

F&ME CONSULTANTS

GEOTECHNICAL • ENVIRONMENTAL • MATERIALS

June 24, 2010

Mrs. Sara Stone
SCDOT
955 Park Street
Columbia, South Carolina 29203

Re.: S-58 Bridge Replacement Over I-26
Richland County, South Carolina
F&ME Project No.: G4800.27

Dear Mrs. Stone:

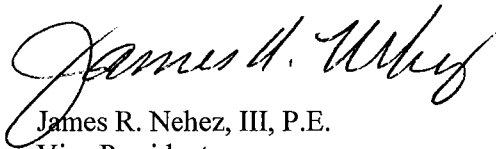
Submitted herein are the results of the field testing requested for the referenced project. There were no lab requests for this project. Enclosures consist of the following:


1. Soil Test Boring Logs;
2. Test Locations (Latitude/Longitude); and,
3. Spectral Analysis of Surface Waves (SASW).

It has been a pleasure working for you on this project and we appreciate the opportunity to be of service. Please notify us if there are any questions or if we may be of further assistance.

Sincerely,

F&ME CONSULTANTS


James R. Nehez, III, P.E.
Vice President


Jason Stewart, E.I.T.
Engineering Associate

COLUMBIA OFFICE
3112 Devine Street
Columbia, SC 29205
ph (803) 254-4540
fx (803) 254-4542

MYRTLE BEACH OFFICE
1903 Legion Street
Myrtle Beach, SC 29577
ph (843) 626-9253
fx (843) 448-0681

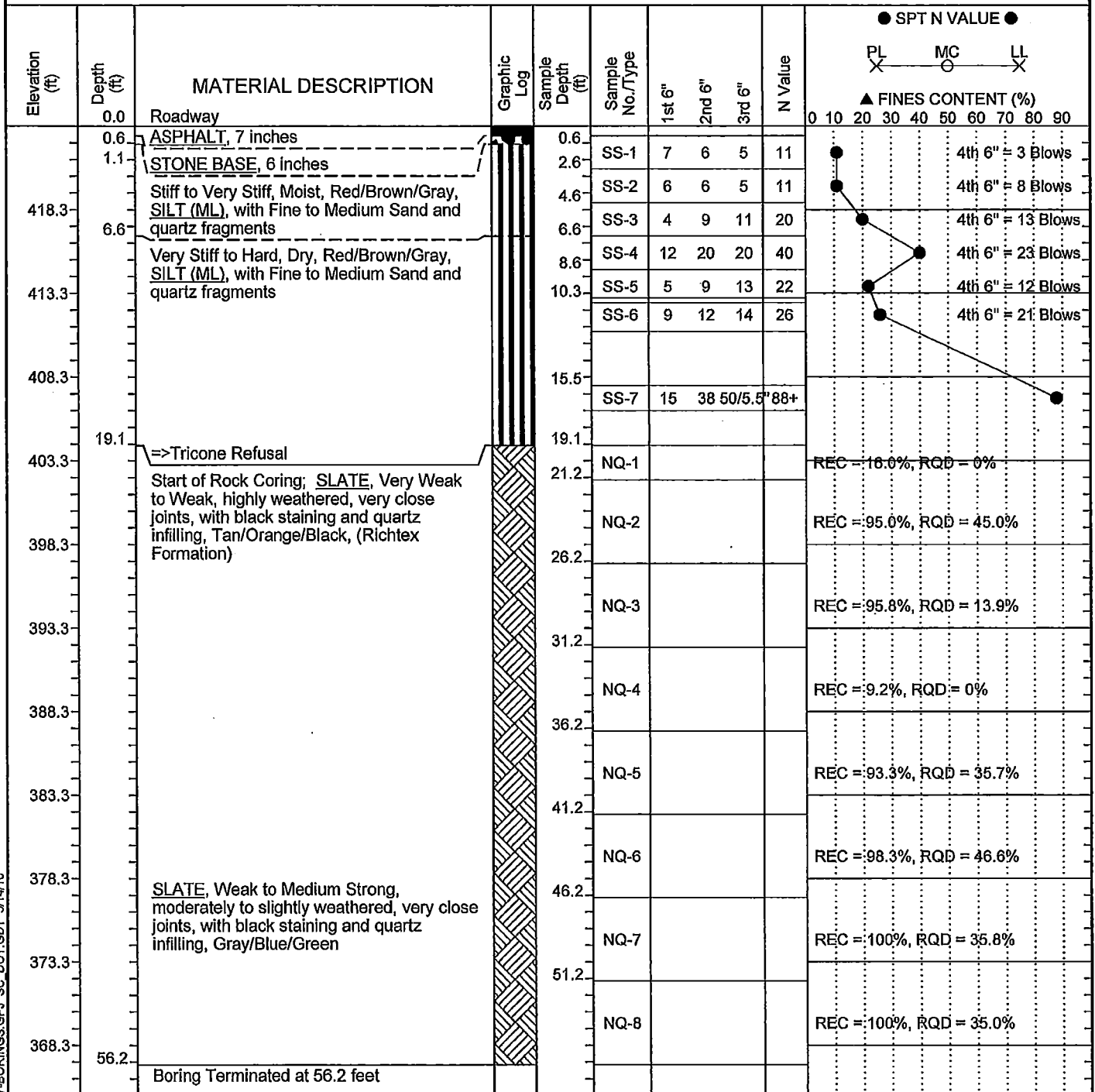


**AASHTO ACCREDITED
LABORATORY**

www.fmecol.com

SCDOT Soil Test Boring Log

File No.:	40.038744	Project No. (PIN):	38744 RD01	County:	Richland County	Eng./Geo.:	Wade Myers
Site Description:	S-58 Bridge Replacement over I-26					Route:	S-58
Boring No.:	B-1	Boring Location:	10'-SW	Offset:	8'-L	Alignment:	S-58
Elev.:	423.3 ft	Latitude:	34.122094	Longitude:	81.199649	Date Started:	5/7/2010
Total Depth:	56.2 ft	Soil Depth:	19.1 ft	Core Depth:	37.1 ft	Date Completed:	5/10/2010
Bore Hole Diameter (in):	6.5	Sampler Configuration		Liner Required:	Y (N)	Liner Used:	Y (N)
Drill Machine:	CME 45B	Drill Method:	RW/RC	Hammer Type:	Gravity	Energy Ratio:	73%
Core Size:	NQ	Driller:	Mark Brown	Groundwater:	TOB	24HR	

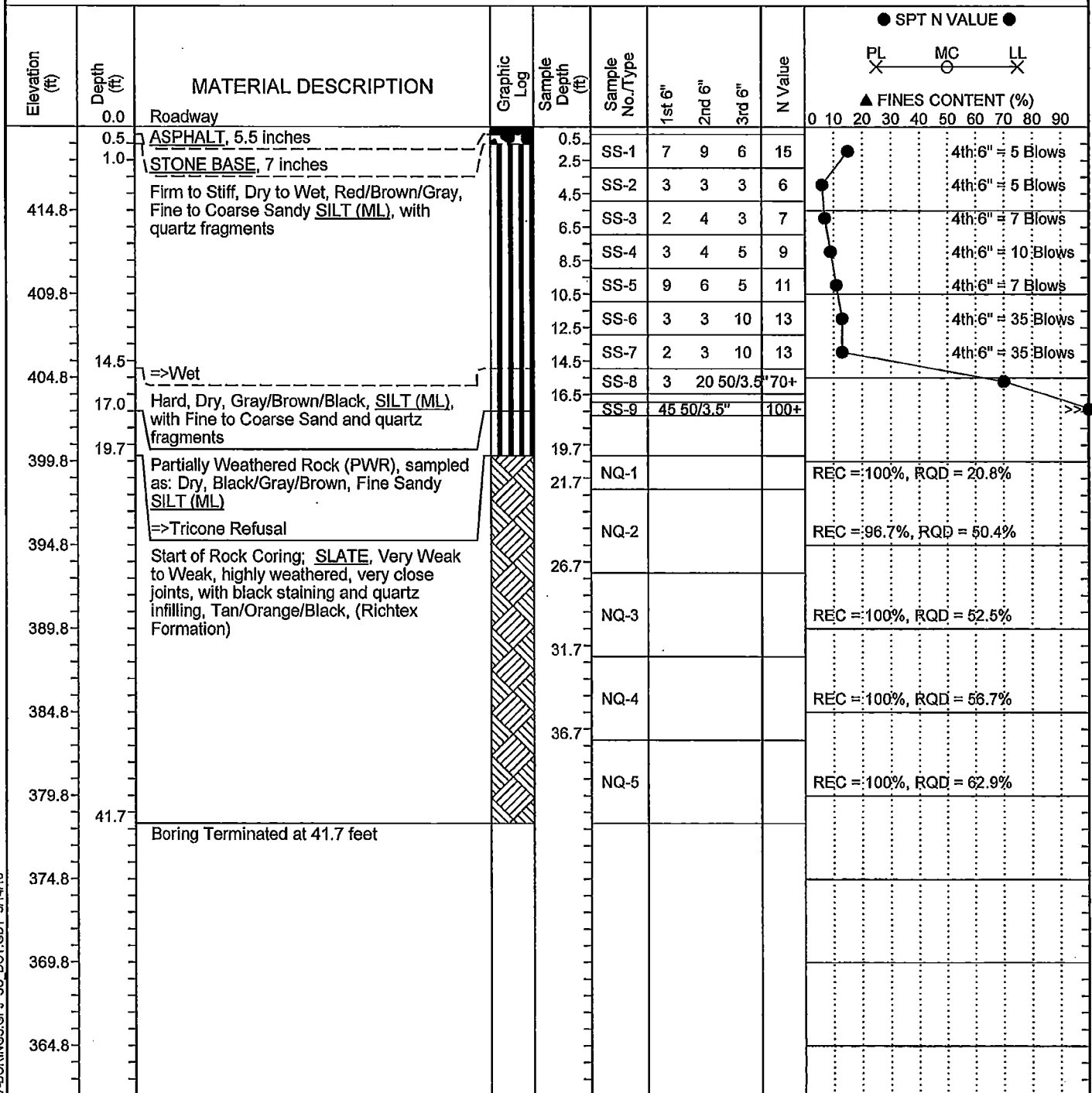


LEGEND

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

SCDOT Soil Test Boring Log

File No.:	40.038744	Project No. (PIN):	38744 RD01	County:	Richland County	Eng./Geo.:	Wade Myers
Site Description:	S-58 Bridge Replacement over I-26					Route:	S-58
Boring No.:	B-2	Boring Location:	10'-NE	Offset:	7.25-R	Alignment:	S-58
Elev.:	419.8 ft	Latitude:	33.289682	Longitude:	81.199062	Date Started:	5/11/2010
Total Depth:	41.7 ft	Soil Depth:	19.7 ft	Core Depth:	22 ft	Date Completed:	5/11/2010
Bore Hole Diameter (in):	6.5	Sampler Configuration		Liner Required:	Y (N)	Liner Used:	Y (N)
Drill Machine:	CME 45B	Drill Method:	RW/RC	Hammer Type:	Gravity	Energy Ratio:	73%
Core Size:	NQ	Driller:	Mark Brown	Groundwater:	TOB	24HR	



LEGEND

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

S-58 Bridge Replacement over I-26 Richland County, South Carolina 40.038744				LOG OF BORING No. HA-1 Station: 50'-NE of Beginning of Existing Bridge Offset: 10'-L			
Date Performed: 4/30/2010				Notes: REF: Dynamic Cone for Shallow In-Situ Penetration Testing; Sowers & Hedges			
Supervisor: Brad Jolley							
Ground Elevation (ft):							
Water Level: None at T.O.B.							
Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample Type-No.	N Value	COMMENTS
	1.0	Loose to Medium Dense, Moist, Brown/Tan, Silty Fine to Medium <u>SAND (SM)</u> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;">=> with gravel</div> Boring Terminated at 1.0 feet Due to Auger Refusal		0.0 0.5	DS-1 DS-2	7 18	




LEGEND

SAMPLER TYPE	ABBREVIATIONS
DS - Disturbed Sample ST - Shelby Tube VS - Vane Shear	DT - Drive Tube CU - Cuttings CT - Continuous Tube WOH - Weight Of Hammer MC - Moisture Content Fines - Percent Passing #200 Sieve
	T.O.B. - Time Of Boring LL - Liquid Limit PI - Plasticity Index

S-58 Bridge Replacement over I-26 Richland County, South Carolina 40.038744				LOG OF BORING No. HA-2 Station: 105'-NE of Beginning of Existing Bridge Offset: 10'-R			
Date Performed: 4/30/2010				Notes: REF: Dynamic Cone for Shallow In-Situ Penetration Testing; Sowers & Hedges			
Supervisor: Brad Jolley							
Ground Elevation (ft):							
Water Level: None at T.O.B.							
Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample Type-No.	N Value	COMMENTS
		Soft to Firm, Moist, Brown/Tan/Red, Fine to Medium Sandy <u>SILT (ML)</u> , with gravel		0.0	DS-1	3	
				0.5	DS-2	5	
				1.5		8	
				2.0	DS-3		
				2.5	DS-4	18	
	2.5						
	3.0	Very Stiff, Moist, Brown/Tan, Fine to Medium Sandy <u>SILT (ML)</u> , with gravel			DS-5		
		Boring Terminated at 3.0 feet Due to Auger Refusal					

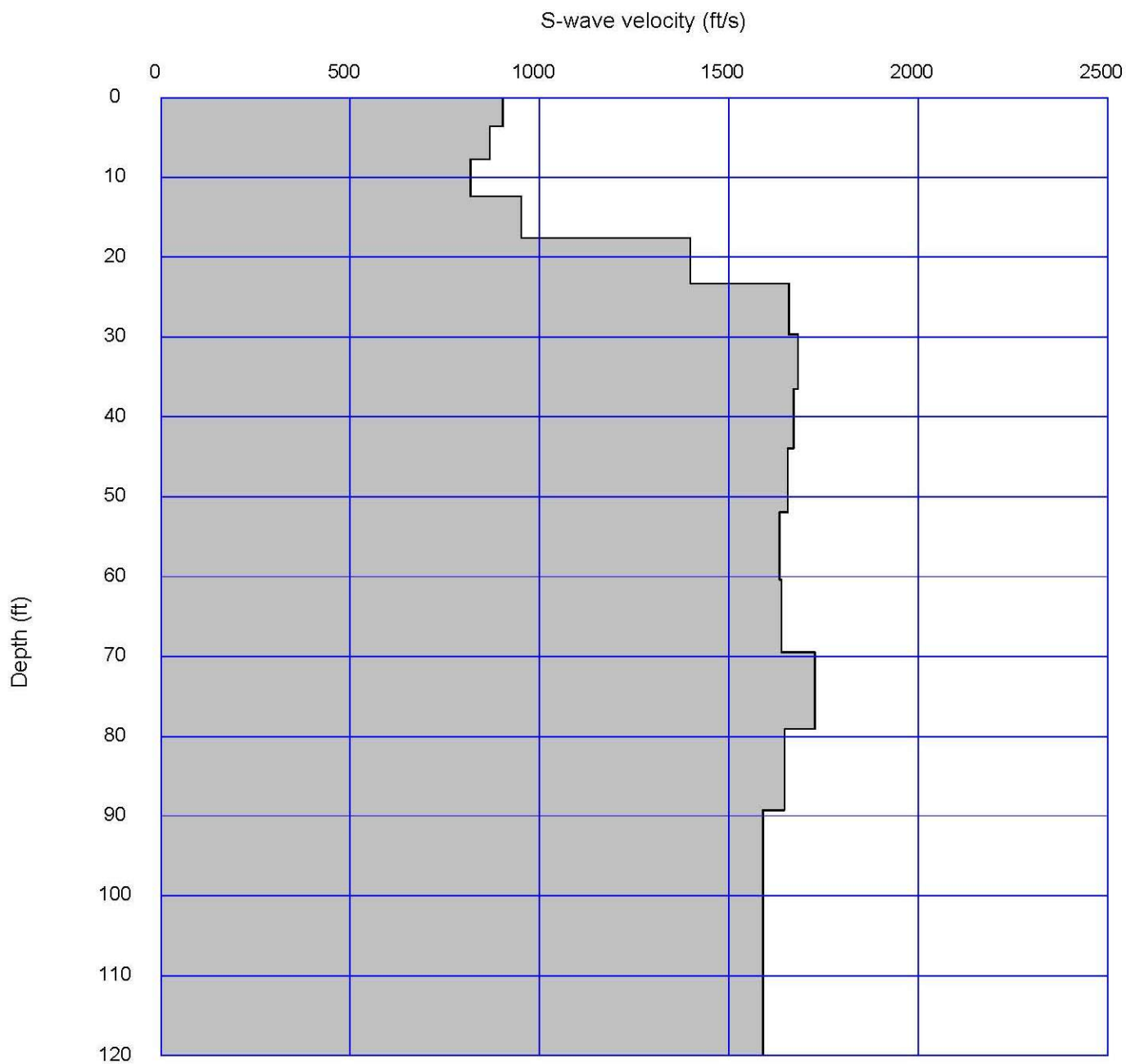
LEGEND

SAMPLER TYPE			ABBREVIATIONS	
DS - Disturbed Sample	DT - Drive Tube		WOH- Weight Of Hammer	T.O.B.- Time Of Boring
ST - Shelby Tube	CU- Cuttings		MC - Moisture Content	LL - Liquid Limit
VS - Vane Shear	CT- Continuous Tube		Fines - Percent Passing #200 Sieve	PI - Plasticity Index

S-58 Bridge Replacement over I-26 Richland County, South Carolina 40.038744				LOG OF BORING No. HA-3 Station: 50'-SW of End of Existing Bridge Offset: 10'-L			
Date Performed: 4/30/2010				Notes: REF: Dynamic Cone for Shallow In-Situ Penetration Testing; Sowers & Hedges			
Supervisor: Brad Jolley							
Ground Elevation (ft):							
Water Level: None at T.O.B.							
Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample Type-No.	N Value	COMMENTS
		Loose, Moist, Brown, Silty Fine to Medium <u>SAND (SM)</u> , with gravel		0.0	DS-1	5	
				0.5		8	
	1.0			1.0	DS-2		
	1.5	Firm, Moist, Brown/Tan, Fine to Medium Sandy <u>SILT (ML)</u> , with gravel		1.5	DS-3	18	
	2.0	Very Stiff, Moist, Brown/Tan, Fine to Medium Sandy <u>SILT (ML)</u> , with gravel and organics			DS-4		
		Boring Terminated at 2.0 feet Due to Auger Refusal					

LEGEND

SAMPLER TYPE		ABBREVIATIONS	
DS - Disturbed Sample	DT - Drive Tube	WOH- Weight Of Hammer	T.O.B.- Time Of Boring
ST - Shelby Tube	CU- Cuttings	MC - Moisture Content	LL - Liquid Limit
VS - Vane Shear	CT- Continuous Tube	Fines - Percent Passing #200 Sieve	PI - Plasticity Index



S-wave velocity model : Koon Rd Vs100.rst

Average Vs 100ft = 1420.3 ft/sec

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VS 100 FOR SEISMIC SITE CLASSIFICATION
S-58 REPLACE BRIDGE OVER I-26
RICHLAND COUNTY, SOUTH CAROLINA

SOUTH CAROLINA DEPARTMENT
OF TRANSPORTATION

DWN BY

N/A

SCALE: N.T.S.

CKD.BY

N/A

F&ME PROJECT: G4800.27

APPR'D.

N/A

SCDOT FILE: 40.038744