7
22	74.67	15	29.1	29.7	0.317	90.6	51.1	41	15.0
23	74.70	15	28.4	29.0	0.315	90.0	50.8	40	14.7
24	74.73	15	29.0	29.6	0.312	89.2	50.9	41	15.0
25	74.77	15	27.3	27.8	0.311	88.7	50.6	39	14.0
26	74.80	15	28.3	28.6	0.307	87.8	51.4	40	14.7
27	74.83	15	29.2	29.7	0.313	89.4	51.2	41	15.0
28	74.87	15	28.5	29.1	0.311	88.9	50.4	40	14.7
29	74.90	15	29.1	29.5	0.312	89.0	51.2	41	15.1
30	74.93	15	28.7	29.1	0.305	87.2	50.9	41	14.8
31	74.97	15	29.3	29.7	0.315	89.9	50.9	42	15.0
32	75.00	15	28.3	28.7	0.302	86.3	51.0	40	14.6
		Average	28.4	28.9	0.310	88.4	51.0	40	14.6
		Maximum	29.4	30.1	0.322	92.0	51.4	42	15.1

Total number of blows analyzed: 26

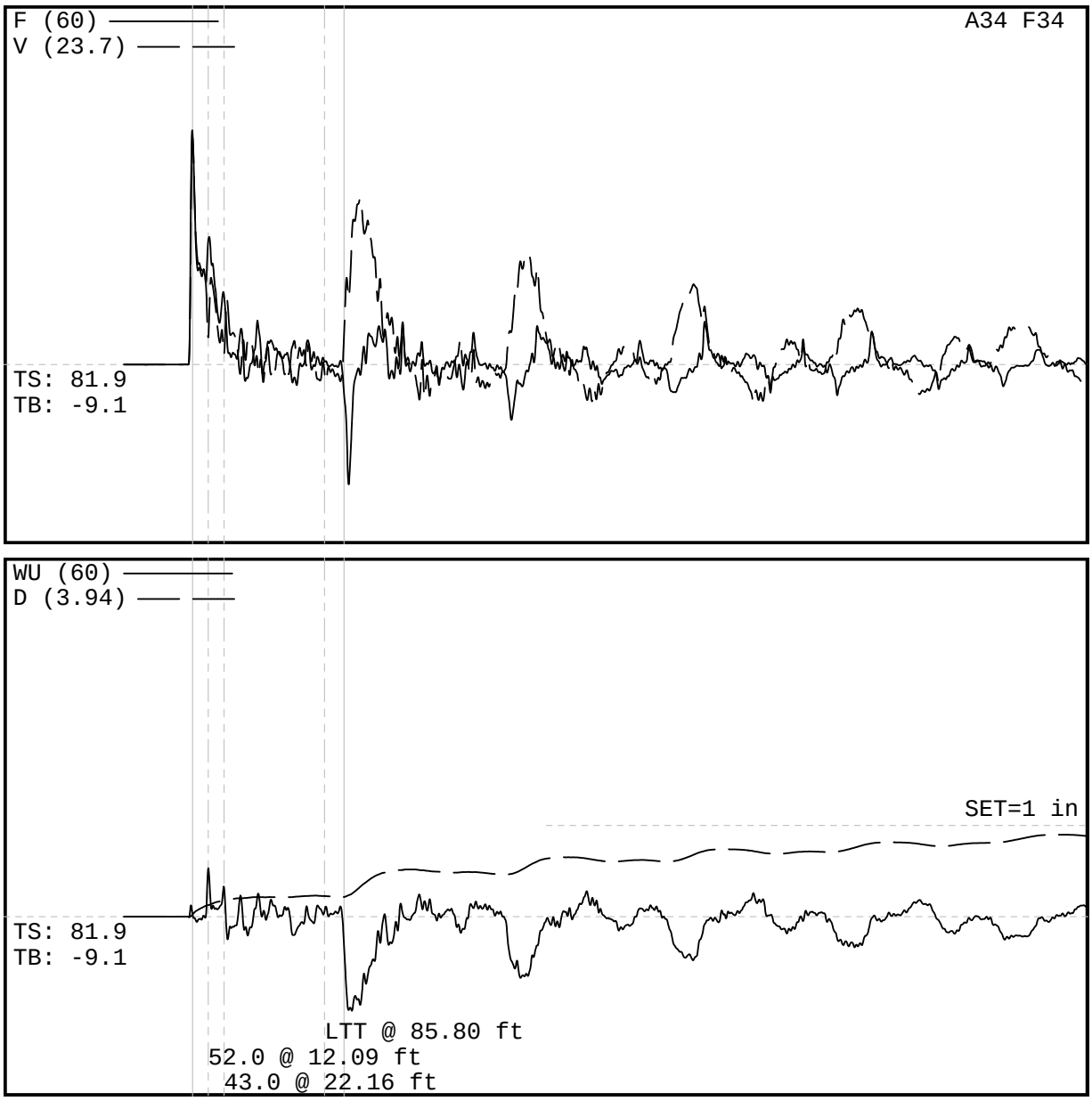
BL# Sensors

7-32 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Time Summary

Drive 36 seconds 9:46 AM - 9:47 AM BN 1 - 32

Thompson Engineering SPT Calibration CME 550X (SN 327443) - 78.5 to 80.0 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 327443) - 78.5 to 8
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MBP
FILE: CME 550X (SN 327443) - 78.5 to 80.0 ft
9/28/2016 10:08:12 AM
Blow Number 1

Pile Properties

LE	96.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	11.44	ms
JC	[]	
LP	78.56	ft

Quantity Results

CSX	27.57	ksi
CSI f	28.06	ksi
EMX	0.3	k-ft
ETR	89.0	(%)
BPM	1.9	bpm
FMX	39	kips
VMX	14.9	f/s
QNV	0.00	[]
QNV	0.00	[]

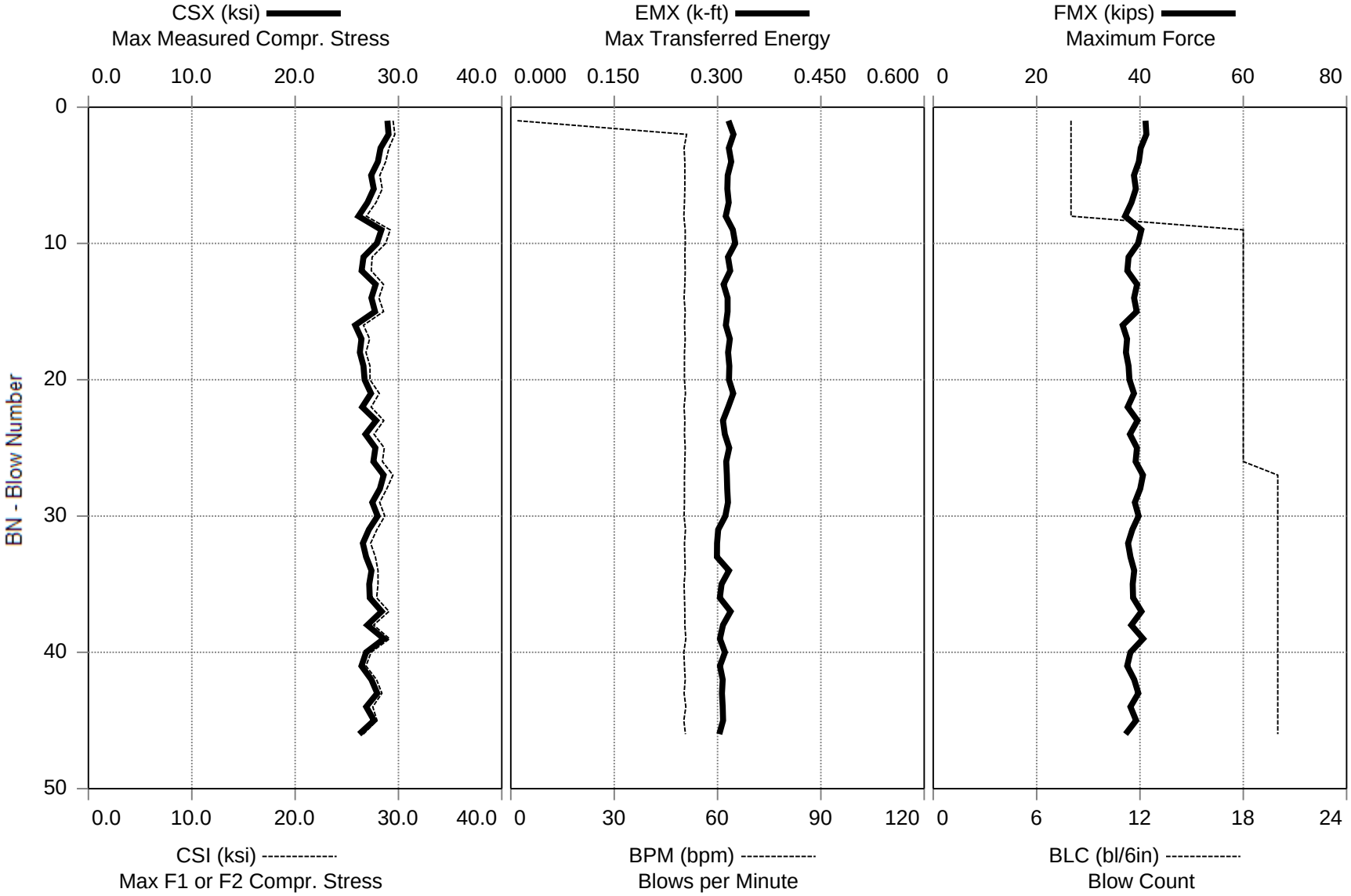
Sensors

F3: [413 NWJ-2] 213.94 (1)
F4: [413 NWJ-1] 212.28 (1)
A3: [K4676] 390 mv/5000g's (1)
A4: [K4120] 388 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 29-September-2016 Test started: 28-September-2016

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 78.5 to 80.0 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 78.5 to 80.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 96.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
8	79.00	8	AV8	27.8	28.5	0.317	90.4	44.4	39	15.6
			MAX	29.0	29.7	0.323	92.3	51.0	41	15.9
26	79.50	18	AV18	27.1	27.9	0.316	90.2	50.5	38	16.1
			MAX	28.4	29.2	0.326	93.1	50.7	40	16.6
46	80.00	20	AV20	27.4	28.0	0.308	87.9	50.5	39	15.9
			MAX	28.6	29.5	0.319	91.1	50.8	41	17.0
			Average	27.3	28.1	0.312	89.3	49.4	39	15.9
			Maximum	29.0	29.7	0.326	93.1	51.0	41	17.0

Total number of blows analyzed: 46

BL# Sensors

1-46 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Time Summary

Drive 53 seconds 10:08 AM - 10:09 AM BN 1 - 46

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 78.5 to 80.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 96.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
9	79.03	18	28.4	29.2	0.322	92.0	50.6	40	16.0
10	79.06	18	27.9	28.8	0.326	93.1	50.6	40	16.5
11	79.08	18	26.6	27.4	0.315	90.1	50.5	38	15.8
12	79.11	18	26.4	27.4	0.318	91.0	50.6	38	16.5
13	79.14	18	27.8	28.6	0.309	88.2	50.5	39	16.3
14	79.17	18	27.4	28.1	0.315	89.9	50.3	39	15.1
15	79.19	18	27.7	28.5	0.315	89.9	50.6	39	16.5
16	79.22	18	25.8	26.6	0.312	89.2	50.4	37	15.2
17	79.25	18	26.4	27.2	0.318	90.8	50.6	38	16.1
18	79.28	18	26.3	26.9	0.315	90.1	50.4	37	16.0
19	79.31	18	26.6	27.2	0.317	90.6	50.4	38	16.4
20	79.33	18	26.7	27.2	0.317	90.5	50.4	38	16.1
21	79.36	18	27.3	28.1	0.323	92.2	50.7	39	16.6
22	79.39	18	26.5	27.4	0.315	90.1	50.3	38	16.5
23	79.42	18	27.8	28.6	0.308	87.9	50.5	40	16.4
24	79.44	18	26.8	27.6	0.311	88.7	50.4	38	15.3
25	79.47	18	27.8	28.6	0.317	90.5	50.6	39	16.1
26	79.50	18	27.6	28.4	0.313	89.3	50.5	39	16.2
27	79.53	20	28.6	29.5	0.313	89.5	50.4	41	16.2
28	79.55	20	28.2	28.9	0.314	89.7	50.4	40	16.5
29	79.58	20	27.5	28.2	0.315	90.0	50.4	39	16.1
30	79.60	20	28.0	28.7	0.311	88.9	50.3	40	16.9
31	79.63	20	27.1	27.9	0.301	86.0	50.7	39	16.5
32	79.65	20	26.6	27.3	0.299	85.5	50.4	38	17.0
33	79.68	20	26.9	27.8	0.299	85.5	50.5	38	16.6
34	79.70	20	27.4	28.0	0.317	90.4	50.6	39	15.9
35	79.73	20	27.2	28.0	0.306	87.4	50.3	39	16.5
36	79.75	20	27.2	27.9	0.303	86.7	50.4	39	16.5
37	79.78	20	28.4	29.1	0.319	91.1	50.5	40	16.3
38	79.80	20	27.0	27.6	0.308	87.9	50.5	38	15.8
39	79.83	20	28.6	29.1	0.303	86.7	50.8	41	15.5
40	79.85	20	26.9	27.4	0.311	88.8	50.2	38	15.2
41	79.88	20	26.4	26.9	0.303	86.7	50.4	38	14.5
42	79.90	20	27.4	27.9	0.308	87.9	50.6	39	14.9
43	79.93	20	27.9	28.4	0.306	87.5	50.3	40	15.2
44	79.95	20	26.9	27.5	0.308	87.9	50.8	38	15.7
45	79.98	20	27.6	27.9	0.308	88.0	50.2	39	15.1
46	80.00	20	26.2	26.6	0.303	86.4	50.7	37	14.4
		Average	27.3	28.0	0.312	89.0	50.5	39	16.0
		Maximum	28.6	29.5	0.326	93.1	50.8	41	17.0

Total number of blows analyzed: 38

BL# Sensors

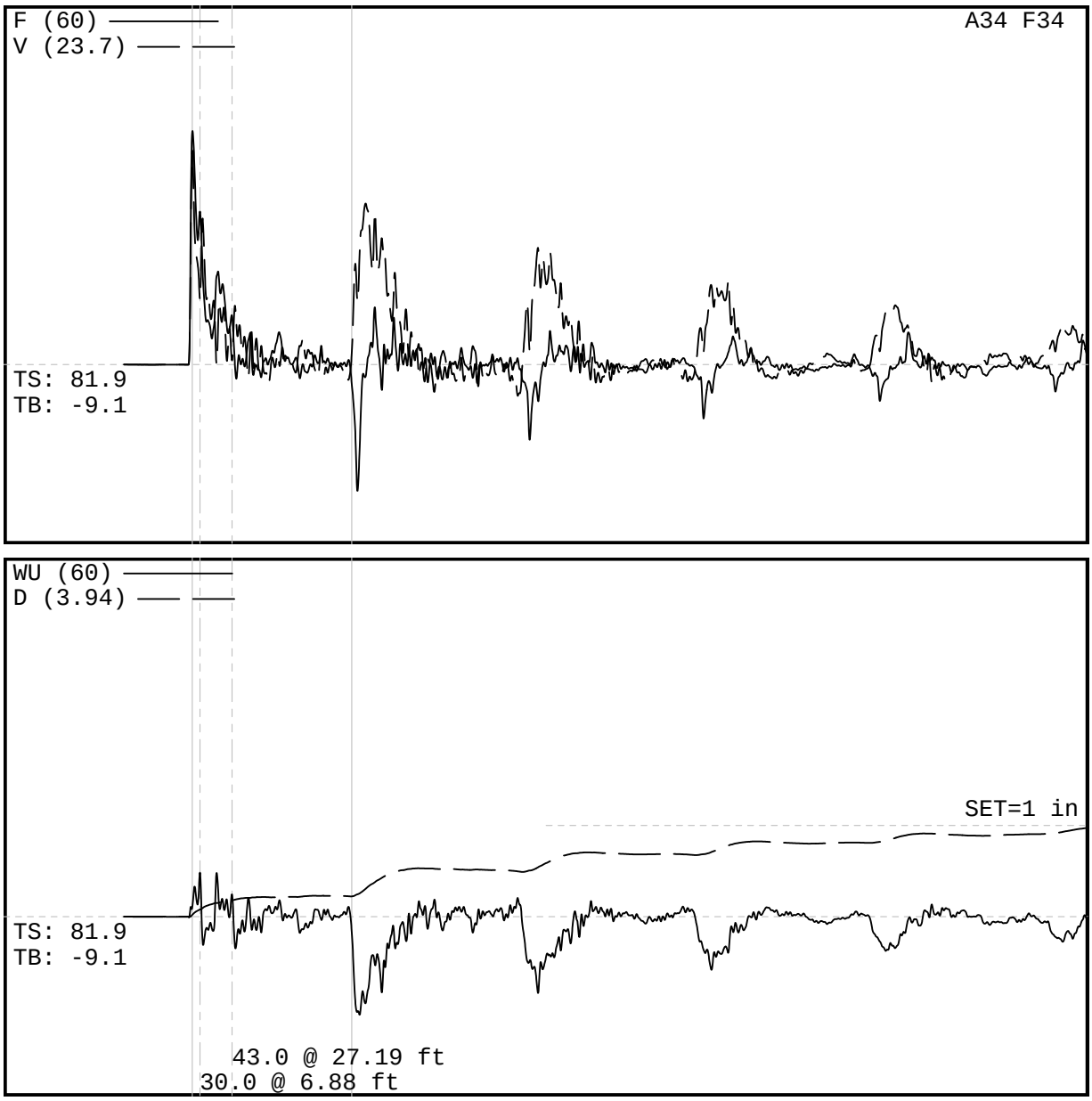
9-46 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 78.5 to 80.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

Time Summary

Drive 53 seconds 10:08 AM - 10:09 AM BN 1 - 46

Thompson Engineering SPT Calibration CME 550X (SN 327443) - 83.5 to 85.0 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 327443) - 83.5 to 8
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MBP
FILE: CME 550X (SN 327443) - 83.5 to 85.0 ft
9/28/2016 10:33:36 AM
Blow Number 1

Pile Properties

LE	101.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	12.04	ms
JC	[]	
LP	83.55	ft

Quantity Results

CSX	27.50	ksi
CSI f	27.93	ksi
EMX	0.3	k-ft
ETR	85.0	(%)
BPM	1.9	bpm
FMX	39	kips
VMX	14.1	f/s
QNV	0.00	[]
QNV	0.00	[]

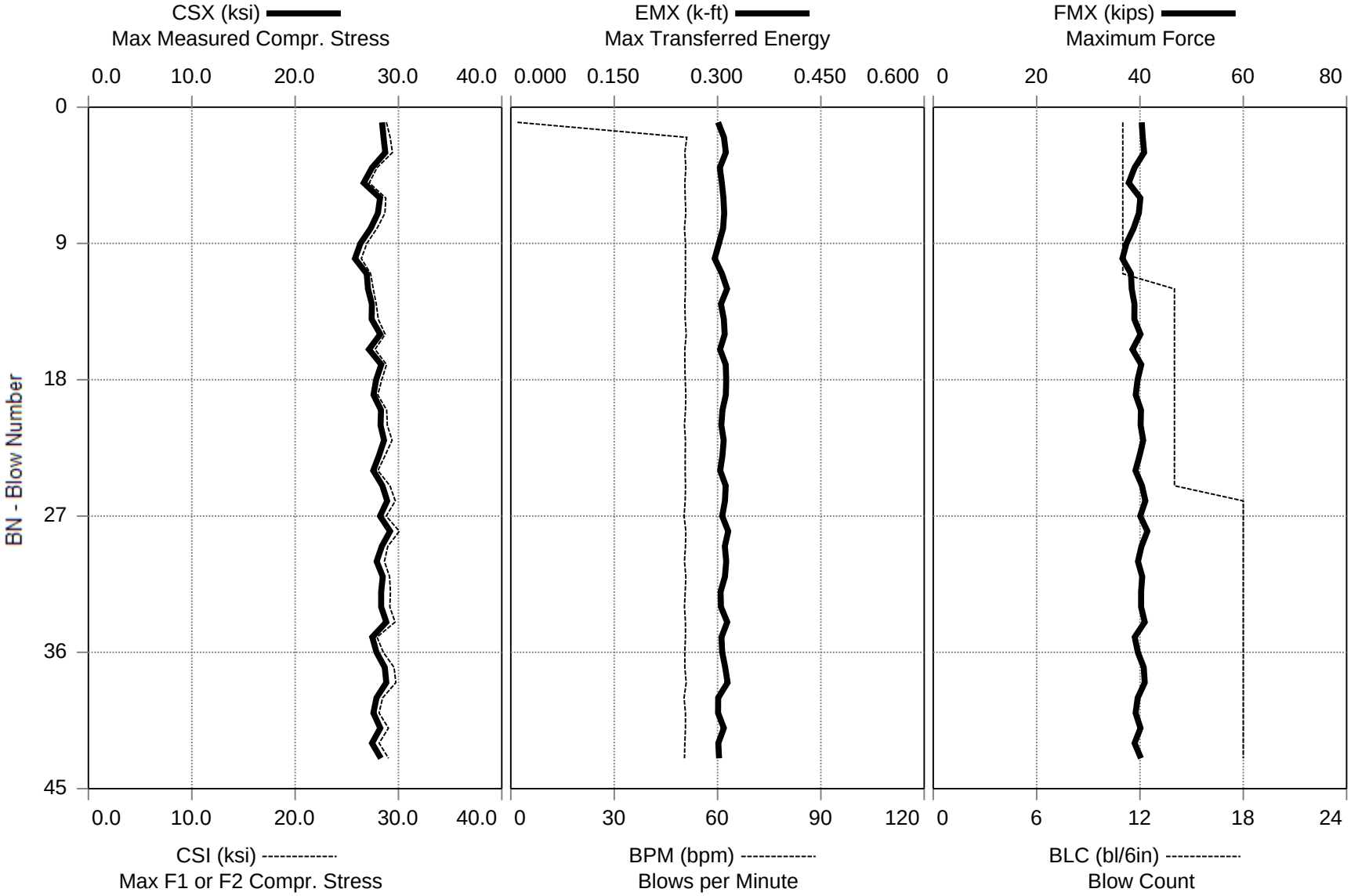
Sensors

F3: [413 NWJ-2] 213.94 (1)
F4: [413 NWJ-1] 212.28 (1)
A3: [K4676] 390 mv/5000g's (1)
A4: [K4120] 388 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 29-September-2016 Test started: 28-September-2016

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 83.5 to 85.0 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 83.5 to 85.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR:	1.42 in²	SP:	0.492 k/ft³
LE:	101.00 ft	EM:	30,000 ksi
WS:	16,807.9 f/s	JC:	0.00 []

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
EMX: Max Transferred Energy
ETR: Energy Transfer Ratio
BPM: Blows per Minute
FMX: Maximum Force
VMX: Maximum Velocity

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
11	84.00	11	AV11	27.5	28.1	0.306	87.3	46.2	39	14.2
			MAX	28.7	29.4	0.312	89.1	51.1	41	15.0
25	84.50	14	AV14	27.9	28.4	0.309	88.2	50.6	40	14.7
			MAX	28.6	29.4	0.314	89.7	50.9	41	15.1
43	85.00	18	AV18	28.3	29.0	0.308	88.0	50.6	40	15.0
			MAX	29.2	30.1	0.316	90.2	50.9	41	15.7
			Average	27.9	28.6	0.308	87.9	49.5	40	14.7
			Maximum	29.2	30.1	0.316	90.2	51.1	41	15.7

Total number of blows analyzed: 43

BL# Sensors

1-43 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Time Summary

Drive 49 seconds 10:33 AM - 10:34 AM BN 1 - 43

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 83.5 to 85.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 101.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
12	84.04	14	27.0	27.6	0.314	89.7	50.7	38	14.0
13	84.07	14	27.4	27.9	0.305	87.1	50.5	39	14.4
14	84.11	14	27.4	28.0	0.309	88.3	50.6	39	14.3
15	84.14	14	28.2	28.7	0.310	88.7	50.9	40	14.8
16	84.18	14	27.2	27.7	0.304	86.8	50.5	39	14.6
17	84.21	14	28.3	28.8	0.312	89.1	50.5	40	14.7
18	84.25	14	27.8	28.4	0.312	89.3	50.6	40	14.9
19	84.29	14	27.6	28.0	0.312	89.2	50.8	39	14.4
20	84.32	14	28.3	28.9	0.307	87.7	50.7	40	14.7
21	84.36	14	28.3	28.9	0.305	87.3	50.4	40	14.8
22	84.39	14	28.6	29.4	0.309	88.3	50.7	41	15.1
23	84.43	14	28.1	28.7	0.307	87.7	50.6	40	15.1
24	84.46	14	27.6	28.0	0.304	86.8	50.6	39	14.4
25	84.50	14	28.4	29.2	0.312	89.1	50.7	40	15.0
26	84.53	18	28.9	29.7	0.311	88.8	50.6	41	15.1
27	84.56	18	28.2	28.8	0.307	87.7	50.3	40	15.0
28	84.58	18	29.2	30.1	0.316	90.2	50.8	41	15.3
29	84.61	18	28.4	29.0	0.311	88.7	50.7	40	14.7
30	84.64	18	27.9	28.6	0.313	89.3	50.4	40	14.7
31	84.67	18	28.5	29.1	0.311	88.8	50.8	40	15.0
32	84.69	18	28.3	29.2	0.304	87.0	50.6	40	15.0
33	84.72	18	28.3	29.2	0.305	87.1	50.4	40	15.0
34	84.75	18	28.8	29.7	0.314	89.7	50.7	41	15.2
35	84.78	18	27.5	27.9	0.306	87.3	50.7	39	14.1
36	84.81	18	27.9	28.5	0.307	87.7	50.5	40	14.6
37	84.83	18	28.7	29.6	0.311	88.9	50.5	41	15.2
38	84.86	18	28.8	29.7	0.315	89.9	50.9	41	15.2
39	84.89	18	27.9	28.5	0.301	86.0	50.3	40	15.1
40	84.92	18	27.6	28.1	0.301	85.9	50.7	39	14.3
41	84.94	18	28.2	29.0	0.309	88.3	50.7	40	15.7
42	84.97	18	27.4	28.1	0.301	86.0	50.5	39	15.1
43	85.00	18	28.3	29.0	0.302	86.3	50.4	40	15.4
		Average	28.1	28.8	0.308	88.1	50.6	40	14.8
		Maximum	29.2	30.1	0.316	90.2	50.9	41	15.7

Total number of blows analyzed: 32

BL# Sensors

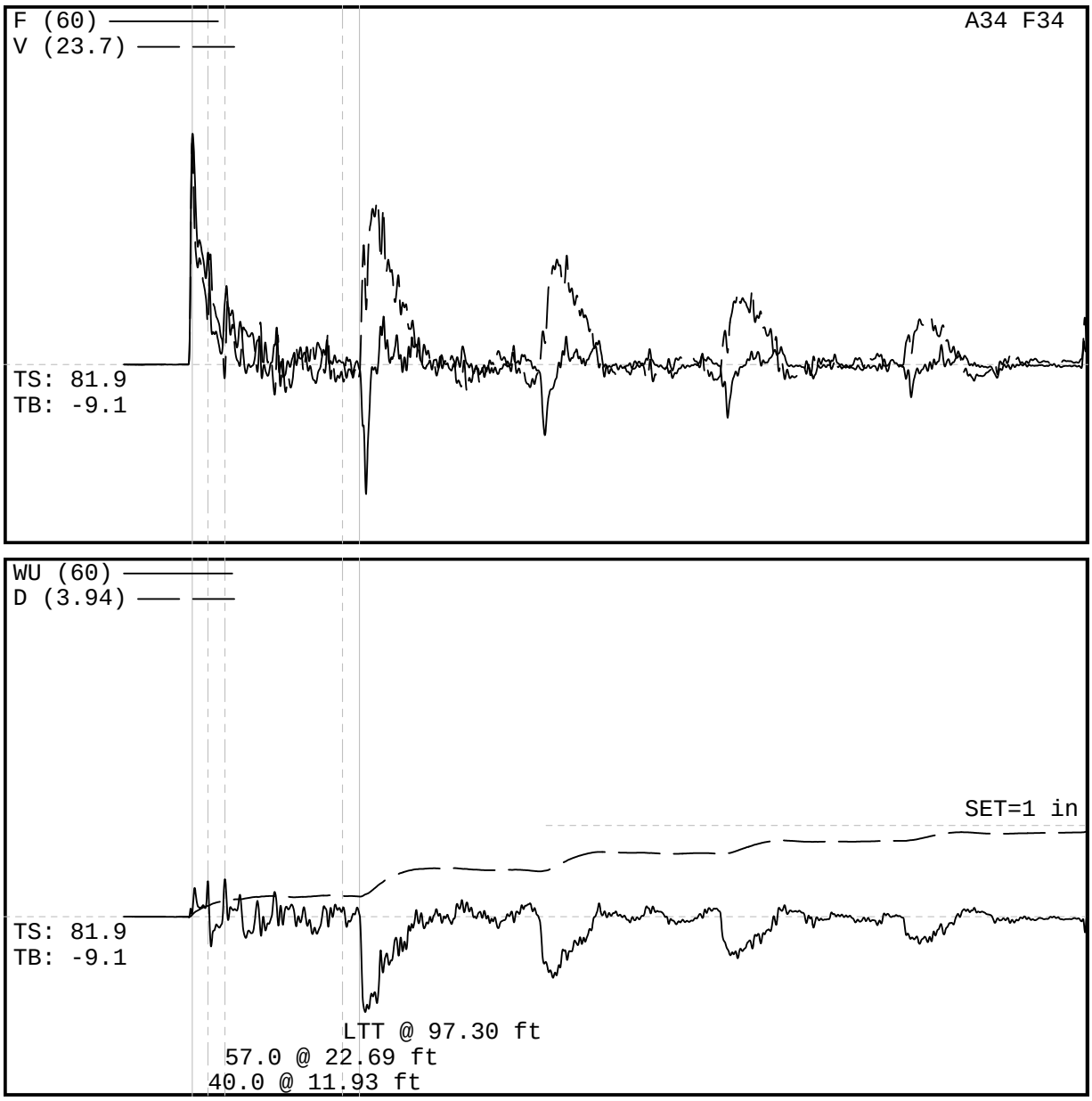
12-43 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 83.5 to 85.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

Time Summary

Drive 49 seconds 10:33 AM - 10:34 AM BN 1 - 43

Thompson Engineering SPT Calibration CME 550X (SN 327443) - 88.5 to 90.0 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 327443) - 88.5 to 9
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MBP
FILE: CME 550X (SN 327443) - 88.5 to 90.0 ft
9/28/2016 10:51:53 AM
Blow Number 1

Pile Properties

LE	106.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	12.62	ms
JC		[]
LP	88.55	ft

Quantity Results

CSX	27.17	ksi
CSI f	27.38	ksi
EMX	0.3	k-ft
ETR	86.6	(%)
BPM	1.9	bpm
FMX	39	kips
VMX	14.6	f/s
QNV	0.00	[]
QNV	0.00	[]

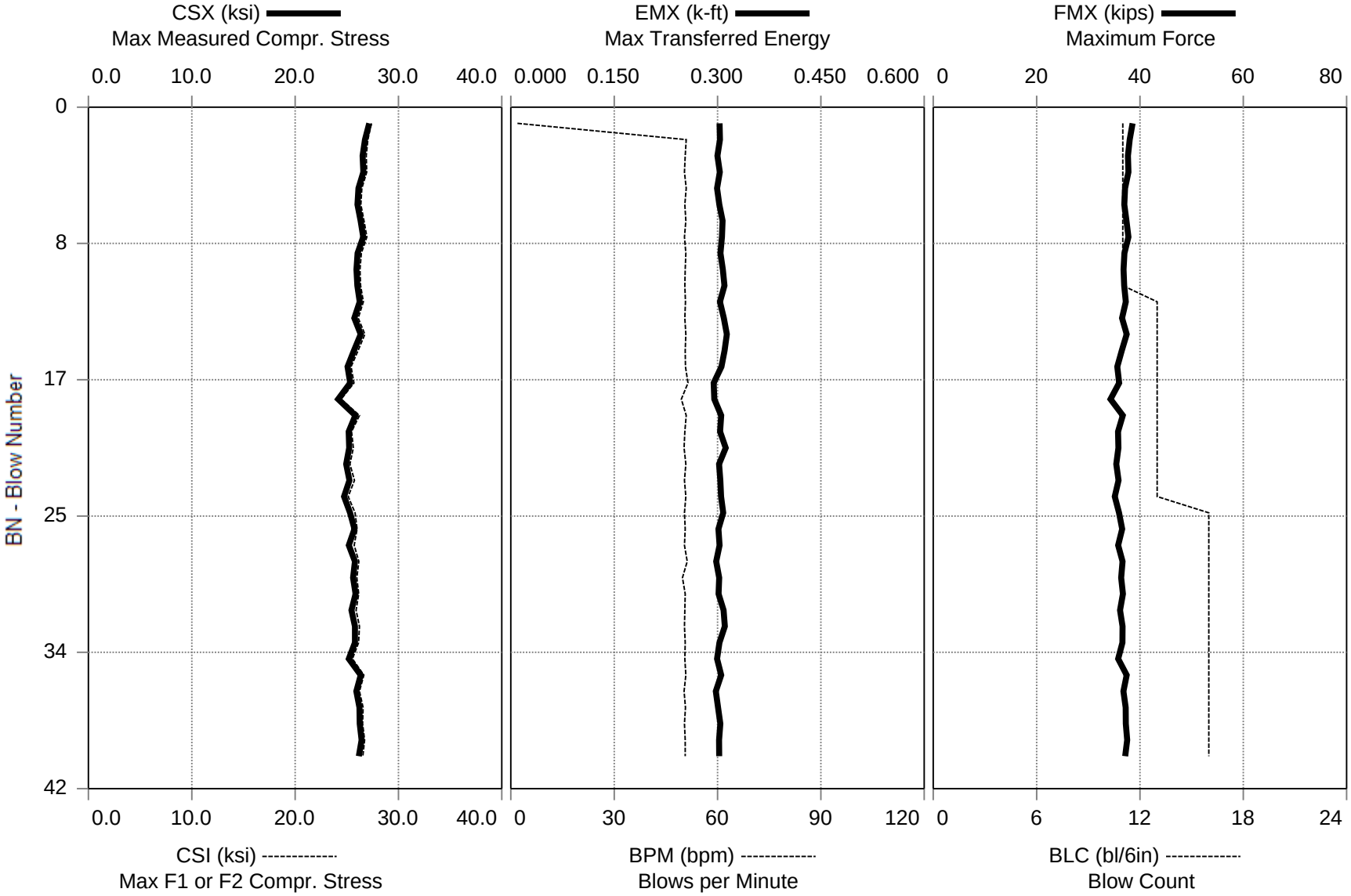
Sensors

F3: [413 NWJ-2] 213.94 (1)
F4: [413 NWJ-1] 212.28 (1)
A3: [K4676] 390 mv/5000g's (1)
A4: [K4120] 388 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 29-September-2016 Test started: 28-September-2016

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 88.5 to 90.0 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 88.5 to 90.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 106.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
11	89.00	11	AV11	26.4	26.7	0.304	86.9	46.2	37	15.3
			MAX	27.2	27.4	0.310	88.6	50.9	39	16.1
24	89.50	13	AV13	25.4	25.7	0.305	87.1	50.6	36	15.6
			MAX	26.4	26.7	0.313	89.6	51.4	37	16.4
40	90.00	16	AV16	25.8	26.2	0.303	86.6	50.5	37	15.5
			MAX	26.4	26.7	0.311	88.8	51.2	38	16.5
			Average	25.8	26.2	0.304	86.8	49.4	37	15.5
			Maximum	27.2	27.4	0.313	89.6	51.4	39	16.5

Total number of blows analyzed: 40

BL# Sensors

1-40 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Time Summary

Drive 46 seconds 10:51 AM - 10:52 AM BN 1 - 40

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 88.5 to 90.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 106.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
12	89.04	13	26.2	26.6	0.303	86.7	50.7	37	15.8
13	89.08	13	25.7	26.1	0.309	88.3	50.5	37	16.4
14	89.12	13	26.4	26.7	0.313	89.6	50.8	37	16.2
15	89.15	13	25.7	26.1	0.310	88.6	50.6	36	15.8
16	89.19	13	25.1	25.4	0.306	87.4	50.7	36	15.7
17	89.23	13	25.3	25.7	0.294	84.1	51.4	36	15.6
18	89.27	13	24.2	24.5	0.295	84.4	49.5	34	14.6
19	89.31	13	25.8	26.2	0.305	87.2	50.9	37	16.0
20	89.35	13	25.2	25.5	0.304	86.8	50.5	36	15.3
21	89.38	13	25.2	25.6	0.312	89.1	50.3	36	15.9
22	89.42	13	24.9	25.3	0.302	86.3	50.8	35	14.0
23	89.46	13	25.3	25.7	0.304	86.9	50.4	36	16.4
24	89.50	13	24.7	25.1	0.305	87.2	50.8	35	15.1
25	89.53	16	25.3	25.8	0.308	88.1	50.4	36	16.5
26	89.56	16	25.7	26.0	0.301	86.1	50.6	37	14.6
27	89.59	16	25.2	25.7	0.303	86.6	50.4	36	15.7
28	89.63	16	25.8	26.2	0.298	85.2	51.2	37	15.0
29	89.66	16	25.6	26.0	0.302	86.4	49.8	36	15.8
30	89.69	16	25.8	26.2	0.301	86.1	50.6	37	15.2
31	89.72	16	25.5	25.9	0.309	88.2	50.5	36	16.1
32	89.75	16	25.8	26.2	0.311	88.8	50.4	37	15.9
33	89.78	16	25.8	26.1	0.303	86.5	50.6	37	15.8
34	89.81	16	25.2	25.5	0.299	85.5	50.5	36	15.8
35	89.84	16	26.4	26.6	0.305	87.2	50.8	37	14.9
36	89.88	16	25.9	26.2	0.297	85.0	50.3	37	15.0
37	89.91	16	26.2	26.6	0.301	85.9	50.7	37	15.3
38	89.94	16	26.2	26.5	0.304	86.9	50.4	37	15.4
39	89.97	16	26.4	26.7	0.302	86.3	50.6	38	15.2
40	90.00	16	26.2	26.6	0.302	86.4	50.6	37	15.2
		Average	25.6	26.0	0.304	86.8	50.6	36	15.5
		Maximum	26.4	26.7	0.313	89.6	51.4	38	16.5

Total number of blows analyzed: 29

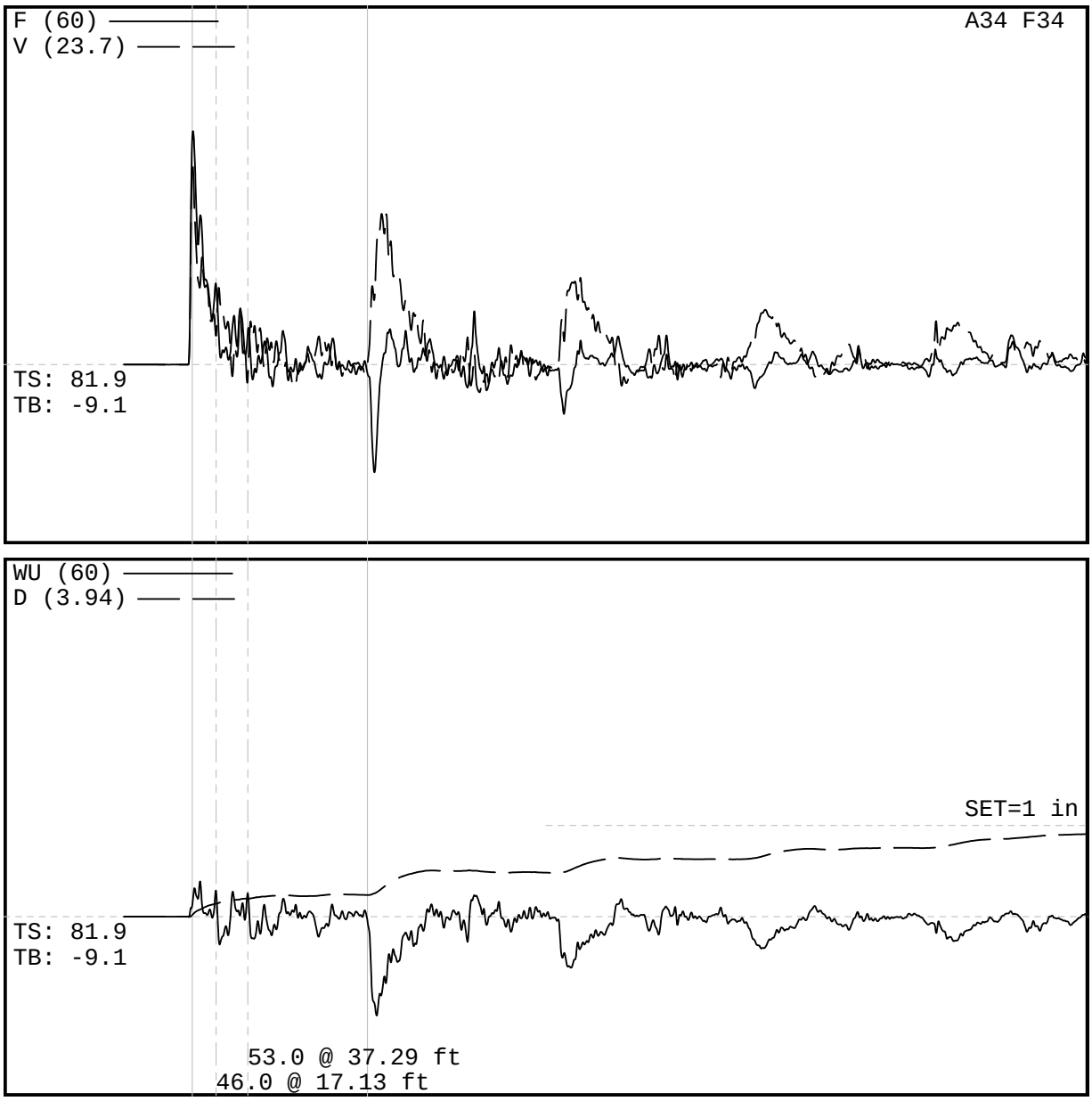
BL# Sensors

12-40 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Time Summary

Drive 46 seconds 10:51 AM - 10:52 AM BN 1 - 40

Thompson Engineering SPT Calibration CME 550X (SN 327443) - 93.5 to 95.0 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 327443) - 93.5 to 9
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MBP
FILE: CME 550X (SN 327443) - 93.5 to 95.0 ft
9/28/2016 11:26:27 AM
Blow Number 1

Pile Properties

LE	111.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	13.22	ms
JC		[]
LP	93.54	ft

Quantity Results

CSX	27.47	ksi
CSI f	27.80	ksi
EMX	0.3	k-ft
ETR	86.5	(%)
BPM	1.9	bpm
FMX	39	kips
VMX	13.5	f/s
QNV	0.00	[]
QNV	0.00	[]

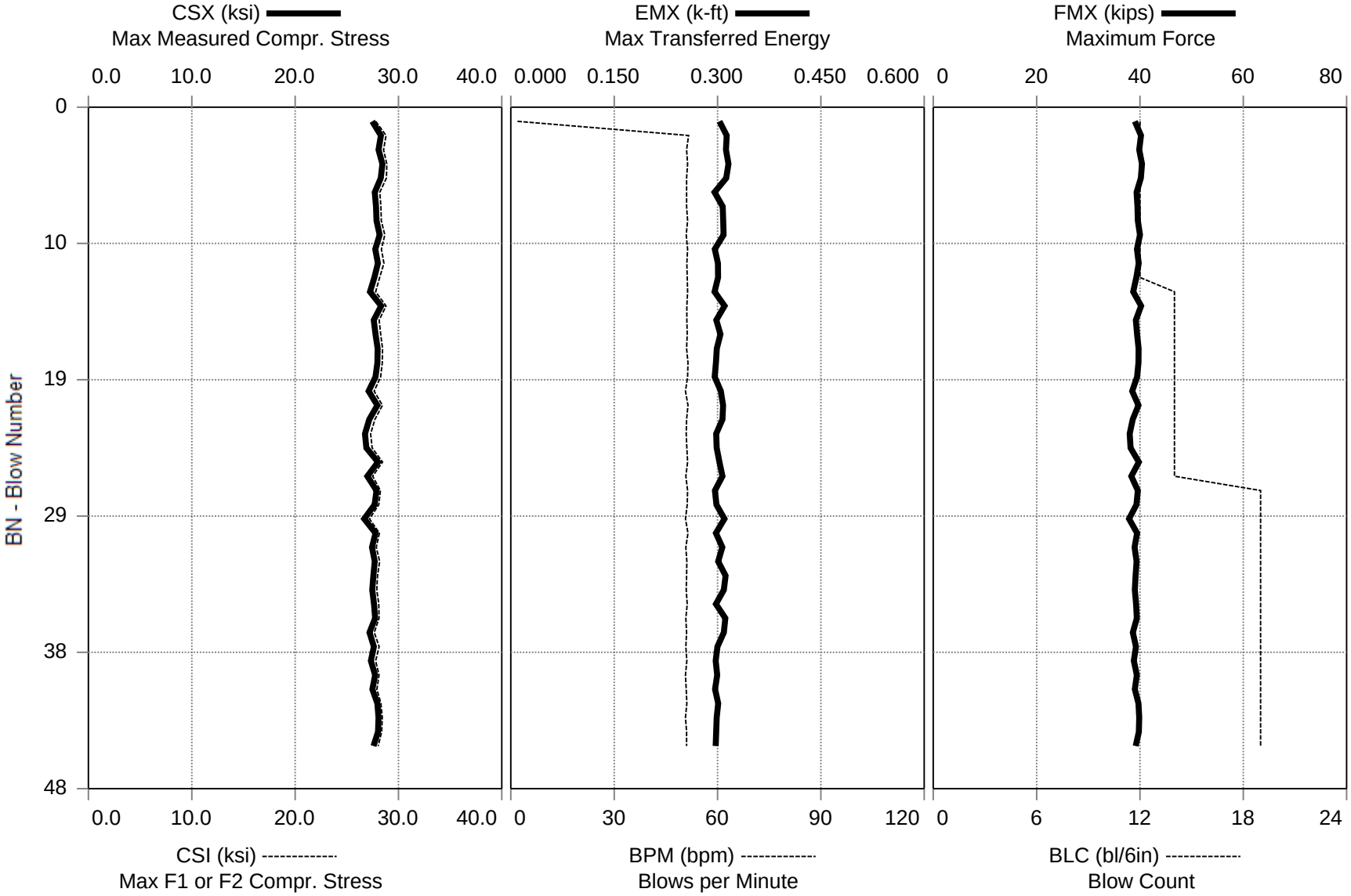
Sensors

F3: [413 NWJ-2] 213.94 (1)
F4: [413 NWJ-1] 212.28 (1)
A3: [K4676] 390 mv/5000g's (1)
A4: [K4120] 388 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 29-September-2016 Test started: 28-September-2016

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 93.5 to 95.0 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 93.5 to 95.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 111.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
12	94.00	12	AV12	28.0	28.5	0.306	87.5	47.1	40	14.4
			MAX	28.4	28.9	0.316	90.3	51.6	40	15.0
26	94.50	14	AV14	27.5	28.0	0.302	86.3	51.1	39	14.1
			MAX	28.3	28.8	0.310	88.6	51.4	40	14.8
45	95.00	19	AV19	27.6	28.0	0.302	86.3	51.0	39	14.3
			MAX	28.1	28.4	0.312	89.0	51.4	40	14.7
			Average	27.7	28.1	0.303	86.6	50.0	39	14.3
			Maximum	28.4	28.9	0.316	90.3	51.6	40	15.0

Total number of blows analyzed: 45

BL# Sensors

1-45 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Time Summary

Drive 51 seconds 11:26 AM - 11:27 AM BN 1 - 45

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 93.5 to 95.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 111.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
13	94.04	14	27.2	27.8	0.296	84.5	51.3	39	13.8
14	94.07	14	28.3	28.8	0.310	88.6	51.1	40	14.7
15	94.11	14	27.6	28.1	0.298	85.2	51.1	39	14.0
16	94.14	14	27.8	28.3	0.304	86.9	51.2	39	14.0
17	94.18	14	28.0	28.5	0.299	85.4	51.0	40	14.8
18	94.21	14	28.0	28.4	0.298	85.0	51.4	40	14.6
19	94.25	14	27.8	28.3	0.296	84.5	51.3	39	14.7
20	94.29	14	27.1	27.6	0.305	87.1	50.7	38	13.5
21	94.32	14	28.0	28.4	0.308	88.0	51.4	40	14.8
22	94.36	14	27.2	27.7	0.307	87.7	51.0	39	13.8
23	94.39	14	26.8	27.3	0.298	85.1	50.9	38	13.3
24	94.43	14	26.9	27.5	0.299	85.4	51.1	38	13.4
25	94.46	14	28.0	28.5	0.303	86.5	51.3	40	14.6
26	94.50	14	27.0	27.5	0.307	87.7	50.8	38	14.0
27	94.53	19	27.9	28.2	0.296	84.6	51.3	40	14.6
28	94.55	19	27.7	28.1	0.298	85.3	51.2	39	14.5
29	94.58	19	26.7	27.2	0.310	88.6	50.7	38	13.3
30	94.61	19	27.8	28.2	0.298	85.0	51.4	39	14.5
31	94.63	19	27.4	27.8	0.307	87.7	50.8	39	14.4
32	94.66	19	27.7	28.2	0.301	86.0	51.1	39	14.5
33	94.68	19	27.6	28.0	0.312	89.0	51.0	39	14.5
34	94.71	19	27.5	27.9	0.309	88.3	50.9	39	14.3
35	94.74	19	27.6	28.1	0.298	85.1	51.2	39	14.4
36	94.76	19	27.7	28.1	0.311	88.9	50.8	39	14.5
37	94.79	19	27.2	27.7	0.309	88.3	51.0	39	14.0
38	94.82	19	27.6	28.1	0.300	85.7	50.8	39	14.4
39	94.84	19	27.3	27.8	0.297	84.9	51.1	39	14.1
40	94.87	19	27.7	28.1	0.299	85.5	50.7	39	14.5
41	94.89	19	27.5	27.9	0.296	84.7	50.9	39	14.3
42	94.92	19	28.0	28.3	0.301	86.0	51.1	40	14.7
43	94.95	19	28.1	28.4	0.299	85.3	50.7	40	14.6
44	94.97	19	28.0	28.4	0.298	85.2	51.0	40	14.6
45	95.00	19	27.6	28.0	0.297	84.9	51.0	39	14.0
		Average	27.6	28.0	0.302	86.3	51.0	39	14.3
		Maximum	28.3	28.8	0.312	89.0	51.4	40	14.8

Total number of blows analyzed: 33

BL# Sensors

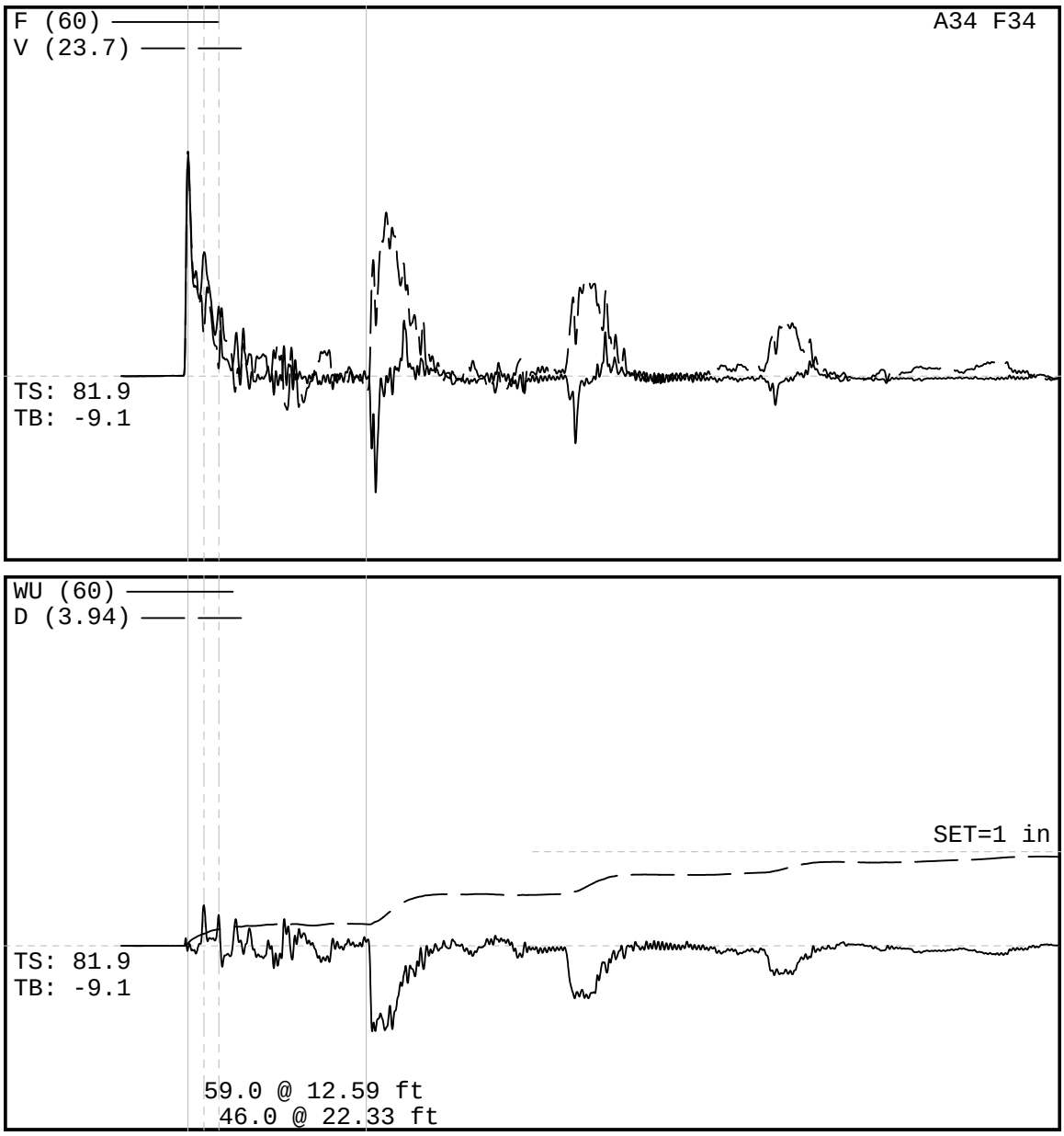
13-45 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 93.5 to 95.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

Time Summary

Drive 51 seconds 11:26 AM - 11:27 AM BN 1 - 45

Thompson Engineering SPT Calibration CME 550X (SN 327443) - 98.5 to 100.0 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 327443) - 98.5 to 1
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MBP
FILE: CME 550X (SN 327443) - 98.5 to 100.0 ft
9/28/2016 11:50:26 AM
Blow Number 32

Pile Properties

LE	116.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	13.82	ms
JC		[]
LP	100.00	ft

Quantity Results

CSX	25.12	ksi
CSI0	25.34	ksi
EMX	0.3	k-ft
ETR	86.5	(%)
BPM	51.0	bpm
FMX	36	kips
VMX	14.4	f/s
QNV	0.00	[]
QNV	0.00	[]

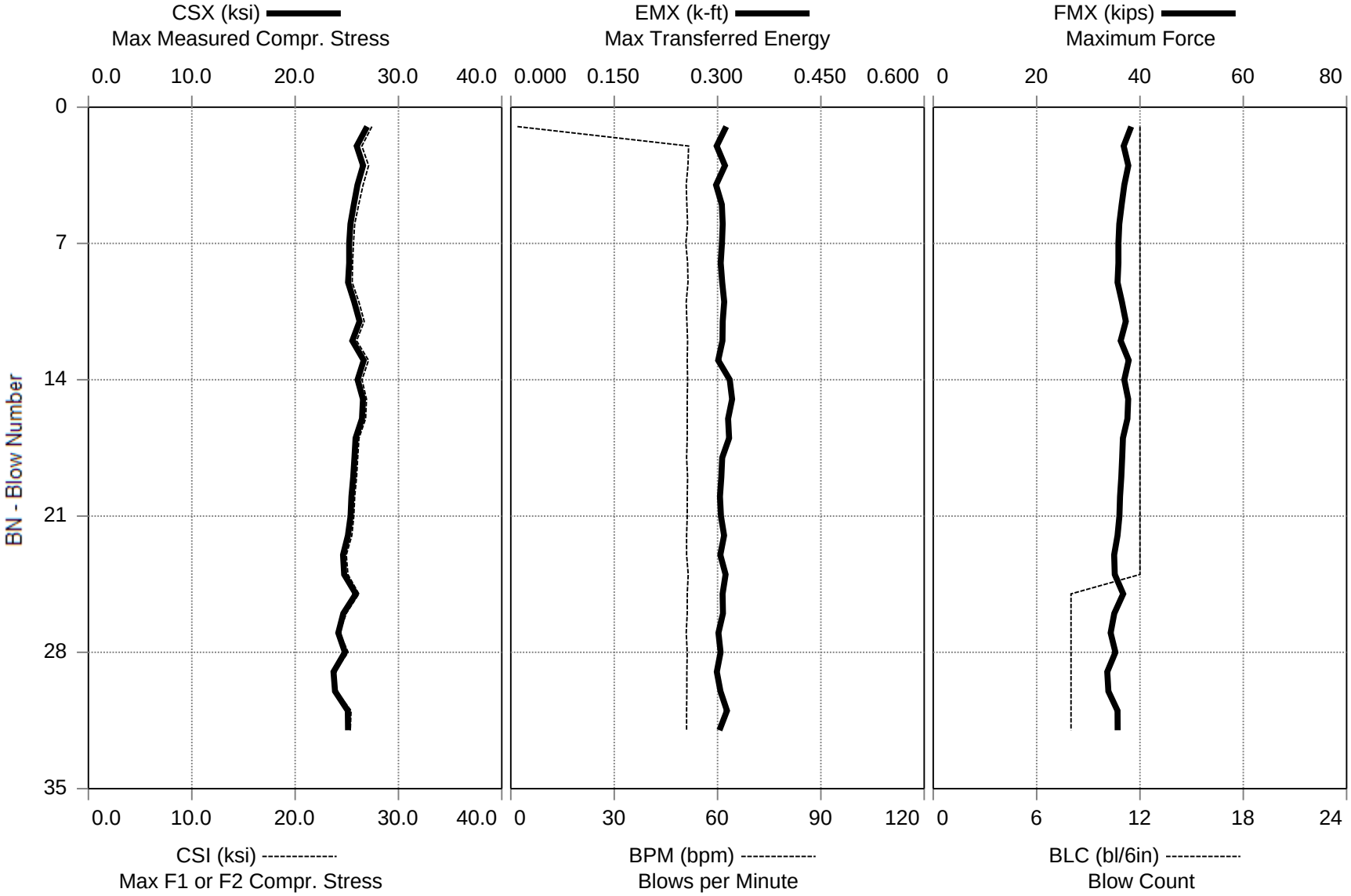
Sensors

F3: [413 NWJ-2] 213.94 (1)
F4: [413 NWJ-1] 212.28 (1)
A3: [K4676] 390 mv/5000g's (1)
A4: [K4120] 388 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 29-September-2016 Test started: 28-September-2016

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 98.5 to 100.0 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 98.5 to 100.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 116.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
12	99.00	12	AV12	25.8	26.2	0.306	87.5	47.1	37	15.5
			MAX	27.0	27.4	0.313	89.3	51.6	38	16.0
24	99.50	12	AV12	25.7	26.0	0.310	88.5	51.2	36	16.2
			MAX	26.6	27.1	0.321	91.7	51.5	38	17.1
32	100.00	8	AV8	24.7	24.9	0.305	87.1	51.1	35	15.9
			MAX	25.9	26.2	0.314	89.6	51.2	37	16.8
			Average	25.5	25.8	0.307	87.8	49.6	36	15.9
			Maximum	27.0	27.4	0.321	91.7	51.6	38	17.1

Total number of blows analyzed: 32

BL# Sensors

1-32 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Time Summary

Drive 36 seconds 11:49 AM - 11:50 AM BN 1 - 32

Thompson Engineering SPT Calibration - CME 550X (SN 327443) - 98.5 to 100.0 ft NWJ Rod - Mud Rotary
OP: MBP Date: 28-September-2016

AR: 1.42 in² SP: 0.492 k/ft³
LE: 116.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
13	99.04	12	26.6	27.1	0.301	86.0	51.2	38	15.5
14	99.08	12	26.0	26.5	0.318	90.8	51.3	37	16.2
15	99.13	12	26.6	26.9	0.321	91.7	51.2	38	16.0
16	99.17	12	26.5	26.8	0.315	90.1	51.2	38	16.0
17	99.21	12	25.9	26.2	0.317	90.5	51.2	37	16.4
18	99.25	12	25.7	26.1	0.307	87.6	51.0	37	15.9
19	99.29	12	25.6	25.9	0.306	87.3	51.3	36	16.0
20	99.33	12	25.5	25.8	0.304	86.7	51.2	36	15.9
21	99.38	12	25.4	25.7	0.305	87.1	51.2	36	16.0
22	99.42	12	25.1	25.5	0.309	88.4	51.0	36	16.6
23	99.46	12	24.6	24.9	0.304	86.8	51.0	35	16.7
24	99.50	12	24.7	25.1	0.312	89.1	51.5	35	17.1
25	99.56	8	25.9	26.2	0.307	87.8	51.2	37	15.9
26	99.63	8	24.7	25.0	0.308	88.0	51.2	35	16.8
27	99.69	8	24.2	24.3	0.301	86.1	50.9	34	15.2
28	99.75	8	24.8	25.1	0.304	87.0	51.2	35	16.7
29	99.81	8	23.7	23.8	0.299	85.4	51.1	34	15.4
30	99.88	8	23.9	24.0	0.304	86.9	51.1	34	15.9
31	99.94	8	25.1	25.4	0.314	89.6	51.0	36	16.8
32	100.00	8	25.1	25.3	0.303	86.5	51.0	36	14.4
		Average	25.3	25.6	0.308	88.0	51.2	36	16.1
		Maximum	26.6	27.1	0.321	91.7	51.5	38	17.1

Total number of blows analyzed: 20

BL# Sensors

13-32 F3: [413 NWJ-2] 213.9 (1.00); F4: [413 NWJ-1] 212.3 (1.00); A3: [K4676] 390.0 (1.00); A4: [K4120] 388.0 (1.00)

Time Summary

Drive 36 seconds 11:49 AM - 11:50 AM BN 1 - 32

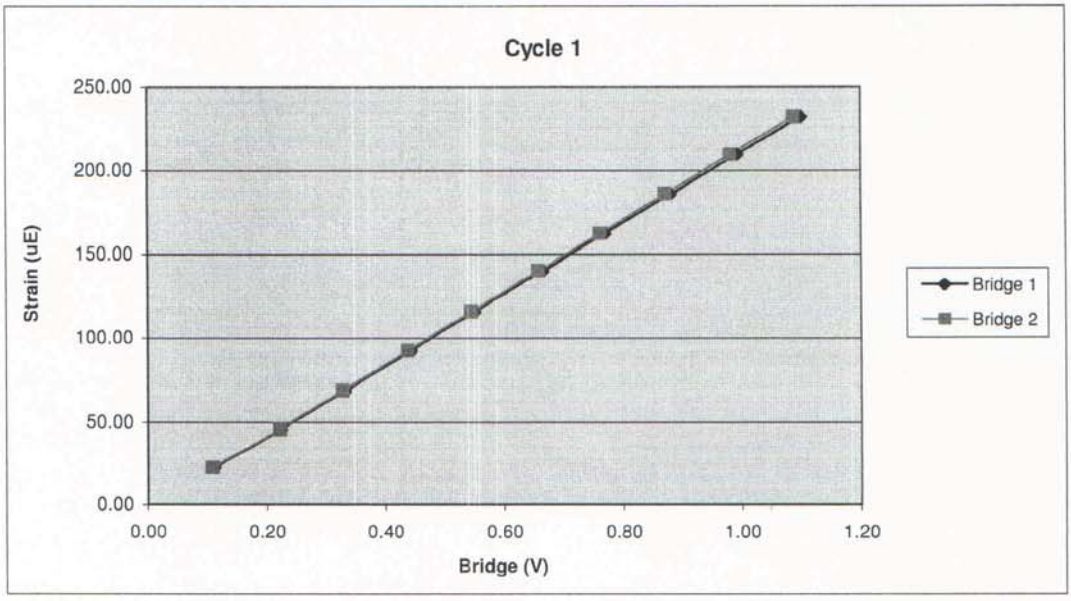
Appendix B

Dynamic Measurement Calibration Sheets

413NWJ		Cycle 1		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	990.99	22.25	0.11	0.11
3	2002.63	46.15	0.22	0.22
4	2988.10	69.17	0.33	0.33
5	3994.04	92.72	0.44	0.44
6	4963.98	115.99	0.55	0.54
7	5994.11	140.04	0.66	0.66
8	6930.41	162.12	0.77	0.76
9	7939.49	185.78	0.88	0.87
10	8950.34	209.60	0.99	0.98
11	9926.18	232.15	1.10	1.09

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**9036.37**	**Force Calibration (lb/V)**	**9125.33**
Offset	-9.46	Offset	-2.08
Correlation	1.000000	Correlation	0.999997
Strain Calibration (µE/V)	**212.51**	**Strain Calibration (µE/V)**	**214.61**
Offset	-1.22	Offset	-1.05
Correlation	0.999996	Correlation	0.999998

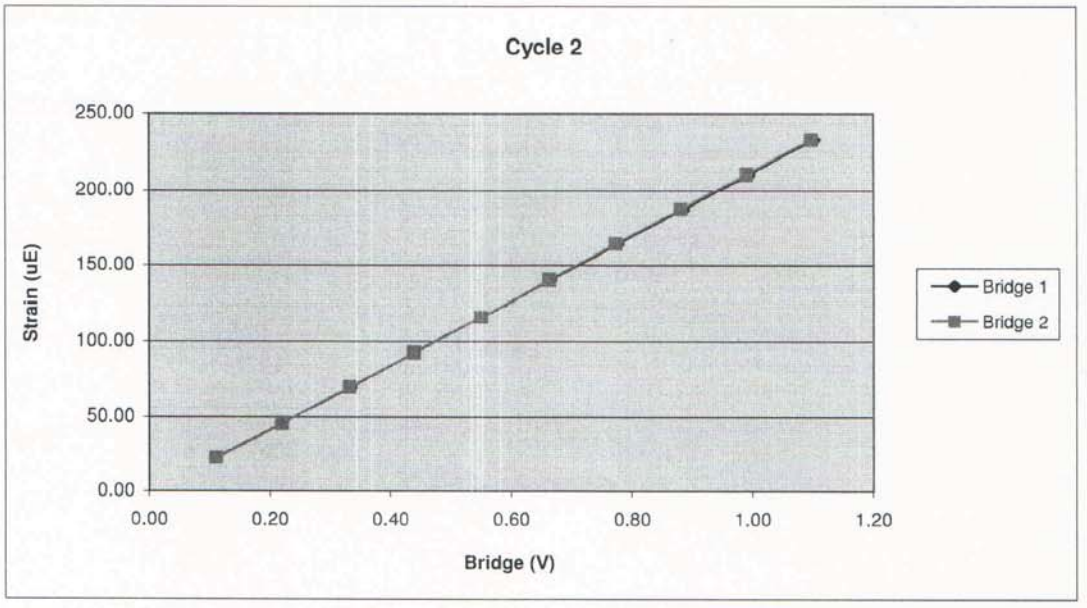
Force Strain Calibration	
EA (Kips)	**42521.15**
Offset	42.49
Correlation	0.999997



413NWJ		Cycle 2		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	987.05	22.73	0.11	0.11
3	1966.04	45.88	0.22	0.22
4	2986.33	69.92	0.33	0.33
5	3951.35	92.68	0.44	0.44
6	4949.03	116.49	0.55	0.55
7	5960.47	140.42	0.66	0.66
8	6953.03	163.97	0.78	0.77
9	7934.77	187.50	0.88	0.88
10	8928.90	210.76	0.99	0.99
11	9905.13	233.34	1.10	1.10

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**8992.65**	**Force Calibration (lb/V)**	**9034.81**
Offset	**-7.95**	Offset	**-19.15**
Correlation	**0.999996**	Correlation	**0.999998**
Strain Calibration (µE/V)	**212.81**	**Strain Calibration (µE/V)**	**213.81**
Offset	**-0.84**	Offset	**-1.11**
Correlation	**0.999997**	Correlation	**0.999996**

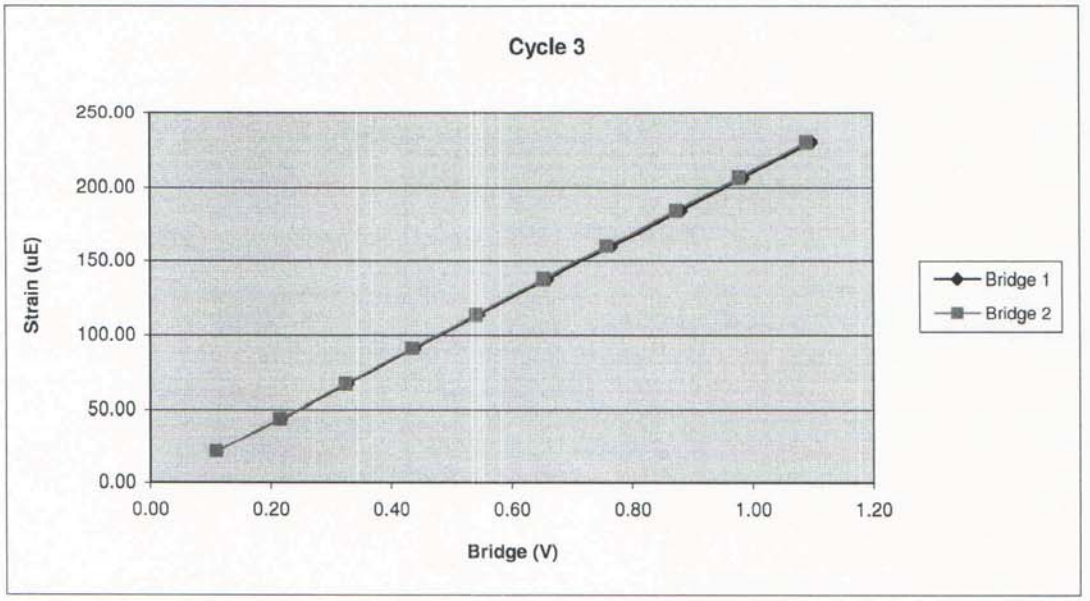
Force Strain Calibration	
EA (Kips)	**42256.93**
Offset	**27.76**
Correlation	**0.999996**



413NWJ		Cycle 3		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	978.00	21.53	0.11	0.11
3	1923.94	43.44	0.22	0.21
4	2938.53	67.46	0.33	0.32
5	3944.67	91.22	0.44	0.44
6	4898.87	113.58	0.54	0.54
7	5921.72	137.82	0.66	0.65
8	6874.74	160.10	0.77	0.76
9	7926.90	184.40	0.88	0.87
10	8859.86	206.60	0.98	0.98
11	9889.59	230.60	1.10	1.09

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**9008.15**	**Force Calibration (lb/V)**	**9088.85**
Offset	**-7.86**	Offset	**-13.21**
Correlation	**0.999998**	Correlation	**0.999998**
Strain Calibration (µE/V)	**211.51**	**Strain Calibration (µE/V)**	**213.41**
Offset	**-1.67**	Offset	**-1.80**
Correlation	**0.999995**	Correlation	**0.999993**

Force Strain Calibration	
EA (Kips)	**42588.80**
Offset	**63.31**
Correlation	**0.999997**



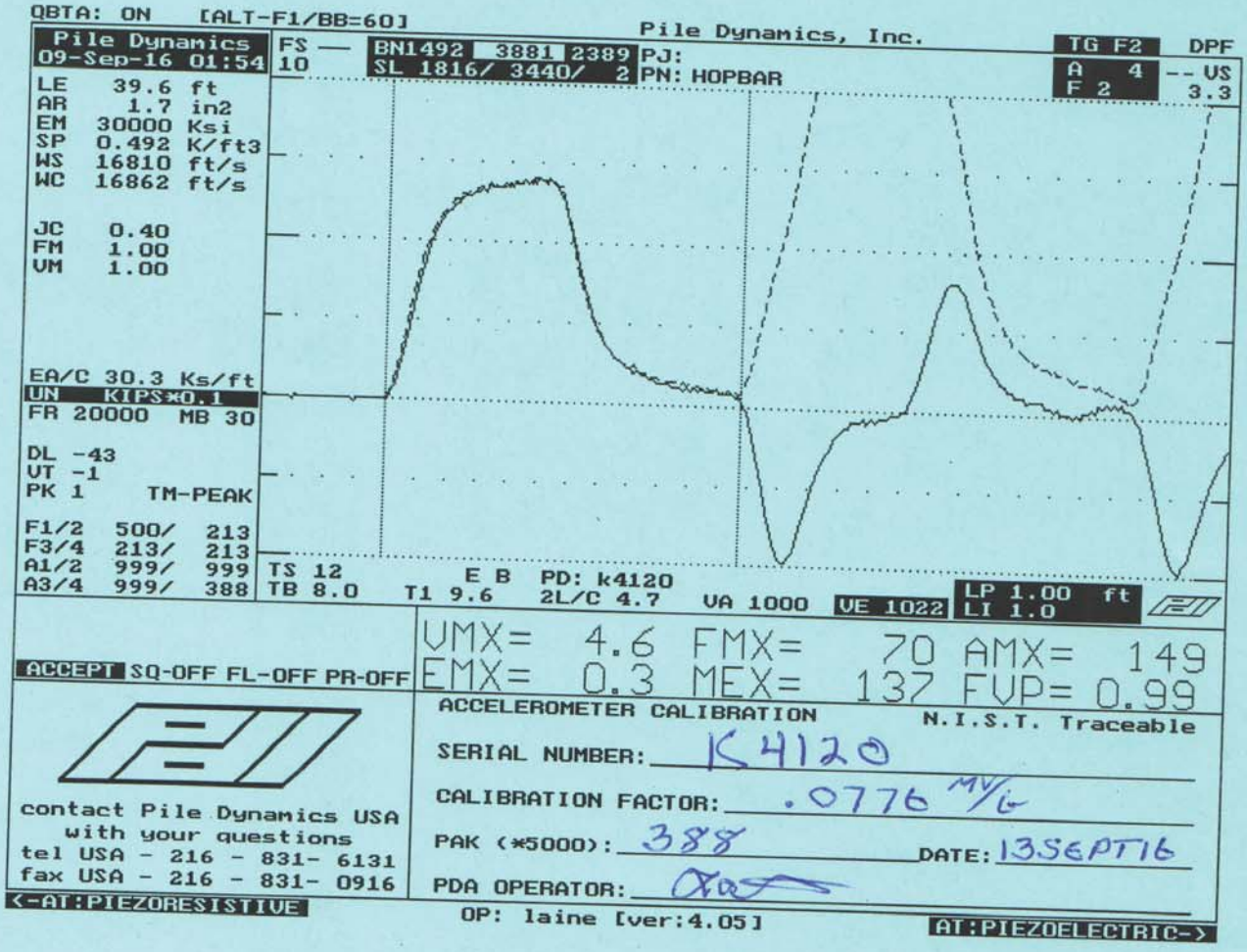
Bridge Excitation (V) 5
Shunt Resitor (ohm) 60.4k

Calibration Factors	413NWJ		
Bridge 1 (με/V)	212.28	Bridge 2 (με/V)	213.94
EA Factor (Kips)	42455.63	Area (in^2)	1.42

Calibrated by: David Brunell
Calibrated Date: 6/10/2016

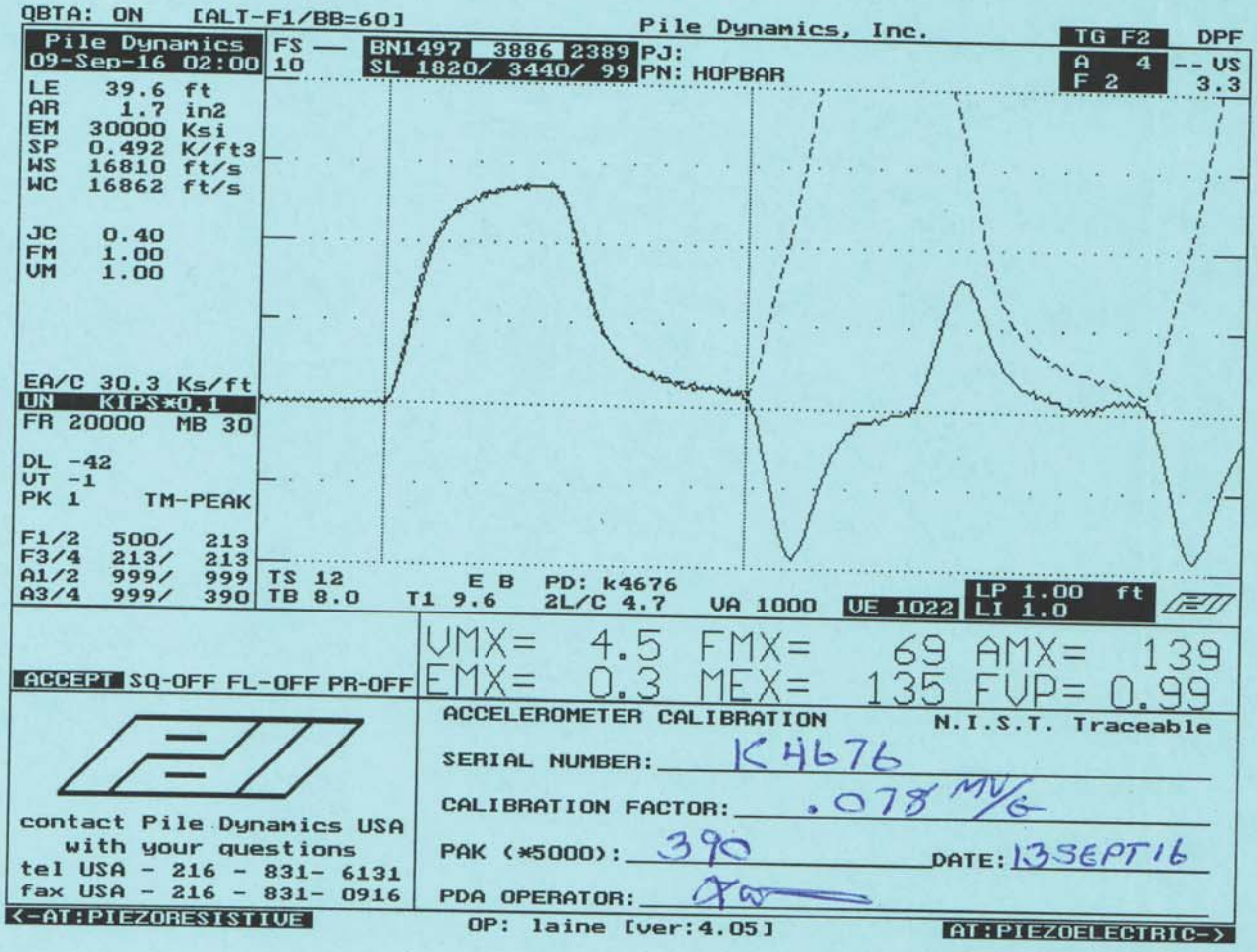
Pile Dynamics Inc
30725 Aurora Rd
Solon, OH 44139

Traceable to N.I.S.T.



Smart Sensor

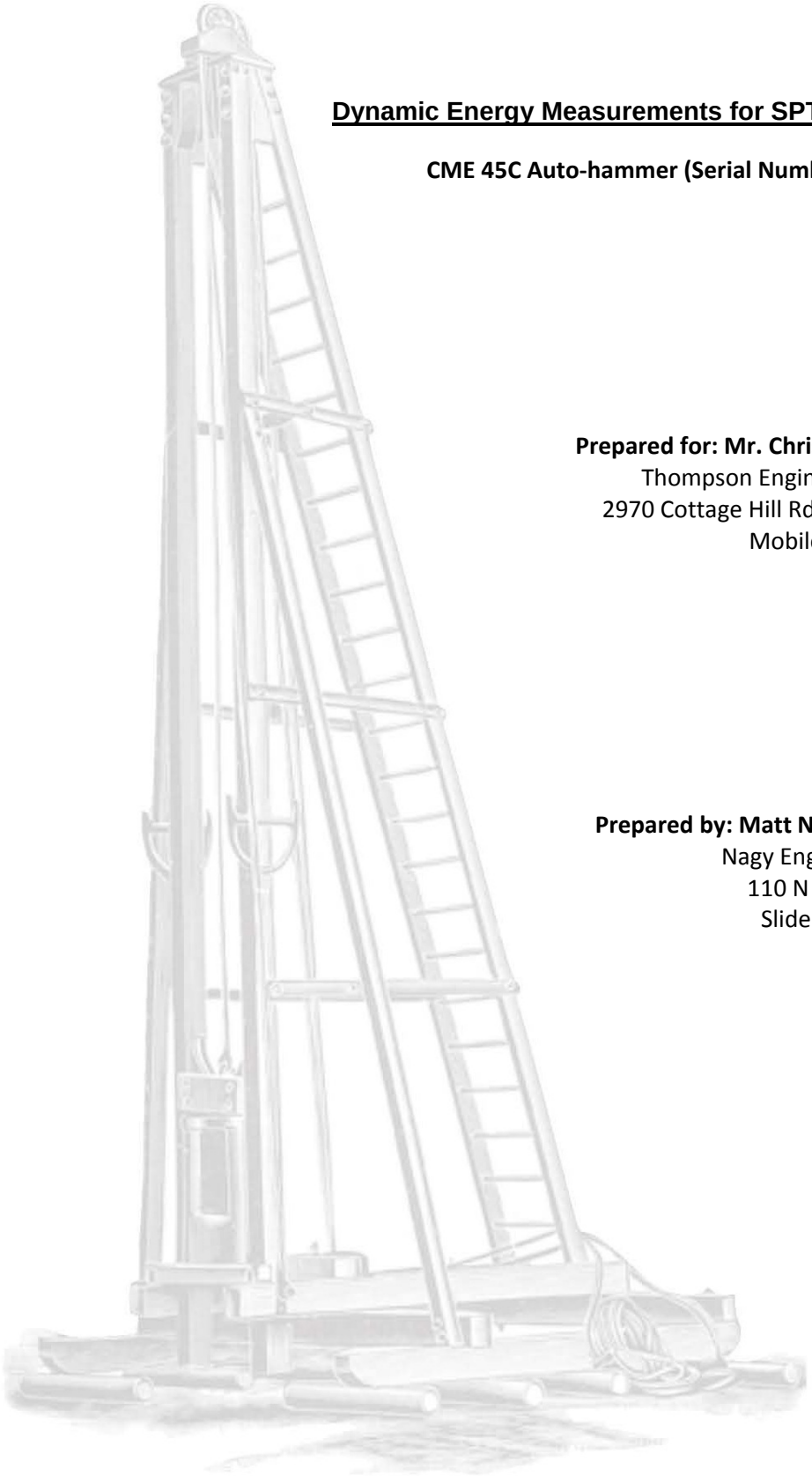
Smart Chip Programmed By D.M.W. **on** 13SEPT16 **CRC Value** 2F02



Smart Sensor

Smart Chip Programmed By A.M.W **on** 13SEPT16 **CRC Value** C6ED

Nagy Engineers, Inc.



Dynamic Energy Measurements for SPT Hammer

CME 45C Auto-hammer (Serial Number 244224)

Prepared for: Mr. Chris Dugger of
Thompson Engineering, Inc.
2970 Cottage Hill Rd., Suite 190
Mobile, AL 36606

Prepared by: Matt Nagy, P.E. of
Nagy Engineers, Inc.
110 N Queens Dr.
Slidell, LA 70458

Nagy Engineers, Inc.
- Deep Foundation Specialty Testing -

June 1, 2016

Mr. Chris Dugger
Thompson Engineering, Inc.
2970 Cottage Hill Road, Suite 190
Mobile, AL 36606

Re: SPT Hammer Calibration using Dynamic Energy Measurements
Thompson Engineering Drill Rig – CME 45C Auto Hammer (S/N 244224)
Nagy Engineers Job No. 161011-1

Dear Mr. Dugger:

This report summarizes the results from SPT Energy Measurement Testing performed at the Mobile River Bridge Project on April 26, 2016. The testing was conducted to calibrate a CME 45C Automatic SPT hammer. The hammer reportedly had a 140 lb drop weight and a 2.5 ft drop height. Appendix A gives a summary of the field dynamic test data and results while Appendix B contains the equipment calibration sheets. An overall summary of the test results is presented in Table 1.

OBJECTIVES

The objective of the testing was to perform SPT Energy Measurements according to ASTM D4633-10. These objectives were met using our Pile Driving Analyzer®, Model PAX – SPT Software, which acquired the SPT hammer's transfer energies using an instrumented AWJ rod section and two piezoresistive accelerometers.

TESTING AND EQUIPMENT

Drilling and SPT Hammer Equipment

SPT energy measurements were collected for a CME 45C Automatic SPT hammer. The serial number on the rig was s/n 244224. Energy records were collected at various increments between the depths of 78.5 ft and 105.0 ft. The drilling method was side discharge mud rotary. Appendix A contains a photo of the CME 45C rig that was tested.

Instrumentation

A Model PAX Pile Driving Analyzer® (PDA) data acquisition system was used to collect and process the dynamic measurements of force and velocity. The PAX is a digital system having a low pass filter cutoff frequency of 5 kHz. The sampling frequency was therefore set to 10 times the low pass filter, or 50 kHz. A two foot long section of AWJ rod subsection was instrumented with one full bridge foil resistance strain

gage and two piezoresistive accelerometers mounted at the midpoint location of the instrumented subsection. Strain and acceleration signals were conditioned, digitized, stored and processed using the PDA. Selected output from the PDA for each recorded impact included the maximum calculated rod top force (FMX), maximum rod top velocity (VMX), maximum average compressive stress (CSX), maximum energy transfer (EMX), energy transfer ratio (ETR) and the hammer operating rate (BPM).

MEASUREMENTS AND CALCULATIONS

FV Method (EMX)

Energy transfer to the PDA gage location, EMX, was computed by the PDA using force, F(t), and velocity, v(t), records as follows:

$$EMX = \int_a^b F(t) \cdot v(t) dt$$

The time "a" corresponds to the start of the record when the energy transfer begins, and "b" is the time at which energy transferred to the rod reaches a maximum value. The FV Method is currently recognized in ASTM D4633-10, and is the theoretically correct result; therefore, no other energy calculation methods are reported.

RESULTS

Upon return to the office, the records collected by the PDA were checked for consistency and accuracy. For example, records from very weak startup or final impacts were not included in the results. Appendix A contains a representative plot of force and normalized velocity versus time and PDIPLOT results for all hammer blows at each dynamically monitored sampling depth. The PDA results include the EMX (transferred energy by the EMX method, as recommended by ASTM D4633-10), ETR (energy transfer ratio), BPM (hammer operating rate), FMX (maximum rod top force), CSX (maximum compressive stress), and VMX (maximum rod top velocity). The plots show each calculated PDA result versus sampling spoon penetration while the tables show statistical summaries for each 6 inch increment. At the end of each table, on the next page, is a statistical evaluation of the results which only include the blows that correspond to the N-Value for that sample.

Table 1 summarizes the average transfer energy values calculated by the EMX method. The records averaged consist only of the hammer blows at each dynamically monitored sampling depth that correspond to the N-Values (i.e. the blows in the initial 6 inches of split spoon driving were not considered as part of the average). The “energy transfer ratio” (ETR) is defined as the ratio of maximum transferred

energy EMX divided by the theoretical hammer potential energy of 350 ft-lbs. The average hammer operating rate is reported in blows per minute (BPM).

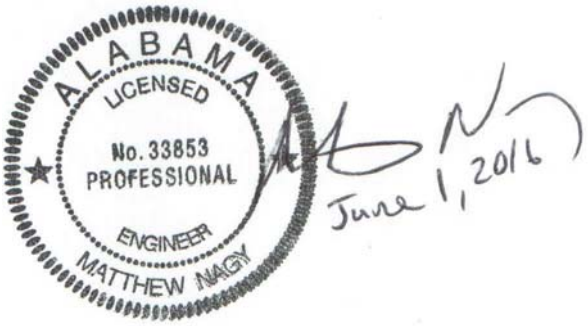
CONCLUSIONS

RIG: CME 45C Auto-hammer (s/n: 244224) - 140 lbs Hammer – 2.5 ft Drop Height

The average maximum energy transfer (EMX) to the AWJ SPT rod using the 140 lbs drop weight was 323 ft-lbs which is 92% of the 350 ft-lbs potential energy of the hammer. The standard deviation of the transfer efficiency was 1% over the six samples that were collected. The average hammer operation rate during the time of testing was 54.5 blows/min.

We have appreciated this opportunity to be of assistance to you on this project, please contact our office if you have any questions regarding this report, or if we may be of further service.

Very truly yours,
Nagy Engineers, Inc.



Matthew Nagy, P.E. AL # 33853
Project Engineer

Firm COA Number: 4718

enclosed: Appendices A and B

TABLE 1: Summary of SPT Energy Measurements

CME 45C Automatic SPT Hammer (S/N 244224)

Rod Length Below Gages *LE*	Depth Below Top of Ground	Reported SPT Blow Counts	Maximum Transfer Force *FMX*	Maximum Compressive Stress *CSX*	Average Hammer Blow Rate *BPM*	Average Energy Transfer *EMX*	Average Transfer Efficiency *ETR*
ft	ft	blows/6"	kips	ksi	blows/min	ft-lbs	%
91.0	78.5 to 80.0	8, 9, 10	30	25.3	54.7	329	94%
96.0	83.5 to 85.0	5, 8, 8	30	25.5	54.4	323	92%
101.0	88.5 to 90.0	4, 5, 6	30	25.1	54.6	326	93%
106.0	93.5 to 95.0	10, 18, 22	30	25.3	54.3	321	92%
111.0	98.5 to 100.0	20, 21, 24	30	25.7	54.5	318	91%
116.0	103.5 to 105.0	8, 21, 17	30	25.3	54.5	320	91%
		Overall Average			**54.5**	**323**	**92%**
		Standard Deviation			**0.1**	**4**	**1%**

LE - Length from the bottom of the spoon to the PDA gage location.
FMX - Maximum Force Measured at PDA gage location.
CSX - Maximum Average Compressive Stress at PDA gage location.
BPM - Hammer operation rate (blows/minute)
EMX - Computed, from $\int F v \, dt$, maximum energy transferred to PDA gage location.
ETR - Computed, from EMX/PE, maximum energy transfer efficiency

Appendix A

Results from SPT Dynamic Energy Measurements

Thompson Engineering SPT Rig Calibration

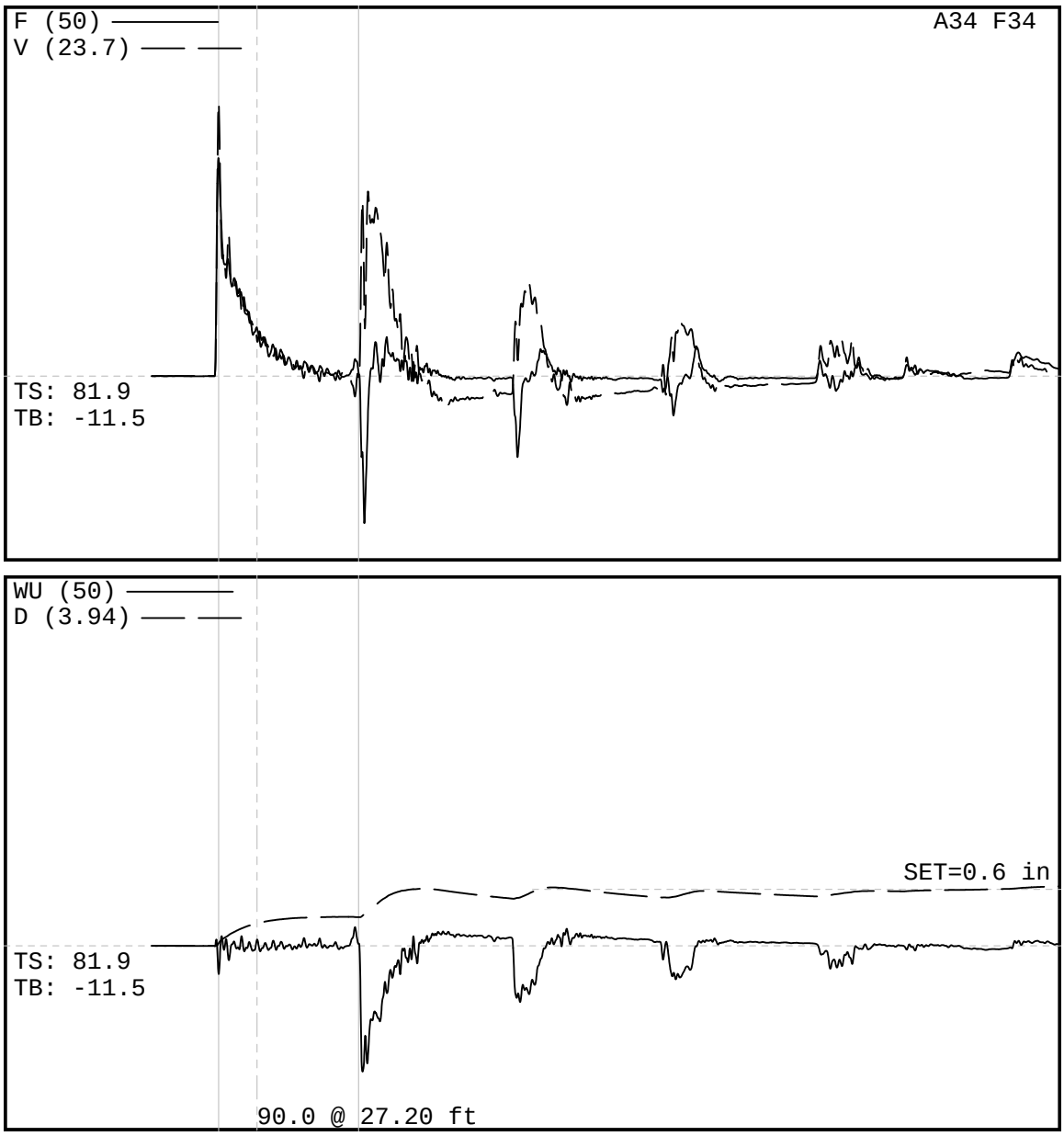
CME 45C Auto Hammer

S/N 244224

(AWJ Rod – Side Discharge Mud Rotary)

Thompson Engineering's CME 45C (S/N 244224)

Thompson SPT Calibration CME 45C (SN 244224)_1



Project Information

PROJECT: Thompson SPT Calibration
PILE NAME: CME 45C (SN 244224)_1
DESCR: AWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 45C (SN 244224)_1
4/26/2016 11:00:06 AM
Blow Number 18

Pile Properties

LE	91.00	ft
AR	1.18	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.1	ksec/ft
2L/C	10.84	ms
JC		[]
LP	79.55	ft

Quantity Results

CSX	24.9	ksi
CSI	25.0	ksi
EMX	0.328	k-ft
ETR	93.6	(%)
BPM	54.6	bpm
FMX	29	kips
VMX	17.6	f/s
QNV	0.00	[]
QNV	0.00	[]

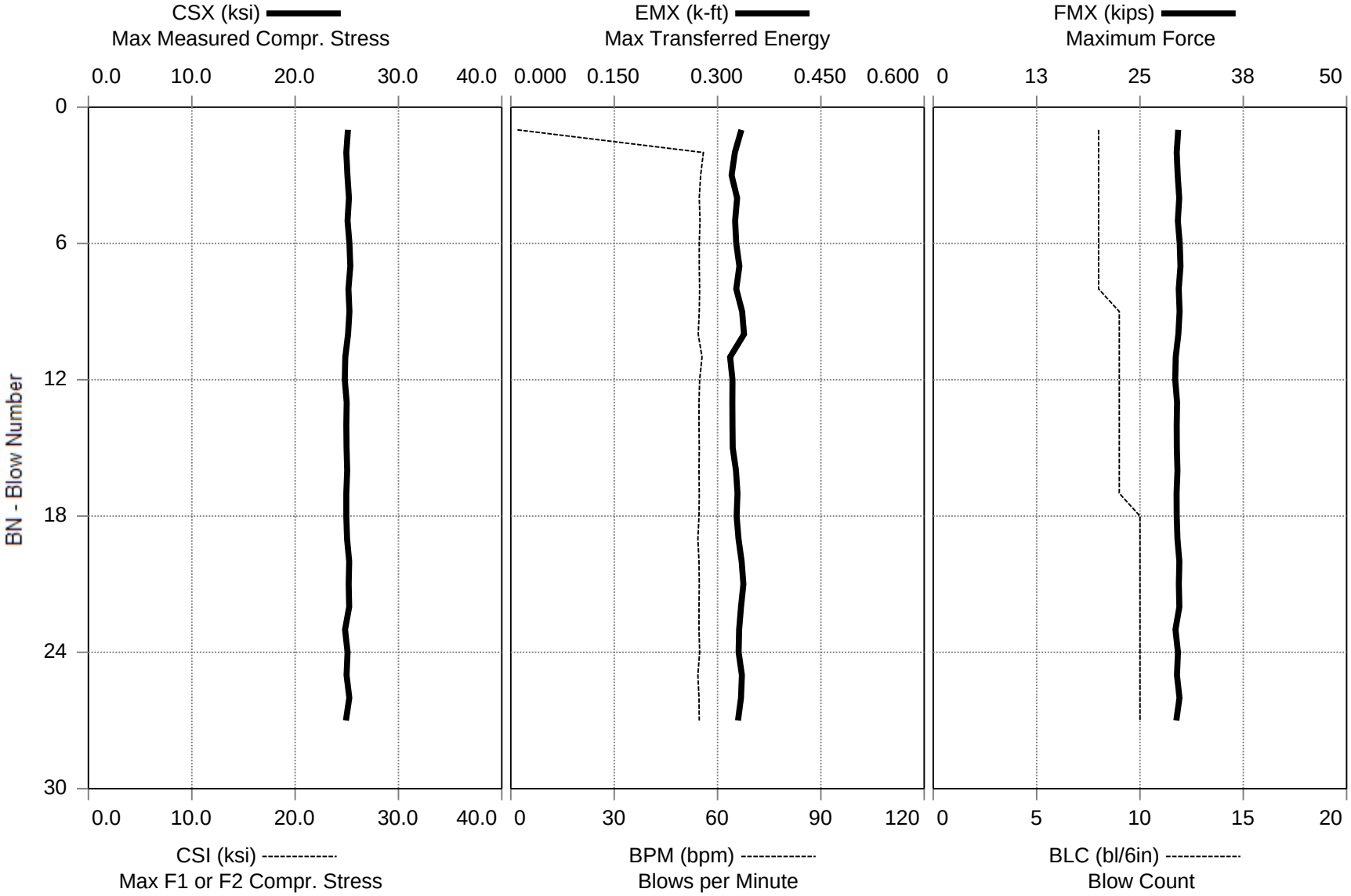
Sensors

F3: [421-AWJ-1] 206.94 (1)
F4: [421-AWJ-2] 206.29 (1)
A3: [K4120] 390 mv/5000g's (1)
A4: [K3774] 382 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 01-June-2016 Test started: 26-April-2016

Thompson SPT Calibration - CME 45C (SN 244224)_1 - AWJ Rod - Mud Rotary



Thompson SPT Calibration - CME 45C (SN 244224)_1 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

AR: 1.18 in² SP: 0.492 k/ft³
LE: 91.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
8	79.0	8	AV8	25.1	25.2	0.328	93.6	48.3	30	17.1
			MAX	25.3	25.4	0.335	95.6	55.9	30	17.6
17	79.5	9	AV9	25.0	25.0	0.326	93.2	54.7	29	17.5
			MAX	25.3	25.3	0.338	96.7	55.5	30	17.8
27	80.0	10	AV10	25.1	25.1	0.333	95.0	54.6	30	17.4
			MAX	25.2	25.3	0.337	96.4	54.8	30	17.6
			Average	25.1	25.1	0.329	94.0	52.8	30	17.4
			Maximum	25.3	25.4	0.338	96.7	55.9	30	17.8

Total number of blows analyzed: 27

BL# Sensors

1-16 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)
17 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: off
18-27 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)

Time Summary

Drive 28 seconds 10:59 AM - 11:00 AM BN 1 - 27

Thompson SPT Calibration - CME 45C (SN 244224)_1 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

AR: 1.18 in² SP: 0.492 k/ft³
LE: 91.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
9	79.1	9	25.3	25.3	0.336	95.9	54.7	30	17.3
10	79.1	9	25.1	25.1	0.338	96.7	54.4	30	17.5
11	79.2	9	24.9	24.9	0.318	90.9	55.5	29	17.2
12	79.2	9	24.8	24.8	0.322	91.9	54.8	29	17.4
13	79.3	9	25.0	25.0	0.322	91.9	54.6	29	17.5
14	79.3	9	25.0	25.0	0.322	91.9	54.6	29	17.6
15	79.4	9	25.0	25.0	0.322	92.0	54.7	29	17.6
16	79.4	9	25.0	25.1	0.327	93.4	54.6	30	17.6
17	79.5	9	24.9	25.0	0.329	94.0	54.7	29	17.8
18	79.6	10	24.9	25.0	0.328	93.6	54.6	29	17.6
19	79.6	10	25.0	25.1	0.330	94.4	54.3	30	17.6
20	79.7	10	25.2	25.3	0.335	95.7	54.6	30	17.2
21	79.7	10	25.2	25.3	0.337	96.4	54.7	30	17.6
22	79.8	10	25.2	25.3	0.334	95.4	54.6	30	17.5
23	79.8	10	24.8	24.9	0.331	94.7	54.6	29	17.4
24	79.9	10	25.1	25.2	0.331	94.4	54.8	30	17.5
25	79.9	10	25.0	25.1	0.335	95.8	54.3	29	17.4
26	80.0	10	25.2	25.3	0.334	95.4	54.6	30	17.2
27	80.0	10	24.9	25.0	0.330	94.2	54.7	29	17.1
		Average	25.0	25.1	0.329	94.1	54.7	30	17.5
		Maximum	25.3	25.3	0.338	96.7	55.5	30	17.8

Total number of blows analyzed: 19

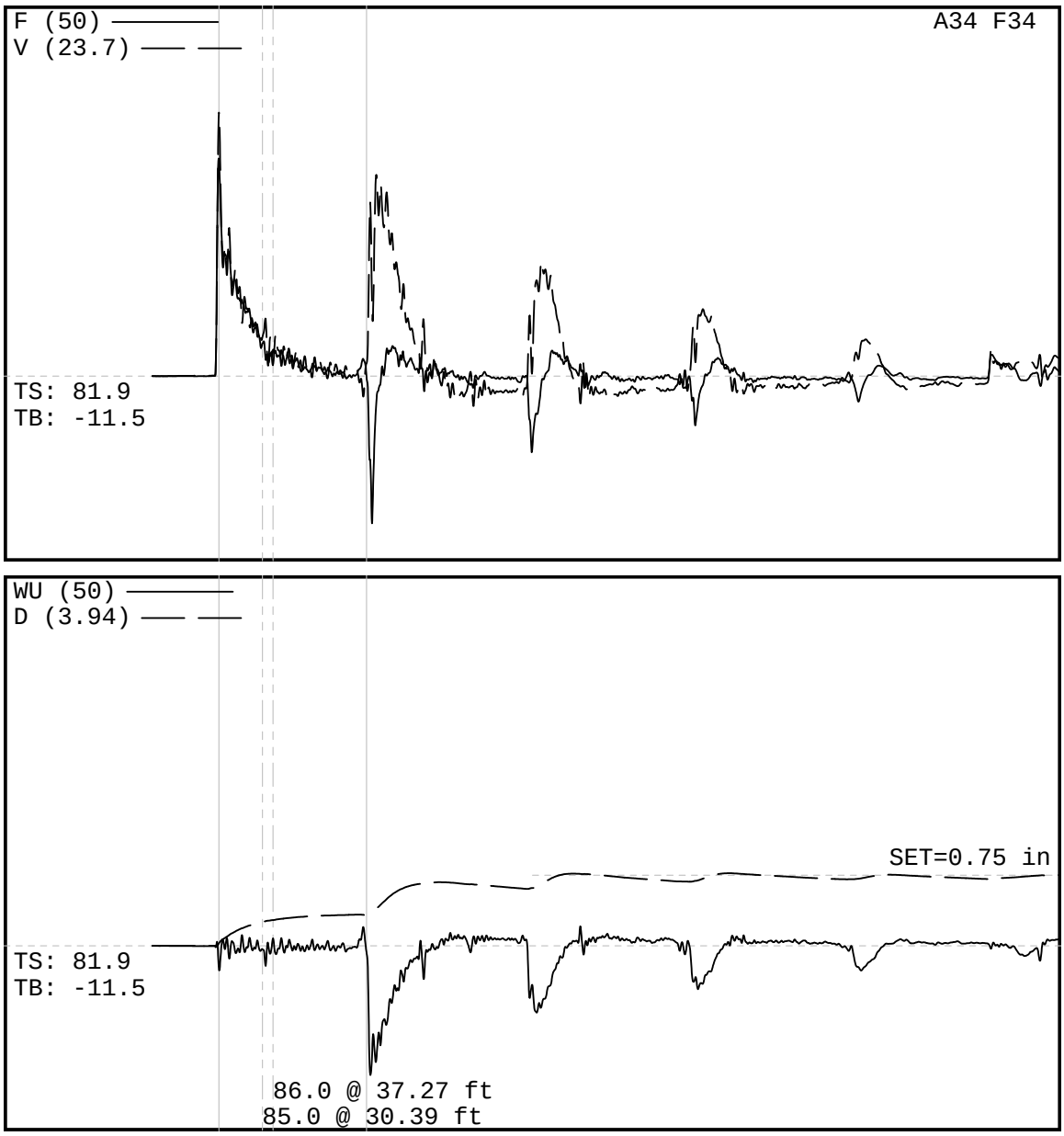
BL# Sensors

9-16 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)
17 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: off
18-27 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)

Time Summary

Drive 28 seconds 10:59 AM - 11:00 AM BN 1 - 27

Thompson SPT Calibration CME 45C (SN 244224)_2



Project Information

PROJECT: Thompson SPT Calibration
PILE NAME: CME 45C (SN 244224)_2
DESCR: AWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 45C (SN 244224)_2
4/26/2016 11:21:40 AM
Blow Number 16

Pile Properties

LE	96.00	ft
AR	1.18	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.1	ksec/ft
2L/C	11.44	ms
JC		[]
LP	84.69	ft

Quantity Results

CSX	24.9	ksi
CSI	24.9	ksi
EMX	0.328	k-ft
ETR	93.7	(%)
BPM	54.3	bpm
FMX	29	kips
VMX	16.9	f/s
QNV	0.00	[]
QNV	0.00	[]

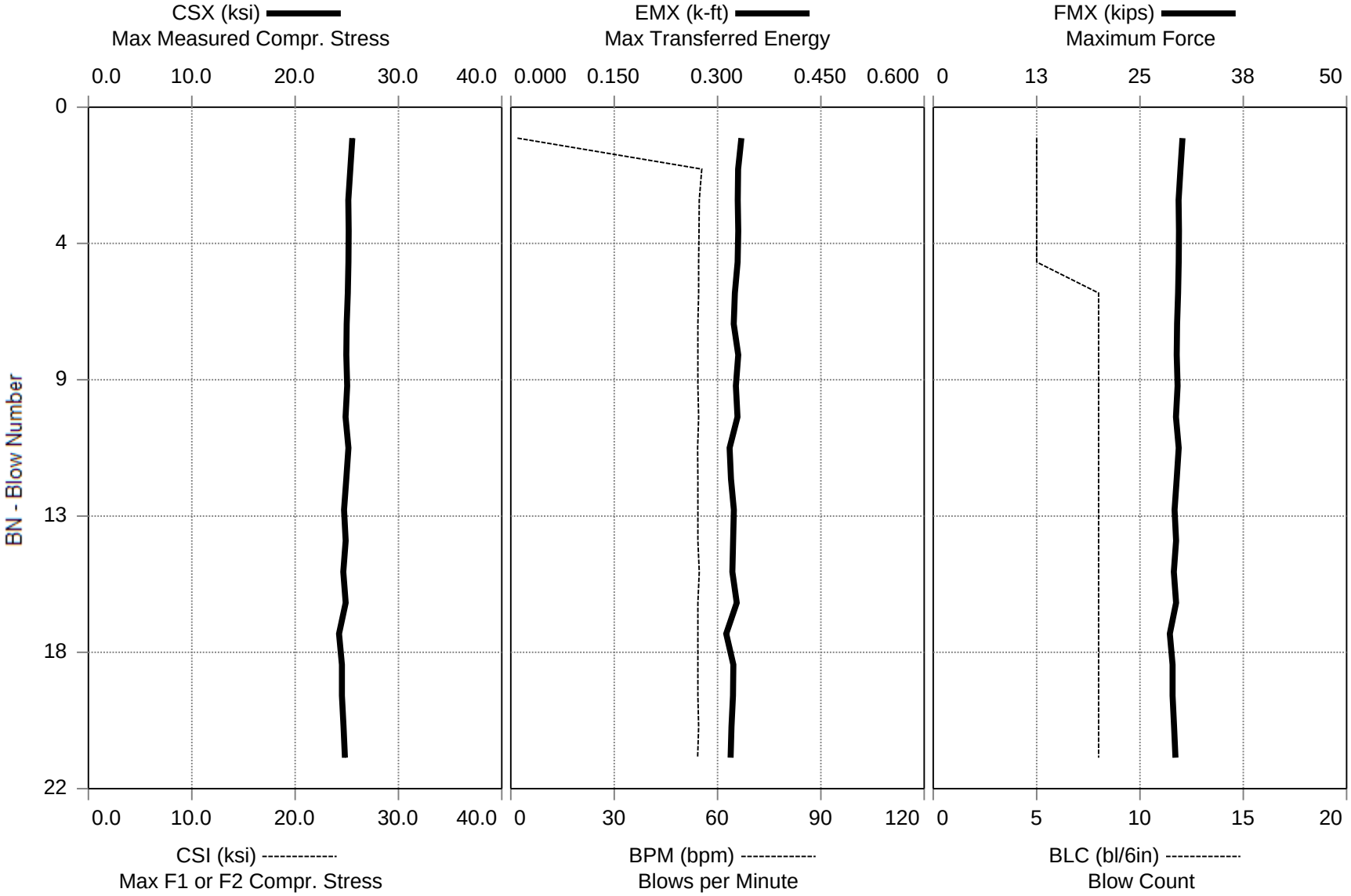
Sensors

F3: [421-AWJ-1] 206.94 (1)
F4: [421-AWJ-2] 206.29 (1)
A3: [K4120] 390 mv/5000g's (1)
A4: [K3774] 382 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 01-June-2016 Test started: 26-April-2016

Thompson SPT Calibration - CME 45C (SN 244224)_2 - AWJ Rod - Mud Rotary



Thompson SPT Calibration - CME 45C (SN 244224)_2 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

AR: 1.18 in² SP: 0.492 k/ft³
LE: 96.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
5	84.0	5	AV5	25.3	25.4	0.331	94.5	44.2	30	17.1
			MAX	25.5	25.6	0.335	95.6	55.4	30	17.2
13	84.5	8	AV8	25.0	25.0	0.324	92.7	54.3	29	17.1
			MAX	25.2	25.2	0.330	94.3	54.5	30	17.3
21	85.0	8	AV8	24.7	24.7	0.321	91.8	54.4	29	16.8
			MAX	24.9	24.9	0.328	93.7	54.7	29	16.9
			Average	24.9	25.0	0.325	92.7	51.9	29	17.0
			Maximum	25.5	25.6	0.335	95.6	55.4	30	17.3

Total number of blows analyzed: 21

BL# Sensors

1-21 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)

Time Summary

Drive 22 seconds 11:21 AM - 11:21 AM BN 1 - 21

Thompson SPT Calibration - CME 45C (SN 244224)_2 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

AR: 1.18 in² SP: 0.492 k/ft³
LE: 96.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
6	84.1	8	25.1	25.2	0.325	92.9	54.5	30	17.1
7	84.1	8	25.0	25.1	0.324	92.4	54.3	29	17.2
8	84.2	8	25.0	25.0	0.330	94.3	54.3	29	17.3
9	84.3	8	25.0	25.1	0.327	93.3	54.3	30	17.1
10	84.3	8	24.9	24.9	0.329	94.0	54.5	29	17.1
11	84.4	8	25.2	25.2	0.318	90.7	54.2	30	17.1
12	84.4	8	25.0	25.0	0.319	91.3	54.3	29	17.0
13	84.5	8	24.7	24.7	0.324	92.5	54.3	29	17.0
14	84.6	8	24.9	24.9	0.323	92.2	54.3	29	16.9
15	84.6	8	24.7	24.7	0.322	91.9	54.7	29	16.8
16	84.7	8	24.9	24.9	0.328	93.7	54.3	29	16.9
17	84.8	8	24.2	24.2	0.313	89.3	54.3	29	16.7
18	84.8	8	24.5	24.5	0.323	92.3	54.3	29	16.8
19	84.9	8	24.5	24.6	0.322	92.1	54.3	29	16.8
20	84.9	8	24.7	24.7	0.320	91.5	54.5	29	16.7
21	85.0	8	24.8	24.9	0.319	91.1	54.2	29	16.8
		Average	24.8	24.8	0.323	92.2	54.4	29	17.0
		Maximum	25.2	25.2	0.330	94.3	54.7	30	17.3

Total number of blows analyzed: 16

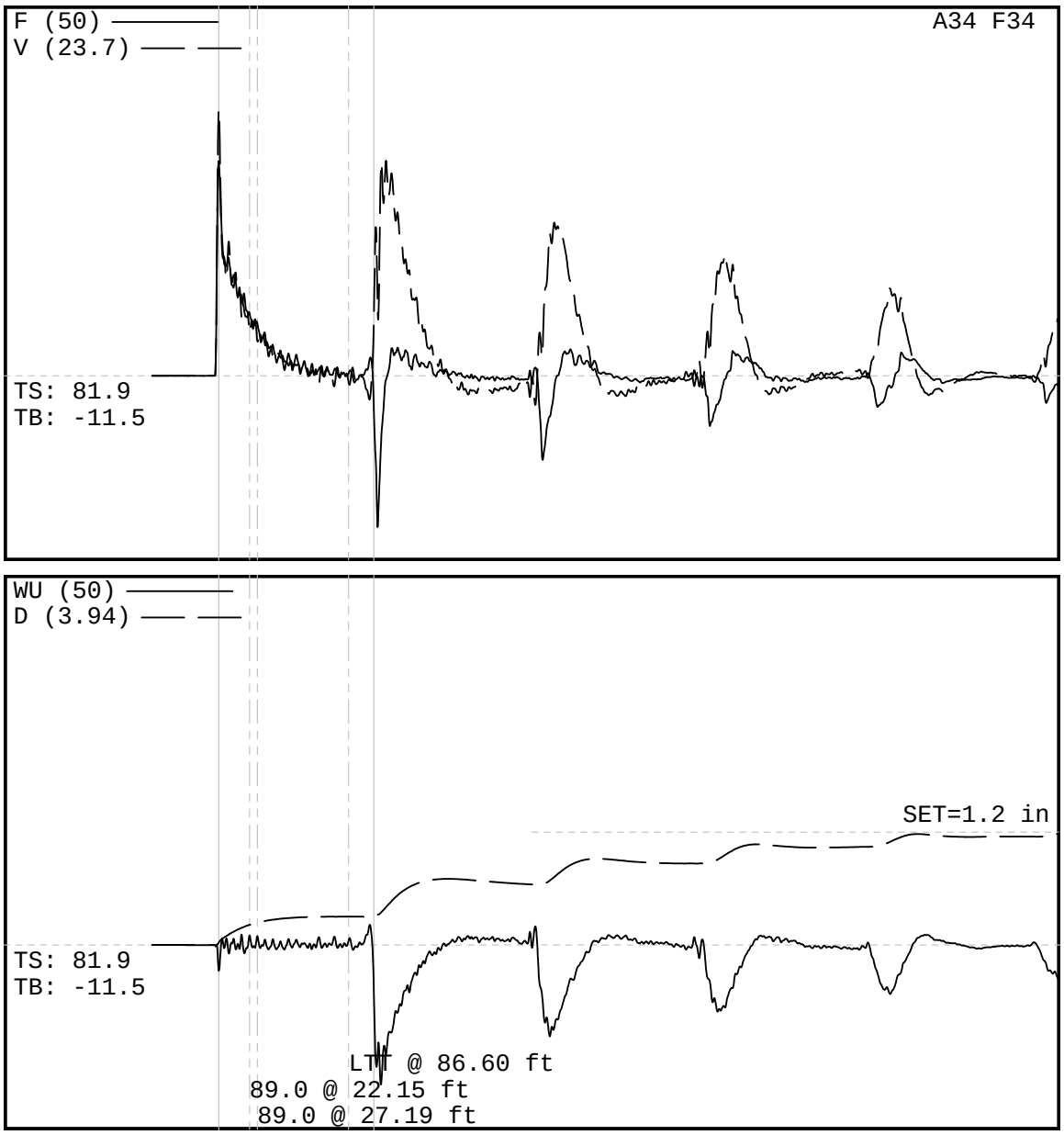
BL# Sensors

6-21 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)

Time Summary

Drive 22 seconds 11:21 AM - 11:21 AM BN 1 - 21

Thompson SPT Calibration CME 45C (SN 244224)_3



Project Information

PROJECT: Thompson SPT Calibration
PILE NAME: CME 45C (SN 244224)_3
DESCR: AWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 45C (SN 244224)_3
4/26/2016 11:52:44 AM
Blow Number 5

Pile Properties

LE	101.00	ft
AR	1.18	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.1	ksec/ft
2L/C	12.04	ms
JC		[]
LP	89.10	ft

Quantity Results

CSX	24.6	ksi
CSI	24.6	ksi
EMX	0.323	k-ft
ETR	92.4	(%)
BPM	54.7	bpm
FMX	29	kips
VMX	17.1	f/s
QNV	0.00	[]
QNV	0.00	[]

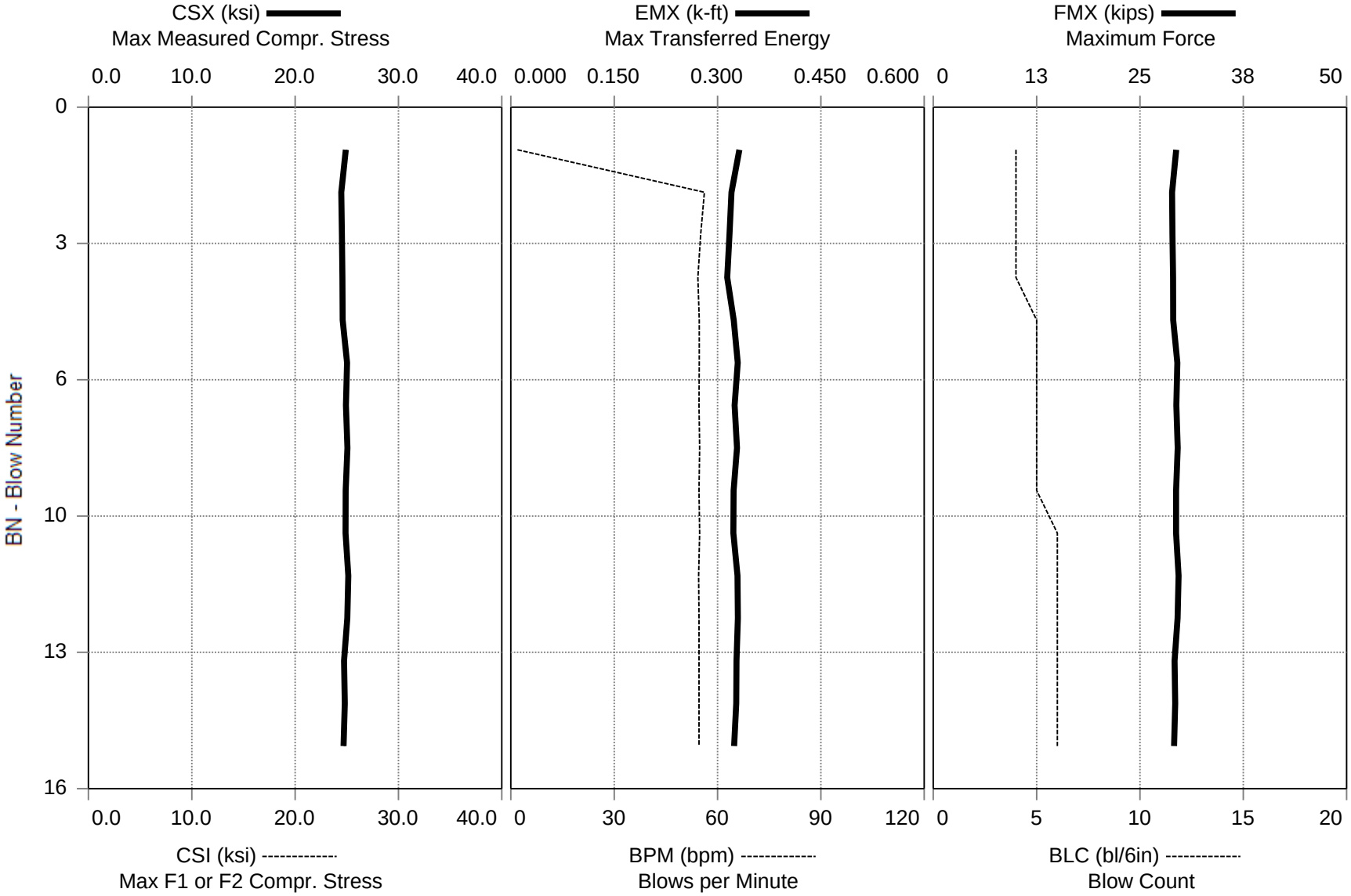
Sensors

F3: [421-AWJ-1] 206.94 (1)
F4: [421-AWJ-2] 206.29 (1)
A3: [K4120] 390 mv/5000g's (1)
A4: [K3774] 382 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 01-June-2016 Test started: 26-April-2016

Thompson SPT Calibration - CME 45C (SN 244224)_3 - AWJ Rod - Mud Rotary



Thompson SPT Calibration - CME 45C (SN 244224)_3 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

AR: 1.18 in² SP: 0.492 k/ft³
LE: 101.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
4	89.0	4	AV4	24.6	24.7	0.321	91.7	41.9	29	16.8
			MAX	24.9	25.0	0.332	94.8	56.2	29	16.9
9	89.5	5	AV5	24.9	24.9	0.326	93.1	54.7	29	17.1
			MAX	25.1	25.1	0.329	94.1	54.8	30	17.2
15	90.0	6	AV6	24.9	24.9	0.327	93.3	54.6	29	17.1
			MAX	25.1	25.2	0.329	94.1	54.8	30	17.2
			Average	24.8	24.9	0.325	92.8	51.2	29	17.0
			Maximum	25.1	25.2	0.332	94.8	56.2	30	17.2

Total number of blows analyzed: 15

BL# Sensors

1-15 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)

Time Summary

Drive 15 seconds 11:52 AM - 11:52 AM BN 1 - 15

Thompson SPT Calibration - CME 45C (SN 244224)_3 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

AR: 1.18 in² SP: 0.492 k/ft³
LE: 101.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
5	89.1	5	24.6	24.6	0.323	92.4	54.7	29	17.1
6	89.2	5	25.0	25.0	0.329	94.1	54.7	30	17.1
7	89.3	5	24.9	24.9	0.325	92.8	54.6	29	17.1
8	89.4	5	25.1	25.1	0.328	93.8	54.8	30	17.2
9	89.5	5	24.9	24.9	0.323	92.4	54.6	29	17.1
10	89.6	6	24.9	24.9	0.323	92.3	54.8	29	17.0
11	89.7	6	25.1	25.2	0.329	94.0	54.5	30	17.2
12	89.8	6	25.0	25.1	0.329	94.1	54.6	30	17.2
13	89.8	6	24.7	24.8	0.327	93.6	54.6	29	17.2
14	89.9	6	24.8	24.9	0.327	93.5	54.6	29	17.1
15	90.0	6	24.7	24.8	0.324	92.6	54.6	29	17.1
		Average	24.9	24.9	0.326	93.2	54.6	29	17.1
		Maximum	25.1	25.2	0.329	94.1	54.8	30	17.2

Total number of blows analyzed: 11

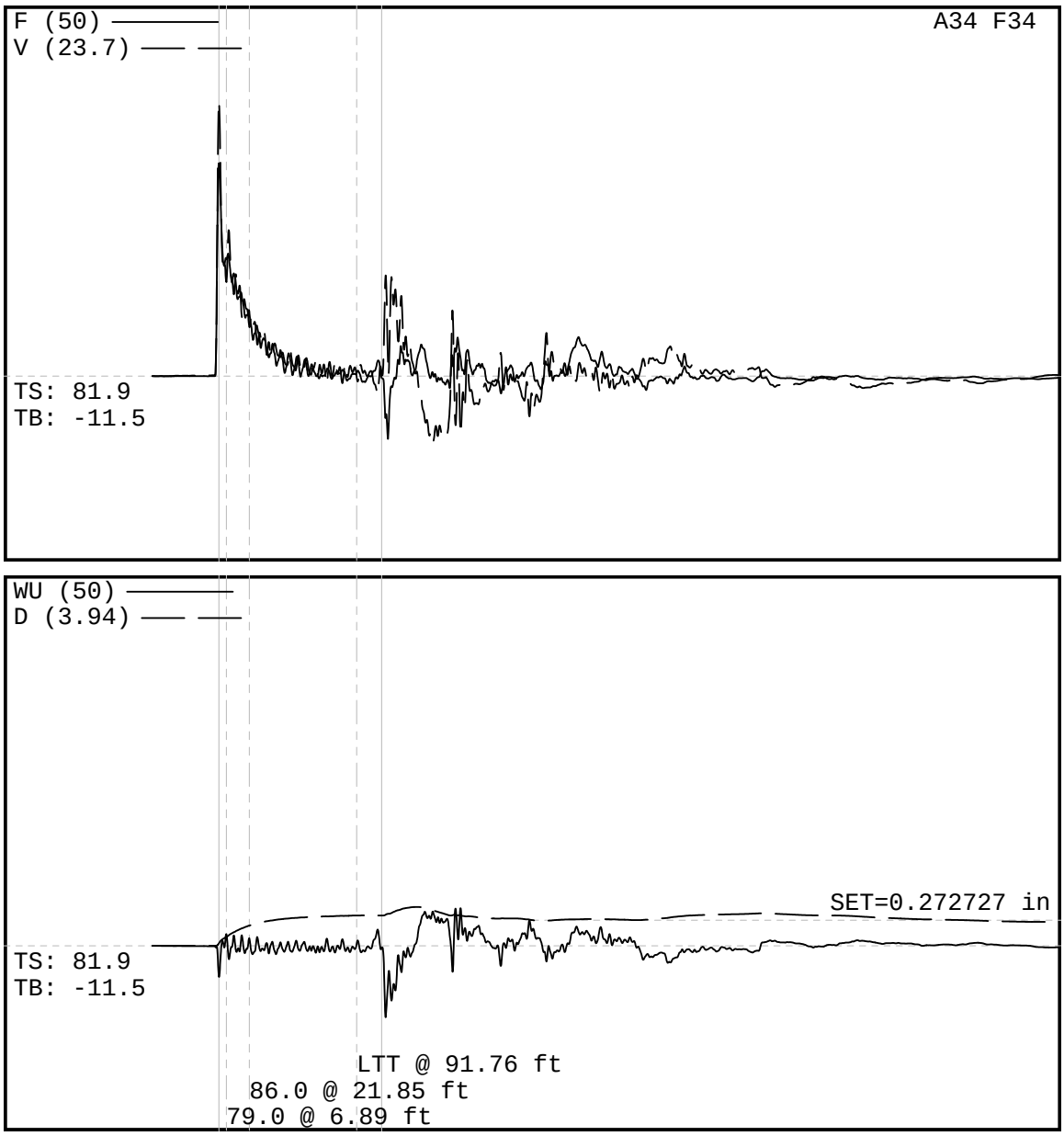
BL# Sensors

5-15 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)

Time Summary

Drive 15 seconds 11:52 AM - 11:52 AM BN 1 - 15

Thompson SPT Calibration CME 45C (SN 244224)_4



Project Information

PROJECT: Thompson SPT Calibration
PILE NAME: CME 45C (SN 244224)_4
DESCR: AWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 45C (SN 244224)_4
4/26/2016 12:21:04 PM
Blow Number 44

Pile Properties

LE	106.00	ft
AR	1.18	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.1	ksec/ft
2L/C	12.62	ms
JC		[]
LP	94.86	ft

Quantity Results

CSX	24.4	ksi
CSI	24.4	ksi
EMX	0.322	k-ft
ETR	92.0	(%)
BPM	54.2	bpm
FMX	29	kips
VMX	17.6	f/s
QNV	0.00	[]
QNV	0.00	[]

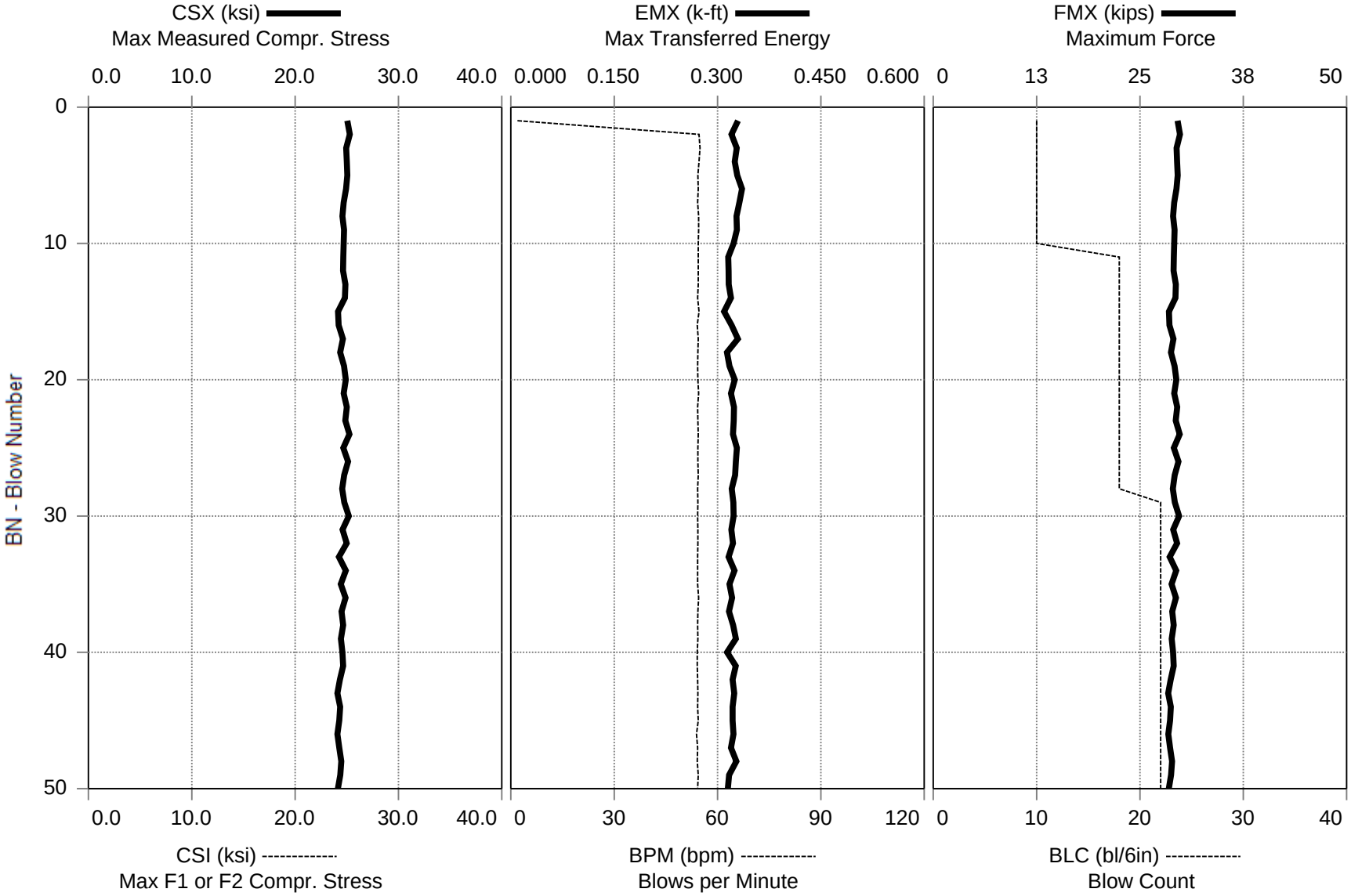
Sensors

F3: [421-AWJ-1] 206.94 (1)
F4: [421-AWJ-2] 206.29 (1)
A3: [K4120] 390 mv/5000g's (1)
A4: [K3774] 382 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 01-June-2016 Test started: 26-April-2016

Thompson SPT Calibration - CME 45C (SN 244224)_4 - AWJ Rod - Mud Rotary



Thompson SPT Calibration - CME 45C (SN 244224)_4 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

AR: 1.18 in² SP: 0.492 k/ft³
LE: 106.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
10	94.0	10	AV10	24.9	24.9	0.328	93.6	49.2	29	17.4
			MAX	25.3	25.3	0.336	95.9	54.9	30	17.5
28	94.5	18	AV18	24.7	24.7	0.321	91.6	54.3	29	17.4
			MAX	25.3	25.3	0.329	94.1	54.6	30	17.6
50	95.0	22	AV22	24.5	24.5	0.321	91.8	54.2	29	17.5
			MAX	25.2	25.2	0.327	93.5	54.5	30	17.7
			Average	24.7	24.7	0.322	92.1	53.3	29	17.4
			Maximum	25.3	25.3	0.336	95.9	54.9	30	17.7

Total number of blows analyzed: 50

BL# Sensors

1-50 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)

Time Summary

Drive 54 seconds 12:20 PM - 12:21 PM BN 1 - 50

Thompson SPT Calibration - CME 45C (SN 244224)_4 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

AR: 1.18 in² SP: 0.492 k/ft³
LE: 106.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
11	94.0	18	24.7	24.7	0.316	90.2	54.4	29	17.4
12	94.1	18	24.6	24.7	0.316	90.3	54.4	29	17.4
13	94.1	18	24.9	24.9	0.316	90.3	54.4	29	17.6
14	94.1	18	24.8	24.8	0.319	91.3	54.2	29	17.5
15	94.1	18	24.2	24.2	0.310	88.4	54.6	29	17.1
16	94.2	18	24.2	24.2	0.320	91.5	54.1	29	17.3
17	94.2	18	24.6	24.6	0.329	94.1	54.4	29	17.5
18	94.2	18	24.4	24.4	0.314	89.6	54.3	29	17.4
19	94.3	18	24.7	24.8	0.317	90.6	54.2	29	17.4
20	94.3	18	24.9	24.9	0.325	92.8	54.3	29	17.5
21	94.3	18	24.7	24.7	0.319	91.3	54.5	29	17.3
22	94.3	18	25.0	25.0	0.324	92.5	54.2	30	17.4
23	94.4	18	24.9	24.9	0.324	92.4	54.3	29	17.5
24	94.4	18	25.3	25.3	0.322	92.1	54.4	30	17.3
25	94.4	18	24.7	24.7	0.328	93.7	54.3	29	17.5
26	94.4	18	25.1	25.1	0.327	93.3	54.3	30	17.4
27	94.5	18	24.7	24.8	0.325	93.0	54.4	29	17.4
28	94.5	18	24.6	24.6	0.321	91.6	54.2	29	17.4
29	94.5	22	24.8	24.8	0.323	92.2	54.3	29	17.5
30	94.5	22	25.2	25.2	0.323	92.4	54.2	30	17.4
31	94.6	22	24.6	24.6	0.320	91.5	54.3	29	17.5
32	94.6	22	25.0	25.0	0.322	92.1	54.3	29	17.5
33	94.6	22	24.2	24.2	0.316	90.3	54.2	29	17.2
34	94.6	22	24.9	24.9	0.325	92.8	54.2	29	17.5
35	94.7	22	24.4	24.4	0.317	90.7	54.2	29	17.3
36	94.7	22	24.9	24.9	0.321	91.7	54.5	29	17.6
37	94.7	22	24.5	24.5	0.317	90.4	54.3	29	17.4
38	94.7	22	24.7	24.7	0.323	92.2	54.2	29	17.6
39	94.8	22	24.4	24.4	0.327	93.3	54.3	29	17.5
40	94.8	22	24.6	24.6	0.314	89.7	54.1	29	17.5
41	94.8	22	24.6	24.6	0.326	93.3	54.1	29	17.7
42	94.8	22	24.3	24.3	0.322	92.0	54.2	29	17.6
43	94.8	22	24.1	24.1	0.324	92.7	54.3	28	17.4
44	94.9	22	24.4	24.4	0.322	92.0	54.2	29	17.6
45	94.9	22	24.3	24.3	0.322	92.0	54.4	29	17.5
46	94.9	22	24.1	24.1	0.323	92.3	53.9	28	17.4
47	94.9	22	24.3	24.3	0.319	91.3	54.2	29	17.5
48	95.0	22	24.5	24.5	0.327	93.5	54.1	29	17.6
49	95.0	22	24.4	24.4	0.317	90.5	54.4	29	17.5
50	95.0	22	24.1	24.2	0.315	90.0	54.2	28	17.4
		Average	24.6	24.6	0.321	91.7	54.3	29	17.4
		Maximum	25.3	25.3	0.329	94.1	54.6	30	17.7

Total number of blows analyzed: 40

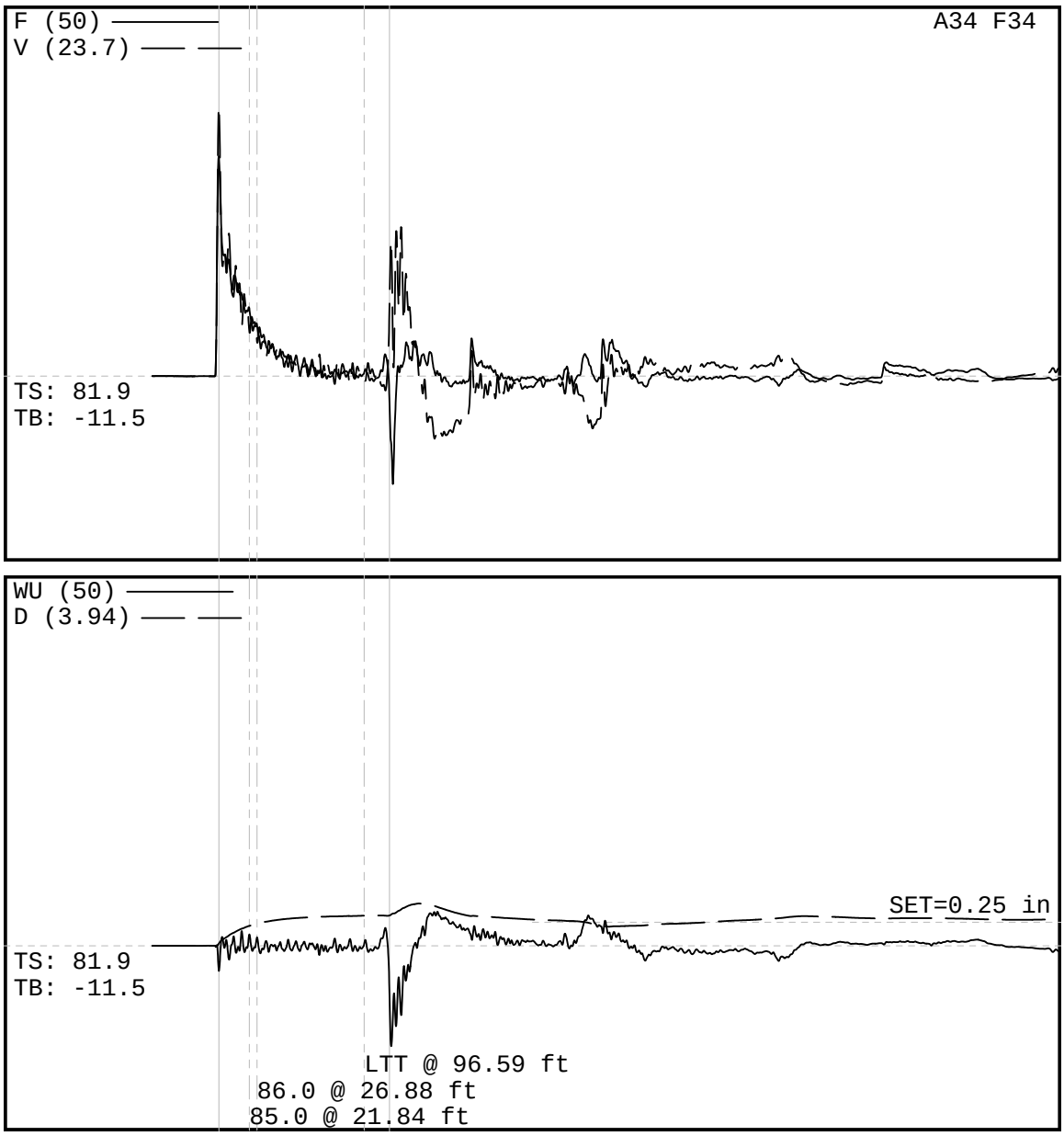
Thompson SPT Calibration - CME 45C (SN 244224)_4 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

BL#	Sensors
11-50	F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)

Time Summary

Drive 54 seconds 12:20 PM - 12:21 PM BN 1 - 50

Thompson SPT Calibration CME 45C (SN 244224)_5



Project Information

PROJECT: Thompson SPT Calibration
PILE NAME: CME 45C (SN 244224)_5
DESCR: AWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 45C (SN 244224)_5
4/26/2016 12:56:07 PM
Blow Number 46

Pile Properties

LE	111.00	ft
AR	1.18	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.1	ksec/ft
2L/C	13.22	ms
JC		[]
LP	99.60	ft

Quantity Results

CSX	25.1	ksi
CSI	25.2	ksi
EMX	0.326	k-ft
ETR	93.1	(%)
BPM	54.3	bpm
FMX	30	kips
VMX	17.3	f/s
QNV	0.00	[]
QNV	0.00	[]

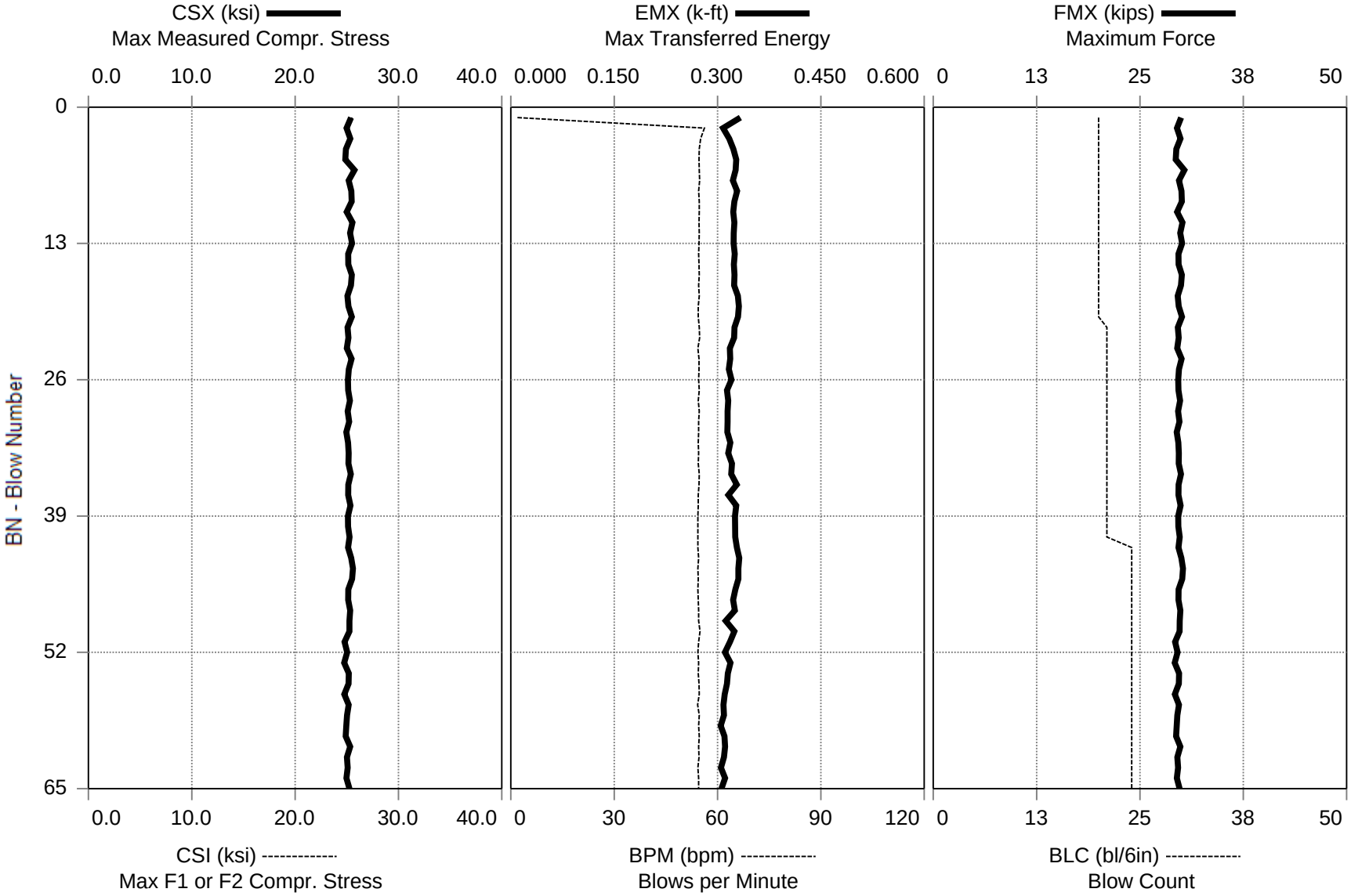
Sensors

F3: [421-AWJ-1] 206.94 (1)
F4: [421-AWJ-2] 206.29 (1)
A3: [K4120] 390 mv/5000g's (1)
A4: [K3774] 382 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 01-June-2016 Test started: 26-April-2016

Thompson SPT Calibration - CME 45C (SN 244224)_5 - AWJ Rod - Mud Rotary



Thompson SPT Calibration - CME 45C (SN 244224)_5 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

AR: 1.18 in² SP: 0.492 k/ft³
LE: 111.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
20	99.0	20	AV20	25.3	25.3	0.325	92.7	52.1	30	17.1
			MAX	25.7	25.8	0.333	95.2	56.2	30	17.3
41	99.5	21	AV21	25.2	25.2	0.320	91.4	54.5	30	17.3
			MAX	25.5	25.5	0.328	93.7	54.8	30	17.5
65	100.0	24	AV24	25.1	25.2	0.316	90.4	54.5	30	17.4
			MAX	25.6	25.6	0.331	94.7	54.9	30	17.7
			Average	25.2	25.2	0.320	91.4	53.8	30	17.3
			Maximum	25.7	25.8	0.333	95.2	56.2	30	17.7

Total number of blows analyzed: 65

BL# Sensors

1-65 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)

Time Summary

Drive 1 minute 10 seconds 12:55 PM - 12:56 PM BN 1 - 65

Thompson SPT Calibration - CME 45C (SN 244224)_5 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

AR: 1.18 in² SP: 0.492 k/ft³
LE: 111.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
21	99.0	21	25.1	25.1	0.325	92.7	54.7	30	17.1
22	99.0	21	25.2	25.2	0.324	92.6	54.8	30	17.2
23	99.1	21	25.0	25.1	0.318	90.8	54.3	29	17.0
24	99.1	21	25.5	25.5	0.318	91.0	54.6	30	17.5
25	99.1	21	25.2	25.2	0.316	90.4	54.6	30	17.1
26	99.1	21	25.1	25.2	0.320	91.5	54.5	30	17.2
27	99.2	21	25.1	25.2	0.314	89.6	54.7	30	17.3
28	99.2	21	25.3	25.4	0.316	90.1	54.4	30	17.3
29	99.2	21	25.1	25.1	0.315	89.9	54.7	30	17.2
30	99.2	21	25.2	25.3	0.315	89.9	54.5	30	17.4
31	99.3	21	25.0	25.0	0.314	89.8	54.5	29	17.3
32	99.3	21	25.1	25.1	0.319	91.0	54.4	30	17.5
33	99.3	21	25.2	25.2	0.316	90.2	54.5	30	17.5
34	99.3	21	25.2	25.2	0.321	91.7	54.4	30	17.4
35	99.4	21	25.4	25.4	0.320	91.4	54.7	30	17.4
36	99.4	21	25.1	25.2	0.328	93.7	54.6	30	17.4
37	99.4	21	25.1	25.2	0.316	90.2	54.4	30	17.2
38	99.4	21	25.3	25.4	0.327	93.5	54.4	30	17.5
39	99.5	21	25.1	25.1	0.325	92.9	54.3	30	17.3
40	99.5	21	25.1	25.1	0.325	93.0	54.3	30	17.3
41	99.5	21	25.3	25.3	0.326	93.0	54.3	30	17.4
42	99.5	24	25.1	25.1	0.328	93.7	54.3	30	17.4
43	99.5	24	25.4	25.5	0.331	94.7	54.5	30	17.4
44	99.6	24	25.6	25.6	0.330	94.4	54.3	30	17.4
45	99.6	24	25.5	25.6	0.330	94.4	54.4	30	17.4
46	99.6	24	25.1	25.2	0.326	93.1	54.3	30	17.3
47	99.6	24	25.1	25.1	0.323	92.2	54.4	30	17.3
48	99.6	24	25.3	25.3	0.325	92.9	54.5	30	17.4
49	99.7	24	25.3	25.3	0.312	89.1	54.5	30	17.4
50	99.7	24	25.3	25.3	0.324	92.7	54.9	30	17.4
51	99.7	24	24.8	24.8	0.318	90.9	54.5	29	17.0
52	99.7	24	25.0	25.1	0.311	88.8	54.3	30	17.2
53	99.8	24	24.7	24.8	0.319	91.1	54.5	29	17.0
54	99.8	24	25.2	25.3	0.315	90.0	54.4	30	17.5
55	99.8	24	25.2	25.2	0.314	89.6	54.6	30	17.4
56	99.8	24	24.8	24.8	0.310	88.7	54.7	29	17.1
57	99.8	24	25.2	25.2	0.309	88.2	54.2	30	17.5
58	99.9	24	25.0	25.0	0.309	88.4	54.7	30	17.4
59	99.9	24	25.0	25.0	0.305	87.0	54.5	29	17.3
60	99.9	24	24.9	24.9	0.310	88.6	54.7	29	17.4
61	99.9	24	25.3	25.3	0.311	88.9	54.5	30	17.7
62	99.9	24	25.0	25.1	0.309	88.4	54.6	30	17.5
63	100.0	24	25.1	25.1	0.305	87.1	54.3	30	17.5
64	100.0	24	25.0	25.0	0.311	88.8	54.5	29	17.5
65	100.0	24	25.3	25.3	0.306	87.4	54.5	30	17.7
		Average	25.2	25.2	0.318	90.8	54.5	30	17.3

Thompson SPT Calibration - CME 45C (SN 244224)_5 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

BL#	Depth	BLC	CSX	CSI	EMX	ETR	BPM	FMX	VMX
	ft	bl/6in	ksi	ksi	k-ft	(%)	bpm	kips	f/s
		Maximum	25.6	25.6	0.331	94.7	54.9	30	17.7

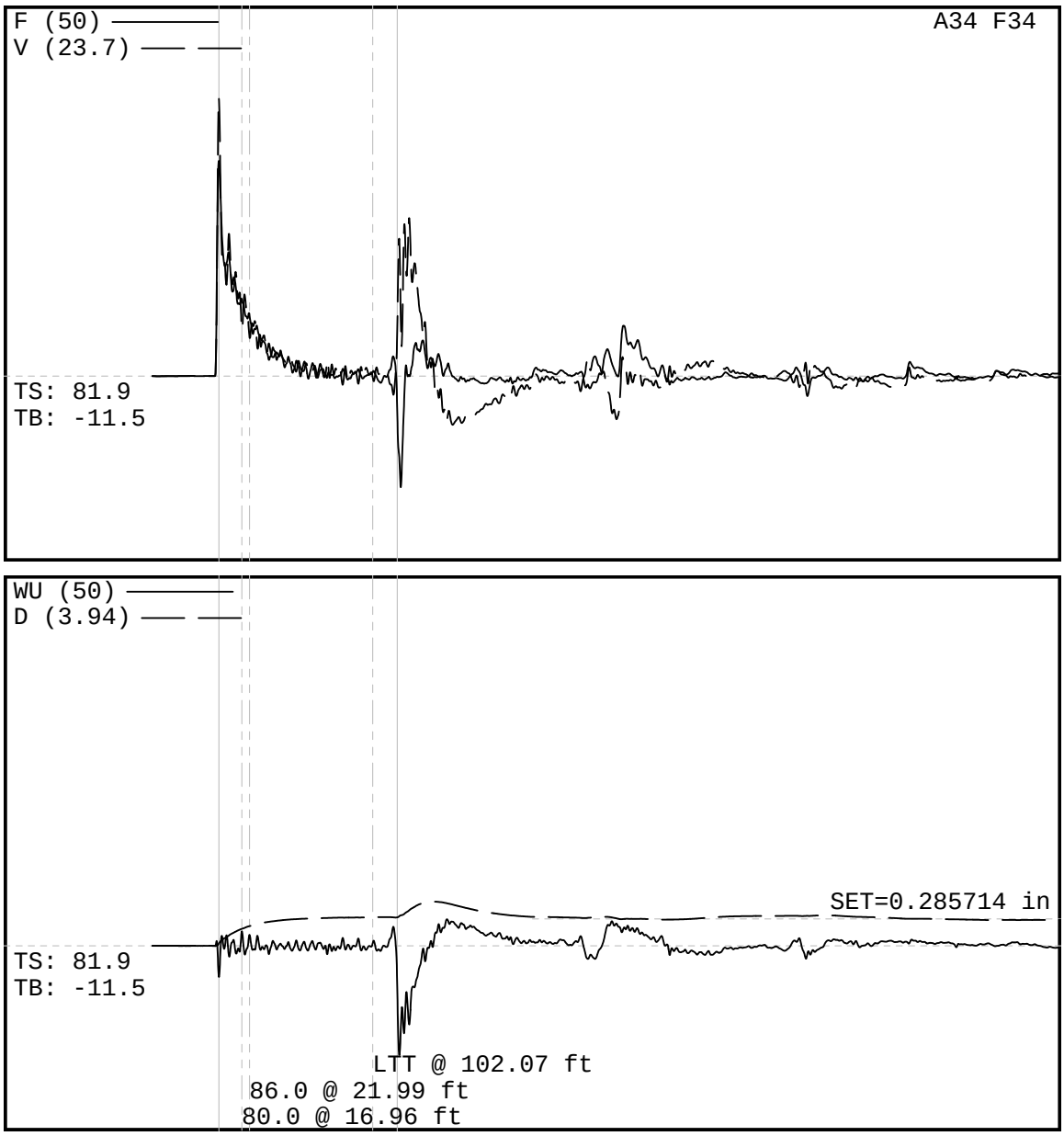
Total number of blows analyzed: 45

BL#	Sensors
21-65	F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)

Time Summary

Drive 1 minute 10 seconds 12:55 PM - 12:56 PM BN 1 - 65

Thompson SPT Calibration CME 45C (SN 244224)_6



Project Information

PROJECT: Thompson SPT Calibration
PILE NAME: CME 45C (SN 244224)_6
DESCR: AWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 45C (SN 244224)_6
4/26/2016 1:25:14 PM
Blow Number 29

Pile Properties

LE	116.00	ft
AR	1.18	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.1	ksec/ft
2L/C	13.82	ms
JC		[]
LP	104.50	ft

Quantity Results

CSX	24.6	ksi
CSI	24.7	ksi
EMX	0.315	k-ft
ETR	89.9	(%)
BPM	54.7	bpm
FMX	29	kips
VMX	17.8	f/s
QNV	0.00	[]
QNV	0.00	[]

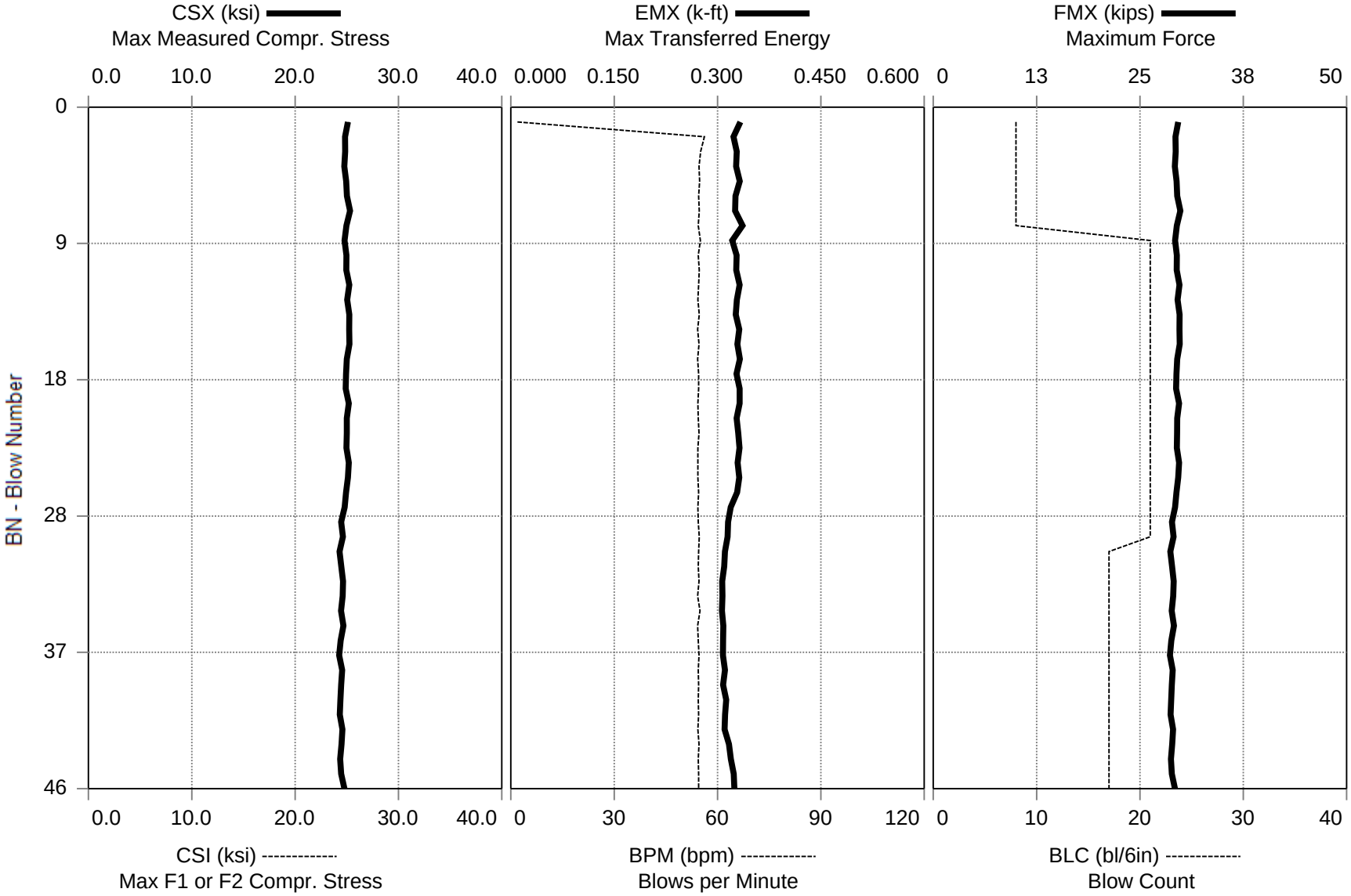
Sensors

F3: [421-AWJ-1] 206.94 (1)
F4: [421-AWJ-2] 206.29 (1)
A3: [K4120] 390 mv/5000g's (1)
A4: [K3774] 382 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 01-June-2016 Test started: 26-April-2016

Thompson SPT Calibration - CME 45C (SN 244224)_6 - AWJ Rod - Mud Rotary



Thompson SPT Calibration - CME 45C (SN 244224)_6 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

AR: 1.18 in² SP: 0.492 k/ft³
LE: 116.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
8	104.0	8	AV8	25.0	25.0	0.329	94.0	48.3	29	17.7
			MAX	25.3	25.4	0.336	96.1	56.2	30	18.0
29	104.5	21	AV21	25.0	25.0	0.327	93.5	54.5	29	17.9
			MAX	25.3	25.3	0.332	95.0	55.0	30	18.1
46	105.0	17	AV17	24.5	24.5	0.312	89.1	54.5	29	17.9
			MAX	24.8	24.8	0.324	92.7	54.9	29	18.4
			Average	24.8	24.8	0.322	92.0	53.4	29	17.9
			Maximum	25.3	25.4	0.336	96.1	56.2	30	18.4

Total number of blows analyzed: 46

BL# Sensors

1-46 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)

Time Summary

Drive 49 seconds 1:24 PM - 1:25 PM BN 1 - 46

Thompson SPT Calibration - CME 45C (SN 244224)_6 AWJ Rod - Mud Rotary
OP: MJN Date: 26-April-2016

AR: 1.18 in² SP: 0.492 k/ft³
LE: 116.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
9	104.0	21	24.8	24.8	0.321	91.8	55.0	29	17.7
10	104.0	21	25.0	25.0	0.328	93.6	54.4	29	17.9
11	104.1	21	25.0	25.0	0.327	93.5	54.7	29	17.8
12	104.1	21	25.2	25.2	0.332	94.9	54.5	30	17.9
13	104.1	21	25.0	25.1	0.328	93.7	54.3	30	17.9
14	104.1	21	25.2	25.3	0.326	93.2	54.7	30	17.9
15	104.2	21	25.2	25.3	0.331	94.7	54.2	30	17.9
16	104.2	21	25.3	25.3	0.329	93.9	54.6	30	18.0
17	104.2	21	25.0	25.0	0.332	95.0	54.2	30	17.9
18	104.2	21	24.9	25.0	0.327	93.6	54.5	29	17.9
19	104.3	21	24.9	24.9	0.332	94.9	54.5	29	17.8
20	104.3	21	25.2	25.2	0.332	94.9	54.3	30	18.0
21	104.3	21	25.0	25.0	0.328	93.6	54.4	30	18.0
22	104.3	21	25.0	25.0	0.330	94.3	54.6	29	18.0
23	104.4	21	25.0	25.0	0.332	94.8	54.3	29	17.9
24	104.4	21	25.2	25.2	0.329	94.1	54.3	30	18.0
25	104.4	21	25.1	25.1	0.332	94.7	54.3	30	18.1
26	104.4	21	24.9	25.0	0.328	93.8	54.5	29	17.8
27	104.5	21	24.8	24.8	0.319	91.2	54.3	29	17.9
28	104.5	21	24.5	24.5	0.315	90.1	54.4	29	17.4
29	104.5	21	24.6	24.7	0.315	89.9	54.7	29	17.8
30	104.5	17	24.3	24.3	0.311	88.8	54.5	29	17.5
31	104.6	17	24.5	24.5	0.310	88.5	54.4	29	17.6
32	104.6	17	24.6	24.7	0.307	87.7	54.6	29	18.0
33	104.6	17	24.6	24.6	0.307	87.7	54.2	29	17.8
34	104.6	17	24.4	24.5	0.306	87.5	54.9	29	17.8
35	104.7	17	24.7	24.7	0.308	88.1	54.2	29	17.9
36	104.7	17	24.4	24.4	0.308	88.0	54.4	29	17.8
37	104.7	17	24.3	24.3	0.308	88.0	54.6	29	17.7
38	104.8	17	24.5	24.6	0.311	88.8	54.4	29	17.9
39	104.8	17	24.5	24.5	0.308	88.0	54.5	29	17.9
40	104.8	17	24.4	24.4	0.312	89.3	54.4	29	18.0
41	104.9	17	24.3	24.3	0.311	88.8	54.5	29	17.8
42	104.9	17	24.6	24.6	0.310	88.6	54.3	29	18.1
43	104.9	17	24.5	24.5	0.317	90.5	54.6	29	18.1
44	104.9	17	24.4	24.4	0.319	91.2	54.4	29	18.0
45	105.0	17	24.4	24.5	0.323	92.4	54.5	29	18.1
46	105.0	17	24.8	24.8	0.324	92.7	54.5	29	18.4
		Average	24.8	24.8	0.320	91.5	54.5	29	17.9
		Maximum	25.3	25.3	0.332	95.0	55.0	30	18.4

Total number of blows analyzed: 38

BL# Sensors

9-46 F3: [421-AWJ-1] 206.9 (1.00); F4: [421-AWJ-2] 206.3 (1.00); A3: [K4120] 390.0 (1.00); A4: [K3774] 382.0 (1.00)

Time Summary

Drive 49 seconds 1:24 PM - 1:25 PM BN 1 - 46

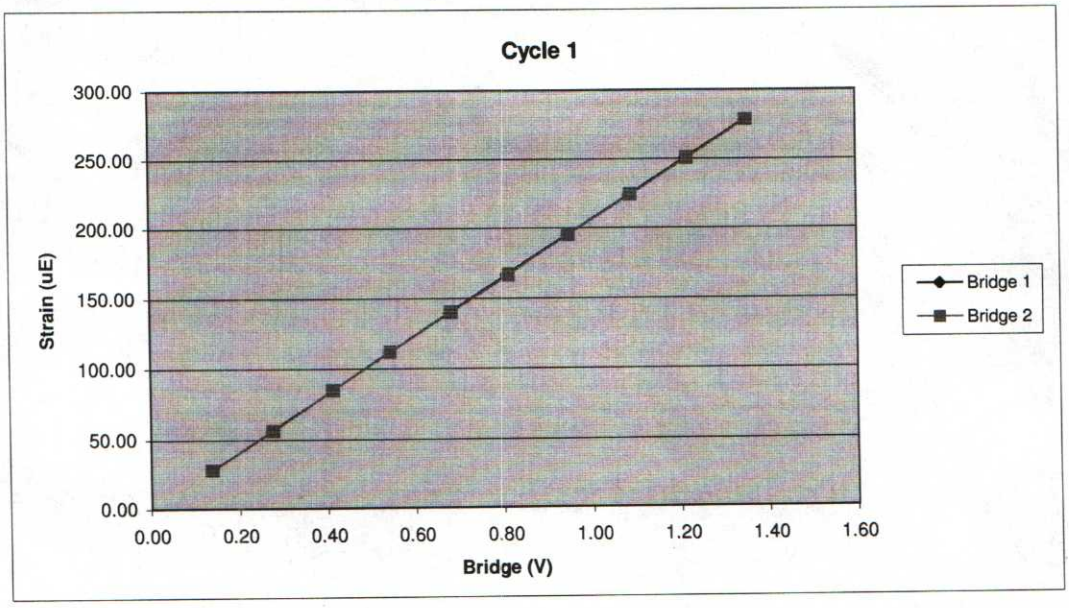
Appendix B

Dynamic Measurement Calibration Sheets

421AWJ		Cycle 1		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	1005.85	28.00	0.14	0.14
3	2005.01	56.43	0.28	0.28
4	3011.46	84.81	0.41	0.41
5	3966.73	111.62	0.54	0.54
6	4968.65	139.87	0.68	0.68
7	5932.98	166.69	0.81	0.81
8	6924.86	194.99	0.95	0.95
9	7977.35	223.97	1.09	1.09
10	8904.68	250.51	1.22	1.22
11	9905.42	278.24	1.35	1.35

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7338.09**	**Force Calibration (lb/V)**	**7328.21**
Offset	-12.00	Offset	-14.97
Correlation	0.999998	Correlation	0.999996
Strain Calibration (µE/V)	**206.26**	**Strain Calibration (µE/V)**	**205.98**
Offset	-0.31	Offset	-0.39
Correlation	0.999999	Correlation	0.999998

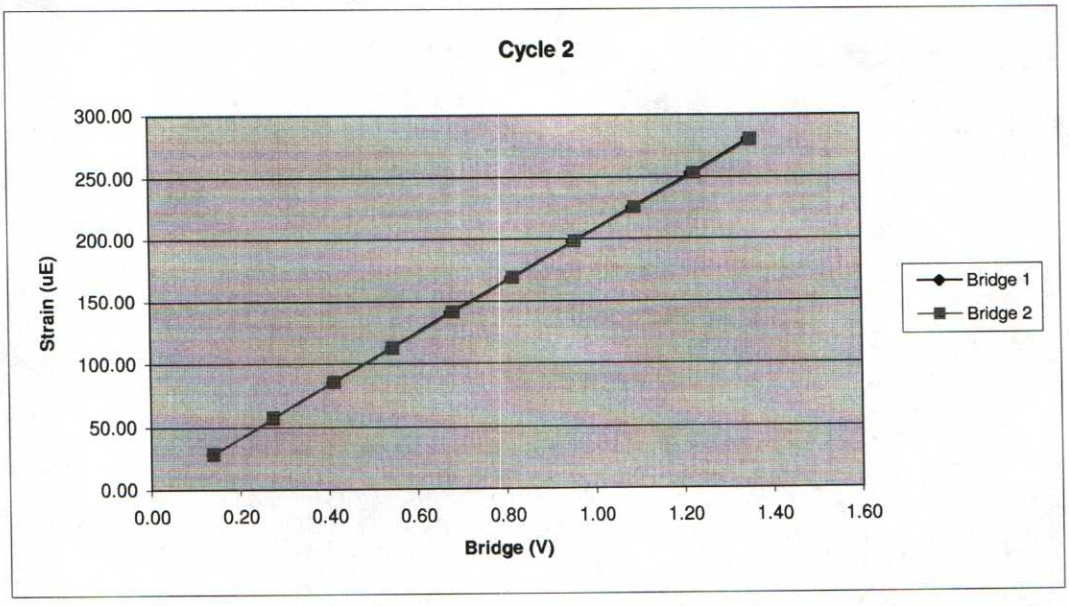
Force Strain Calibration	
EA (Kips)	**35576.37**
Offset	-1.11
Correlation	0.999997



421AWJ		Cycle 2		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	1014.51	28.67	0.14	0.14
3	2007.38	57.15	0.27	0.27
4	3000.63	85.60	0.41	0.41
5	3978.15	112.52	0.54	0.54
6	4953.69	140.78	0.68	0.68
7	5958.76	168.64	0.81	0.82
8	6990.39	197.75	0.95	0.96
9	7981.49	225.38	1.09	1.09
10	8970.81	253.13	1.22	1.23
11	9917.43	279.98	1.35	1.35

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7353.83**	**Force Calibration (lb/V)**	**7322.44**
Offset	**-12.14**	Offset	**-15.23**
Correlation	**0.999996**	Correlation	**0.999994**
Strain Calibration (µE/V)	**207.22**	**Strain Calibration (µE/V)**	**206.34**
Offset	**0.27**	Offset	**0.19**
Correlation	**0.999995**	Correlation	**0.999996**

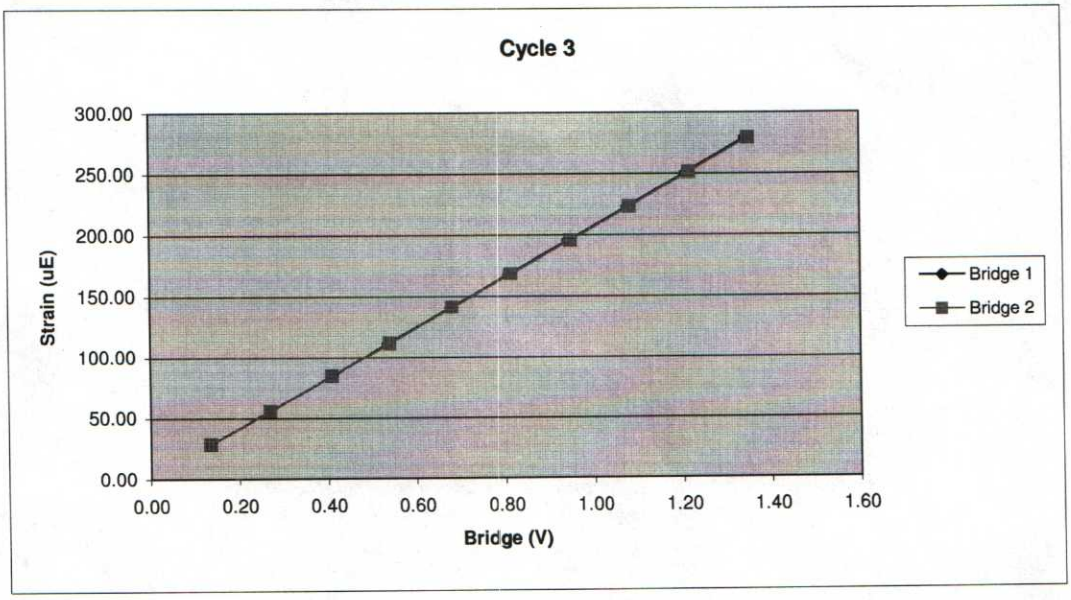
Force Strain Calibration	
EA (Kips)	**35487.78**
Offset	**-21.84**
Correlation	**0.999992**



421AWJ		Cycle 3		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	979.68	28.50	0.13	0.13
3	1973.72	55.64	0.27	0.27
4	2996.50	84.67	0.41	0.41
5	3948.43	111.32	0.54	0.54
6	4995.02	140.86	0.68	0.68
7	5952.86	168.03	0.81	0.81
8	6933.71	195.66	0.94	0.95
9	7917.53	223.31	1.08	1.08
10	8902.52	251.28	1.21	1.22
11	9894.99	279.28	1.34	1.35

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7358.39**	**Force Calibration (lb/V)**	**7331.09**
Offset	**-8.35**	Offset	**-3.80**
Correlation	**0.999998**	Correlation	**0.999998**
Strain Calibration (µE/V)	**207.33**	**Strain Calibration (µE/V)**	**206.56**
Offset	**0.08**	Offset	**0.21**
Correlation	**0.999994**	Correlation	**0.999993**

Force Strain Calibration	
EA (Kips)	**35491.62**
Offset	**-11.08**
Correlation	**0.999996**



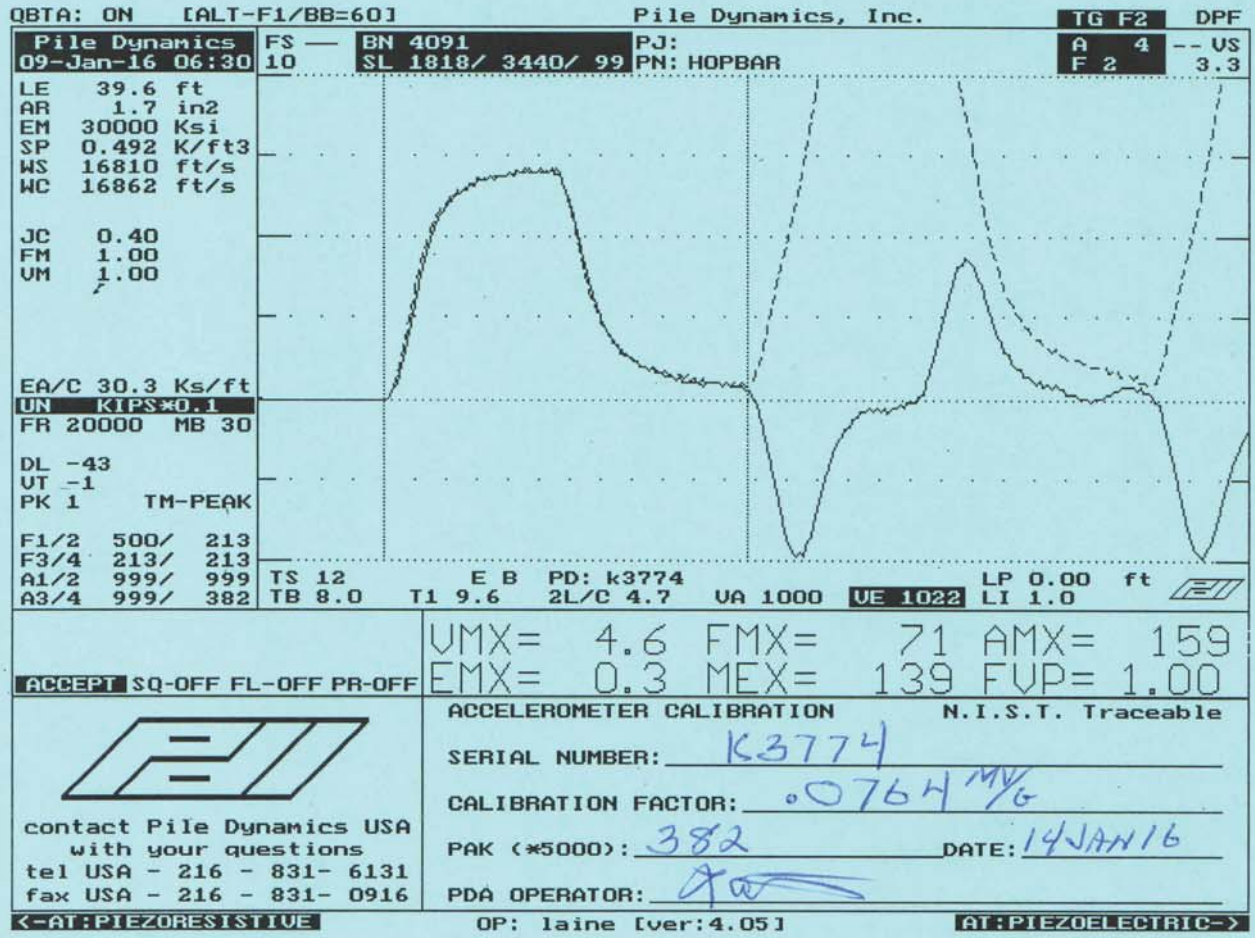
Bridge Excitation (V) 5
Shunt Resitor (ohm) 60.4k

Calibration Factors	421AWJ		
Bridge 1 (µE/V)	206.94	Bridge 2 (µE/V)	206.29
EA Factor (Kips)	35518.59	Area (in^2)	1.18

Calibrated by: _____
Calibrated Date: 8/25/2014

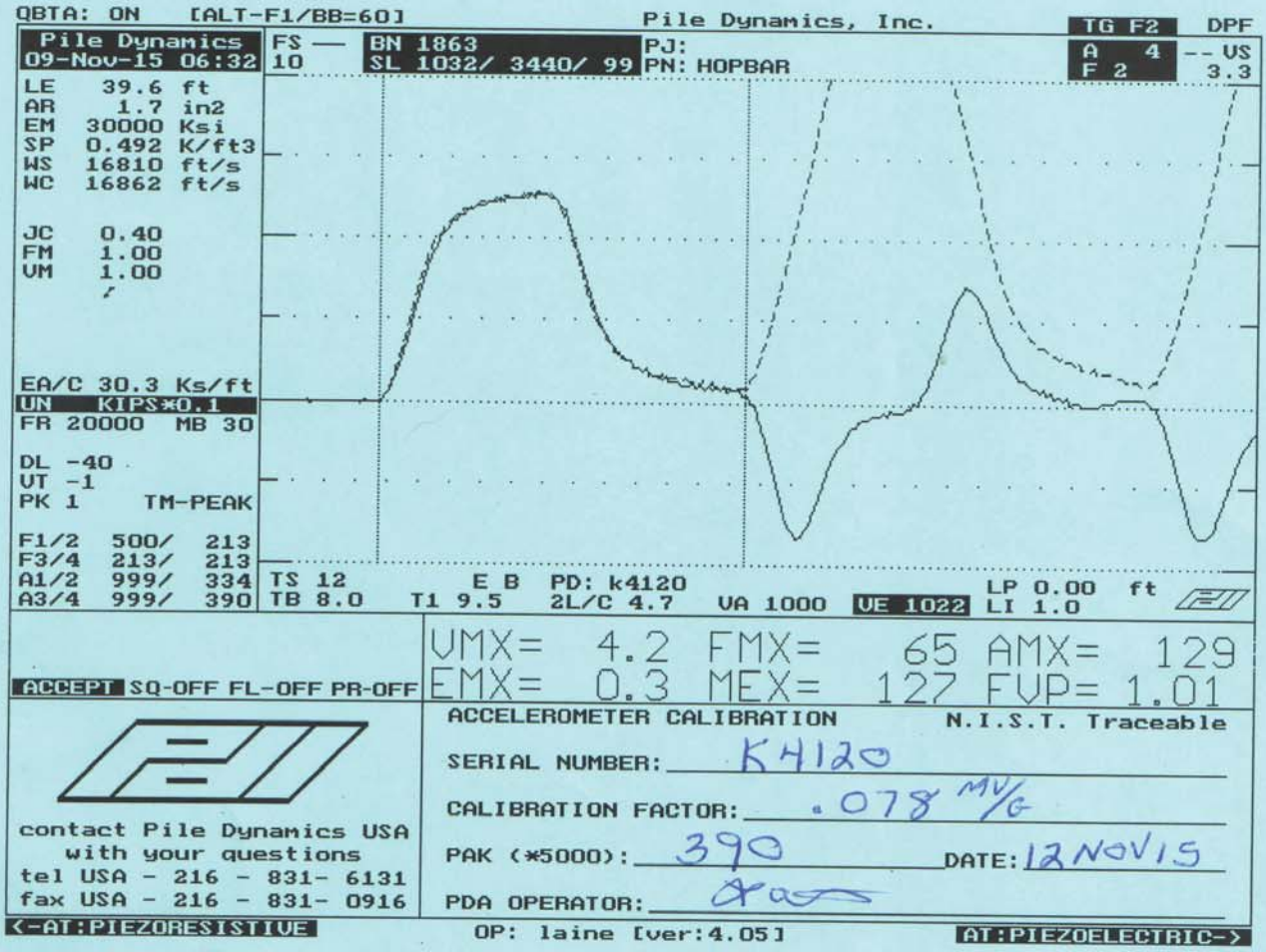
Pile Dynamics Inc
30725 Aurora Rd
Solon, OH 44139

Traceable to N.I.S.T.



Smart Sensor

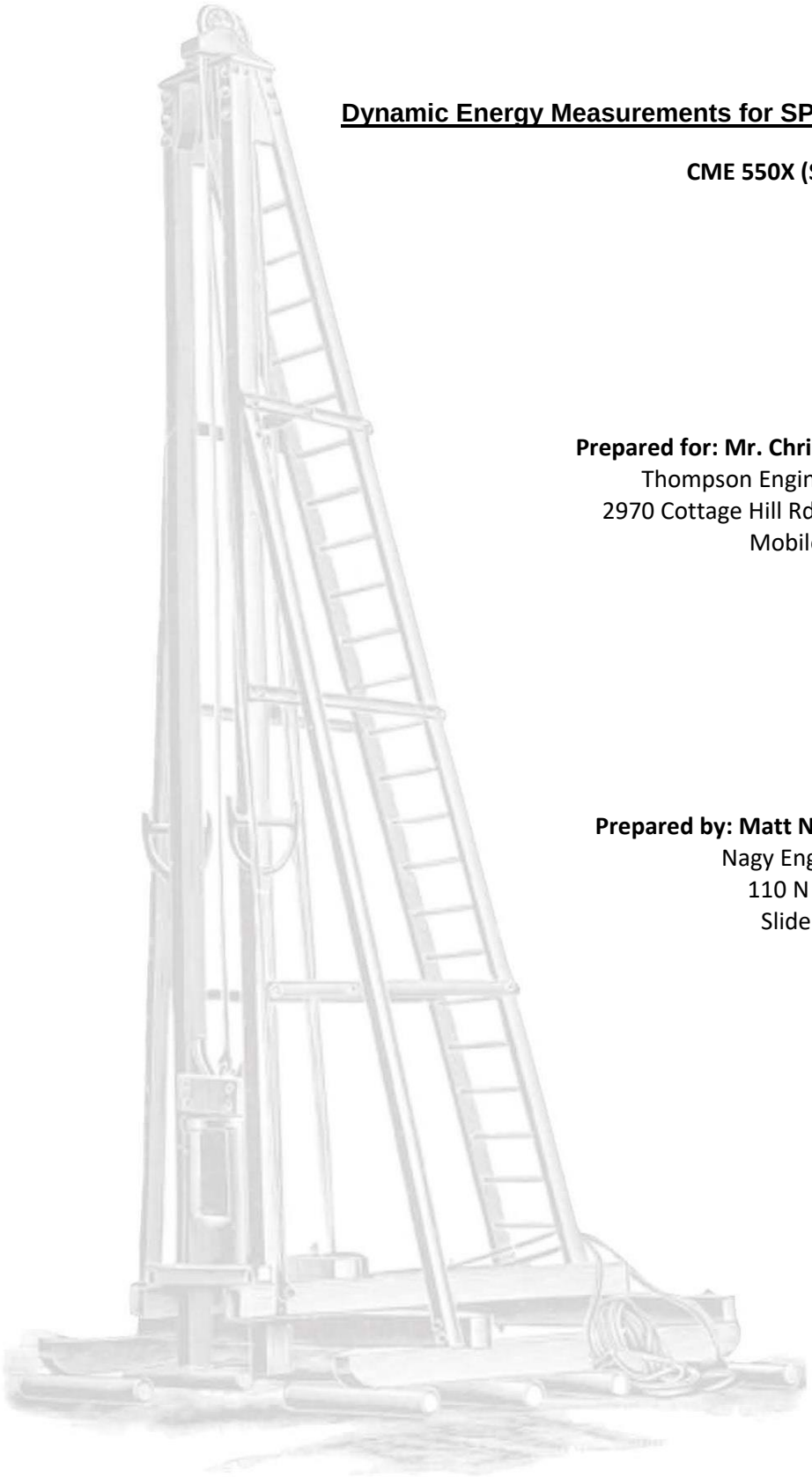
Smart Chip Programmed By T.M.W. **on** 14JAN16 **CRC Value** B078



Smart Sensor

Smart Chip Programmed By D.M.W. **on** 12NOV15 **CRC Value** 980A

Nagy Engineers, Inc.



Dynamic Energy Measurements for SPT Hammer

CME 550X (S/N 355273)

Prepared for: Mr. Chris Dugger of
Thompson Engineering, Inc.
2970 Cottage Hill Rd., Suite 190
Mobile, AL 36606

Prepared by: Matt Nagy, P.E. of
Nagy Engineers, Inc.
110 N Queens Dr.
Slidell, LA 70458

September 13, 2017

Mr. Chris Dugger
Thompson Engineering, Inc.
2970 Cottage Hill Road, Suite 190
Mobile, AL 36606

Re: SPT Hammer Calibration using Dynamic Energy Measurements
Thompson Engineering Drill Rig – CME 550X (S/N 355273)
Nagy Engineers Job No. 171044-1

Dear Mr. Dugger:

This report summarizes the results from SPT Energy Measurement Testing performed in Mobile, Alabama near the intersection of Interstate 10 and Old Spanish Trail on September 11, 2017. The testing was conducted to calibrate a CME 550X automatic SPT hammer. The hammer reportedly had a 140 lb drop weight and a 2.5 ft drop height. Appendix A gives a summary of the field dynamic test data and results while Appendix B contains the equipment calibration sheets. An overall summary of the test results is presented in Table 1.

OBJECTIVES

The objective of the testing was to perform SPT Energy Measurements according to ASTM D4633-10. These objectives were met using our Pile Driving Analyzer®, Model PAX – SPT Software, which acquired the SPT hammer's transfer energies using an instrumented NWJ rod section and two piezoresistive accelerometers.

TESTING AND EQUIPMENT

Drilling and SPT Hammer Equipment

SPT energy measurements were collected for a CME 550X automatic SPT hammer. The serial number on the rig was s/n 355273. Energy records were collected at various increments between the depths of 13.5 ft and 35.0 ft. The drilling method was mud rotary. Appendix A contains a photo of the CME 550X rig that was tested.

Instrumentation

A Model PAX Pile Driving Analyzer® (PDA) data acquisition system was used to collect and process the dynamic measurements of force and velocity. The PAX is a digital system having a low pass filter cutoff frequency of 5 kHz. The sampling frequency was therefore set to 10 times the low pass filter, or 50 kHz. A

two foot long section of NWJ rod subsection was instrumented with one full bridge foil resistance strain gage and two piezoresistive accelerometers mounted at the midpoint location of the instrumented subsection. Strain and acceleration signals were conditioned, digitized, stored and processed using the PDA. Selected output from the PDA for each recorded impact included the maximum calculated rod top force (FMX), maximum rod top velocity (VMX), maximum average compressive stress (CSX), maximum energy transfer (EMX), energy transfer ratio (ETR) and the hammer operating rate (BPM).

MEASUREMENTS AND CALCULATIONS

FV Method (EMX)

Energy transfer to the PDA gage location, EMX, was computed by the PDA using force, F(t), and velocity, v(t), records as follows:

$$EMX = \int_a^b F(t) \cdot v(t) dt$$

The time "a" corresponds to the start of the record when the energy transfer begins, and "b" is the time at which energy transferred to the rod reaches a maximum value. The FV Method is currently recognized in ASTM D4633-10, and is the theoretically correct result; therefore, no other energy calculation methods are reported.

RESULTS

Upon return to the office, the records collected by the PDA were checked for consistency and accuracy. For example, records from very weak startup or final impacts were not included in the results. Appendix A contains a representative plot of force and normalized velocity versus time and PDIPLOT results for all hammer blows at each dynamically monitored sampling depth. The PDA results include the EMX (transferred energy by the EMX method, as recommended by ASTM D4633-10), ETR (energy transfer ratio), BPM (hammer operating rate), FMX (maximum rod top force), CSX (maximum compressive stress), and VMX (maximum rod top velocity). The plots show each calculated PDA result versus sampling spoon penetration while the tables show statistical summaries for each 6 inch increment. At the end of each table, on the next page, is a statistical evaluation of the results which only include the blows that correspond to the N-Value for that sample.

Table 1 summarizes the average transfer energy values calculated by the EMX method. The records averaged consist only of the hammer blows at each dynamically monitored sampling depth that correspond to the N-Values (i.e. the blows in the initial 6 inches of split spoon driving were not considered

as part of the average). The “energy transfer ratio” (ETR) is defined as the ratio of maximum transferred energy EMX divided by the theoretical hammer potential energy of 350 ft-lbs. The average hammer operating rate is reported in blows per minute (BPM).

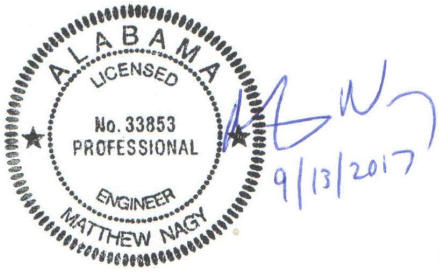
CONCLUSIONS

RIG: CME 550X (s/n: 355273) - 140 lbs Hammer – 2.5 ft Drop Height

The average maximum energy transfer (EMX) to the NWJ SPT rod using the 140 lbs drop weight was 314 ft-lbs which is 90% of the 350 ft-lbs potential energy of the hammer. The standard deviation of the transfer efficiency was 3% over the eight samples that were collected. The average hammer operation rate during the time of testing was 51.5 blows/min.

We have appreciated this opportunity to be of assistance to you on this project, please contact our office if you have any questions regarding this report, or if we may be of further service.

Very truly yours,
Nagy Engineers, Inc.



Matthew Nagy, P.E. AL # 33853

Firm COA Number: 4718

Enclosed: Appendices A and B

TABLE 1: Summary of SPT Energy Measurements

CME 550X Automatic SPT Hammer (S/N 355273)

Rod Length Below Gages *LE*	Depth Below Top of Ground	Reported SPT Blow Counts	Maximum Transfer Force *FMX*	Maximum Compressive Stress *CSX*	Average Hammer Blow Rate *BPM*	Average Energy Transfer *EMX*	Average Transfer Efficiency *ETR*
ft	ft	blows/6"	kips	ksi	blows/min	ft-lbs	%
19.0	13.5 to 15.0	3,7,11	42	29.5	43.7	290	83%
24.0	18.5 to 20.0	2,3,8	43	30.6	54.4	310	89%
27.0	21.0 to 22.5	13,23,21	43	30.3	56.6	313	89%
29.0	23.5 to 25.0	8,8,5	43	30.0	50.5	314	90%
32.0	26.0 to 27.5	7,5,5	44	30.7	55.5	327	93%
34.0	28.5 to 30.0	5,9,15	43	30.0	50.4	327	93%
37.0	31.0 to 32.5	6,4,8	43	30.0	50.4	314	90%
39.0	33.5 to 35.0	9,12,12	43	30.5	50.5	318	91%
		Overall Average			**51.5**	**314**	**90%**
		Standard Deviation			**4.1**	**12**	**3%**

Notes

LE - Length from the bottom of the spoon to the PDA gage location.
FMX - Maximum Force Meaused at PDA gage locationn.
CSX - Maximum Average Compressive Stress at PDA gage location.
BPM - Hammer operation rate (blows/minute)
EMX - Computed, from $\int F v \, dt$, maximum energy transferred to PDA gage location.
ETR - Computed, from EMX/PE, maximum energy transfer efficiency

Appendix A

Results from SPT Dynamic Energy Measurements

Thompson Engineering SPT Rig Calibration

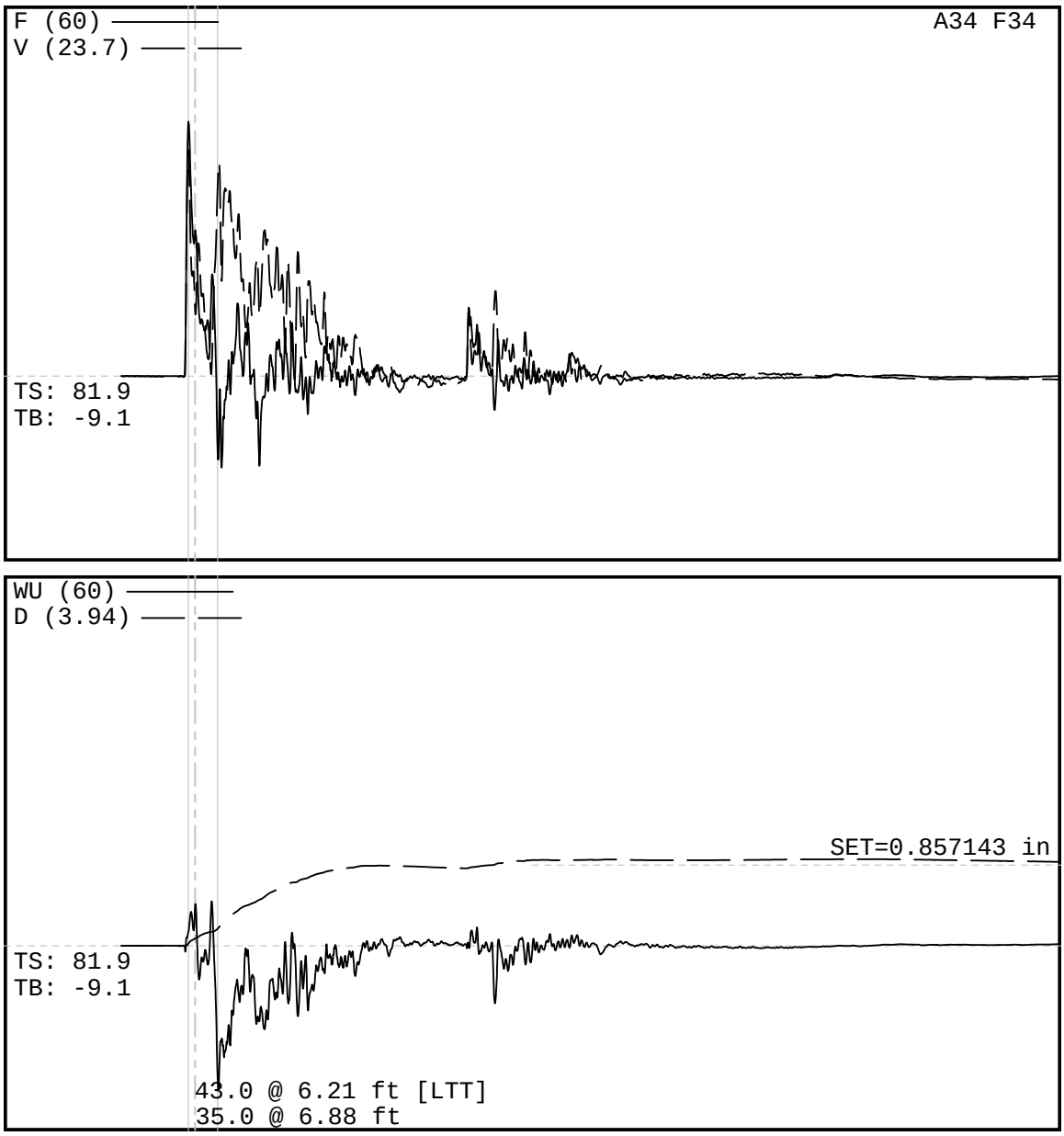
CMX 550X

S/N 355273

(NWJ Rod –Mud Rotary)

Thompson Engineering's CME 550X (S/N 355273)

Thompson Engineering SPT Calibration CME 550X (SN 355273) - 13.5 to 15.0 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 355273) - 13.5 to 1
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 550X (SN 355273)
9/11/2017 1:11:19 PM
Blow Number 7

Pile Properties

LE	19.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	2.26	ms
JC		[]
LP	14.29	ft

Quantity Results

CSX	29.03	ksi
CSI f	29.28	ksi
EMX	0.286	k-ft
ETR	81.7	(%)
BPM	43.7	bpm
FMX	41	kips
VMX	14.5	f/s
QNV	0.00	[]
QNV	0.00	[]

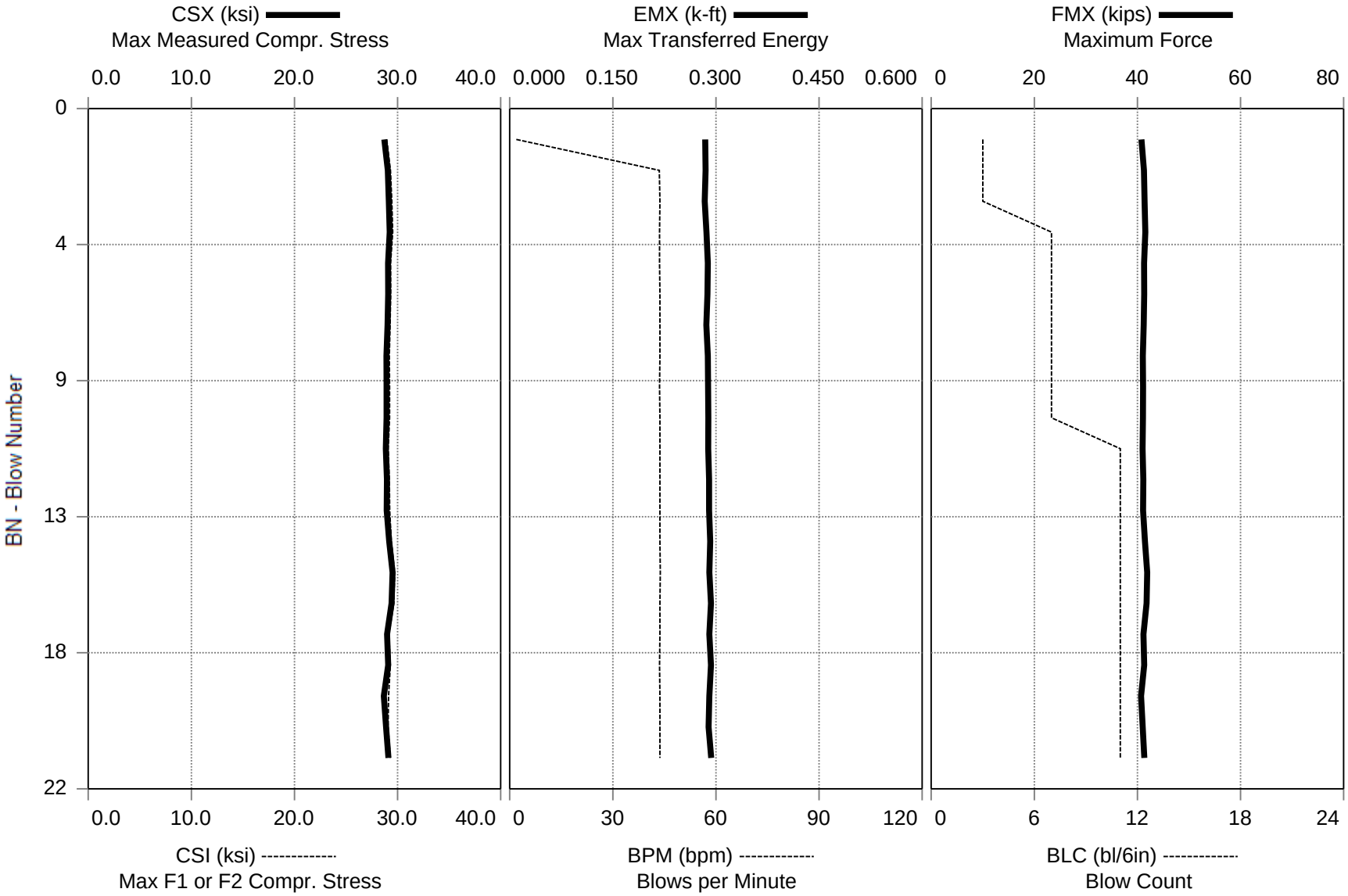
Sensors

F3: [413 NWJ-1] 212.28 (1)
F4: [413 NWJ-2] 213.94 (1)
A3: [K3773] 380 mv/5000g's (1)
A4: [K4822] 355 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 13-September-2017 Test started: 11-September-2017

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 13.5 to 15.0 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 13.5 to 15.0 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 19.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
3	14.00	3	AV3	29.0	29.2	0.284	81.2	29.7	41	14.5
			MAX	29.2	29.4	0.285	81.4	43.7	41	14.8
10	14.50	7	AV7	29.0	29.3	0.288	82.2	43.7	41	14.5
			MAX	29.2	29.5	0.289	82.6	43.7	42	14.6
21	15.00	11	AV11	29.1	29.3	0.291	83.1	43.7	41	14.6
			MAX	29.5	29.7	0.293	83.7	43.8	42	14.7
			Average	29.0	29.3	0.289	82.5	41.7	41	14.6
			Maximum	29.5	29.7	0.293	83.7	43.8	42	14.8

Total number of blows analyzed: 21

BL# Sensors

1-21 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 27 seconds 1:11 PM - 1:11 PM BN 1 - 21

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 13.5 to 15.0 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 19.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
4	14.07	7	29.2	29.5	0.286	81.7	43.6	42	14.3
5	14.14	7	29.1	29.3	0.288	82.4	43.6	41	14.4
6	14.21	7	29.1	29.3	0.288	82.2	43.7	41	14.5
7	14.29	7	29.0	29.3	0.286	81.7	43.7	41	14.5
8	14.36	7	28.9	29.2	0.288	82.4	43.7	41	14.6
9	14.43	7	28.9	29.2	0.289	82.4	43.6	41	14.6
10	14.50	7	28.9	29.2	0.289	82.6	43.7	41	14.6
11	14.55	11	28.9	29.1	0.289	82.5	43.7	41	14.5
12	14.59	11	29.0	29.2	0.290	82.9	43.7	41	14.6
13	14.64	11	28.9	29.2	0.290	82.9	43.7	41	14.6
14	14.68	11	29.2	29.4	0.292	83.3	43.7	41	14.6
15	14.73	11	29.5	29.7	0.290	82.9	43.8	42	14.7
16	14.77	11	29.4	29.6	0.293	83.6	43.7	42	14.6
17	14.82	11	29.0	29.2	0.290	83.0	43.7	41	14.6
18	14.86	11	29.1	29.3	0.293	83.7	43.6	41	14.7
19	14.91	11	28.7	29.1	0.290	83.0	43.7	41	14.5
20	14.95	11	28.9	29.1	0.289	82.6	43.7	41	14.6
21	15.00	11	29.1	29.3	0.293	83.7	43.7	41	14.7
		Average	29.0	29.3	0.290	82.7	43.7	41	14.6
		Maximum	29.5	29.7	0.293	83.7	43.8	42	14.7

Total number of blows analyzed: 18

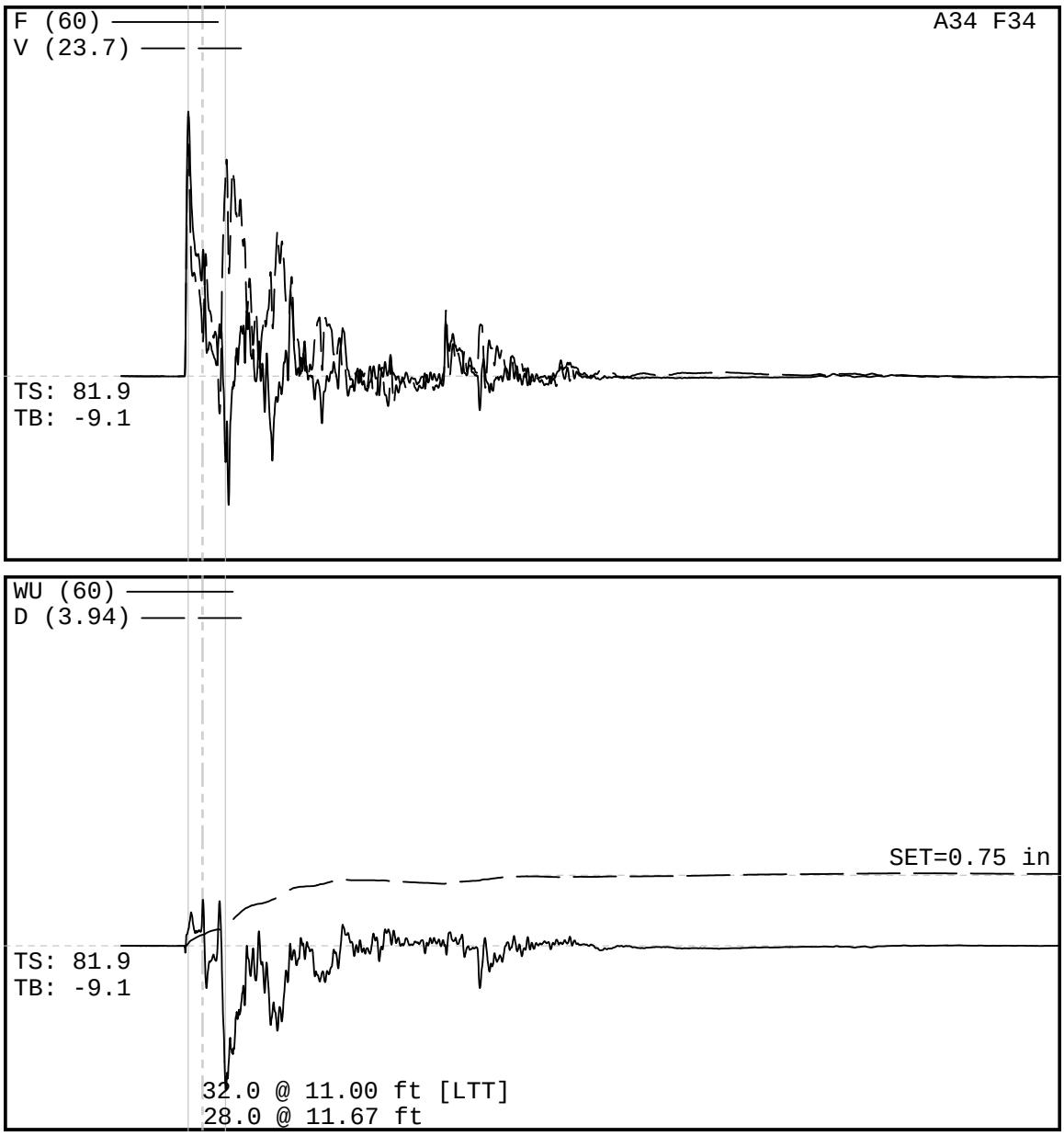
BL# Sensors

4-21 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 27 seconds 1:11 PM - 1:11 PM BN 1 - 21

Thompson Engineering SPT Calibration CME 550X (SN 355273) - 18.5 to 20.0 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 355273) - 18.5 to 2
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 550X (SN 355273)_1
9/11/2017 1:23:52 PM
Blow Number 8

Pile Properties

LE	24.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	2.88	ms
JC		[]
LP	19.69	ft

Quantity Results

CSX	30.17	ksi
CSI f	30.53	ksi
EMX	0.312	k-ft
ETR	89.0	(%)
BPM	54.1	bpm
FMX	43	kips
VMX	14.8	f/s
QNV	0.00	[]
QNV	0.00	[]

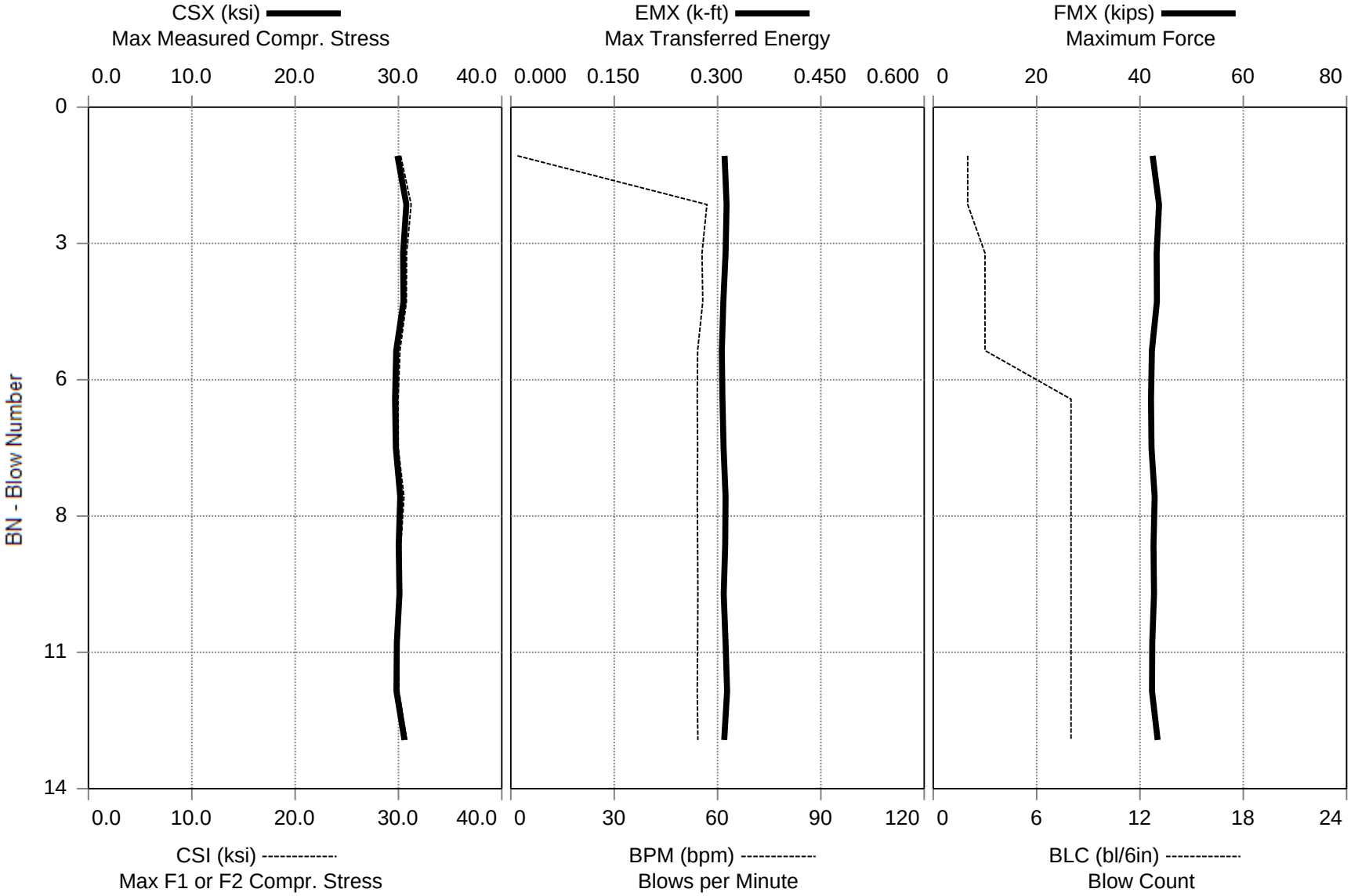
Sensors

F3: [413 NWJ-1] 212.28 (1)
F4: [413 NWJ-2] 213.94 (1)
A3: [K3773] 380 mv/5000g's (1)
A4: [K4822] 355 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 13-September-2017 Test started: 11-September-2017

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 18.5 to 20.0 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 18.5 to 20.0 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 24.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
2	19.00	2	AV2	30.3	30.7	0.312	89.0	29.4	43	16.4
			MAX	30.8	31.2	0.313	89.4	56.9	44	16.4
5	19.50	3	AV3	30.2	30.6	0.309	88.2	55.1	43	15.8
			MAX	30.5	30.8	0.312	89.1	55.7	43	16.2
13	20.00	8	AV8	30.0	30.2	0.310	88.7	54.2	43	14.8
			MAX	30.6	30.8	0.314	89.6	54.3	43	15.0
			Average	30.1	30.4	0.310	88.6	50.6	43	15.3
			Maximum	30.8	31.2	0.314	89.6	56.9	44	16.4

Total number of blows analyzed: 13

BL# Sensors

1-13 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 13 seconds 1:23 PM - 1:23 PM BN 1 - 13

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 18.5 to 20.0 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 24.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
3	19.17	3	30.4	30.8	0.312	89.1	55.5	43	15.8
4	19.33	3	30.5	30.8	0.308	88.1	55.7	43	16.2
5	19.50	3	29.8	30.1	0.306	87.5	54.2	42	15.5
6	19.56	8	29.7	30.0	0.307	87.8	54.1	42	14.9
7	19.63	8	29.7	30.0	0.309	88.2	54.2	42	14.6
8	19.69	8	30.2	30.5	0.312	89.0	54.1	43	14.8
9	19.75	8	30.0	30.2	0.311	88.9	54.2	43	14.8
10	19.81	8	30.1	30.2	0.309	88.3	54.3	43	14.8
11	19.88	8	29.8	30.0	0.312	89.0	54.2	42	14.8
12	19.94	8	29.8	30.0	0.314	89.6	54.1	42	14.9
13	20.00	8	30.6	30.8	0.310	88.5	54.3	43	15.0
		Average	30.1	30.3	0.310	88.5	54.4	43	15.1
		Maximum	30.6	30.8	0.314	89.6	55.7	43	16.2

Total number of blows analyzed: 11

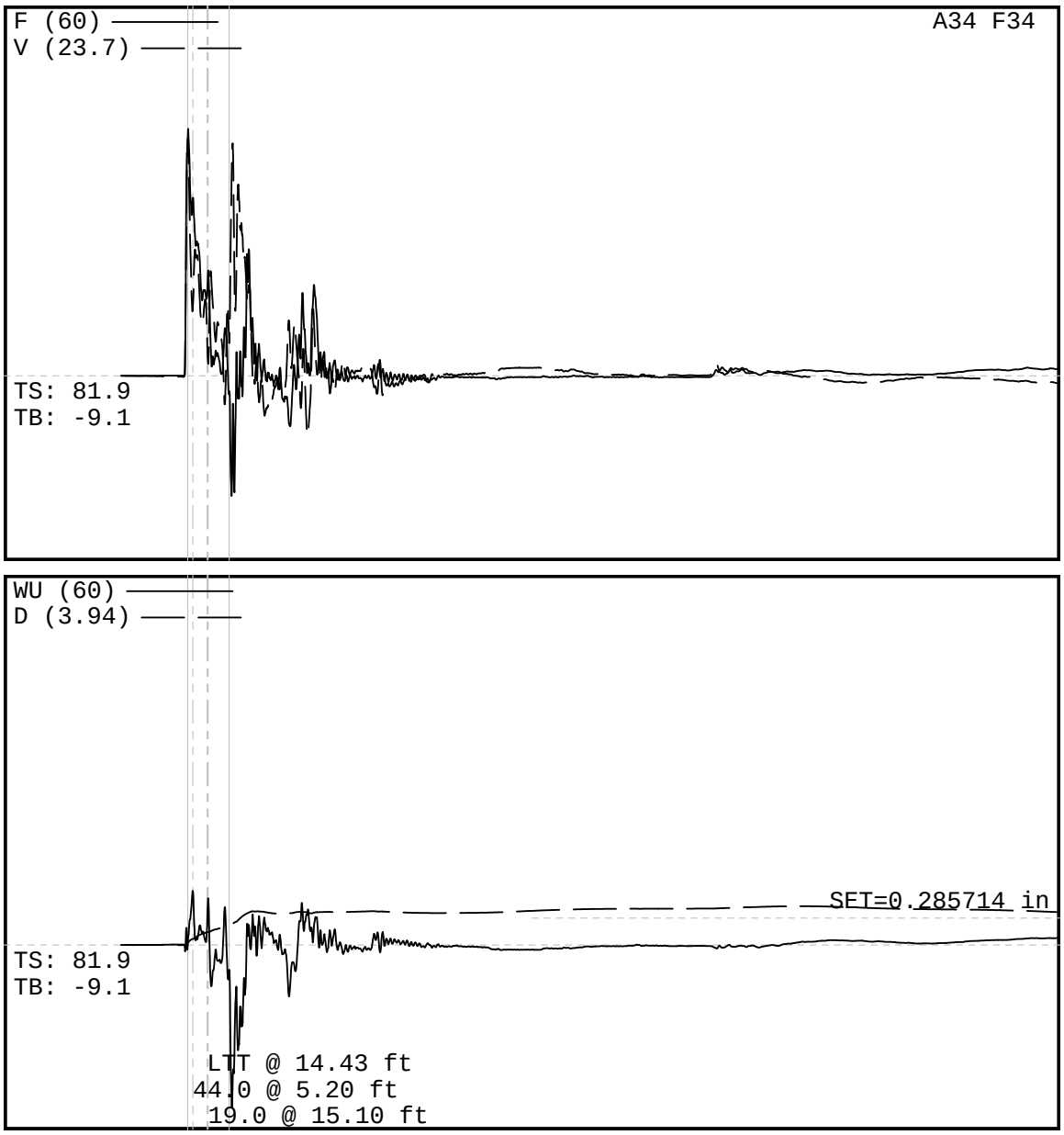
BL# Sensors

3-13 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 13 seconds 1:23 PM - 1:23 PM BN 1 - 13

Thompson Engineering SPT Calibration CME 550X (SN 355273) - 21.0 to 22.5 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 355273) - 21.0 to 2
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 550X (SN 355273)_2
9/11/2017 1:35:14 PM
Blow Number 37

Pile Properties

LE	27.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	3.22	ms
JC		[]
LP	22.02	ft

Quantity Results

CSX	28.20	ksi
CSI f	28.81	ksi
EMX	0.314	k-ft
ETR	89.6	(%)
BPM	56.4	bpm
FMX	40	kips
VMX	15.2	f/s
QNV	0.00	[]
QNV	0.00	[]

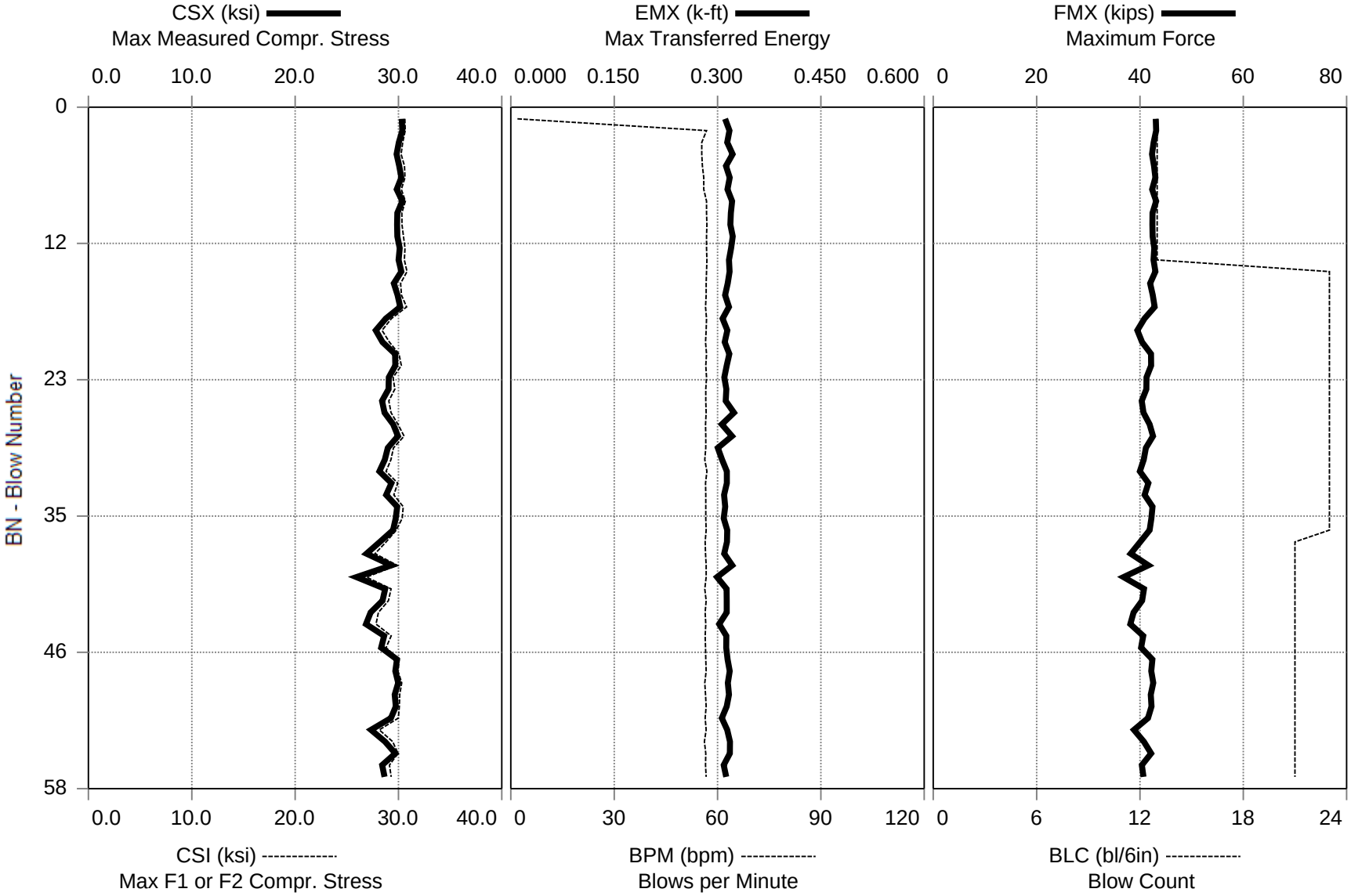
Sensors

F3: [413 NWJ-1] 212.28 (1)
F4: [413 NWJ-2] 213.94 (1)
A3: [K3773] 380 mv/5000g's (1)
A4: [K4822] 355 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 13-September-2017 Test started: 11-September-2017

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 21.0 to 22.5 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 21.0 to 22.5 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR:	1.42 in²	SP:	0.492 k/ft³
LE:	27.00 ft	EM:	30,000 ksi
WS:	16,807.9 f/s	JC:	0.00 []

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
EMX: Max Transferred Energy
ETR: Energy Transfer Ratio
BPM: Blows per Minute
FMX: Maximum Force
VMX: Maximum Velocity

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
13	21.50	13	AV13	30.1	30.5	0.317	90.7	52.2	43	15.0
			MAX	30.4	30.7	0.322	92.0	56.9	43	15.2
36	22.00	23	AV23	29.2	29.8	0.312	89.3	56.6	41	15.0
			MAX	30.3	30.8	0.324	92.5	56.9	43	15.5
57	22.50	21	AV21	28.6	29.1	0.313	89.3	56.5	41	15.6
			MAX	30.0	30.3	0.321	91.8	56.7	43	16.2
			Average	29.2	29.7	0.314	89.6	55.6	41	15.2
			Maximum	30.4	30.8	0.324	92.5	56.9	43	16.2

Total number of blows analyzed: 57

BL# Sensors

1-57 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 59 seconds 1:34 PM - 1:35 PM BN 1 - 57

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 21.0 to 22.5 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 27.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
EMX: Max Transferred Energy
ETR: Energy Transfer Ratio
BPM: Blows per Minute
FMX: Maximum Force
VMX: Maximum Velocity

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
14	21.52	23	30.3	30.8	0.317	90.7	56.8	43	15.3
15	21.54	23	29.6	30.2	0.315	89.9	56.7	42	15.0
16	21.57	23	29.9	30.3	0.311	88.8	56.7	42	15.2
17	21.59	23	30.2	30.8	0.317	90.5	56.5	43	14.9
18	21.61	23	28.8	29.3	0.307	87.8	56.8	41	15.2
19	21.63	23	27.8	28.4	0.314	89.8	56.7	39	15.4
20	21.65	23	28.5	29.1	0.310	88.7	56.5	40	15.2
21	21.67	23	29.7	30.0	0.317	90.6	56.8	42	14.9
22	21.70	23	29.7	30.3	0.313	89.5	56.6	42	14.8
23	21.72	23	29.1	29.5	0.310	88.5	56.8	41	15.1
25	21.76	23	28.4	29.1	0.312	89.1	56.6	40	15.3
27	21.80	23	29.5	30.0	0.306	87.5	56.5	42	15.2
29	21.85	23	29.0	29.5	0.300	85.8	56.6	41	14.5
31	21.89	23	28.2	28.8	0.314	89.6	56.9	40	15.1
33	21.93	23	28.8	29.6	0.309	88.4	56.6	41	15.0
35	21.98	23	29.7	30.4	0.309	88.3	56.6	42	14.4
37	22.02	21	28.2	28.8	0.314	89.6	56.4	40	15.2
39	22.07	21	29.3	29.9	0.321	91.8	56.7	42	15.2
41	22.12	21	28.7	29.3	0.313	89.5	56.3	41	15.2
43	22.17	21	27.3	28.1	0.313	89.5	56.4	39	15.6
45	22.21	21	28.6	29.3	0.313	89.4	56.4	41	15.5
47	22.26	21	29.9	30.1	0.315	89.9	56.6	42	15.3
49	22.31	21	30.0	30.3	0.315	90.0	56.3	43	15.2
51	22.36	21	29.7	30.1	0.313	89.5	56.7	42	15.6
53	22.40	21	27.3	28.1	0.314	89.7	56.7	39	16.2
55	22.45	21	29.7	29.9	0.318	90.8	56.6	42	15.8
57	22.50	21	28.7	29.3	0.313	89.3	56.7	41	15.9
		Average	28.9	29.5	0.313	89.3	56.6	41	15.3
		Maximum	30.3	30.8	0.324	92.5	56.9	43	16.2

Total number of blows analyzed: 44

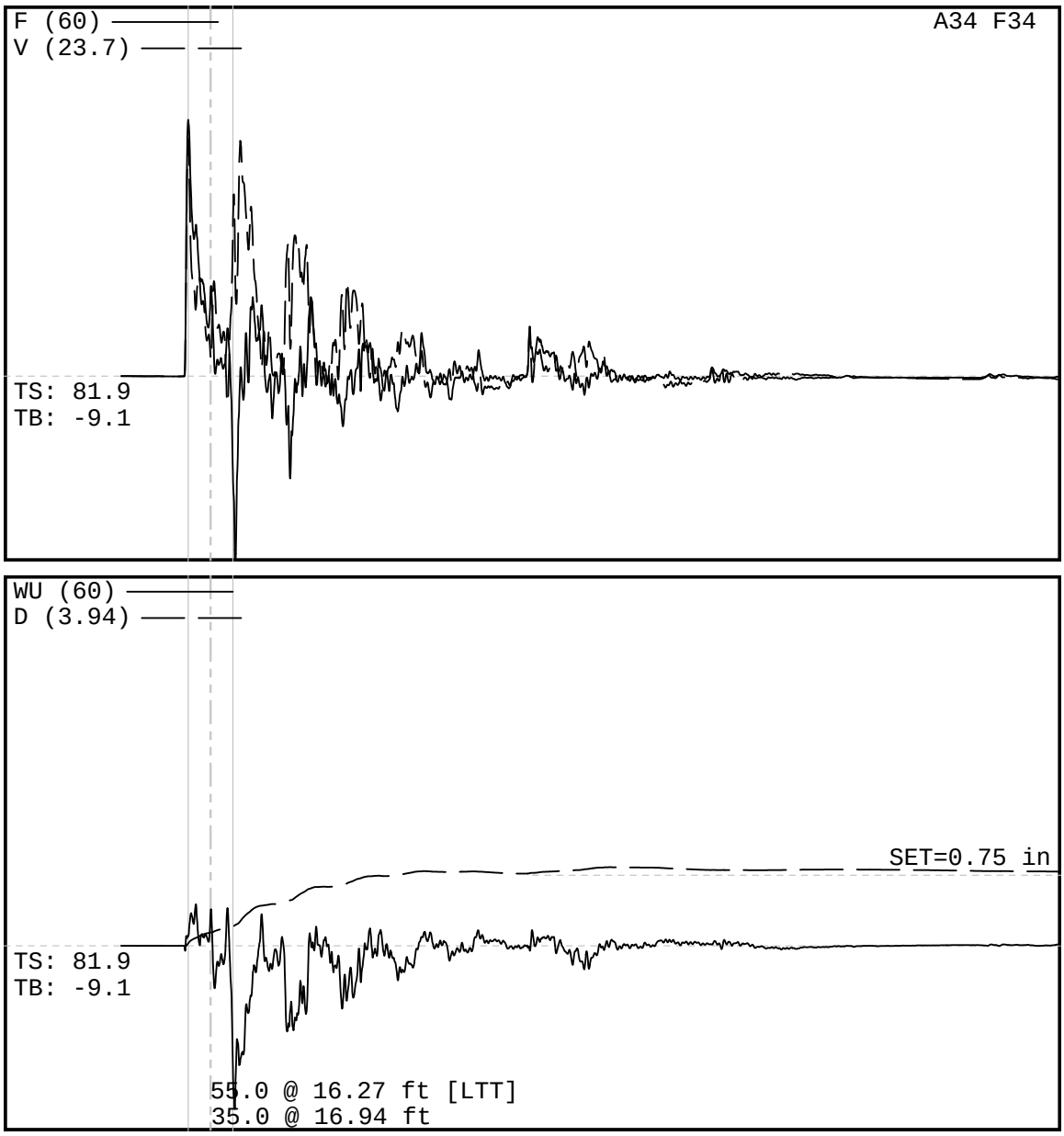
BL# Sensors

14-57 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 59 seconds 1:34 PM - 1:35 PM BN 1 - 57

Thompson Engineering SPT Calibration CME 550X (SN 355273) - 23.5 to 25.0 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 355273) - 23.5 to 2
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 550X (SN 355273)_3
9/11/2017 1:45:51 PM
Blow Number 10

Pile Properties

LE	29.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	3.46	ms
JC		[]
LP	24.13	ft

Quantity Results

CSX	29.23	ksi
CSI f	29.76	ksi
EMX	0.314	k-ft
ETR	89.7	(%)
BPM	50.5	bpm
FMX	42	kips
VMX	15.2	f/s
QNV	0.00	[]
QNV	0.00	[]

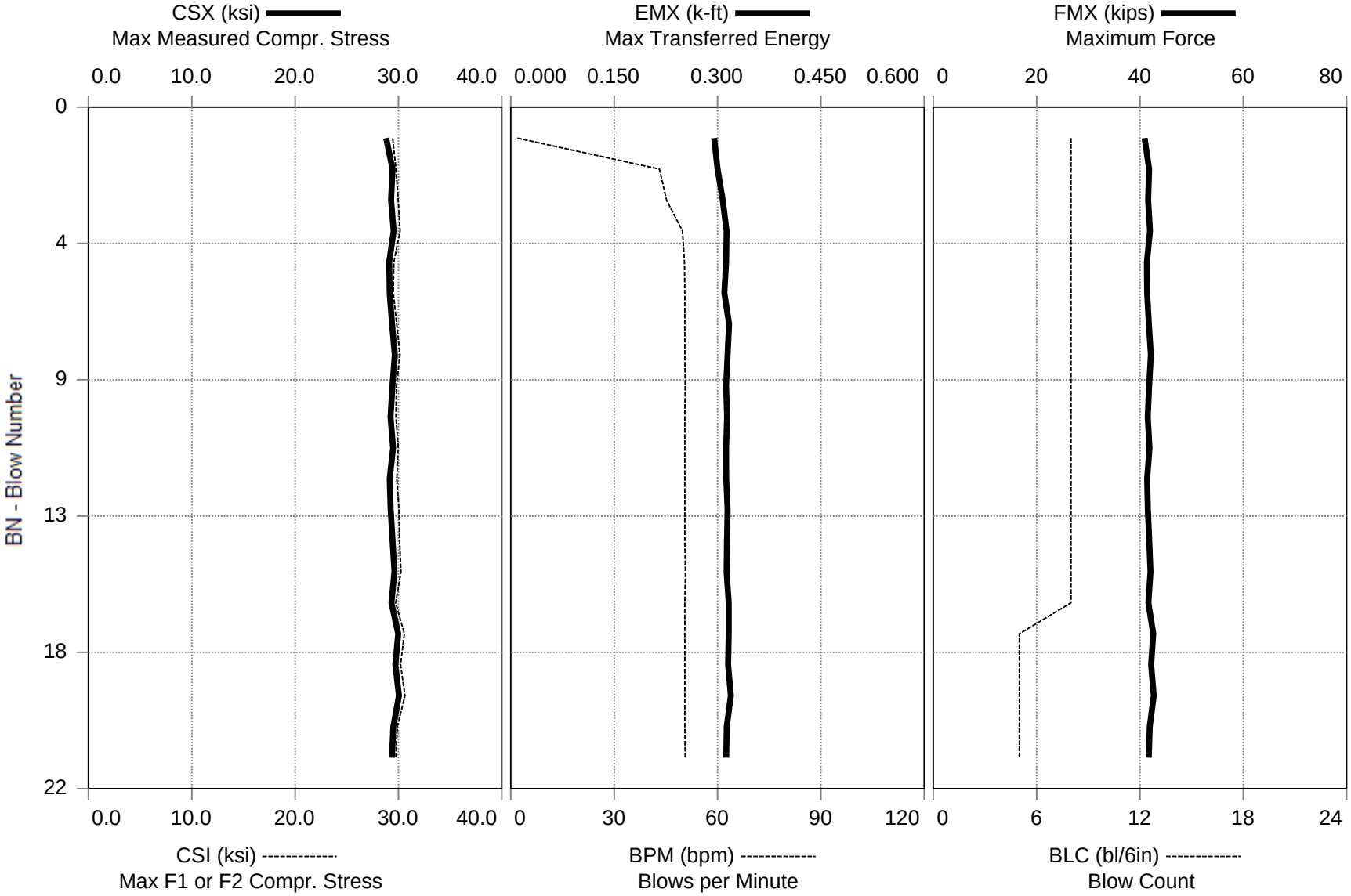
Sensors

F3: [413 NWJ-1] 212.28 (1)
F4: [413 NWJ-2] 213.94 (1)
A3: [K3773] 380 mv/5000g's (1)
A4: [K4822] 355 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 13-September-2017 Test started: 11-September-2017

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 23.5 to 25.0 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 23.5 to 25.0 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR:	1.42 in²	SP:	0.492 k/ft³
LE:	29.00 ft	EM:	30,000 ksi
WS:	16,807.9 f/s	JC:	0.00 []

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
EMX: Max Transferred Energy
ETR: Energy Transfer Ratio
BPM: Blows per Minute
FMX: Maximum Force
VMX: Maximum Velocity

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
8	24.00	8	AV8	29.3	29.8	0.309	88.2	42.7	42	15.4
			MAX	29.6	30.2	0.317	90.5	50.5	42	16.1
16	24.50	8	AV8	29.4	29.9	0.314	89.6	50.5	42	15.2
			MAX	29.6	30.2	0.316	90.4	50.7	42	15.4
21	25.00	5	AV5	29.7	30.2	0.315	90.1	50.5	42	16.3
			MAX	30.0	30.6	0.319	91.2	50.6	43	17.1
			Average	29.4	29.9	0.312	89.2	47.6	42	15.6
			Maximum	30.0	30.6	0.319	91.2	50.7	43	17.1

Total number of blows analyzed: 21

BL# Sensors

1-21 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 24 seconds 1:45 PM - 1:46 PM BN 1 - 21

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 23.5 to 25.0 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 29.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
9	24.06	8	29.4	29.8	0.312	89.3	50.6	42	15.1
10	24.13	8	29.2	29.8	0.314	89.7	50.5	42	15.2
11	24.19	8	29.5	30.0	0.312	89.2	50.5	42	15.2
12	24.25	8	29.1	29.8	0.313	89.3	50.5	41	15.1
13	24.31	8	29.2	30.0	0.315	89.9	50.5	42	15.3
14	24.38	8	29.4	30.1	0.314	89.6	50.5	42	15.2
15	24.44	8	29.6	30.2	0.313	89.5	50.7	42	15.4
16	24.50	8	29.3	29.7	0.316	90.4	50.5	42	15.2
17	24.60	5	30.0	30.6	0.316	90.4	50.5	43	15.5
18	24.70	5	29.7	30.2	0.315	90.1	50.5	42	15.9
19	24.80	5	30.0	30.6	0.319	91.2	50.5	43	16.3
20	24.90	5	29.5	29.9	0.313	89.5	50.5	42	17.1
21	25.00	5	29.4	29.7	0.313	89.3	50.6	42	16.9
		Average	29.5	30.0	0.314	89.8	50.5	42	15.6
		Maximum	30.0	30.6	0.319	91.2	50.7	43	17.1

Total number of blows analyzed: 13

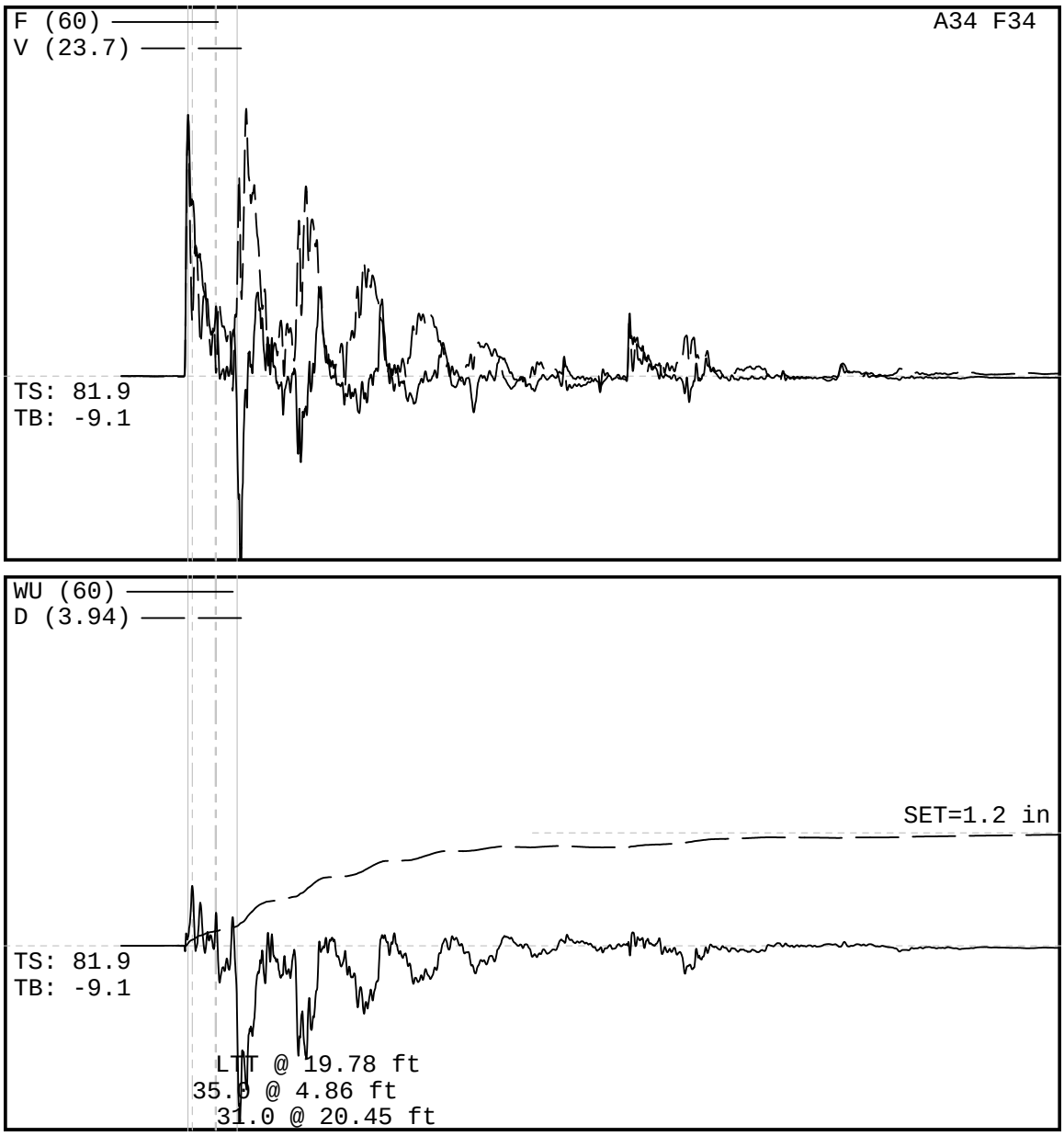
BL# Sensors

9-21 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 24 seconds 1:45 PM - 1:46 PM BN 1 - 21

Thompson Engineering SPT Calibration CME 550X (SN 355273) - 26.0 to 27.5 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 355273) - 26.0 to 2
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 550X (SN 355273)_4
9/11/2017 1:53:32 PM
Blow Number 8

Pile Properties

LE	32.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	3.82	ms
JC		[]
LP	26.60	ft

Quantity Results

CSX	29.81	ksi
CSI f	30.00	ksi
EMX	0.326	k-ft
ETR	93.2	(%)
BPM	55.6	bpm
FMX	42	kips
VMX	17.1	f/s
QNV	0.00	[]
QNV	0.00	[]

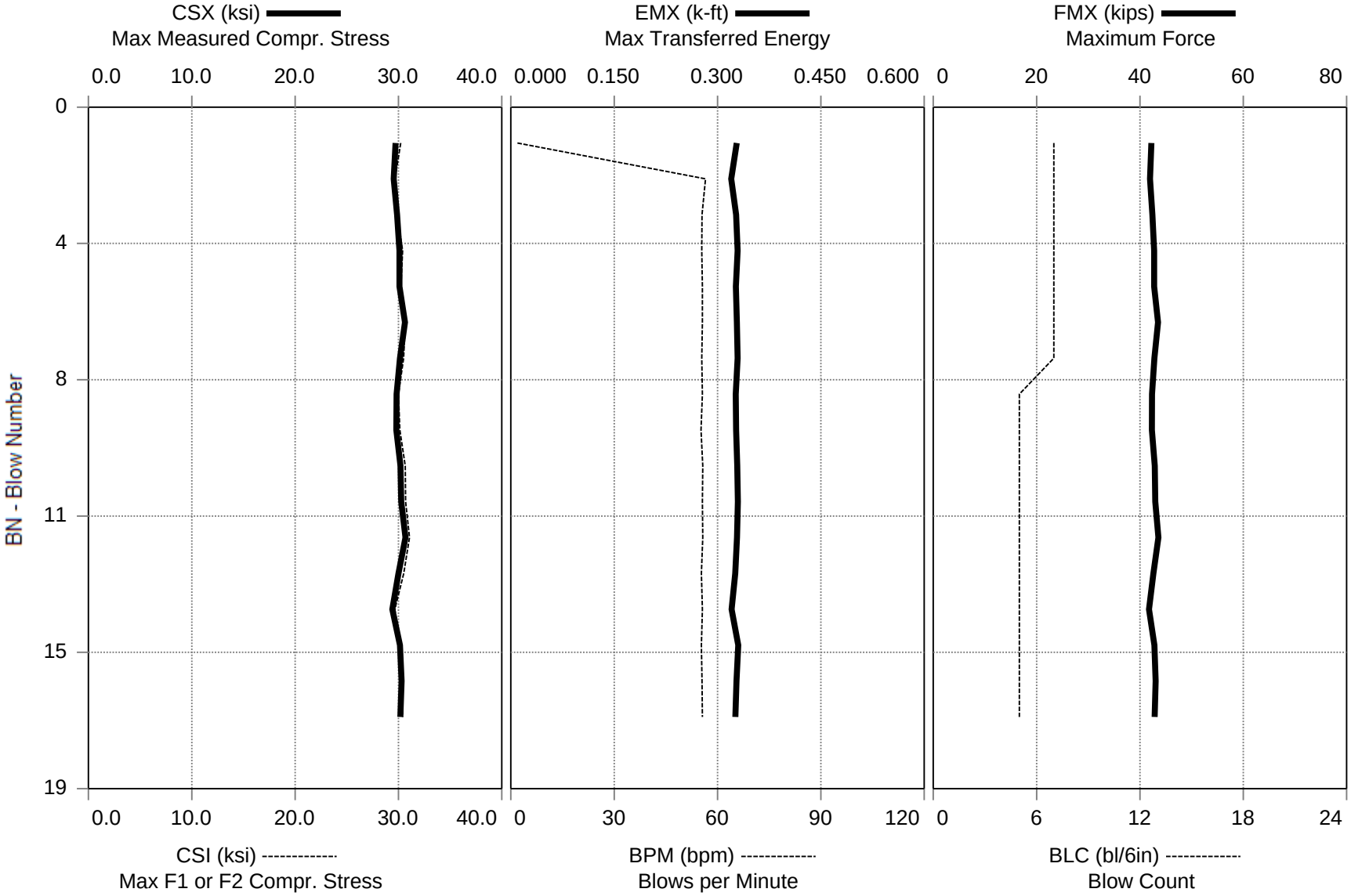
Sensors

F3: [413 NWJ-1] 212.28 (1)
F4: [413 NWJ-2] 213.94 (1)
A3: [K3773] 380 mv/5000g's (1)
A4: [K4822] 355 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 13-September-2017 Test started: 11-September-2017

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 26.0 to 27.5 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 26.0 to 27.5 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 32.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
7	26.50	7	AV7	30.0	30.2	0.327	93.4	48.0	43	17.3
			MAX	30.6	30.7	0.329	94.0	56.5	44	18.2
12	27.00	5	AV5	30.1	30.5	0.328	93.7	55.6	43	17.8
			MAX	30.7	31.1	0.330	94.2	55.7	44	18.4
17	27.50	5	AV5	30.0	30.2	0.326	93.1	55.5	43	17.9
			MAX	30.3	30.5	0.330	94.3	55.6	43	18.1
			Average	30.0	30.3	0.327	93.4	52.4	43	17.6
			Maximum	30.7	31.1	0.330	94.3	56.5	44	18.4

Total number of blows analyzed: 17

BL# Sensors

1-17 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 18 seconds 1:53 PM - 1:53 PM BN 1 - 18

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 26.0 to 27.5 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 32.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
8	26.60	5	29.8	30.0	0.326	93.2	55.6	42	17.1
9	26.70	5	29.8	30.1	0.327	93.4	55.2	42	17.7
10	26.80	5	30.2	30.7	0.329	93.9	55.7	43	17.8
11	26.90	5	30.3	30.7	0.330	94.2	55.6	43	18.4
12	27.00	5	30.7	31.1	0.328	93.8	55.7	44	18.1
13	27.10	5	30.0	30.5	0.326	93.1	55.3	43	18.1
14	27.20	5	29.4	29.7	0.320	91.5	55.6	42	18.1
15	27.30	5	30.1	30.2	0.330	94.3	55.3	43	18.0
16	27.40	5	30.3	30.4	0.327	93.6	55.5	43	17.6
17	27.50	5	30.2	30.4	0.326	93.1	55.6	43	17.8
		Average	30.1	30.4	0.327	93.4	55.5	43	17.9
		Maximum	30.7	31.1	0.330	94.3	55.7	44	18.4

Total number of blows analyzed: 10

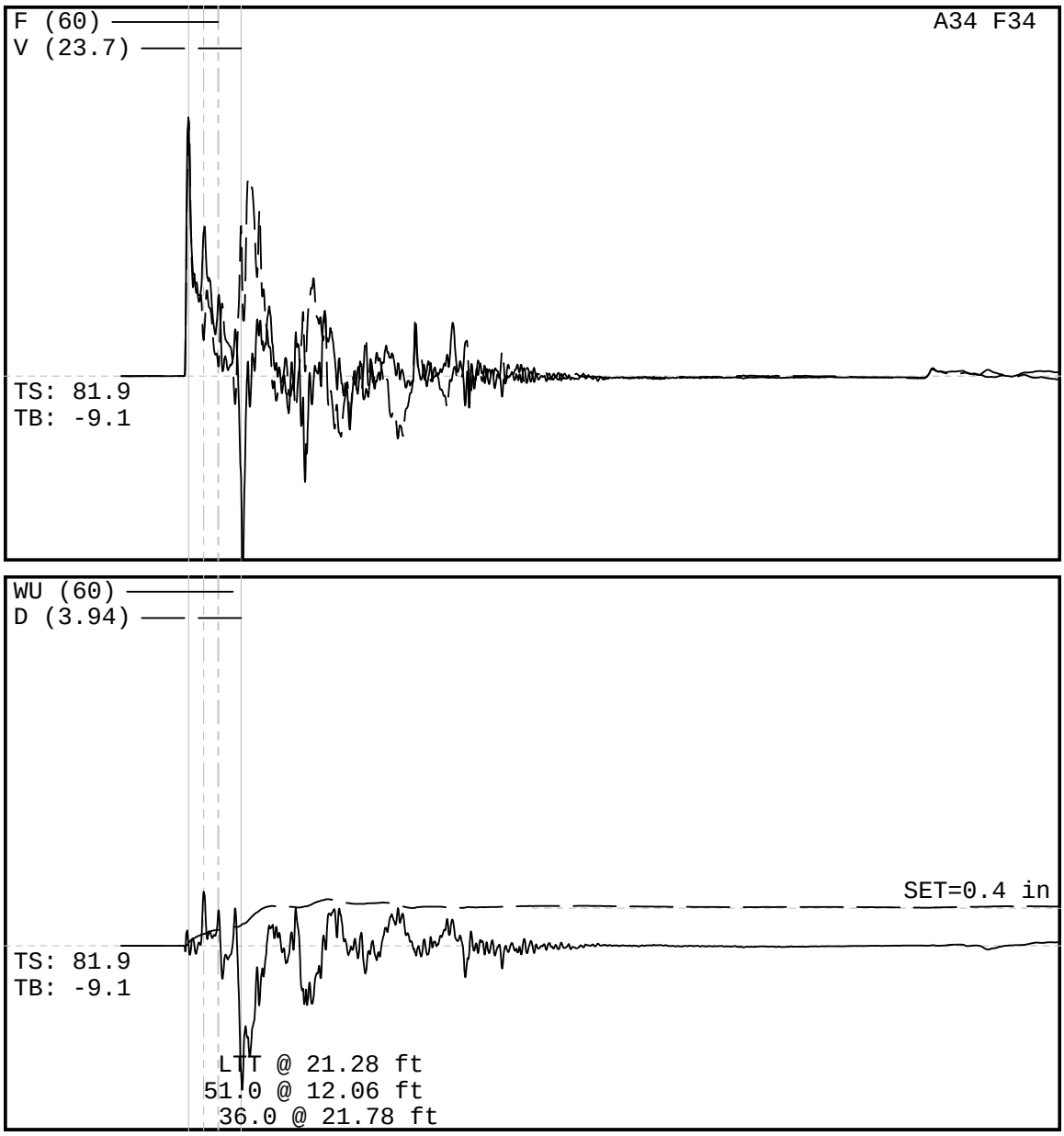
BL# Sensors

8-17 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 18 seconds 1:53 PM - 1:53 PM BN 1 - 18

Thompson Engineering SPT Calibration CME 550X (SN 355273) - 28.5 to 30.0 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 355273) - 28.5 to 3
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 550X (SN 355273)_5
9/11/2017 2:03:38 PM
Blow Number 18

Pile Properties

LE	34.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	4.06	ms
JC		[]
LP	29.63	ft

Quantity Results

CSX	29.53	ksi
CSI f	29.80	ksi
EMX	0.325	k-ft
ETR	92.9	(%)
BPM	50.5	bpm
FMX	42	kips
VMX	16.3	f/s
QNV	0.00	[]
QNV	0.00	[]

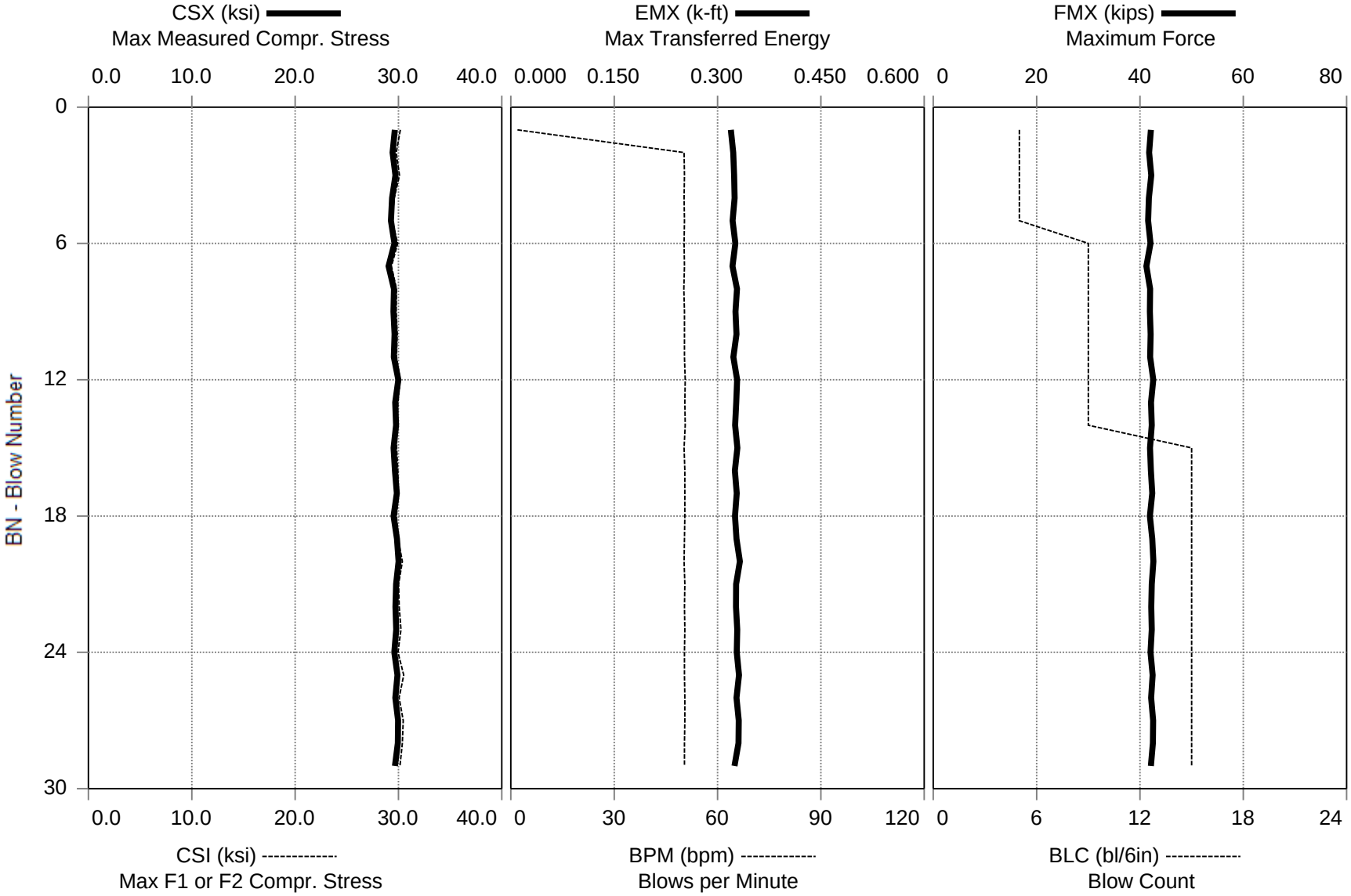
Sensors

F3: [413 NWJ-1] 212.28 (1)
F4: [413 NWJ-2] 213.94 (1)
A3: [K3773] 380 mv/5000g's (1)
A4: [K4822] 355 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 13-September-2017 Test started: 11-September-2017

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 28.5 to 30.0 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 28.5 to 30.0 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 34.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
5	29.00	5	AV5	29.5	29.8	0.323	92.2	40.7	42	16.2
			MAX	29.7	30.2	0.325	92.8	50.4	42	16.3
14	29.50	9	AV9	29.6	29.8	0.326	93.1	50.4	42	16.3
			MAX	30.0	30.2	0.328	93.9	50.6	43	16.5
29	30.00	15	AV15	29.8	30.1	0.328	93.7	50.4	42	16.4
			MAX	30.0	30.5	0.332	95.0	50.5	43	16.6
			Average	29.7	30.0	0.326	93.3	48.7	42	16.4
			Maximum	30.0	30.5	0.332	95.0	50.6	43	16.6

Total number of blows analyzed: 29

BL# Sensors

1-29 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 33 seconds 2:03 PM - 2:03 PM BN 1 - 29

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 28.5 to 30.0 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 34.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
6	29.06	9	29.6	29.9	0.326	93.1	50.3	42	16.3
7	29.11	9	29.0	29.3	0.322	91.9	50.4	41	16.1
8	29.17	9	29.6	29.8	0.328	93.8	50.2	42	16.4
9	29.22	9	29.5	29.8	0.326	93.2	50.4	42	16.3
10	29.28	9	29.6	29.9	0.327	93.6	50.4	42	16.3
11	29.33	9	29.5	29.8	0.323	92.3	50.4	42	16.3
12	29.39	9	30.0	30.2	0.328	93.9	50.6	43	16.5
13	29.44	9	29.7	30.0	0.327	93.5	50.5	42	16.3
14	29.50	9	29.8	29.8	0.326	93.0	50.6	42	16.3
15	29.53	15	29.5	29.8	0.329	94.0	50.3	42	16.3
16	29.57	15	29.7	29.9	0.325	92.9	50.5	42	16.3
17	29.60	15	29.8	30.0	0.328	93.7	50.5	42	16.4
18	29.63	15	29.5	29.8	0.325	92.9	50.5	42	16.3
19	29.67	15	29.8	30.0	0.327	93.5	50.4	42	16.4
20	29.70	15	30.0	30.4	0.332	95.0	50.3	43	16.6
21	29.73	15	29.8	30.0	0.327	93.4	50.5	42	16.4
22	29.77	15	29.7	30.1	0.327	93.4	50.4	42	16.4
23	29.80	15	29.8	30.2	0.329	93.9	50.5	42	16.5
24	29.83	15	29.6	29.9	0.328	93.7	50.4	42	16.3
25	29.87	15	29.9	30.5	0.331	94.6	50.4	42	16.6
26	29.90	15	29.7	30.1	0.327	93.6	50.5	42	16.4
27	29.93	15	30.0	30.5	0.331	94.5	50.5	43	16.6
28	29.97	15	29.9	30.4	0.330	94.4	50.4	43	16.6
29	30.00	15	29.7	30.1	0.325	92.7	50.4	42	16.4
		Average	29.7	30.0	0.327	93.5	50.4	42	16.4
		Maximum	30.0	30.5	0.332	95.0	50.6	43	16.6

Total number of blows analyzed: 24

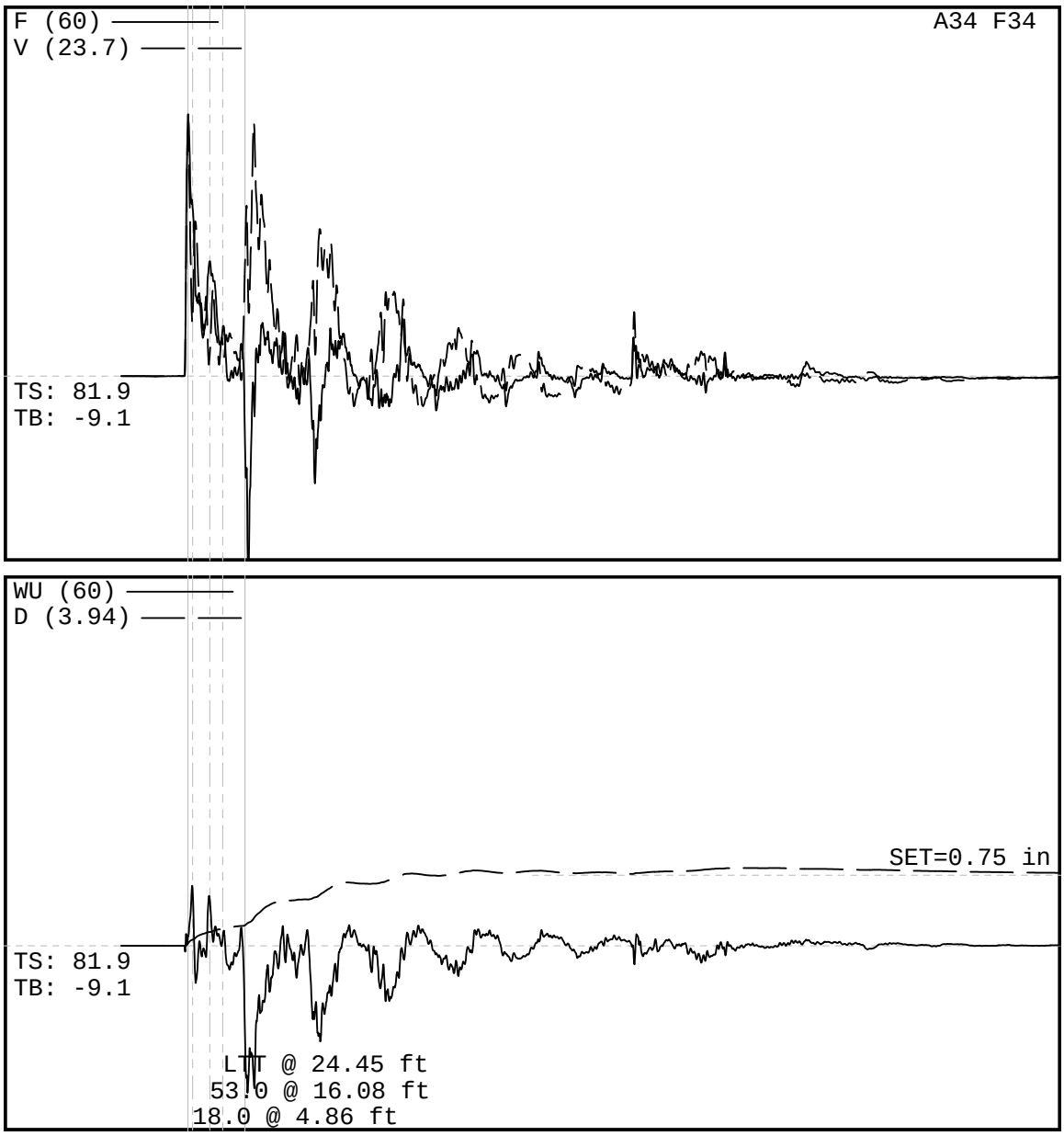
BL# Sensors

6-29 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 33 seconds 2:03 PM - 2:03 PM BN 1 - 29

Thompson Engineering SPT Calibration CME 550X (SN 355273) - 31.0 to 32.5 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 355273) - 31.0 to 3
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 550X (SN 355273)_6
9/11/2017 2:13:12 PM
Blow Number 12

Pile Properties

LE	37.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	4.42	ms
JC		[]
LP	32.13	ft

Quantity Results

CSX	29.87	ksi
CSI f	30.48	ksi
EMX	0.322	k-ft
ETR	91.9	(%)
BPM	50.4	bpm
FMX	42	kips
VMX	16.2	f/s
QNV	0.00	[]
QNV	0.00	[]

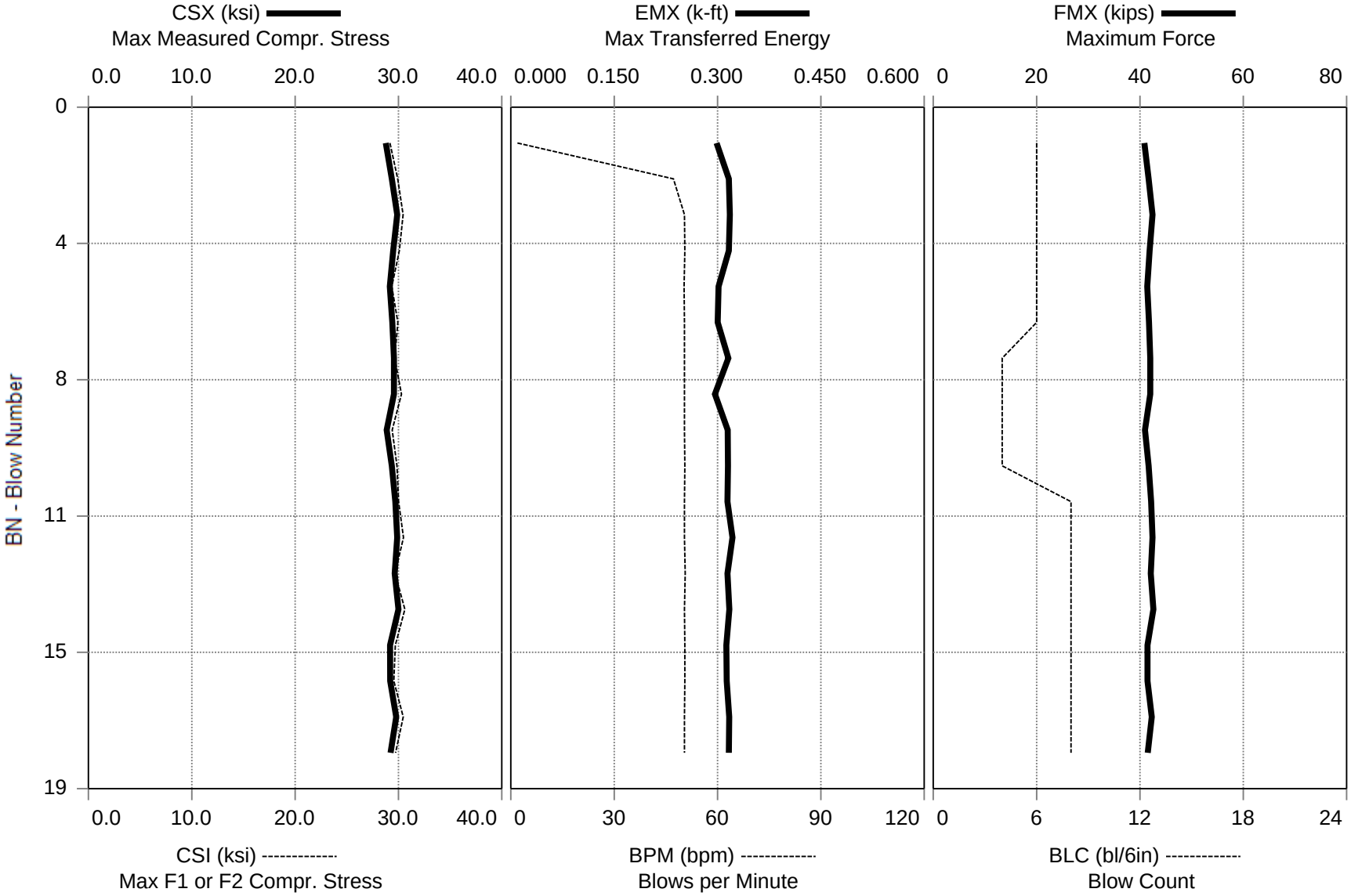
Sensors

F3: [413 NWJ-1] 212.28 (1)
F4: [413 NWJ-2] 213.94 (1)
A3: [K3773] 380 mv/5000g's (1)
A4: [K4822] 355 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 13-September-2017 Test started: 11-September-2017

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 31.0 to 32.5 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 31.0 to 32.5 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 37.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
6	31.50	6	AV6	29.3	29.8	0.308	88.1	41.8	42	15.2
			MAX	29.9	30.4	0.318	90.8	50.5	42	15.5
10	32.00	4	AV4	29.3	29.8	0.310	88.7	50.4	42	16.0
			MAX	29.6	30.3	0.316	90.2	50.5	42	16.4
18	32.50	8	AV8	29.6	30.0	0.316	90.3	50.5	42	15.6
			MAX	30.0	30.6	0.322	91.9	50.6	43	16.2
			Average	29.4	29.9	0.312	89.2	47.6	42	15.5
			Maximum	30.0	30.6	0.322	91.9	50.6	43	16.4

Total number of blows analyzed: 18

BL# Sensors

1-18 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 20 seconds 2:12 PM - 2:13 PM BN 1 - 18

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 31.0 to 32.5 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 37.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
7	31.63	4	29.6	29.6	0.316	90.2	50.4	42	16.1
8	31.75	4	29.6	30.3	0.296	84.6	50.4	42	15.8
9	31.88	4	28.9	29.4	0.315	89.9	50.4	41	15.5
10	32.00	4	29.4	29.9	0.315	90.0	50.5	42	16.4
11	32.06	8	29.7	30.0	0.314	89.8	50.4	42	15.4
12	32.13	8	29.9	30.5	0.322	91.9	50.4	42	16.2
13	32.19	8	29.6	29.7	0.314	89.8	50.6	42	15.9
14	32.25	8	30.0	30.6	0.317	90.6	50.4	43	15.9
15	32.31	8	29.2	29.7	0.313	89.3	50.5	41	15.2
16	32.38	8	29.2	29.6	0.313	89.5	50.5	41	15.3
17	32.44	8	29.8	30.5	0.317	90.6	50.4	42	15.6
18	32.50	8	29.2	29.7	0.316	90.4	50.4	42	15.2
		Average	29.5	29.9	0.314	89.7	50.4	42	15.7
		Maximum	30.0	30.6	0.322	91.9	50.6	43	16.4

Total number of blows analyzed: 12

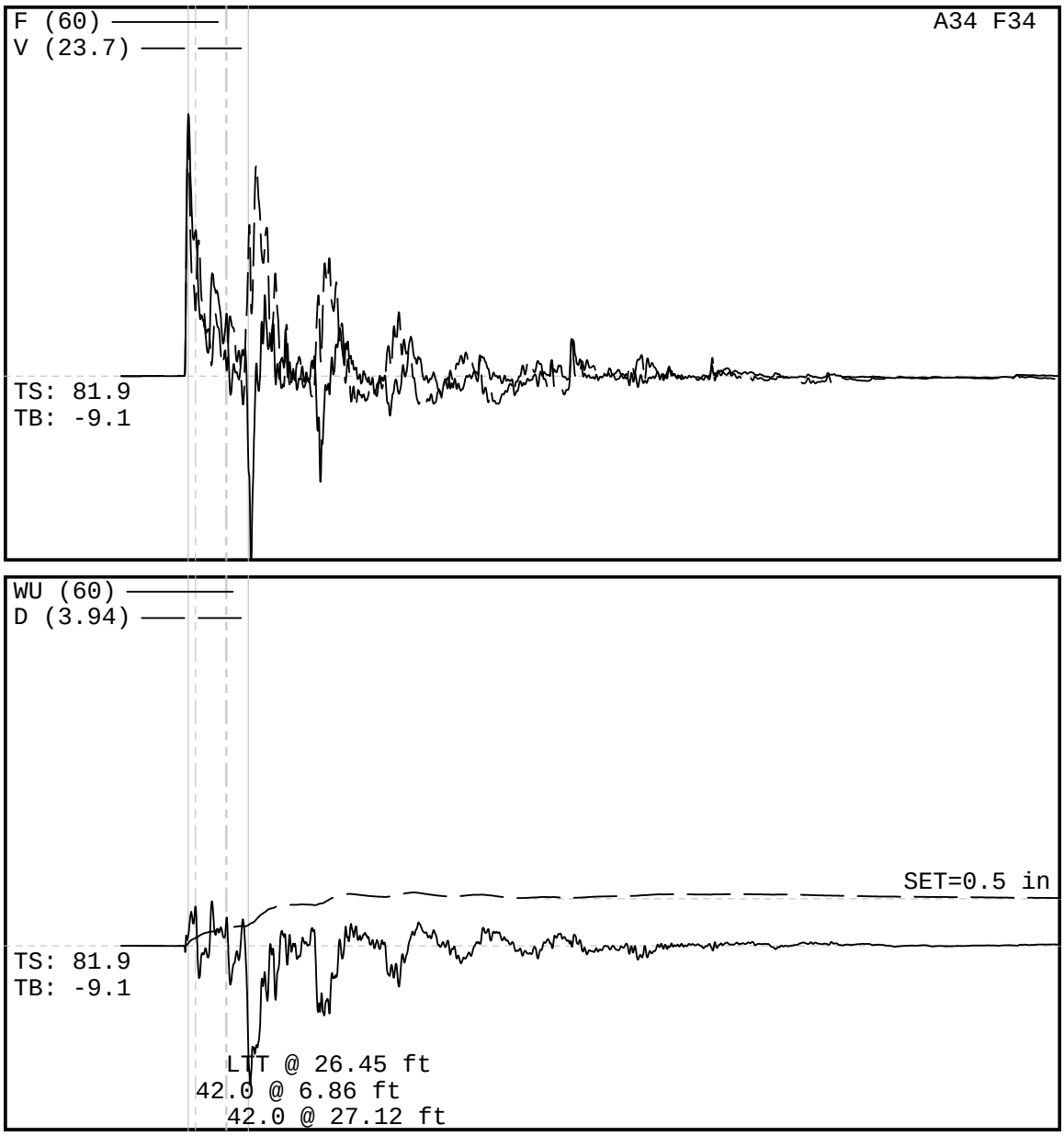
BL# Sensors

7-18 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 20 seconds 2:12 PM - 2:13 PM BN 1 - 18

Thompson Engineering SPT Calibration CME 550X (SN 355273) - 33.5 to 35.0 ft



Project Information

PROJECT: Thompson Engineering SPT Calibratic
PILE NAME: CME 550X (SN 355273) - 33.5 to 3
DESCR: NWJ Rod - Mud Rotary
OPERATOR: MJN
FILE: CME 550X (SN 355273)_7
9/11/2017 2:22:47 PM
Blow Number 22

Pile Properties

LE	39.00	ft
AR	1.42	in^2
EM	30000	ksi
SP	0.492	k/ft3
WS	16807.9	f/s
EA/C	2.5	ksec/ft
2L/C	4.66	ms
JC		[]
LP	34.54	ft

Quantity Results

CSX	29.91	ksi
CSI f	30.50	ksi
EMX	0.320	k-ft
ETR	91.3	(%)
BPM	50.6	bpm
FMX	42	kips
VMX	15.4	f/s
QNV	0.00	[]
QNV	0.00	[]

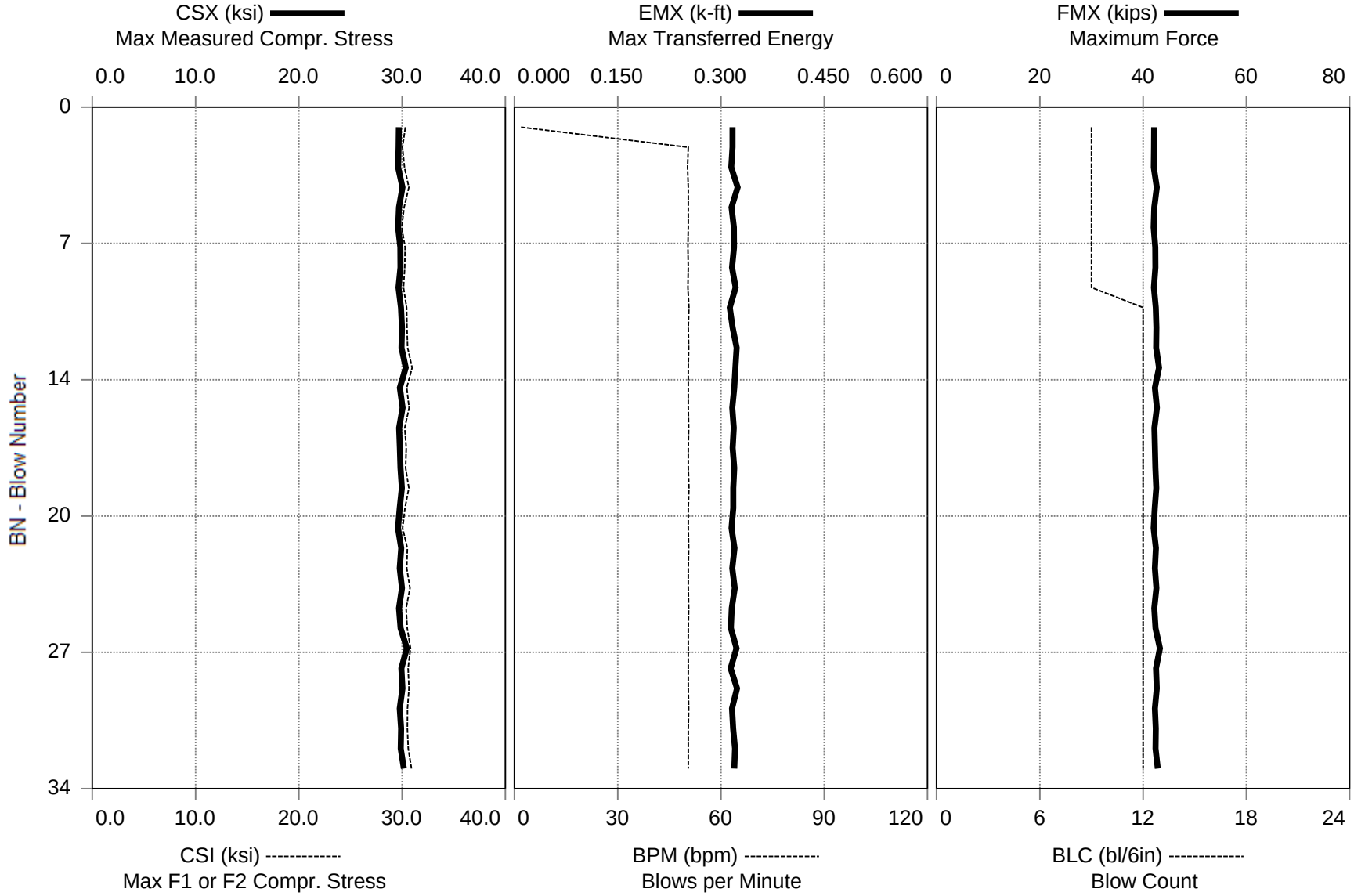
Sensors

F3: [413 NWJ-1] 212.28 (1)
F4: [413 NWJ-2] 213.94 (1)
A3: [K3773] 380 mv/5000g's (1)
A4: [K4822] 355 mv/5000g's (1)
CLIP: OK

Nagy Engineers, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 13-September-2017 Test started: 11-September-2017

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 33.5 to 35.0 ft - NWJ Rod - Mud Rotary



Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 33.5 to 35.0 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 39.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress BPM: Blows per Minute
CSI: Max F1 or F2 Compr. Stress FMX: Maximum Force
EMX: Max Transferred Energy VMX: Maximum Velocity
ETR: Energy Transfer Ratio

BL#	Depth ft	BLC bl/6in	TYPE	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
9	34.00	9	AV9	29.7	30.2	0.318	90.9	45.1	42	15.2
			MAX	30.0	30.6	0.324	92.6	50.5	43	15.5
21	34.50	12	AV12	29.9	30.5	0.318	90.8	50.6	42	15.3
			MAX	30.3	31.0	0.323	92.2	50.7	43	15.6
33	35.00	12	AV12	29.9	30.6	0.318	90.9	50.5	43	15.4
			MAX	30.5	30.9	0.323	92.4	50.6	43	15.7
			Average	29.9	30.4	0.318	90.9	49.0	42	15.3
			Maximum	30.5	31.0	0.324	92.6	50.7	43	15.7

Total number of blows analyzed: 33

BL# Sensors

1-33 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 37 seconds 2:22 PM - 2:23 PM BN 1 - 33

Thompson Engineering SPT Calibration - CME 550X (SN 355273) - 33.5 to 35.0 ft NWJ Rod - Mud Rotary
OP: MJN Date: 11-September-2017

AR: 1.42 in² SP: 0.492 k/ft³
LE: 39.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
EMX: Max Transferred Energy
ETR: Energy Transfer Ratio
BPM: Blows per Minute
FMX: Maximum Force
VMX: Maximum Velocity

BL#	Depth ft	BLC bl/6in	CSX ksi	CSI ksi	EMX k-ft	ETR (%)	BPM bpm	FMX kips	VMX f/s
10	34.04	12	29.9	30.4	0.313	89.3	50.7	42	15.3
11	34.08	12	30.0	30.5	0.317	90.5	50.5	43	15.4
12	34.13	12	29.9	30.5	0.323	92.2	50.6	43	15.4
13	34.17	12	30.3	31.0	0.321	91.7	50.5	43	15.6
14	34.21	12	29.8	30.4	0.319	91.2	50.5	42	15.3
15	34.25	12	30.0	30.7	0.316	90.4	50.5	43	15.4
16	34.29	12	29.7	30.2	0.319	91.0	50.6	42	15.2
17	34.33	12	29.8	30.4	0.317	90.6	50.5	42	15.3
18	34.38	12	29.8	30.3	0.319	91.2	50.5	42	15.2
19	34.42	12	30.0	30.6	0.318	90.8	50.7	43	15.4
20	34.46	12	29.8	30.3	0.318	90.8	50.5	42	15.3
21	34.50	12	29.6	30.1	0.315	90.1	50.5	42	15.1
22	34.54	12	29.9	30.5	0.320	91.3	50.6	42	15.4
23	34.58	12	29.8	30.4	0.316	90.4	50.5	42	15.3
24	34.63	12	30.0	30.8	0.320	91.4	50.5	43	15.4
25	34.67	12	29.7	30.4	0.316	90.2	50.6	42	15.2
26	34.71	12	29.9	30.5	0.314	89.8	50.5	42	15.3
27	34.75	12	30.5	30.8	0.323	92.2	50.5	43	15.7
28	34.79	12	29.9	30.6	0.314	89.7	50.5	42	15.3
29	34.83	12	30.0	30.7	0.323	92.4	50.5	43	15.4
30	34.88	12	29.8	30.5	0.316	90.3	50.6	42	15.3
31	34.92	12	29.9	30.5	0.318	90.8	50.5	42	15.3
32	34.96	12	29.9	30.6	0.320	91.5	50.5	42	15.4
33	35.00	12	30.2	30.9	0.319	91.2	50.5	43	15.4
		Average	29.9	30.5	0.318	90.9	50.5	42	15.3
		Maximum	30.5	31.0	0.323	92.4	50.7	43	15.7

Total number of blows analyzed: 24

BL# Sensors

10-33 F3: [413 NWJ-1] 212.3 (1.00); F4: [413 NWJ-2] 213.9 (1.00); A3: [K3773] 380.0 (1.00); A4: [K4822] 355.0 (1.00)

Time Summary

Drive 37 seconds 2:22 PM - 2:23 PM BN 1 - 33

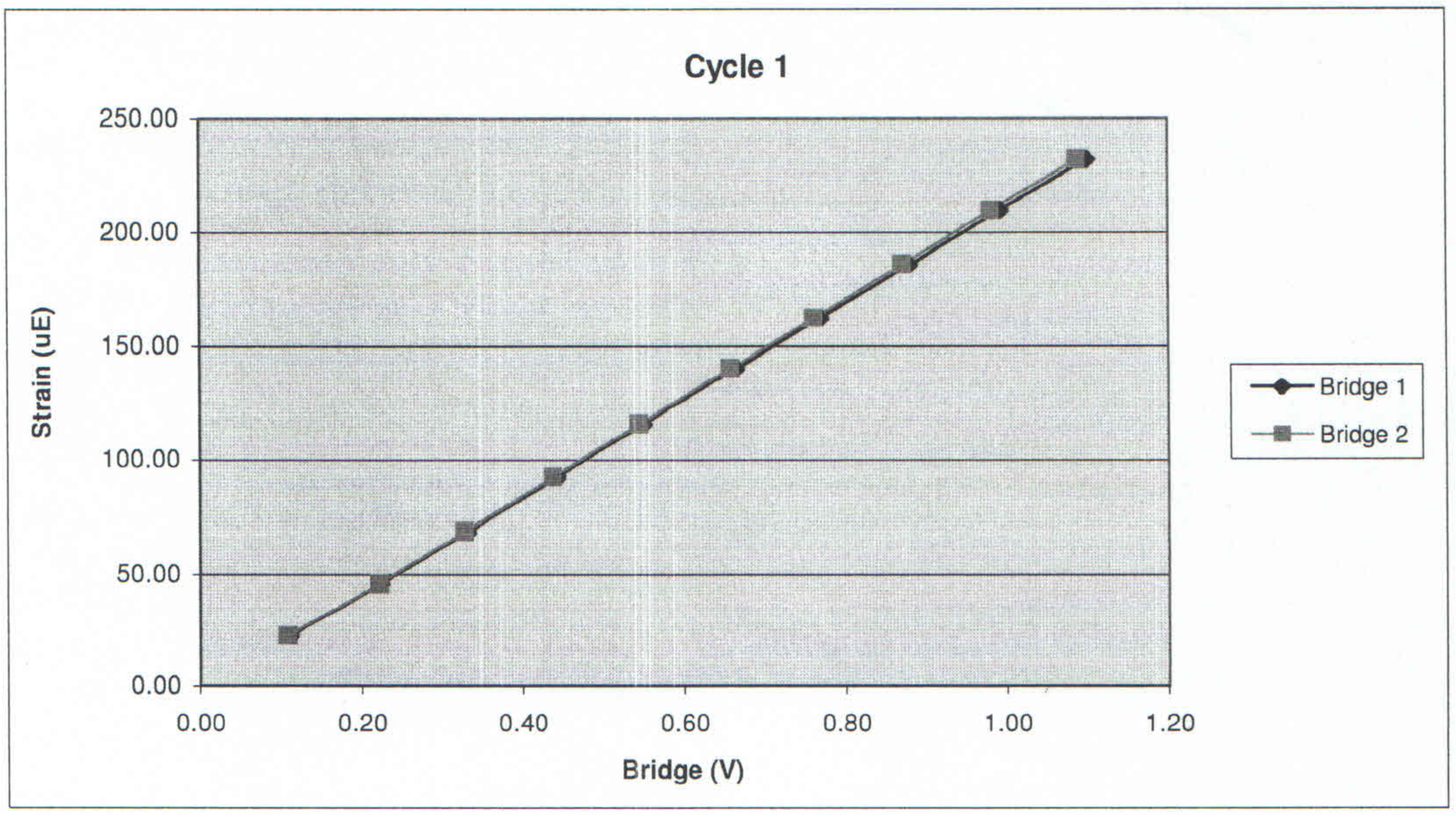
Appendix B

Dynamic Measurement Calibration Sheets

413NWJ		Cycle 1		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	990.99	22.25	0.11	0.11
3	2002.63	46.15	0.22	0.22
4	2988.10	69.17	0.33	0.33
5	3994.04	92.72	0.44	0.44
6	4963.98	115.99	0.55	0.54
7	5994.11	140.04	0.66	0.66
8	6930.41	162.12	0.77	0.76
9	7939.49	185.78	0.88	0.87
10	8950.34	209.60	0.99	0.98
11	9926.18	232.15	1.10	1.09

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**9036.37**	**Force Calibration (lb/V)**	**9125.33**
Offset	-9.46	Offset	-2.08
Correlation	1.000000	Correlation	0.999997
Strain Calibration (µE/V)	**212.51**	**Strain Calibration (µE/V)**	**214.61**
Offset	-1.22	Offset	-1.05
Correlation	0.999996	Correlation	0.999998

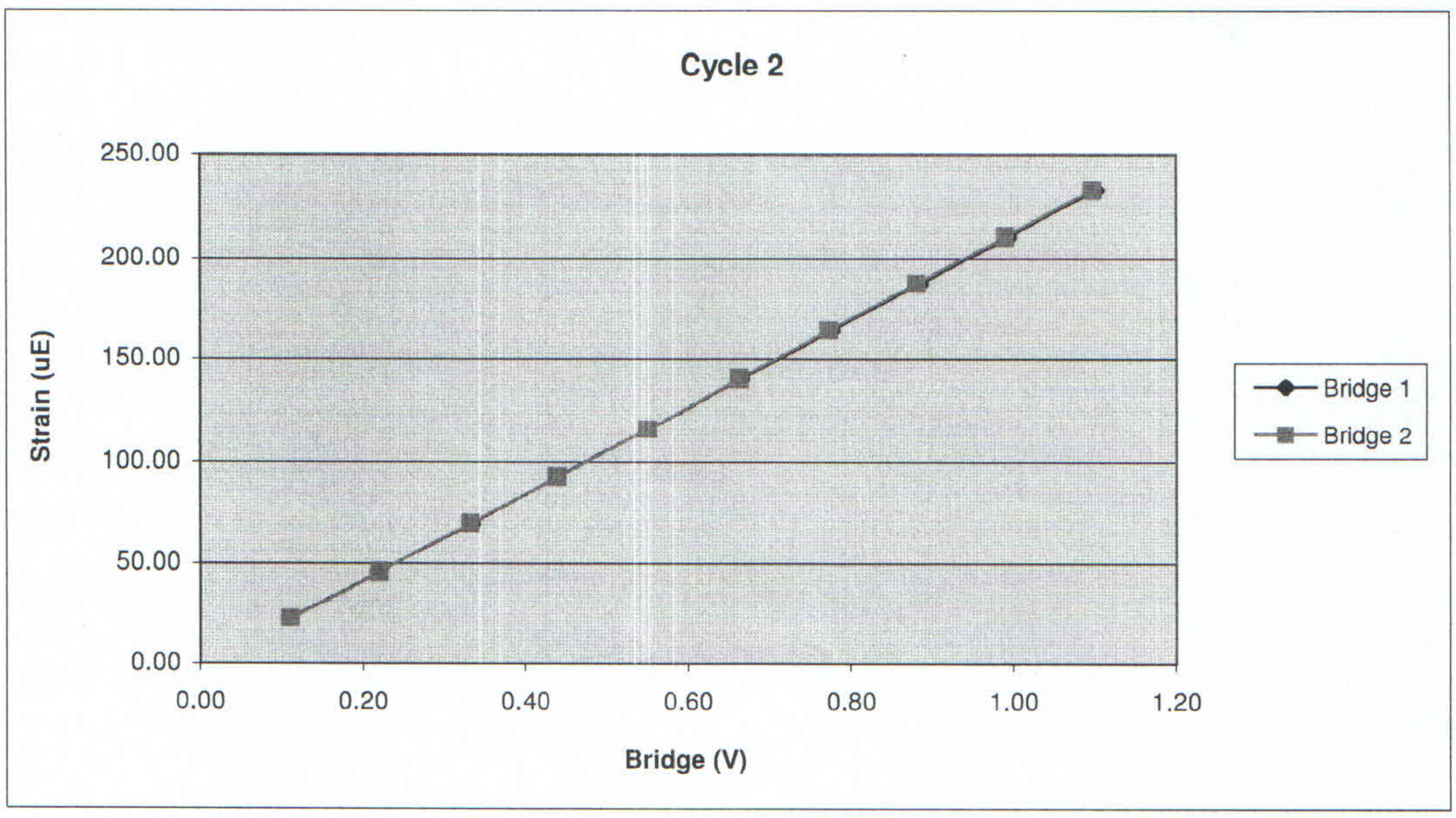
Force Strain Calibration	
EA (Kips)	**42521.15**
Offset	42.49
Correlation	0.999997



413NWJ		Cycle 2		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	987.05	22.73	0.11	0.11
3	1966.04	45.88	0.22	0.22
4	2986.33	69.92	0.33	0.33
5	3951.35	92.68	0.44	0.44
6	4949.03	116.49	0.55	0.55
7	5960.47	140.42	0.66	0.66
8	6953.03	163.97	0.78	0.77
9	7934.77	187.50	0.88	0.88
10	8928.90	210.76	0.99	0.99
11	9905.13	233.34	1.10	1.10

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**8992.65**	**Force Calibration (lb/V)**	**9034.81**
Offset	**-7.95**	Offset	**-19.15**
Correlation	**0.999996**	Correlation	**0.999998**
Strain Calibration (µE/V)	**212.81**	**Strain Calibration (µE/V)**	**213.81**
Offset	**-0.84**	Offset	**-1.11**
Correlation	**0.999997**	Correlation	**0.999996**

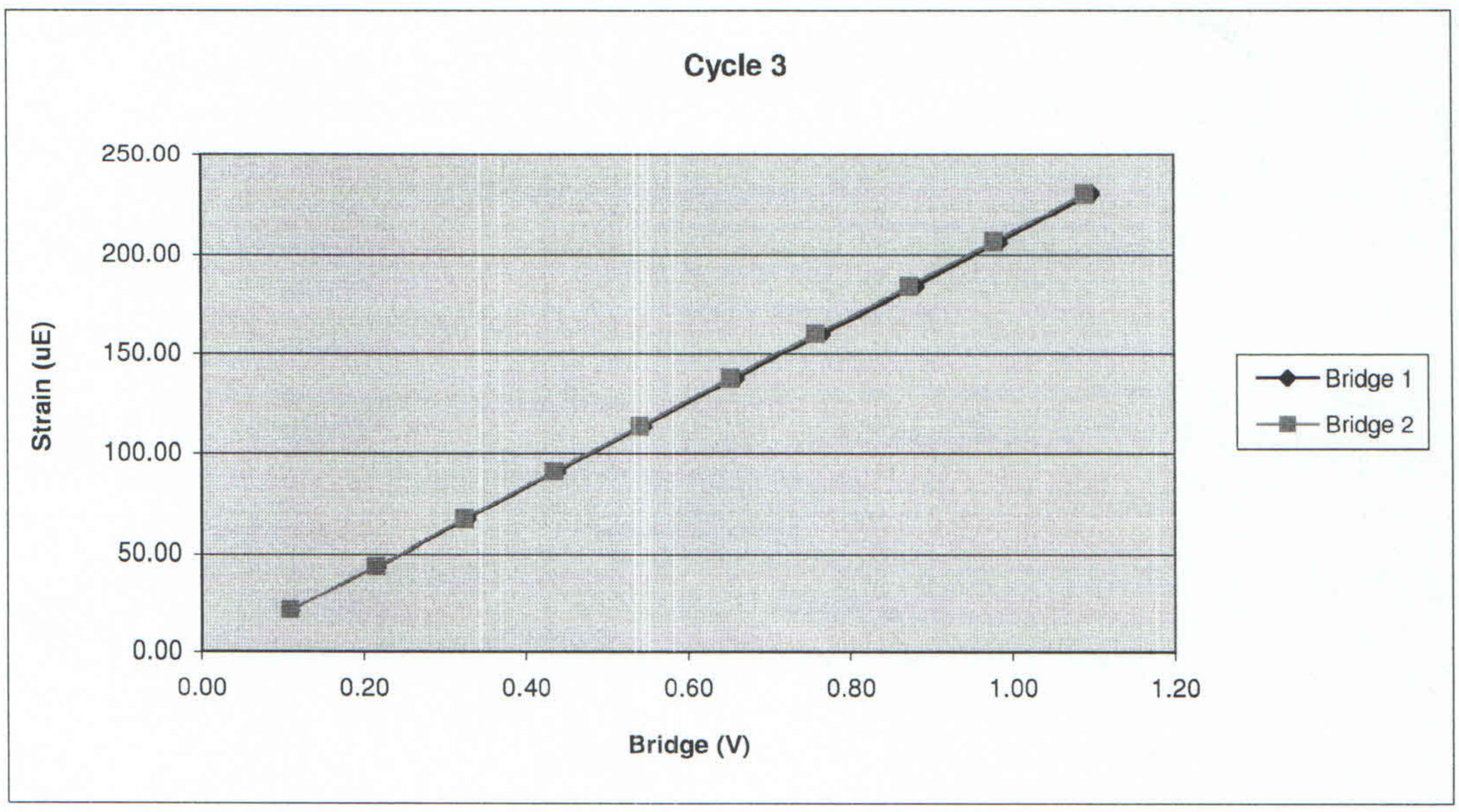
Force Strain Calibration	
EA (Kips)	**42256.93**
Offset	**27.76**
Correlation	**0.999996**



413NWJ		Cycle 3		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	978.00	21.53	0.11	0.11
3	1923.94	43.44	0.22	0.21
4	2938.53	67.46	0.33	0.32
5	3944.67	91.22	0.44	0.44
6	4898.87	113.58	0.54	0.54
7	5921.72	137.82	0.66	0.65
8	6874.74	160.10	0.77	0.76
9	7926.90	184.40	0.88	0.87
10	8859.86	206.60	0.98	0.98
11	9889.59	230.60	1.10	1.09

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**9008.15**	**Force Calibration (lb/V)**	**9088.85**
Offset	**-7.86**	Offset	**-13.21**
Correlation	**0.999998**	Correlation	**0.999998**
Strain Calibration (µE/V)	**211.51**	**Strain Calibration (µE/V)**	**213.41**
Offset	**-1.67**	Offset	**-1.80**
Correlation	**0.999995**	Correlation	**0.999993**

Force Strain Calibration	
EA (Kips)	**42588.80**
Offset	**63.31**
Correlation	**0.999997**



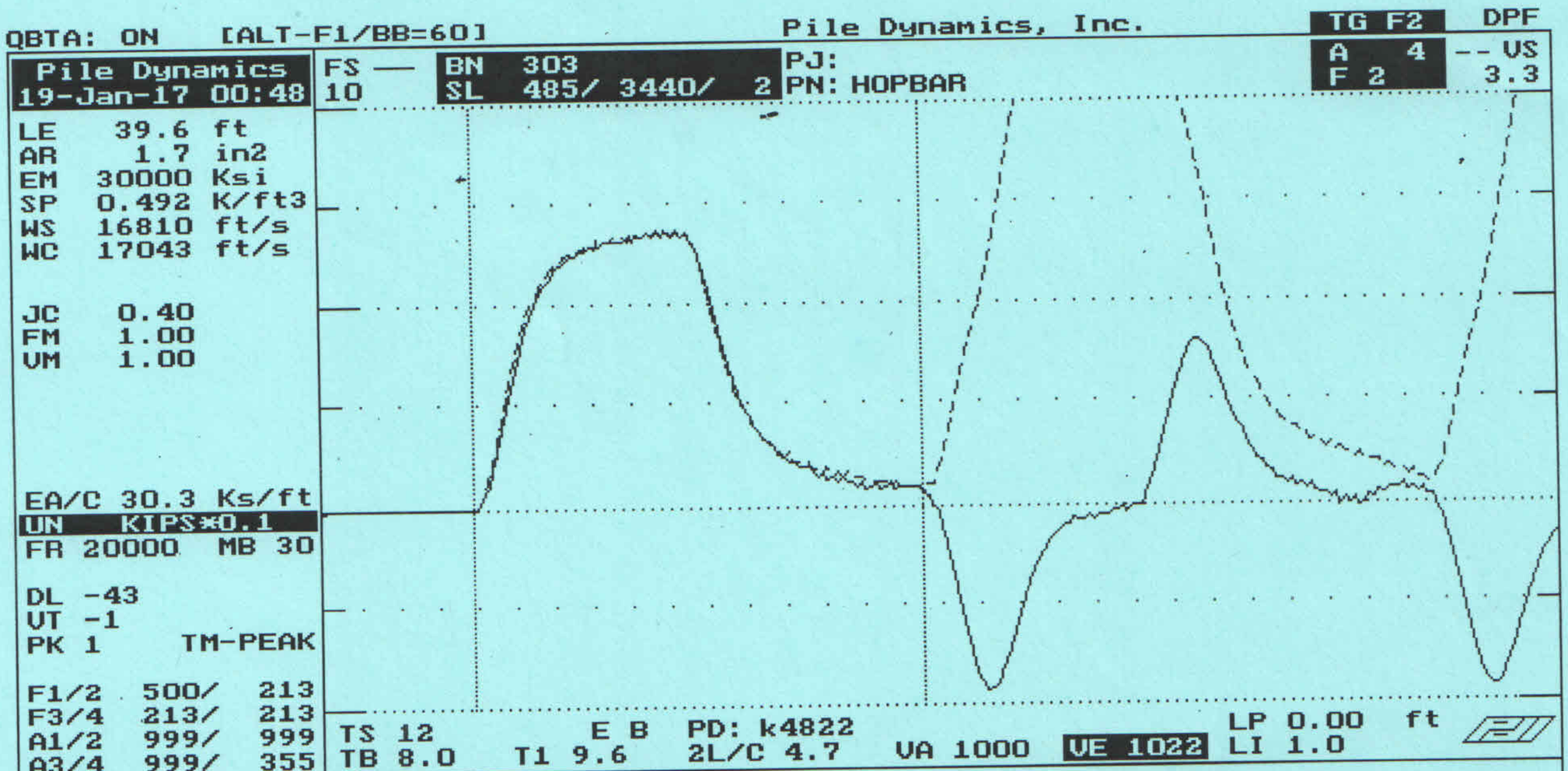
Bridge Excitation (V) 5
Shunt Resitor (ohm) 60.4k

Calibration Factors	413NWJ		
Bridge 1 (µE/V)	212.28	Bridge 2 (µE/V)	213.94
EA Factor (Kips)	42455.63	Area (in^2)	1.42

Calibrated by: _____
Calibrated Date: 6/10/2016

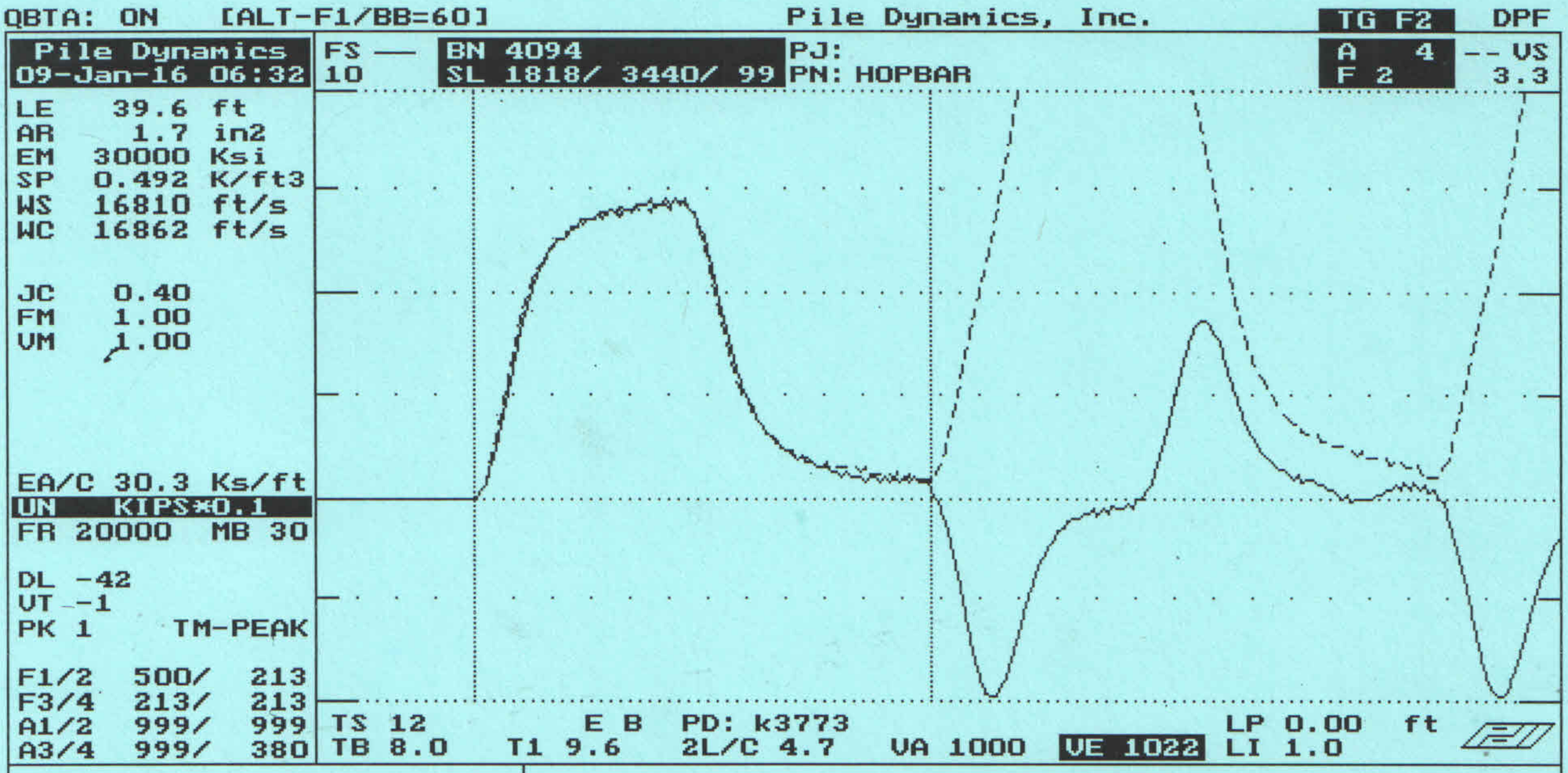
Pile Dynamics Inc
30725 Aurora Rd
Solon, OH 44139

Traceable to N.I.S.T.



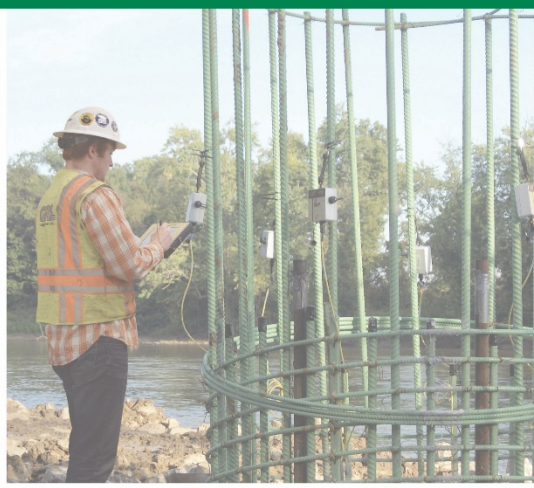
Smart Sensor

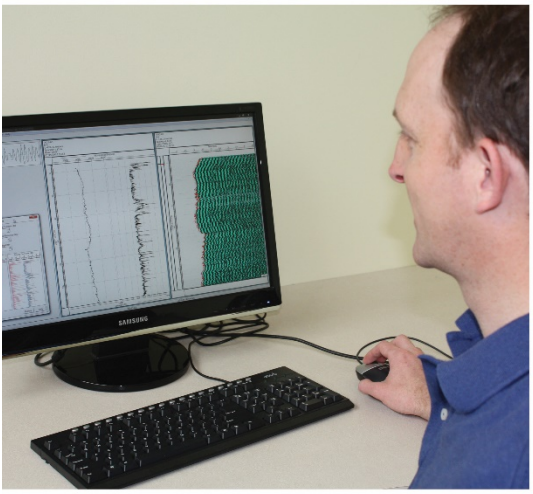
Smart Chip Programmed By K.M.W. **on** 19JAN17 **CRC Value** 5839

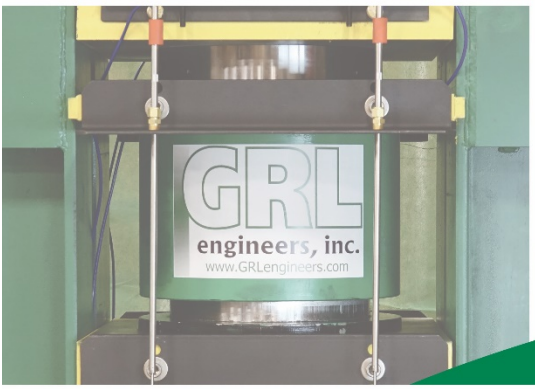


Smart Sensor

Smart Chip Programmed By T.M.W. **on** 14JAN16 **CRC Value** 317C







GRL engineers, inc.

Dynamic Measurements and Analyses

Job No. 179034-1

Report on: Standard Penetration Test Energy Measurements
Chattanooga, TN

Prepared for Thompson Engineering
By Thomas G. Hyatt and Joel S. Webster, E.I.

June 28, 2017

June 28, 2017

Blake Ellis
Thompson Engineering
3707 Cottage Hill Road
Mobile, AL 36609

Re: Standard Penetration Test Energy Measurements
Chattanooga, TN
GRL Job No. 179034-1

Dear Mr. Ellis,

This report presents results of energy measurements obtained on June 21, 2017 during Standard Penetration Tests (SPT) sampling. One automatic hammer mounted a Diedrich D-50 drill rig that was tested generally following ASTM D4633-10 standards. All dynamic tests were performed on NWJ drill rods. GRL Engineers, Inc. obtained the dynamic measurements with an instrumented NWJ subsection and a Model 8G Pile Driving Analyzer®. This report describes the testing procedures and summarizes the test results. Appendix A describes our measurement and analysis methods, Appendix B contains calibration information for the gages and equipment used, and Appendix C is a summary of the field data.

PURPOSE AND SCOPE OF WORK

At the request of Thompson Engineering, GRL conducted SPT energy measurements in Chattanooga, TN generally following the ASTM D4633-10 recommendations. Specifically, we recorded SPT energy measurements at five-foot sample intervals between 13.5 and 40.0 feet below the existing ground surface. SPT samples were taken every five feet from the ground surface until a boring depth of about 40.0 feet was reached. All SPT samples were driven for a total of 3 six-inch increments, or 1.5 feet.

EQUIPMENT

Drilling and SPT Hammer Equipment

Diedrich D-50 (Serial # 310)

SPT energy measurements were made on an automatic hammer mounted on a Diedrich D-50 drill rig. The drilling method used to advance the boring was hollow stem auger. Energy measurements for this drill rig were collected at a borehole located in Chattanooga, TN. SPT energy measurements were performed at 5-foot sampling intervals between 13.5 and 40.0 feet. A total of six energy measurement events were performed for this drill rig.

Instrumentation

A Model 8G Pile Driving Analyzer (PDA) data acquisition system (SN# 4613LE) was used to collect and process the dynamic measurements of force and velocity. The data was collected using a two foot long section of NWJ rod subsection (SN# 231NWJ) with a cross sectional area of 1.46 square inches and instrumented with two full bridge foil resistance strain gages and two piezoresistive accelerometers mounted in the midpoint location of the instrumented rod.

Analog signals from the strain gages and accelerometers were conditioned, digitized, stored and processed with the PDA. The sampling frequency used during the SPT testing was 50 kHz. Selected output from the PDA for each recorded impact included the energy transfer ratio (ETR), maximum rod top velocity (VMX), maximum energy transfer (EFV), maximum rod top force (FMX), and the hammer operating rate (BPM).

MEASUREMENTS AND CALCULATIONS

FV Method (EFV)

Energy transfer to the PDA gage location, EFV, was computed by the PDA using force, F(t), and velocity, v(t), records as follows:

$$EFV = \int_a^b F(t) \cdot v(t) dt$$

The time "a" corresponds to the start of the record when the energy transfer begins, and "b" is the time at which energy transferred to the rod reaches a maximum value. The FV Method is currently recognized in ASTM D4633-10, and is the theoretically correct result; therefore, no other energy calculation methods are reported.

Corrected SPT number (N_{60})

While the primary purpose of SPT energy testing is to calculate the maximum transferred energy (ETR) of each hammer blow, the overall average EFV value can be used to calculate the corrected SPT number (N_{60}). To adjust the SPT N-values for hammer performance, the following correction as suggested by Seed for N-value adjustment to 60% transfer efficiency (e.g. 210 ft-pounds) was used:

$$N_{60} = \left(\frac{E_m}{210} \right) N_m$$

Where:

N_{60} = Corrected N-value
E_m = overall average measured energy transfer (EFV)
N_m =number of blows for last 12 inches of sampler penetration

A general introduction to dynamic SPT testing methods is included in this report as Appendix A. References for more detailed descriptions of our testing and analysis methods are available upon request.

Any cross-sectional area difference between the GRL rod subsection and the drill rods, any loose connections or changes in area at section joints, or any cross-sectional area differences between the individual drill rod sections will result in stress wave reflections that can potentially influence the energy transfer. The EFV transferred energy calculation method, utilizing both force and velocity records, is theoretically correct and gives energy transfer results that are not adversely affected by cross-sectional area changes or loose connectors. The EFV results are included in Appendix C for all records collected and accepted after checking them for consistency.

RESULTS

Upon return to the office, the records collected by the PDA were checked for consistency and accuracy. For example, records from very weak startup or final impacts were not included in average results. Appendix C contains a representative plot of force and normalized velocity versus time, as well as tables of PDA results for all hammer blows at each dynamically monitored sampling depth. The results include the EFV (transferred energy by the FV method, as recommended by ASTM D4633-10), ETR (energy transfer efficiency for the EFV method), BPM (hammer operating rate), FMX (maximum rod top force) and VMX (maximum rod top velocity). The tables show statistical summaries for the final two 6 inch increments over which the SPT N value is calculated. At the end of each table is a statistical evaluation of these results which include the average and standard deviation.

The table below and the summary tables in Appendix C summarize the average transferred energy values calculated by the EFV method. The records consist of averaged hammer blows from the last 12 inches (i.e. N value) at each dynamically monitored sampling depth. The “energy transfer ratio” (ETR) is defined as the ratio of maximum transferred energy EFV divided by the theoretical hammer potential energy of 350 ft-lbs (i.e., computed per the 140 lb SPT hammer and the standard 30 inch drop as specified by ASTM D1586-08). The average hammer operating rate is reported in blows per minute (BPM). A summary of the dynamic measurements of the energy transfer to the drill rods using the EFV equation is provided in the table below.

Drill Rig	Avg. EFV (ft-lbs)	Avg ETR (%)	Range of EFV (ft-lbs)	Range of ETR (%)
Diedrich D-50 SN 310	329	94	299 – 357	86 – 102

CONCLUSIONS

Based upon the dynamic test data obtained, the following conclusions are presented:

1. Loose connections in the drill string were sometimes observed in the force and velocity records. However, energy transfer values calculated using the EFV equation are not adversely affected by the connectors and therefore are considered a better indication of transferred energy.

2. Dynamic measurements of the transferred energy to the drill rods using the EFV equation ranged from 299 to 357 ft-lbs for the Diedrich D-50, SN 310 drill rig. This corresponds to a transfer efficiency ranging from 86 to 102% of the SPT hammer energy of 350 ft-lbs.

3. The average transferred energy (EFV) and energy transfer ratio (ETR) for the Diedrich D-50 drill rig tested was as follows:

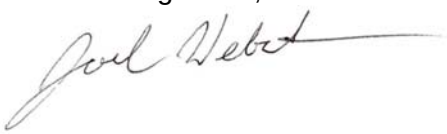
   Diedrich D-50, SN 310: Average EFV = 329 ft-lbs; Average ETR = 94%

Please review both ASTM D4633-10 and ASTM D1586-08 prior to applying these test results. The energy calibrations reported herein are valid for the same hammer/drill rig, with the same drill operator, same anvil dimensions, and same drilling methods.

We appreciate the opportunity to be of assistance to you on this project. Please contact our office should you have any questions regarding this submittal, require additional information, or if we may be of further service.

Sincerely,

GRL Engineers, Inc.



Joel S. Webster, E.I.

Thomas G. Hyatt

TGH:JSW:dms

Appendix A

An Introduction into SPT Dynamic Pile Testing

APPENDIX A
AN INTRODUCTION INTO SPT DYNAMIC PILE TESTING

The following has been written by GRL Engineers, Inc. and may only be copied with its written permission.

1. BACKGROUND

The Standard Penetration Test is frequently conducted as an in-situ assessment of soil strength. This test requires that a 140 lb weight is dropped 30 inches onto a drive rod at whose bottom a sampler is usually installed. The sampler is driven for 18 inches; the number of blows required for the last 12 inches of driving is the so-called N-value. The N-value may be used as a strength indicator for foundation design or as a means of assessing the liquefaction potential of soils.

Obviously, the SPT hammer efficiency is an important consideration when using the N-values for design purposes. Measurements have indicated that the energy in the drive rod is sometimes only 30% and and may reach 90% of the potential or rated energy of the SPT hammer (E-rated = 0.35 kip-ft or 0.475 kJ). The type of hammer used to drive the rod is the main reason for these variations. On the average, the energy in the drive rod is 60% of the standard rated energy.

Because of the variability of energy, methods based on N-values are considered unreliable. However, measurements during SPT testing using the Case Method can be done on a routine basis and these measurements yield the transferred energy values. With measured energy, EMX, known, an adjustment of the measured N-value, N_m, can be made as follows.

$$N_{60} = N_m [E_m / (0.6E_r)] \quad (1)$$

Thus, if the measured energy value is equal to the normally expected transferred energy of 60% of E-rated then the adjusted and measured N-values are identical. On the other hand, if the measured energy is only 30% then the adjusted blow count will be reduced by 50%.

2. DYNAMIC TESTING AND ANALYSIS METHODS APPLIED TO SPT

The Case Method of dynamic pile testing, named after the Case Institute of Technology where it was developed between 1964 and 1975, requires that a substantial ram mass (e.g. a pile driving hammer) impacts the pile top such that the pile undergoes at least a small permanent set. Thus, the method is also referred to as a “High Strain Method”. The Case Method requires dynamic measurements on the pile or shaft under the ram impact and then a calculation of various quantities. Conveniently, for SPT applications, the measurements and analyses are done by a single piece of equipment: the SPT Analyzer. The Pile Driving Analyzer® (PDA) is also suitable to perform these measurements and data processing.

A related analysis method is the “Wave Equation Analysis” which calculates a relationship between bearing capacity, pile stresses, transferred energy and field blow count. The GRLWEAP™ program performs this analysis and provides a complete set of helpful information and input data. This program can be used very effectively to simulate the SPT driving process.

3. MEASUREMENTS

GRL uses equipment manufactured by Pile Dynamics, Inc. The system includes either an SPT-Analyzer™ (SPTA) or a Pile Driving Analyzer® (PDA), an instrumented rod section and two accelerometers. SPT energy testing is very closely related to and borrows procedures from dynamic pile testing. Those interested in the basis of the SPT energy testing method may obtain extensive literature on dynamic pile testing from GRL Engineers, Inc.

3.1 SPT Analyzer or Pile Driving Analyzer

The basis for the results calculated by the SPTA or PDA are strain and acceleration measured in an instrumented rod section. These signals are converted to rod top force, F(t), and rod top velocity, v(t). The SPTA or PDA conditions, calibrates and displays these signals and immediately computes average pile force and velocity thereby eliminating bending effects. The product of these two

measurements is then integrated over time which yields the energy transferred to the instrumented section as a function of time (see Section 4.1).

For convenience and accuracy, strain measurements are usually taken on an instrumented section of SPT drive rod. Ideally, the section properties of the instrumented rod and those of the drive rod are the same, however, using subs, other sections can also be utilized.

For the instrumented section, PDI provides a force calibration in such a way that the output of the instrumented rod is directly calculated without the need for an accurate elastic modulus or cross sectional area of the rod section.

The acceleration measurements are often demanding in the SPT environment, because of high frequency and high acceleration motion components. An experienced measurement engineer, therefore, has to evaluate the quality of this data before final conclusions are drawn from the numerical results calculated by SPTA or PDA.

SPTA or PDA records are taken while the standard N-value is acquired in the conventional manner. This then allows a direct correlation between N-value and average transferred energy.

3.2 HPA

The SPT hammer's ram velocity may be directly obtained using radar technology in the Hammer Performance Analyzer™. The impact velocity results can be automatically processed with a PC or recorded on a strip chart. HPA measurements yield a hammer kinetic energy, but not the energy transferred to the drive rod.

4 RECORD EVALUATION BY SPTA OR PDA

4.1 HAMMER PERFORMANCE

The PDA calculates the energy transferred to the pile top from:

$$E(t) = {}_0\int^t F(\tau)v(\tau)\, d\tau \qquad (2)$$

The maximum of the E(t) curve is often called **ENTHRU or EMX;** it is the most important quantity for an overall evaluation of the performance of a hammer and driving system. **EMX** allows for a classification of the hammer's performance when presented as, e_T, the rated transfer efficiency, also called energy transfer ratio (**ETR**) or global efficiency.

$$e_T = EMX/E_R \qquad (3)$$

where E_R is the hammer manufacturer's rated energy value or 0.35 kip-ft (0.475 kJ) in the case of the SPT hammer.

Often in the SPT literature one finds also reference to the EF2 energy. This evaluation is based on assumed proportionality between force and velocity (see also Section 5):

$$v(t) = F(t) / Z \qquad (4)$$

where Z = EA/c is the pile impedance, E is the elastic modulus, A is the cross sectional area and c is the speed of the stress wave in the pile material..

Combining equations 2 and 4 leads to

$$EF(t) = {}_0\int^t F(\tau)^2 / Z\, d\tau \qquad (5)$$

The EF2 transferred energy value is the EF-value at the time t = 2L/c, where L is the drive rod length and c is the stress wave speed in steel (16,800 ft/s or 5,124 m/s). Since the force is easier to measure than both force and velocity, Equation 5 is preferred by some test engineers. However, the EF method is fraught with errors and certain correction factors have to be applied to make it approximately correct. Among the error sources are the following:

- Proportionality is often violated prior to time 2L/c. The proportionality between force and velocity in a downward traveling wave only holds if the wave does not encounter a disturbance prior to reflecting off the pile toe. Such disturbances include a change in cross sectional area, an open or loose splice or joint, or resistance along the shaft.

- Using only one force measurement precludes a data quality check based on the proportionality between force and velocity. Thus, a force measurement that is for some reason in error may not be detectable, which will lead to errors in the EF2 value. Data quality checks will be discussed further in Section 5.

The use if EF2 is therefore not recommended but it is often included in result presentations for the sake of completeness.

4.2 STRESSES

During SPT monitoring, it is also of interest to monitor compressive stresses at both the top of the drive rod and at its bottom.

At the pile top (location of sensors) the maximum compression stress averaged over the rod's cross section, **CSX**, is directly obtained from the measurements. Note that this stress value refers to the instrumented section. If the rod has a different cross sectional area then the stress in the rod will be different from CSX.

The SPTA or PDA can also calculate, in an approximate manner, the force at the rod bottom, **CFB**. To obtain the corresponding stress, this force value should be divided by the appropriate cross sectional area, e.g. by the rod area just above the sampler or by the sampler area itself. Of course, non-uniform stress components as they might occur at the sampler tip due to a sloping rock are not considered in this calculation.

5. DATA QUALITY CHECKS

Quality data is the first and foremost requirement for accurate dynamic testing results. It is therefore important that the measurement engineer performing SPTA or PDA tests has the experience necessary to recognize measurement problems and take appropriate corrective action should problems develop. Fortunately, dynamic pile testing allows for certain data quality checks because two independent measurements are taken that have to conform to the so-called proportionality relationship.

As long as there is only a wave traveling in one direction, as is the case during impact when only a downward traveling wave exists in the rod, force and velocity measured at its top are proportional

$$F = v\,Z \qquad (5)$$

where Z is again the pile impedance, Z = EA/c. This relationship can also be expressed in terms of stress

$$\sigma = F/A = v\,(E/c) \qquad (6)$$

or strain

$$\epsilon = \sigma/E = v / c \qquad (7)$$

This means that the early portion of strain times wave speed must be equal to the velocity unless the proportionality is affected by high friction near the pile top or by a pile cross sectional change not far below the sensors. Checking the proportionality is an excellent means of assuring meaningful measurements but is only truly meaningful for perfectly uniform rods. Open or loose splices, for example, will lead to a non-proportionality. For SPT rods it is fortunate that usually no soil resistance acts along the shaft and for that reason, proportionality can exist until the stress wave returns from sampler top or rod bottom unless connectors are not sufficiently tightened or have a significant mass.

Velocity data quality can also be checked by looking at the final displacement, DFN, which is calculated from the acceleration by double integration. If the calculated final displacement is much higher or lower than indicated by the N-value, the accelerometer attachment may be loose or the sensor may be faulty. If major drift in the velocity is observed, the EMX value may be in error, even though proportionality from impact to time 2L/c exists. In this case, it may be useful to evaluate the energy transferred to the drill rod at time 2L/c, which is calculated by the PDA or SPTA as the E2E quantity.

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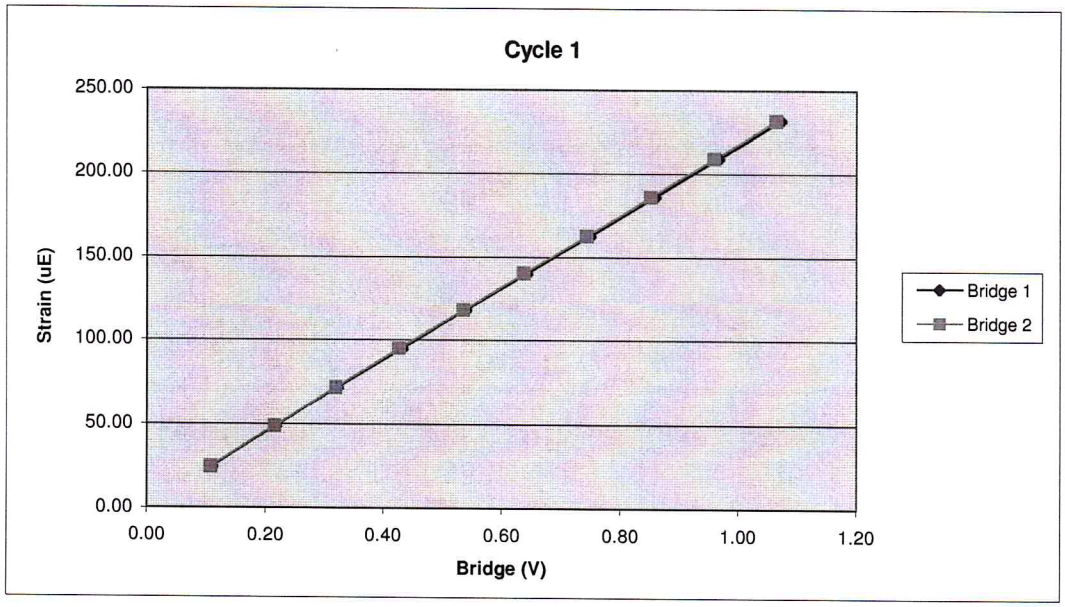
APPENDIX B

Instrumentation Calibration Information

231NWJ		Cycle 1		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	1012.13	24.71	0.11	0.11
3	2008.29	48.73	0.22	0.22
4	2984.34	71.57	0.32	0.32
5	3989.18	95.13	0.43	0.43
6	4994.80	117.95	0.54	0.54
7	5955.87	139.98	0.64	0.64
8	6944.74	162.72	0.75	0.74
9	7955.89	186.14	0.86	0.85
10	8962.89	209.00	0.97	0.96
11	9948.41	231.79	1.07	1.06

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**9283.84**	**Force Calibration (lb/V)**	**9345.66**
Offset	-6.70	Offset	-0.19
Correlation	0.999999	Correlation	0.999999
Strain Calibration (µE/V)	**214.44**	**Strain Calibration (µE/V)**	**215.86**
Offset	2.14	Offset	2.29
Correlation	0.999981	Correlation	0.999982

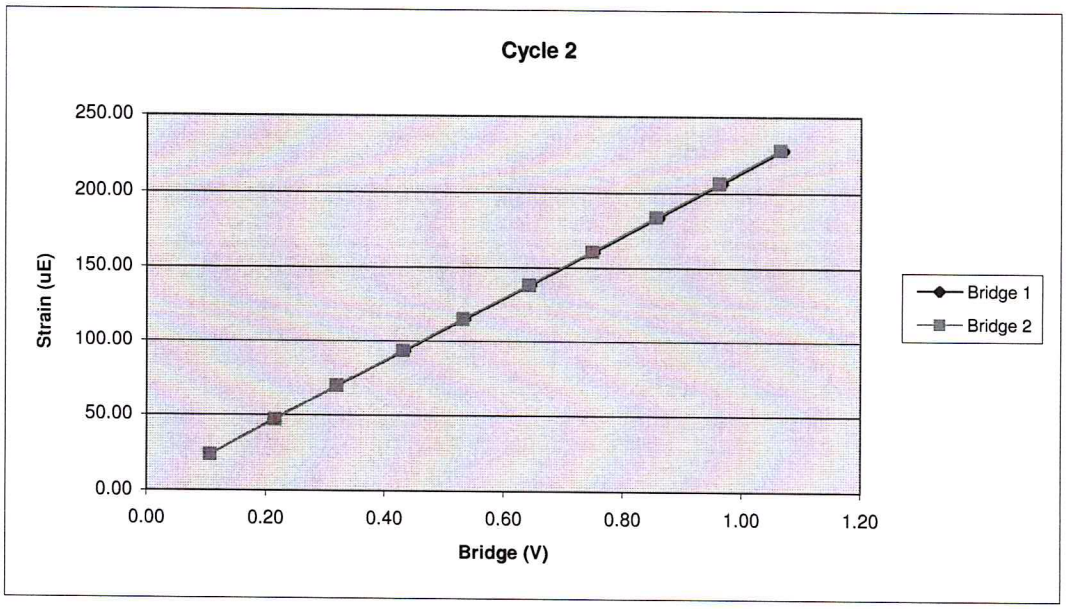
Force Strain Calibration	
EA (Kips)	**43292.53**
Offset	-99.16
Correlation	0.999979



231NWJ		Cycle 2		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	976.64	23.62	0.11	0.11
3	1976.95	47.01	0.21	0.22
4	2948.66	69.69	0.32	0.32
5	3992.73	93.38	0.43	0.43
6	4928.56	115.08	0.53	0.53
7	5953.31	138.50	0.64	0.64
8	6923.84	160.74	0.75	0.75
9	7942.09	183.61	0.86	0.85
10	8927.21	206.62	0.97	0.96
11	9887.09	228.02	1.07	1.06

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**9250.68**	**Force Calibration (lb/V)**	**9301.08**
Offset	**-9.91**	Offset	**-18.55**
Correlation	**0.999998**	Correlation	**0.999998**
Strain Calibration (µE/V)	**212.11**	**Strain Calibration (µE/V)**	**213.27**
Offset	**1.53**	Offset	**1.33**
Correlation	**0.999994**	Correlation	**0.999994**

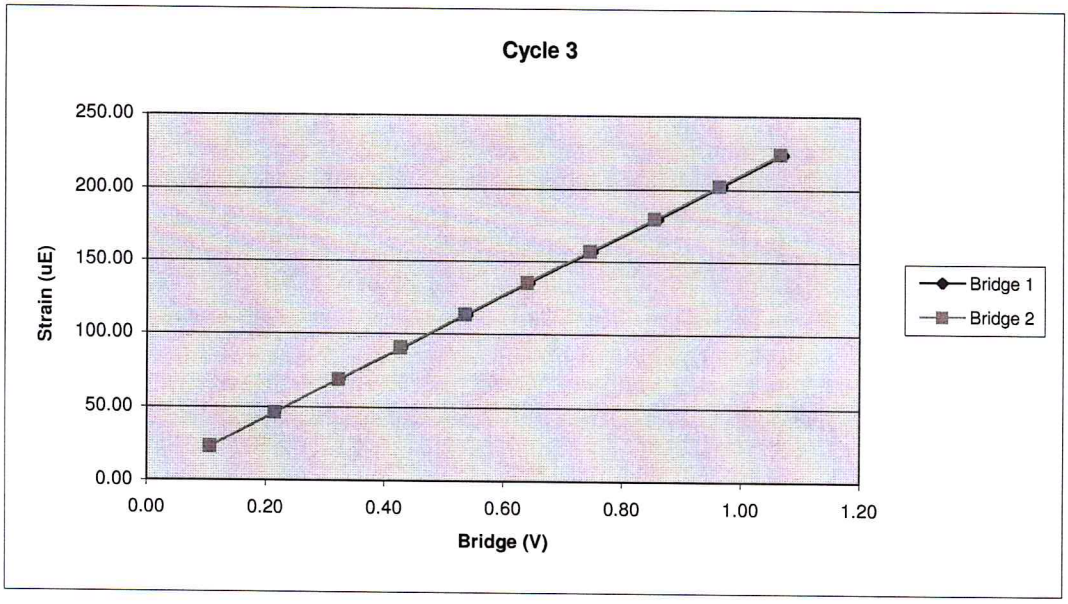
Force Strain Calibration	
EA (Kips)	**43611.25**
Offset	**-76.62**
Correlation	**0.999990**



231NWJ		Cycle 3		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	976.05	22.97	0.11	0.11
3	1980.69	46.32	0.21	0.21
4	2977.64	68.91	0.32	0.32
5	3954.48	90.43	0.43	0.43
6	4961.09	113.14	0.54	0.54
7	5931.03	135.05	0.64	0.64
8	6916.55	156.82	0.75	0.74
9	7928.09	179.47	0.86	0.85
10	8932.14	202.49	0.97	0.96
11	9894.98	224.03	1.07	1.07

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**9251.71**	**Force Calibration (lb/V)**	**9303.81**
Offset	**-8.61**	Offset	**-17.09**
Correlation	**0.999998**	Correlation	**0.999998**
Strain Calibration (µE/V)	**208.00**	**Strain Calibration (µE/V)**	**209.17**
Offset	**1.35**	Offset	**1.16**
Correlation	**0.999992**	Correlation	**0.999996**

Force Strain Calibration	
EA (Kips)	**44479.19**
Offset	**-68.49**
Correlation	**0.999991**



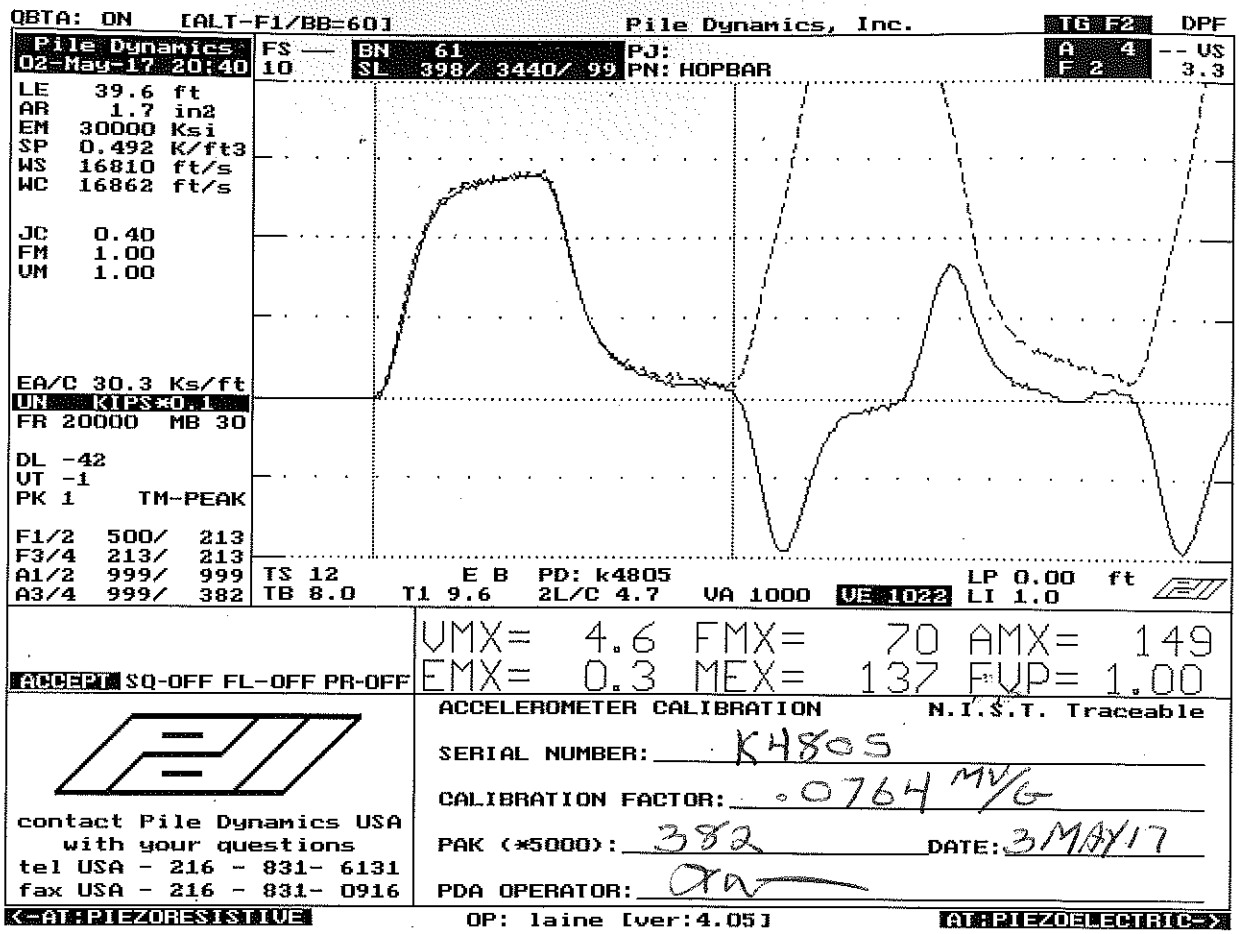
Bridge Excitation (V) 5
Shunt Resitor (ohm) 60.4k

Calibration Factors	231NWJ		
Bridge 1 (µE/V)	211.52	Bridge 2 (µE/V)	212.77
EA Factor (Kips)	43794.32	Area (in^2)	1.46

Calibrated by: David Beck
Calibrated Date: 9/28/2015

Pile Dynamics Inc
30725 Aurora Rd
Solon, OH 44139

Traceable to N.I.S.T.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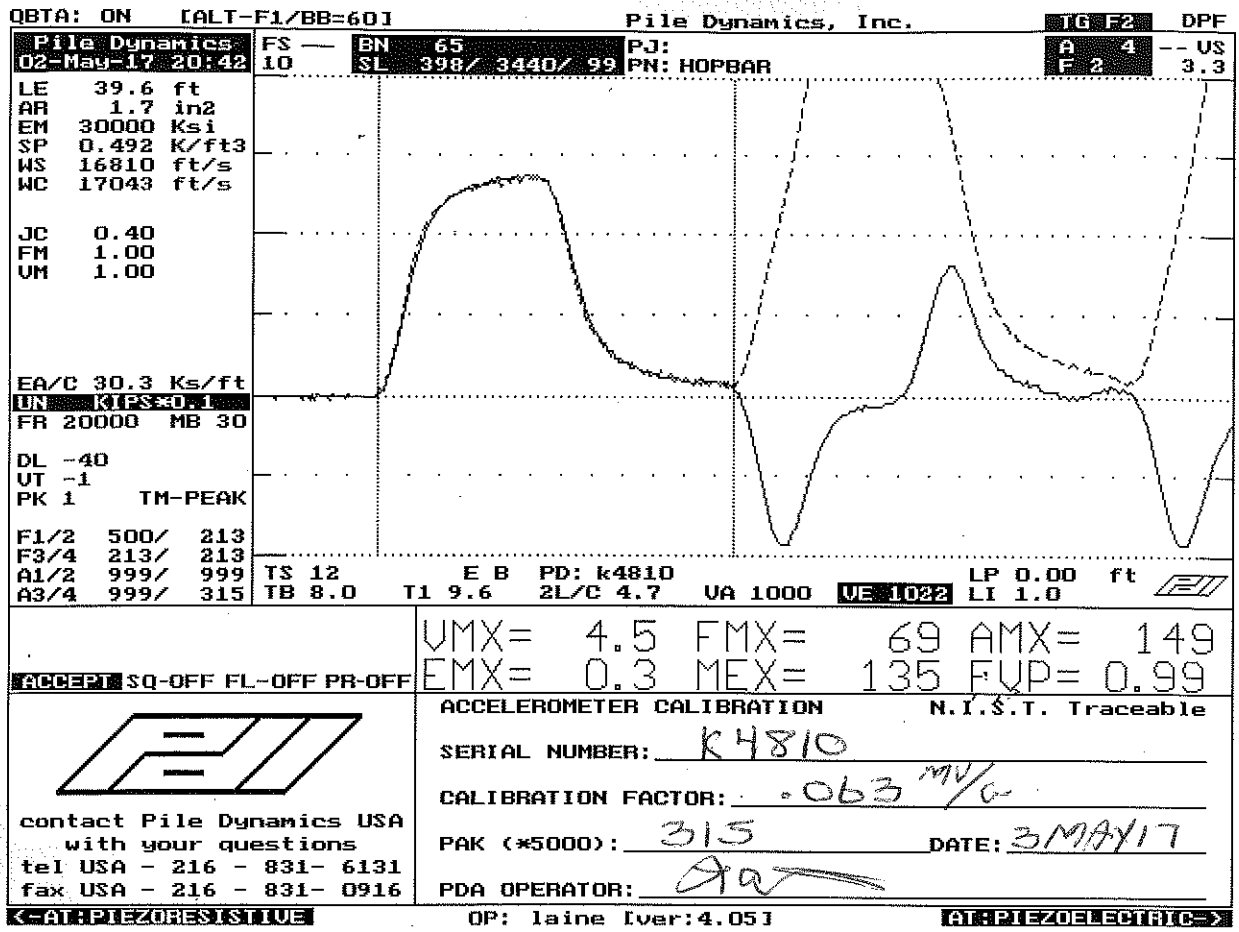
Pile Dynamics
02-May-17 20:40
FS —
10
BN 61
SL 398/ 3440/ 99
PJ:
PN: HOPBAR
A 4
F 2
-- US
3.3
LE 39.6 ft
AR 1.7 in2
EM 30000 Ksi
SP 0.492 K/ft3
WS 16810 ft/s
WC 16862 ft/s
JC 0.40
FM 1.00
VM 1.00
EA/C 30.3 Ks/ft
UN KIPS*0.1
FR 20000 MB 30
DL -42
VT -1
PK 1 TM-PEAK
F1/2 500/ 213
F3/4 213/ 213
A1/2 999/ 999
A3/4 999/ 382
TS 12 E B PD: k4805
TB 8.0 T1 9.6 2L/C 4.7 VA 1000 VE 1022 LP 0.00 ft
LI 1.0
ACCEPT SQ-OFF FL-OFF PR-OFF
VMX= 4.6 FMX= 70 AMX= 149
EMX= 0.3 MEX= 137 FVP= 1.00
contact Pile Dynamics USA
with your questions
tel USA - 216 - 831- 6131
fax USA - 216 - 831- 0916
ACCELEROMETER CALIBRATION N.I.S.T. Traceable
SERIAL NUMBER: K4805
CALIBRATION FACTOR: .0764 MV/G
PAK (*5000): 382 DATE: 3MAY17
PDA OPERATOR:
<-AT:PIEZORESISTIVE
OP: laine [ver:4.05]
AT:PIEZOELECTRIC->
Smart Sensor
Smart Chip Programmed By Z.M.W on 3MAY17 CRC Value BC78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Pile Dynamics, Inc.
TG F2
DPF
Pile Dynamics
02-May-17 20:42
FS —
10
BN 65
SL 398/ 3440/ 99
PJ:
PN: HOPBAR
A 4
F 2
-- VS
3.3
LE 39.6 ft
AR 1.7 in2
EM 30000 Ksi
SP 0.492 K/ft3
WS 16810 ft/s
WC 17043 ft/s
JC 0.40
FM 1.00
VM 1.00
EA/C 30.3 Ks/ft
UN KIPS*0.1
FR 20000 MB 30
DL -40
VT -1
PK 1 TM-PEAK
F1/2 500/ 213
F3/4 213/ 213
A1/2 999/ 999
A3/4 999/ 315
TS 12 E B PD: k4810
TB 8.0 T1 9.6 2L/C 4.7 VA 1000 VE 1022
LP 0.00 ft
LI 1.0
VMX= 4.5 FMX= 69 AMX= 149
EMX= 0.3 MEX= 135 FVP= 0.99
ACCEPT SQ-OFF FL-OFF PR-OFF
contact Pile Dynamics USA
with your questions
tel USA - 216 - 831- 6131
fax USA - 216 - 831- 0916
ACCELEROMETER CALIBRATION
N.I.S.T. Traceable
SERIAL NUMBER: K4810
CALIBRATION FACTOR: .063 mV/g
PAK (*5000): 315
DATE: 3MAY17
PDA OPERATOR:
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OP: laine [ver:4.05]
AT:PIEZOELECTRIC->
Smart Sensor
Smart Chip Programmed By J.M.W. on 3MAY17 CRC Value 9E7B

Certificate of Calibration

Pile Dynamics, Inc. certifies that the

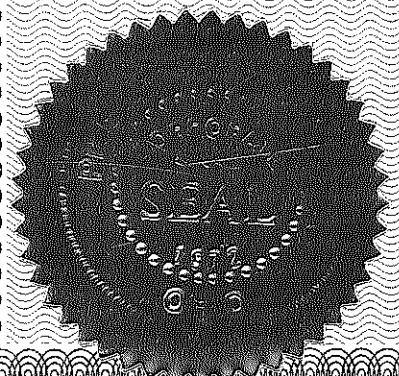
Pile Driving Analyzer®, Model 8G

Serial Number: 4613 LE

was calibrated on 4 May 2017

using a PDA Calibration Box whose output was calibrated with test equipment traceable to NIST.

This certificate is valid for 2 years from above date.



Tested by: _____

Pile Dynamics, Inc.
30725 Aurora Road
Cleveland, Ohio 44139 USA

Appendix C

SPT Calibration Results

GRL Engineers, Inc.
SPT Analyzer Results

PDA-S Ver. 2017.18 - Printed: 6/23/2017

Summary of SPT Test Results

Project: Diedrich D-50 SN310, Test Date: 6/21/2017

FMX: Maximum Force
VMX: Maximum Velocity
BPM: Blows/Minute
EFV: Maximum Energy

ETR: Energy Transfer Ratio - Rated
DFN: Final Displacement
FVP: Force/Velocity Proportionality

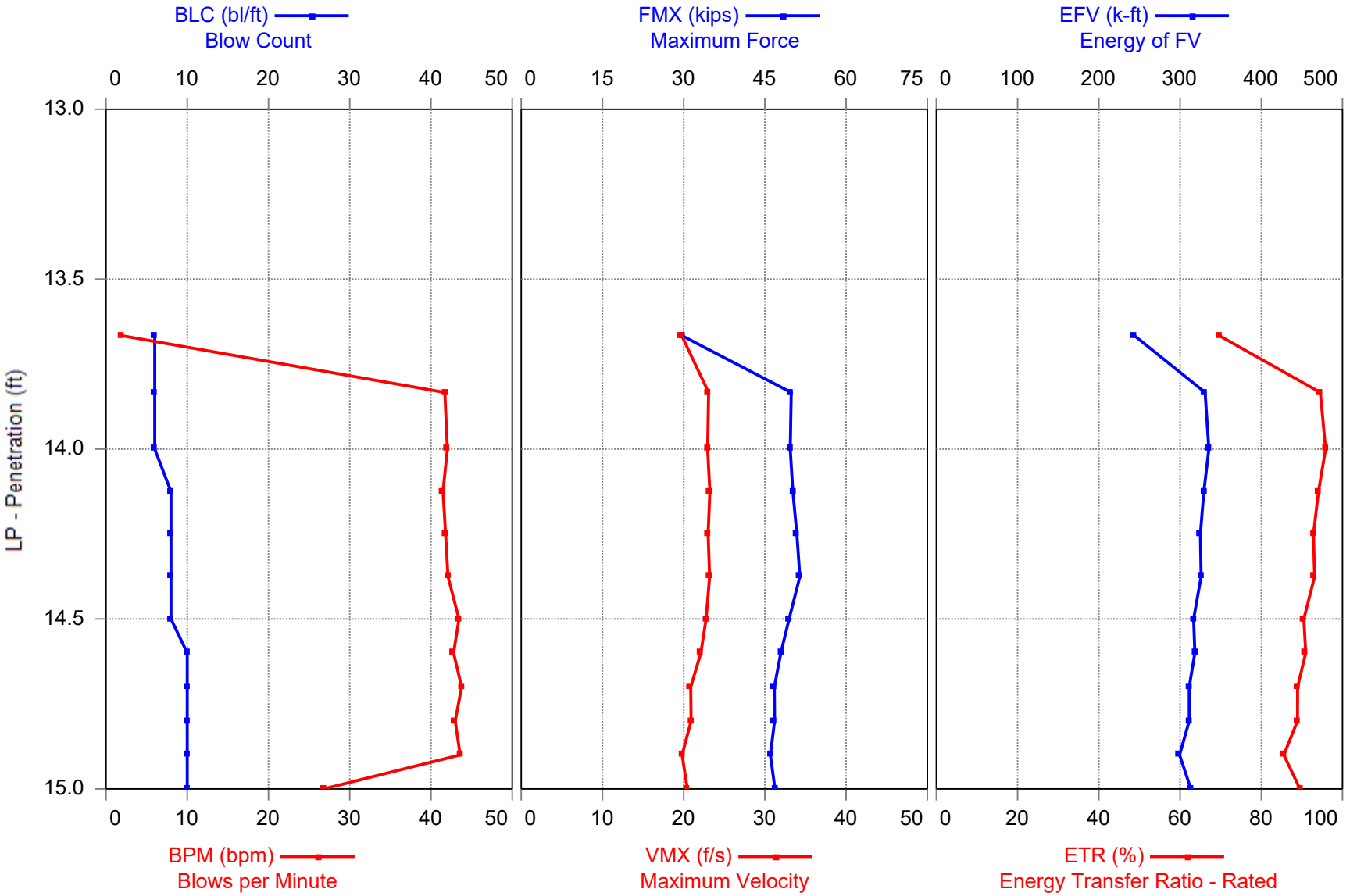
Instr. Length ft	Blows Applied /6"	Start Depth ft	Final Depth ft	**N Value**	**N60 Value**	Average FMX kips	Average VMX ft/s	Average BPM bpm	Average EFV ft-lb	Average ETR (%)	Average DFN in	Average FVP []
19.00	**3-4-5**	13.50	15.00	**9**	**14**	48	21.8	41.0	317	90.5	1.33	0.9
24.00	**3-6-8**	18.50	20.00	**14**	**21**	50	19.4	44.4	326	93.0	0.86	0.9
29.00	**4-8-11**	23.50	25.00	**19**	**29**	50	19.0	44.5	340	97.1	0.63	0.9
34.00	**5-6-9**	28.50	30.00	**15**	**23**	48	17.0	44.8	323	92.4	0.80	1.0
39.00	**7-10-15**	33.50	35.00	**25**	**39**	49	17.5	44.6	325	92.8	0.47	1.1
46.00	**4-4-6**	38.50	40.00	**10**	**15**	46	17.9	44.2	340	97.0	1.20	0.9
				Overall Average Values:		49	18.5	44.2	329	93.9	0.78	1.0
				Standard Deviation:		2	1.6	1.9	12	3.5	0.32	0.1
				Overall Maximum Value:		52	23.2	45.4	357	102.1	1.50	1.1
				Overall Minimum Value:		44	15.9	26.8	299	85.5	0.39	0.8

GRL Engineers, Inc. - PDIPLOT2 Ver 2016.2.57.6 - Case Method & iCAP® Results

Printed: 23-June-2017

Test started: 21-June-2017

Diedrich D-50 SN310 - SS 13.5-15



Diedrich D-50 SN310 - SS 13.5-15 B2-4
OP: JW Date: 21-June-2017

AR: 1.46 in² SP: 0.492 k/ft³
LE: 19.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.90 []

BPM: Blows per Minute
FMX: Maximum Force
VMX: Maximum Velocity
EFV: Energy of FV
ETR: Energy Transfer Ratio - Rated
CSX: Max Measured Compr. Stress
DMX: Maximum Displacement
DFN: Final Displacement
FVP: Force/Velocity proportionality

BL#	Depth ft	BLC bl/ft	TYPE	BPM bpm	FMX kips	VMX f/s	EFV k-ft	ETR (%)	CSX ksi	DMX in	DFN in	FVP []
3	14.0	6	AV3	29	43	21.9	303	87	29.5	2.39	2.00	0.90
7	14.5	8	AV4	42	50	23.0	324	93	34.6	2.09	1.50	0.88
12	15.0	10	AV5	40	47	20.8	311	89	32.1	1.30	1.20	0.89
			Average	38	47	21.8	313	90	32.3	1.83	1.50	0.89

Total number of blows analyzed: 12

Sensors

Blows: 1-12

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	231NWJ1	211.5	1.00
F4	Strain	231NWJ2	212.8	1.00
A1	PR Accel	K4810	315.0	1.00
A3	PR Accel	K4805	382.0	1.00

Time Summary

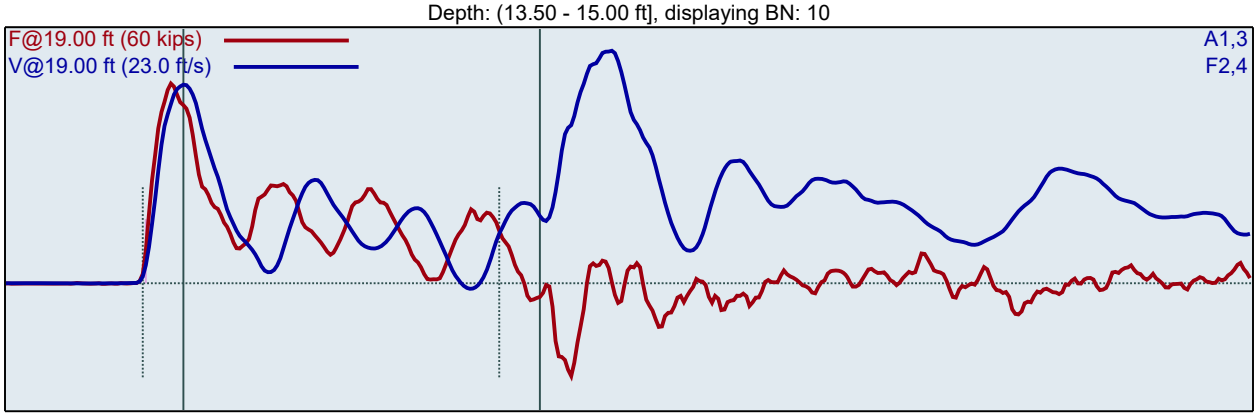
Drive 16 seconds 9:00 AM - 9:00 AM BN 1 - 12

GRL Engineers, Inc.
SPT Analyzer Results

PDA-S Ver. 2017.18 - Printed: 6/23/2017

Diedrich D-50 SN310 — SS 13.5-15
JW — Test date: 6/21/2017
AR: 1.46 in^2 — SP: 0.492 k/ft3
LE: 19.00 ft — EM: 30000 ksi
WS: 16807.9 ft/s

Depth: (13.50 - 15.00 ft], displaying BN: 10



FMX: Maximum Force
VMX: Maximum Velocity
BPM: Blows/Minute
EFV: Maximum Energy

ETR: Energy Transfer Ratio - Rated
DFN: Final Displacement
FVP: Force/Velocity Proportionality

BL#	BC /6"	LP ft	FMX kips	VMX ft/s	BPM bpm	EFV ft-lb	ETR (%)	DFN in	FVP []
1	3	13.67	30	19.8	1.9	244	69.7	2.00	0.9
2	3	13.83	50	23.1	41.7	331	94.5	2.00	0.9
3	3	14.00	50	22.9	42.0	335	95.8	2.00	0.9
4	4	14.13	50	23.2	41.5	329	94.1	1.50	0.9
5	4	14.25	51	23.0	41.8	325	92.9	1.50	0.9
6	4	14.38	51	23.2	42.1	326	93.1	1.50	0.9
7	4	14.50	49	22.8	43.4	317	90.5	1.50	0.9
8	5	14.60	48	22.1	42.8	318	90.9	1.20	0.9
9	5	14.70	47	20.9	43.8	311	88.9	1.20	0.9
10	5	14.80	47	20.9	43.0	311	88.9	1.20	0.9
11	5	14.90	46	19.8	43.6	299	85.5	1.20	0.9
12	5	15.00	47	20.4	26.8	313	89.5	1.20	0.9
		Average	48	21.8	41.0	317	90.5	1.33	0.9
		Std Dev	2	1.2	5.1	9	2.5	0.15	0.0
		Maximum	51	23.2	43.8	329	94.1	1.50	0.9
		Minimum	46	19.8	26.8	299	85.5	1.20	0.9
				N-value: 9					

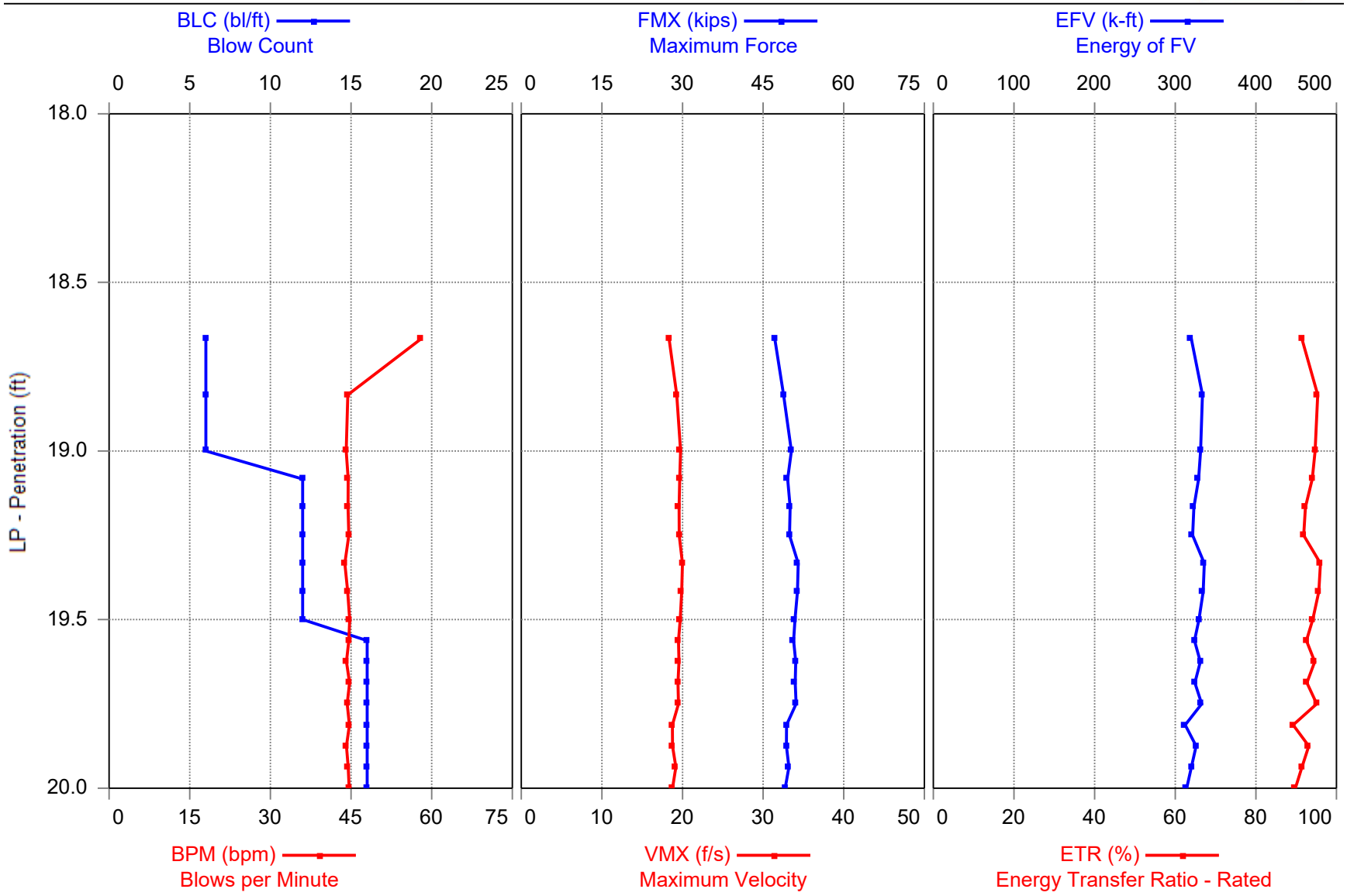
Sample Interval Time: 16.33 seconds.

GRL Engineers, Inc. - PDIPLOT2 Ver 2016.2.57.6 - Case Method & iCAP® Results

Printed: 23-June-2017

Test started: 21-June-2017

Diedrich D-50 SN310 - SS 18.5-20



Diedrich D-50 SN310 - SS 18.5-20 B2-4
OP: JW Date: 21-June-2017

AR: 1.46 in² SP: 0.492 k/ft³
LE: 24.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.90 []

BPM: Blows per Minute
FMX: Maximum Force
VMX: Maximum Velocity
EFV: Energy of FV
ETR: Energy Transfer Ratio - Rated
CSX: Max Measured Compr. Stress
DMX: Maximum Displacement
DFN: Final Displacement
FVP: Force/Velocity proportionality

BL#	Depth ft	BLC bl/ft	TYPE	BPM bpm	FMX kips	VMX f/s	EFV k-ft	ETR (%)	CSX ksi	DMX in	DFN in	FVP []
3	19.0	6	AV3	49	49	19.1	328	94	33.4	2.41	2.00	0.86
9	19.5	12	AV6	44	51	19.7	329	94	34.6	1.38	1.00	0.85
17	20.0	16	AV8	44	50	19.2	323	92	34.4	1.08	0.75	0.87
			Average	45	50	19.4	326	93	34.3	1.42	1.06	0.86

Total number of blows analyzed: 17

Sensors

Blows: 1-17

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	231NWJ1	211.5	1.00
F4	Strain	231NWJ2	212.8	1.00
A1	PR Accel	K4810	315.0	1.00
A3	PR Accel	K4805	382.0	1.00

Time Summary

Drive 21 seconds 9:09 AM - 9:09 AM BN 1 - 17

GRL Engineers, Inc.
SPT Analyzer Results

PDA-S Ver. 2017.18 - Printed: 6/23/2017

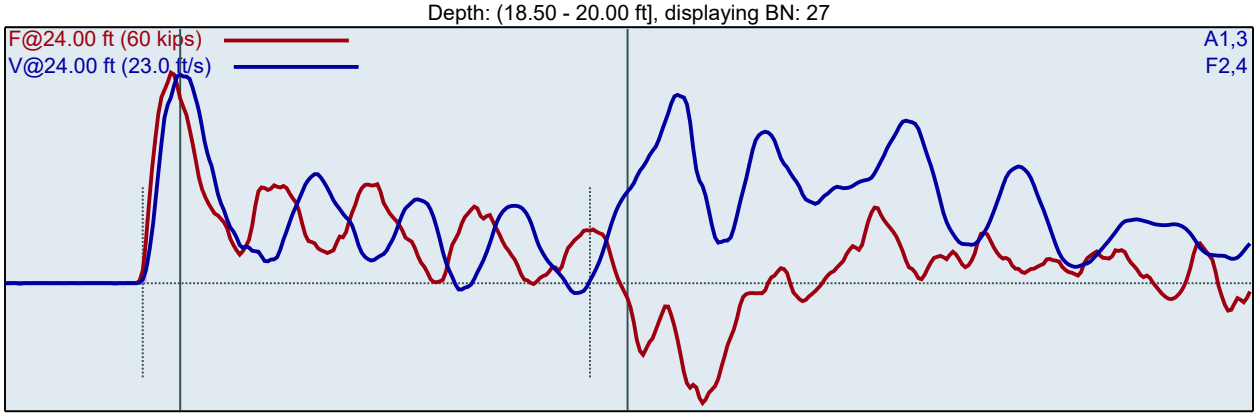
Diedrich D-50 SN310
JW

SS 13.5-15
Test date: 6/21/2017

AR: 1.46 in^2
LE: 24.00 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (18.50 - 20.00 ft], displaying BN: 27



BL#	BC /6"	LP ft	FMX kips	VMX ft/s	BPM bpm	EFV ft-lb	ETR (%)	DFN in	FVP []
13	3	18.67	47	18.3	58.1	320	91.4	2.00	0.9
14	3	18.83	49	19.3	44.4	334	95.3	2.00	0.9
15	3	19.00	50	19.8	44.1	331	94.7	2.00	0.8
16	6	19.08	50	19.7	44.5	329	94.0	1.00	0.9
17	6	19.17	50	19.6	44.4	323	92.3	1.00	0.8
18	6	19.25	50	19.6	44.6	322	91.9	1.00	0.9
19	6	19.33	52	20.0	43.8	336	96.0	1.00	0.8
20	6	19.42	51	19.9	44.4	335	95.6	1.00	0.8
21	6	19.50	51	19.7	44.7	329	94.1	1.00	0.9
22	8	19.56	51	19.5	44.6	324	92.5	0.75	0.8
23	8	19.63	51	19.6	44.2	331	94.6	0.75	0.9
24	8	19.69	51	19.4	44.7	324	92.7	0.75	0.9
25	8	19.75	51	19.5	44.3	333	95.1	0.75	0.9
26	8	19.81	49	18.7	44.7	312	89.2	0.75	0.9
27	8	19.88	49	18.8	44.2	326	93.1	0.75	0.9
28	8	19.94	50	19.2	44.5	320	91.4	0.75	0.9
29	8	20.00	49	18.8	44.7	314	89.8	0.75	0.9
		Average	50	19.4	44.4	326	93.0	0.86	0.9
		Std Dev	1	0.4	0.3	7	2.0	0.12	0.0
		Maximum	52	20.0	44.7	336	96.0	1.00	0.9
		Minimum	49	18.7	43.8	312	89.2	0.75	0.8
				N-value: 14					

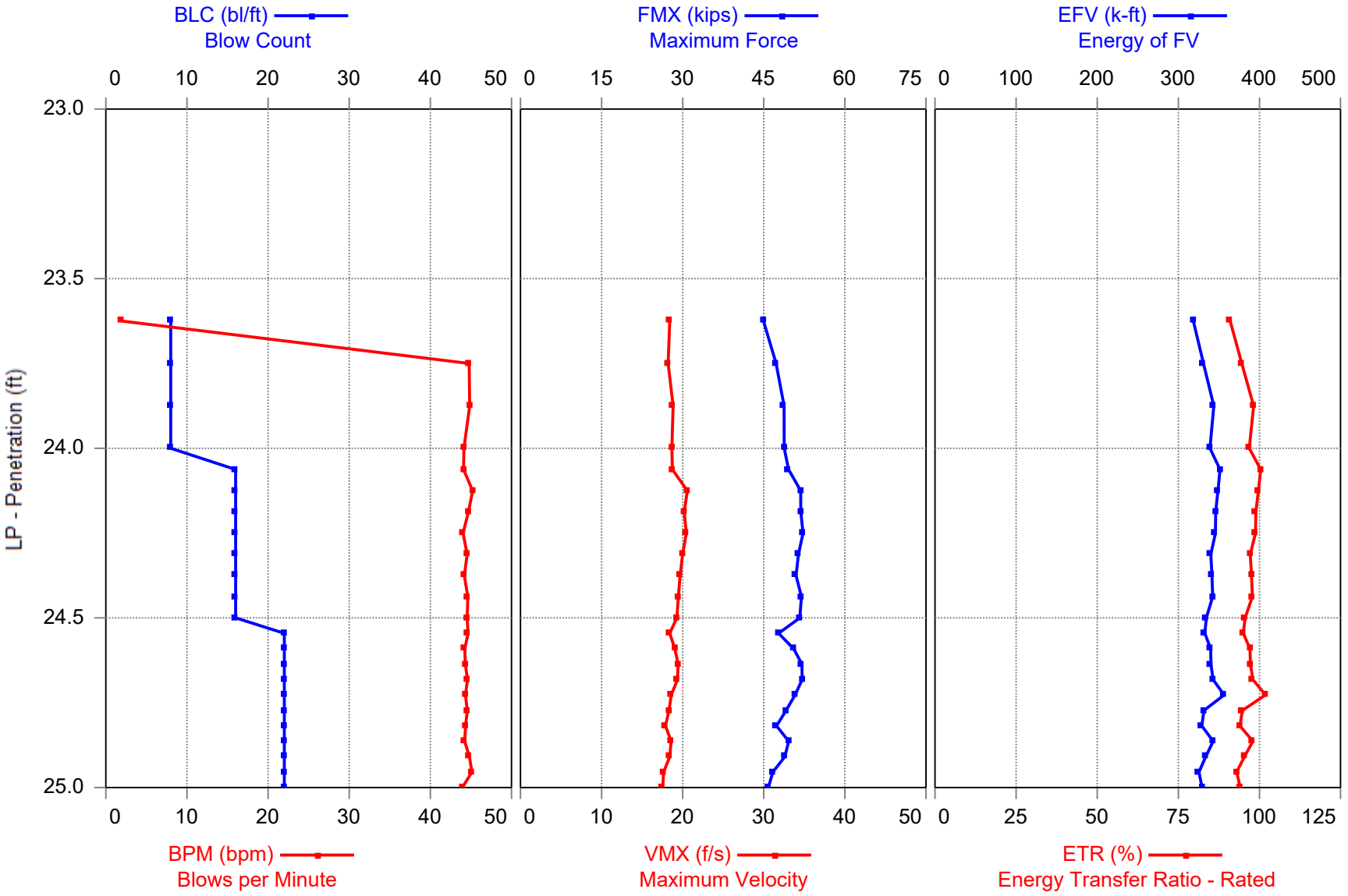
Sample Interval Time: 21.59 seconds.

GRL Engineers, Inc. - PDIPLOT2 Ver 2016.2.57.6 - Case Method & iCAP® Results

Printed: 23-June-2017

Test started: 21-June-2017

Diedrich D-50 SN310 - SS 23.5-25



Diedrich D-50 SN310 - SS 23.5-25 B2-4
OP: JW Date: 21-June-2017

AR: 1.46 in² SP: 0.492 k/ft³
LE: 29.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.90 []

BPM: Blows per Minute
FMX: Maximum Force
VMX: Maximum Velocity
EFV: Energy of FV
ETR: Energy Transfer Ratio - Rated
CSX: Max Measured Compr. Stress
DMX: Maximum Displacement
DFN: Final Displacement
FVP: Force/Velocity proportionality

BL#	Depth ft	BLC bl/ft	TYPE	BPM bpm	FMX kips	VMX f/s	EFV k-ft	ETR (%)	CSX ksi	DMX in	DFN in	FVP []
4	24.0	8	AV4	34	47	18.5	333	95	32.5	1.86	1.50	0.93
12	24.5	16	AV8	44	51	19.8	344	98	35.2	1.26	0.75	0.90
23	25.0	22	AV11	44	49	18.5	337	96	33.7	1.01	0.55	0.88
			Average	43	50	18.9	339	97	34.0	1.24	0.78	0.89

Total number of blows analyzed: 23

Sensors

Blows: 1-23

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	231NWJ1	211.5	1.00
F4	Strain	231NWJ2	212.8	1.00
A1	PR Accel	K4810	315.0	1.00
A3	PR Accel	K4805	382.0	1.00

Time Summary

Drive 29 seconds 9:18 AM - 9:19 AM BN 1 - 23

GRL Engineers, Inc.
SPT Analyzer Results

PDA-S Ver. 2017.18 - Printed: 6/23/2017

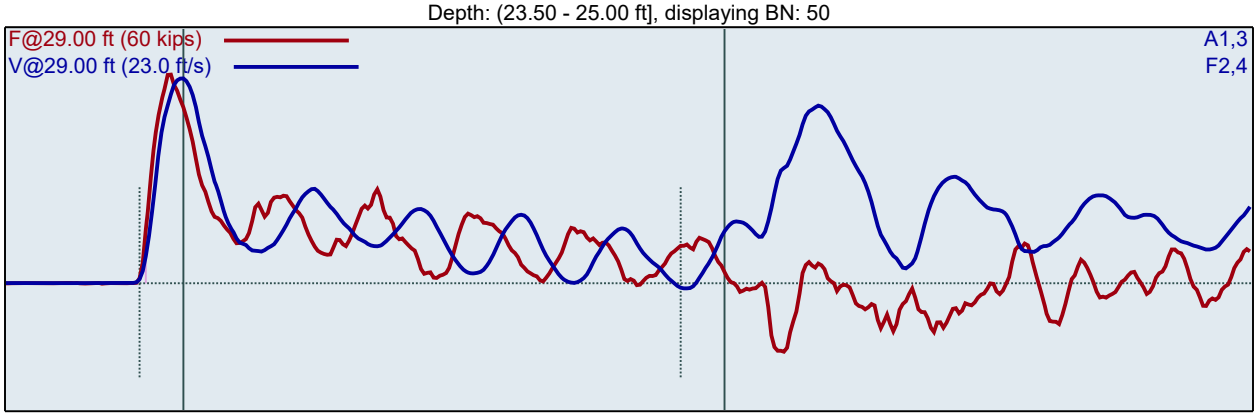
Diedrich D-50 SN310
JW

SS 13.5-15
Test date: 6/21/2017

AR: 1.46 in^2
LE: 29.00 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (23.50 - 25.00 ft], displaying BN: 50



BL#	BC /6"	LP ft	FMX kips	VMX ft/s	BPM bpm	EFV ft-lb	ETR (%)	DFN in	FVP []
30	4	23.63	45	18.4	1.9	318	91.0	1.50	0.9
31	4	23.75	47	18.2	44.8	331	94.6	1.50	0.9
32	4	23.88	49	18.8	44.8	344	98.2	1.50	0.9
33	4	24.00	49	18.7	44.1	339	96.8	1.50	0.9
34	8	24.06	50	18.7	44.1	351	100.4	0.75	0.9
35	8	24.13	52	20.6	45.2	349	99.7	0.75	0.9
36	8	24.19	52	20.2	44.7	346	98.9	0.75	0.9
37	8	24.25	52	20.5	44.0	346	98.8	0.75	0.9
38	8	24.31	51	20.0	44.5	340	97.2	0.75	0.9
39	8	24.38	51	19.7	44.2	341	97.6	0.75	0.9
40	8	24.44	52	19.5	44.6	342	97.8	0.75	0.9
41	8	24.50	52	19.3	44.5	335	95.6	0.75	0.9
42	11	24.55	48	18.4	44.6	333	95.0	0.54	0.9
43	11	24.59	51	19.0	44.2	340	97.1	0.55	0.9
44	11	24.64	52	19.4	44.3	340	97.2	0.55	0.8
45	11	24.68	52	19.4	44.6	343	98.0	0.55	0.8
46	11	24.73	51	18.6	44.3	356	101.9	0.55	0.9
47	11	24.77	49	18.3	44.6	332	94.8	0.54	0.9
48	11	24.82	47	17.9	44.3	329	94.0	0.54	0.9
49	11	24.86	50	18.6	44.2	343	98.0	0.55	0.9
50	11	24.91	49	18.4	44.8	334	95.4	0.54	0.9
51	11	24.95	47	17.7	45.1	325	93.0	0.55	0.9
52	11	25.00	46	17.5	43.9	329	94.1	0.55	0.9
		Average	50	19.0	44.5	340	97.1	0.63	0.9
		Std Dev	2	0.9	0.3	8	2.3	0.10	0.0
		Maximum	52	20.6	45.2	356	101.9	0.75	0.9
		Minimum	46	17.5	43.9	325	93.0	0.54	0.8
				N-value: 19					

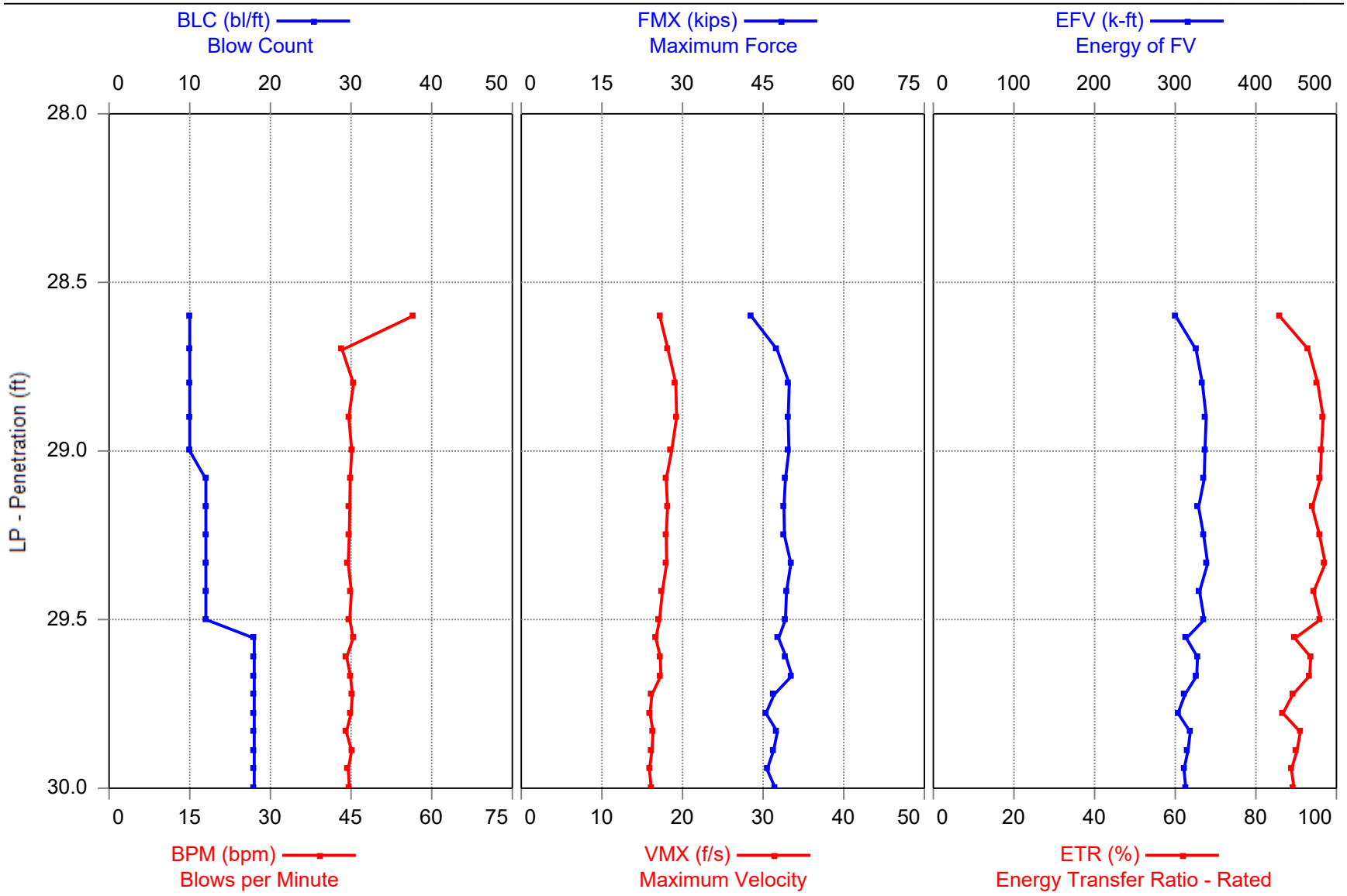
Sample Interval Time: 29.69 seconds.

GRL Engineers, Inc. - PDIPLOT2 Ver 2016.2.57.6 - Case Method & iCAP® Results

Printed: 23-June-2017

Test started: 21-June-2017

Diedrich D-50 SN310 - SS 28.5-30



Diedrich D-50 SN310 - SS 28.5-30 B2-4
OP: JW Date: 21-June-2017

AR: 1.46 in² SP: 0.492 k/ft³
LE: 34.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.90 []

BPM: Blows per Minute
FMX: Maximum Force
VMX: Maximum Velocity
EFV: Energy of FV
ETR: Energy Transfer Ratio - Rated
CSX: Max Measured Compr. Stress
DMX: Maximum Displacement
DFN: Final Displacement
FVP: Force/Velocity proportionality

BL#	Depth ft	BLC bl/ft	TYPE	BPM bpm	FMX kips	VMX f/s	EFV k-ft	ETR (%)	CSX ksi	DMX in	DFN in	FVP []
5	29.0	10	AV5	47	48	18.5	327	93	32.8	1.40	1.19	1.00
11	29.5	12	AV6	45	49	17.8	334	96	33.8	1.01	1.00	1.04
20	30.0	18	AV9	45	48	16.4	316	90	32.5	0.74	0.66	1.05
			Average	45	48	17.4	324	93	33.0	0.99	0.90	1.04

Total number of blows analyzed: 20

Sensors

Blows: 1-20

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	231NWJ1	211.5	1.00
F4	Strain	231NWJ2	212.8	1.00
A1	PR Accel	K4810	315.0	1.00
A3	PR Accel	K4805	382.0	1.00

Time Summary

Drive 25 seconds 9:28 AM - 9:28 AM BN 1 - 20

GRL Engineers, Inc.
SPT Analyzer Results

PDA-S Ver. 2017.18 - Printed: 6/23/2017

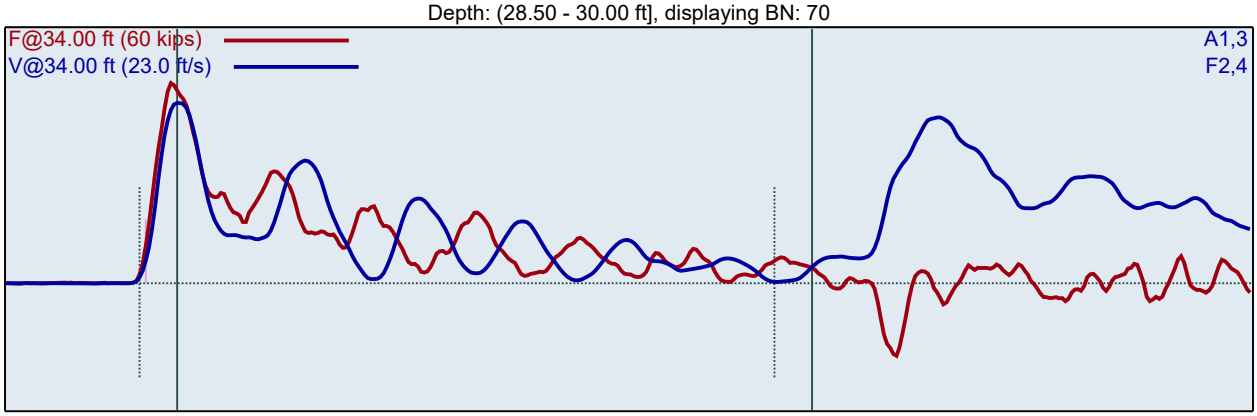
Diedrich D-50 SN310
JW

SS 13.5-15
Test date: 6/21/2017

AR: 1.46 in^2
LE: 34.00 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (28.50 - 30.00 ft], displaying BN: 70



BL#	BC /6"	LP ft	FMX kips	VMX ft/s	BPM bpm	EFV ft-lb	ETR (%)	DFN in	FVP []
53	5	28.60	43	17.2	56.5	301	85.9	1.20	0.9
54	5	28.70	48	18.2	43.4	326	93.1	1.19	1.0
55	5	28.80	50	19.2	45.5	334	95.4	1.19	1.0
56	5	28.90	50	19.3	44.6	338	96.7	1.19	1.0
57	5	29.00	50	18.7	45.1	337	96.2	1.20	1.0
58	6	29.08	49	18.0	44.8	336	96.0	1.00	1.0
59	6	29.17	49	18.1	44.8	329	94.0	1.00	1.1
60	6	29.25	49	18.0	44.7	335	95.8	1.00	1.0
61	6	29.33	50	18.0	44.5	340	97.2	1.00	1.0
62	6	29.42	49	17.5	45.1	330	94.4	1.00	1.0
63	6	29.50	49	17.2	44.8	336	96.0	1.00	1.1
64	9	29.56	48	16.7	45.4	314	89.7	0.66	1.1
65	9	29.61	49	17.2	44.2	328	93.6	0.66	1.0
66	9	29.67	50	17.3	44.9	327	93.3	0.66	1.0
67	9	29.72	47	16.2	45.2	312	89.2	0.66	1.1
68	9	29.78	46	16.0	45.0	304	86.7	0.66	1.0
69	9	29.83	48	16.4	44.1	319	91.0	0.66	1.1
70	9	29.89	47	16.2	45.1	316	90.2	0.66	1.1
71	9	29.94	46	15.9	44.5	311	88.8	0.66	1.1
72	9	30.00	47	16.1	44.7	313	89.4	0.66	1.1
		Average	48	17.0	44.8	323	92.4	0.80	1.0
		Std Dev	1	0.8	0.4	11	3.1	0.16	0.0
		Maximum	50	18.1	45.4	340	97.2	1.00	1.1
		Minimum	46	15.9	44.1	304	86.7	0.66	1.0
				N-value: 15					

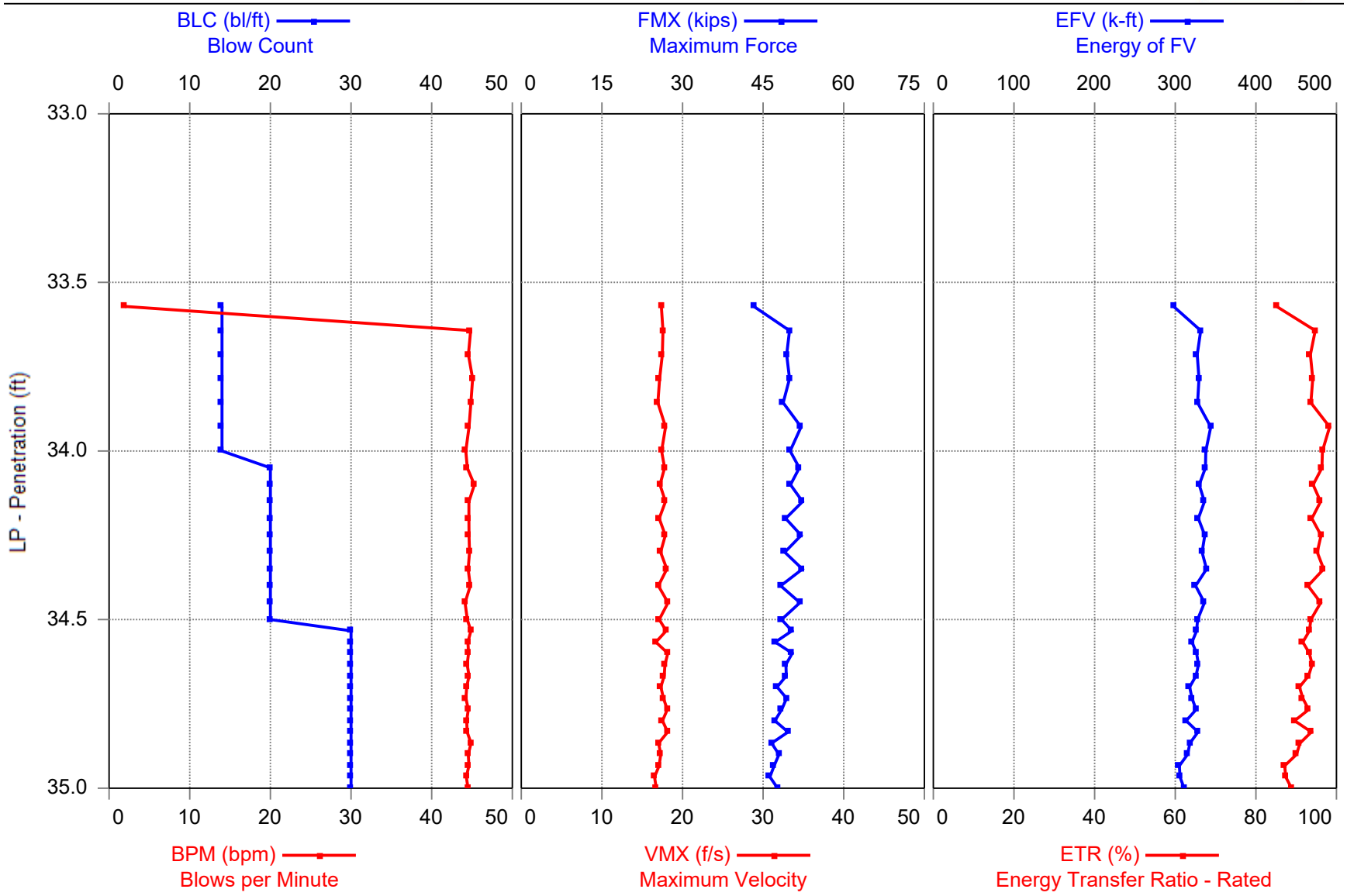
Sample Interval Time: 25.44 seconds.

GRL Engineers, Inc. - PDIPLOT2 Ver 2016.2.57.6 - Case Method & iCAP® Results

Printed: 23-June-2017

Test started: 21-June-2017

Diedrich D-50 SN310 - SS 33.5-35



Diedrich D-50 SN310 - SS 33.5-35 B2-4
OP: JW Date: 21-June-2017

AR: 1.46 in² SP: 0.492 k/ft³
LE: 39.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.90 []

BPM: Blows per Minute
FMX: Maximum Force
VMX: Maximum Velocity
EFV: Energy of FV
ETR: Energy Transfer Ratio - Rated
CSX: Max Measured Compr. Stress
DMX: Maximum Displacement
DFN: Final Displacement
FVP: Force/Velocity proportionality

BL#	Depth ft	BLC bl/ft	TYPE	BPM bpm	FMX kips	VMX f/s	EFV k-ft	ETR (%)	CSX ksi	DMX in	DFN in	FVP []
7	34.0	14	AV7	39	49	17.4	328	94	33.6	0.93	0.85	1.05
17	34.5	20	AV10	45	51	17.6	333	95	34.6	0.63	0.59	1.09
32	35.0	30	AV15	45	48	17.5	319	91	33.1	0.47	0.40	1.05
			Average	43	49	17.5	325	93	33.7	0.62	0.56	1.06

Total number of blows analyzed: 32

Sensors

Blows: 1-32

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	231NWJ1	211.5	1.00
F4	Strain	231NWJ2	212.8	1.00
A1	PR Accel	K4810	315.0	1.00
A3	PR Accel	K4805	382.0	1.00

Time Summary

Drive 41 seconds 9:38 AM - 9:39 AM BN 1 - 32

GRL Engineers, Inc.
SPT Analyzer Results

PDA-S Ver. 2017.18 - Printed: 6/23/2017

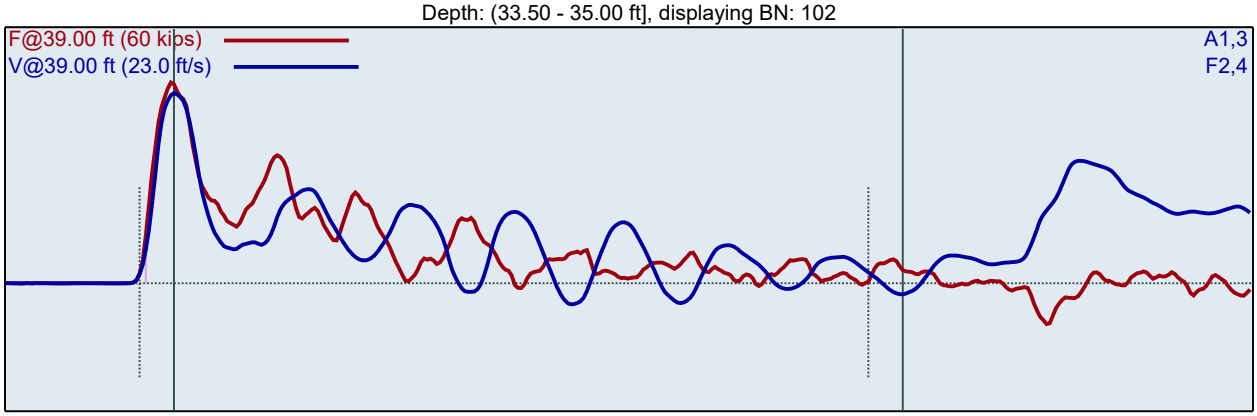
Diedrich D-50 SN310
JW

SS 13.5-15
Test date: 6/21/2017

AR: 1.46 in^2
LE: 39.00 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (33.50 - 35.00 ft], displaying BN: 102



BL#	BC /6"	LP ft	FMX kips	VMX ft/s	BPM bpm	EFV ft-lb	ETR (%)	DFN in	FVP []
73	7	33.57	43	17.4	1.9	298	85.1	0.84	1.0
74	7	33.64	50	17.6	44.8	332	94.7	0.85	1.1
75	7	33.71	49	17.5	44.6	327	93.5	0.85	1.0
76	7	33.79	50	17.2	45.1	329	94.1	0.85	1.1
77	7	33.86	49	16.9	44.9	328	93.6	0.85	1.1
78	7	33.93	52	17.9	44.6	344	98.3	0.85	1.1
79	7	34.00	50	17.4	44.2	338	96.5	0.85	1.1
80	10	34.05	52	17.8	44.4	337	96.4	0.59	1.1
81	10	34.10	50	17.2	45.3	330	94.2	0.59	1.1
82	10	34.15	52	17.9	44.6	336	96.1	0.59	1.1
83	10	34.20	49	17.1	44.6	329	93.9	0.59	1.1
84	10	34.25	52	17.9	44.6	337	96.2	0.59	1.1
85	10	34.30	49	17.3	44.7	333	95.2	0.60	1.1
86	10	34.35	52	18.1	44.5	339	96.8	0.60	1.1
87	10	34.40	48	17.0	44.8	325	92.9	0.59	1.1
88	10	34.45	52	18.2	44.1	336	96.1	0.60	1.1
89	10	34.50	48	17.1	44.4	328	93.6	0.59	1.1
90	15	34.53	50	18.0	44.9	326	93.3	0.40	1.0
91	15	34.57	47	16.7	44.5	321	91.7	0.40	1.1
92	15	34.60	50	18.2	44.6	326	93.3	0.40	1.1
93	15	34.63	49	17.8	44.4	329	93.9	0.40	1.1
94	15	34.67	49	17.7	44.6	326	93.1	0.40	1.0
95	15	34.70	48	17.3	44.3	318	90.8	0.40	1.0
96	15	34.73	49	17.6	44.2	321	91.7	0.39	1.1
97	15	34.77	48	18.1	44.5	326	93.1	0.39	1.0
98	15	34.80	47	17.5	44.3	314	89.6	0.39	1.0
99	15	34.83	50	18.2	44.4	328	93.8	0.39	1.0
100	15	34.87	47	17.0	44.9	318	90.9	0.40	1.0
101	15	34.90	48	17.3	44.5	315	90.1	0.40	1.0
102	15	34.93	47	17.1	44.6	305	87.2	0.40	1.0
103	15	34.97	46	16.5	44.3	306	87.4	0.40	1.1
104	15	35.00	48	16.7	44.5	311	88.8	0.40	1.1

GRL Engineers, Inc.
SPT Analyzer Results

PDA-S Ver. 2017.18 - Printed: 6/23/2017

Average	49	17.5	44.6	325	92.8	0.47	1.1
Std Dev	2	0.5	0.2	9	2.7	0.10	0.0
Maximum	52	18.2	45.3	339	96.8	0.60	1.1
Minimum	46	16.5	44.1	305	87.2	0.39	1.0
		N-value: 25					

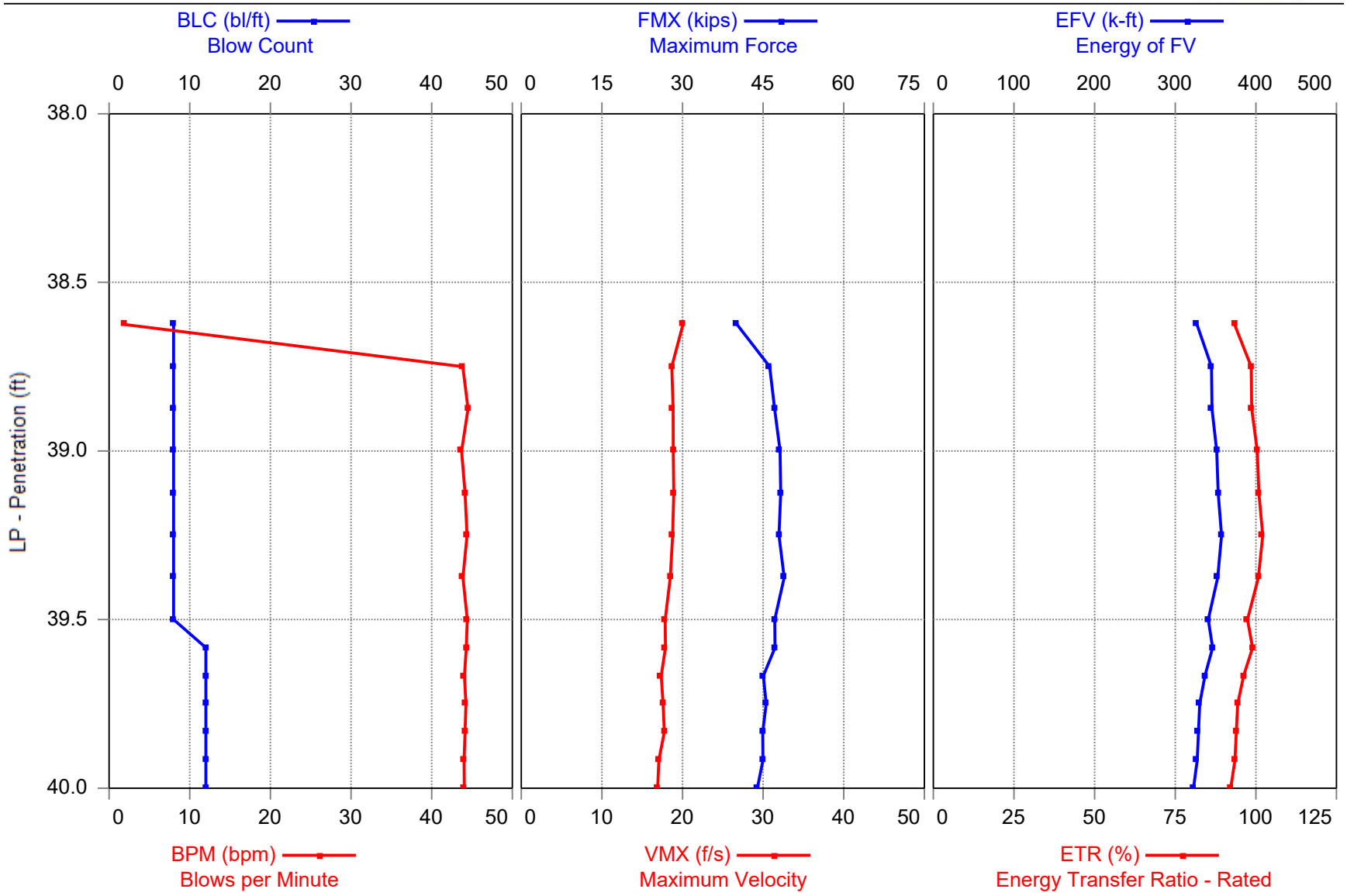
Sample Interval Time: 41.75 seconds.

GRL Engineers, Inc. - PDIPLOT2 Ver 2016.2.57.6 - Case Method & iCAP® Results

Printed: 23-June-2017

Test started: 21-June-2017

Diedrich D-50 SN310 - SS 38.5-40



Diedrich D-50 SN310 - SS 38.5-40 B2-4
OP: JW Date: 21-June-2017

AR: 1.46 in² SP: 0.492 k/ft³
LE: 46.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.90 []

BPM: Blows per Minute
FMX: Maximum Force
VMX: Maximum Velocity
EFV: Energy of FV
ETR: Energy Transfer Ratio - Rated
CSX: Max Measured Compr. Stress
DMX: Maximum Displacement
DFN: Final Displacement
FVP: Force/Velocity proportionality

BL#	Depth ft	BLC bl/ft	TYPE	BPM bpm	FMX kips	VMX f/s	EFV k-ft	ETR (%)	CSX ksi	DMX in	DFN in	FVP []
4	39.0	8	AV4	34	45	19.1	342	98	31.1	1.83	1.50	0.87
8	39.5	8	AV4	44	48	18.5	351	100	32.9	1.81	1.50	0.94
14	40.0	12	AV6	44	45	17.4	332	95	31.0	1.52	1.00	0.95
			Average	41	46	18.2	340	97	31.6	1.69	1.29	0.92

Total number of blows analyzed: 14

Sensors

Blows: 1-14

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	231NWJ1	211.5	1.00
F4	Strain	231NWJ2	212.8	1.00
A1	PR Accel	K4810	315.0	1.00
A3	PR Accel	K4805	382.0	1.00

Time Summary

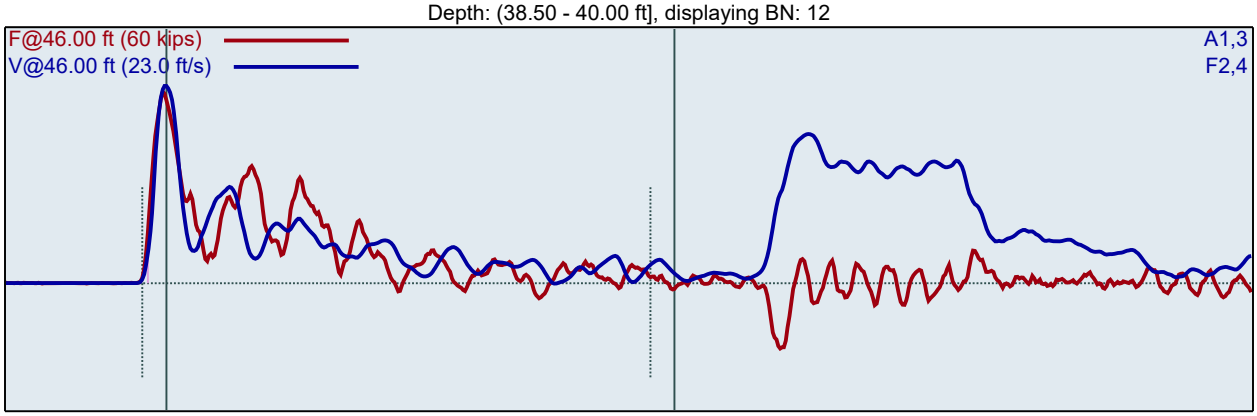
Drive 17 seconds 9:51 AM - 9:51 AM BN 1 - 14

GRL Engineers, Inc.
SPT Analyzer Results

PDA-S Ver. 2017.18 - Printed: 6/27/2017

Diedrich D-50 SN310 — SS 38.5-40
JW — Test date: 6/21/2017
AR: 1.46 in^2 — SP: 0.492 k/ft3
LE: 46.00 ft — EM: 30000 ksi
WS: 16807.9 ft/s

Depth: (38.50 - 40.00 ft], displaying BN: 12



FMX: Maximum Force
VMX: Maximum Velocity
BPM: Blows/Minute
EFV: Maximum Energy

ETR: Energy Transfer Ratio - Rated
DFN: Final Displacement
FVP: Force/Velocity Proportionality

BL#	BC /6"	LP ft	FMX kips	VMX ft/s	BPM bpm	EFV ft-lb	ETR (%)	DFN in	FVP []
1	4	38.63	40	20.1	1.9	327	93.4	1.50	0.8
2	4	38.75	46	18.7	43.9	345	98.6	1.50	0.9
3	4	38.88	47	18.8	44.5	346	98.7	1.50	0.9
4	4	39.00	48	18.9	43.7	352	100.4	1.50	0.9
5	4	39.13	48	18.9	44.1	353	101.0	1.50	0.9
6	4	39.25	48	18.8	44.4	357	102.1	1.50	0.9
7	4	39.38	49	18.5	43.9	353	100.8	1.50	1.0
8	4	39.50	47	17.8	44.4	341	97.4	1.50	0.9
9	6	39.58	47	17.9	44.3	346	99.0	1.00	0.9
10	6	39.67	45	17.4	44.1	337	96.2	1.00	1.0
11	6	39.75	46	17.6	44.2	330	94.4	1.00	1.0
12	6	39.83	45	17.7	44.1	329	93.9	1.00	0.9
13	6	39.92	45	17.1	44.0	327	93.5	1.00	1.0
14	6	40.00	44	16.9	44.1	323	92.2	1.00	1.0
		Average	46	17.9	44.2	340	97.0	1.20	0.9
		Std Dev	2	0.6	0.2	12	3.4	0.24	0.0
		Maximum	49	18.9	44.4	357	102.1	1.50	1.0
		Minimum	44	16.9	43.9	323	92.2	1.00	0.9
				N-value: 10					

Sample Interval Time: 17.69 seconds.