∞ S S Ö REFERENCE

CONTENTS

DESCRIPTION

TITLE SHEET LEGEND (SOIL & ROCK)

CROSS SECTIONS

SITE PHOTOGRAPH

SITE PLAN

BORE LOGS

SHEET NO.

6-7

17 S 4

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION **DIVISION OF HIGHWAYS** GEOTECHNICAL ENGINEERING UNIT

STRUCTURE SUBSURFACE INVESTIGATION

COUNTY MOORE

PROJECT DESCRIPTION BRIDGE NO. 013 ON SR 1102 (ADDOR ROAD) OVER ABERDEEN CREEK

STATE PROJECT REPERENCE NO. 8 B-5758

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSES OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT 1999 707-6550. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

CENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN STIU IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS NDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION, THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS THE ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

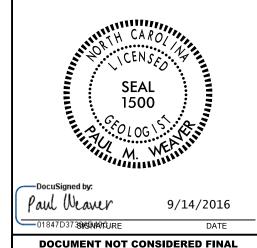
THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DIES NOT WARRANT OR CUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

NOTES:

1. THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.

2. BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

C.R. PASTRANA **SAEDACCO** INVESTIGATED BY ESP Associates, P.A. DRAWN BY __T.T. WALKER



CHECKED BY P. WEAVER

DATE September 2016

SUBMITTED BY ESP Associates, P.A.

UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEBT NO.
B-5758	2

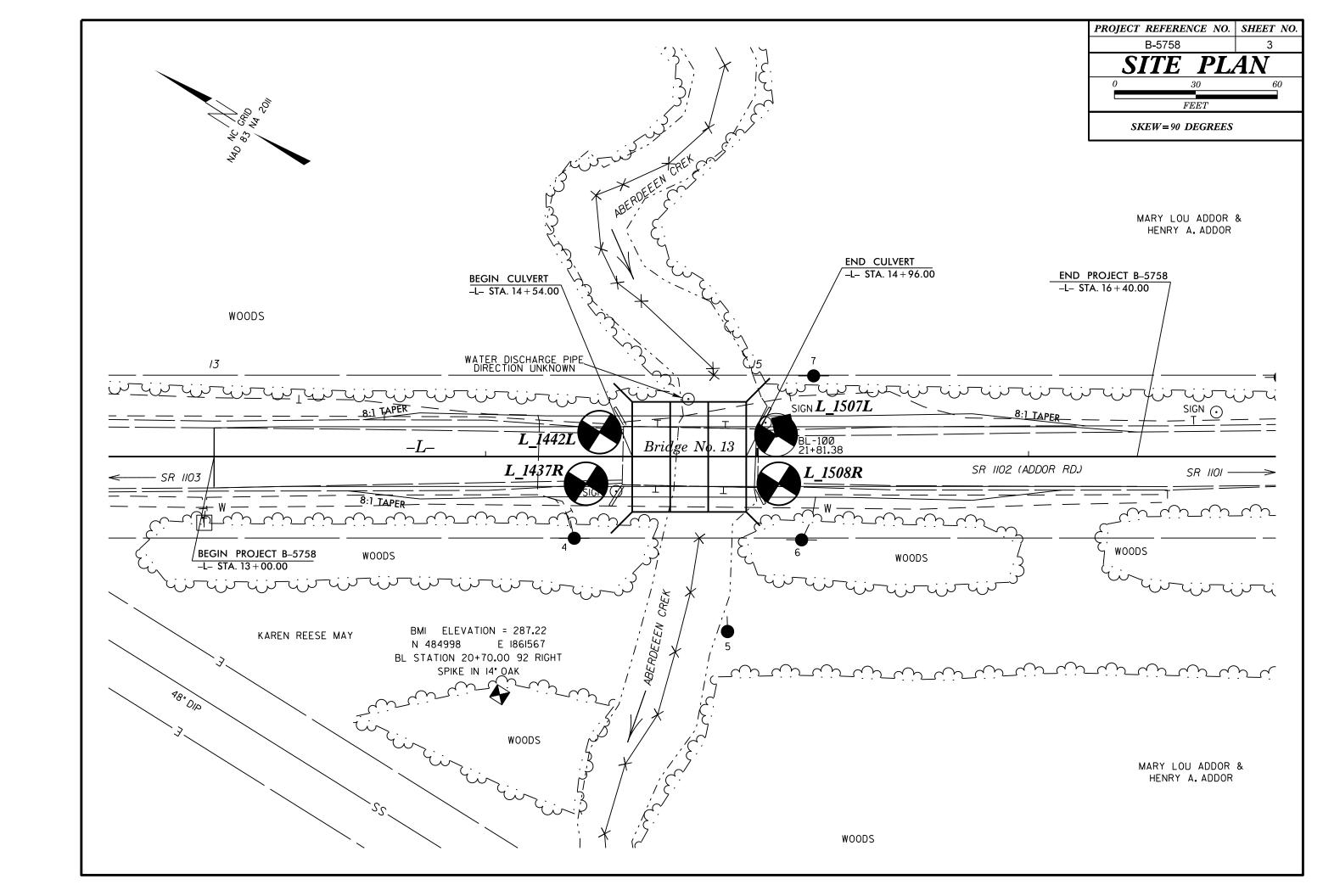
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

The color of the				
Part	SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS
The content with the content of th				ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
Column C	ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM DI586). SOIL CLASSIFICATION		SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60	AQUIFER - A WATER BEARING FORMATION OR STRATA.
State Stat	CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH		REPRESENTED BY A ZONE OF WEATHERED ROCK.	I
The content of the		THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS:	500/600/6	
The column			WEATHERED V/3/V/3/ NUN-COASTAL PLAIN MATERIAL THAT WOULD TIELD SPI N VALUES >	
March Marc	GENERAL GRANULAR MATERIALS SILT-CLAY MATERIALS ODCANIC MATERIALS		CRYSTALLINE FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT	WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND
Company Comp	LLASS. (\$ 30% PASSING "200) (> 30% PASSING "200)		ROCK (CR) WOULD TIELD SPIT REPOSAL IF TESTED, ROCK TIPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.	
March Marc			I NON-CRISINE GENIMENTARY POCK THAT WOULD VELLO SET DEFUSAL IS TESTED	I
This	000000000000000000000000000000000000000		ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.	OF SLOPE.
	7 PASSING	HIGHLY COMPRESSIBLE LL > 50	SEDIMENTARY ROCK STATE SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED	CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
	BAG 20 MY E0 MY E1 MU			DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT
The column The			FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING, ROCK RINGS UNDER	
March 1			HAMMER IF CRYSTALLINE.	
The column	LL - - 48 MX 41 MN 48 MX 41 MN 48 MX 41 MN 46 MX 41 MN 1171 12 N	MODERATELY ORGANIC 5 - 10% 12 - 20% SOME 20 - 35%		
The control of the	PI 6 MX NP 10 MX 11 MN 11 MN 10 MX 11 MN 11 MN 11 MN MODERATE OPENIC		OF A CRYSTALLINE NATURE.	
The content of the	GROUP INDEX 8 8 8 4 MX 8 MX 12 MX 16 MX NU MX AMUUNIS UF SOILS			
Second Column 100	USUAL TYPES STURE FRAUS. FINE SILTY OR CLAYEY SILTY CLAYEY MATTER OF MAJOR GRAYEL, AND CAMP CRAYEL AND CAMP SOILS SOILS		CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.	
	MATERIALS SAND SAND CHAVEL AND SAND SUILS SUILS			
The Part of Section of the Link and Fig. 1. All and Fig. 1.			DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED	
Control Cont		SPRING OR SEEP		FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE
Commonweight Comm	CONSISTENCY OR DENSENESS	MISCELLANEOUS SYMBOLS	SEVERE AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION, ROCK SHOWS SEVERE LOSS OF STRENGTH	
COMMINION Property	DDIMARY COLL TYPE LUMPALINESS UK DENETRATION DECICTENCE COMPRESSIVE CIDENCIA	ROADWAY FMBANKMENT (RF) 25/825 DIP & DIP DIRECTION		
## 10.00 10.		III HONDAN ENDMANDER MEY DIE & DIE DINCETTOR	SEVERE ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT	
## ATTIVITIES OF CONTROL 19 19 19 19 19 19 19 19 19 19 19 19 19	DENERHALLY LOOSE 4 TO 10		TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN.	
Month Control Contro	MATERIAI MEDIUM DENSE 10 TO 30 N/A	ARTIFICIAL FILL (AF) OTHER AUGED DODING ONE PENETROMETER	IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF	
Moreover, 1	(NON-COMESIVE) DENSE 30 IU 50			
## 10 0 ## 10	VERY SOFT < 2 < 0.25	── INFERRED SOIL BOUNDARY ————————————————————————————————————	(V SEV.) REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR	OF AN INTERVENING IMPERVIOUS STRATUM.

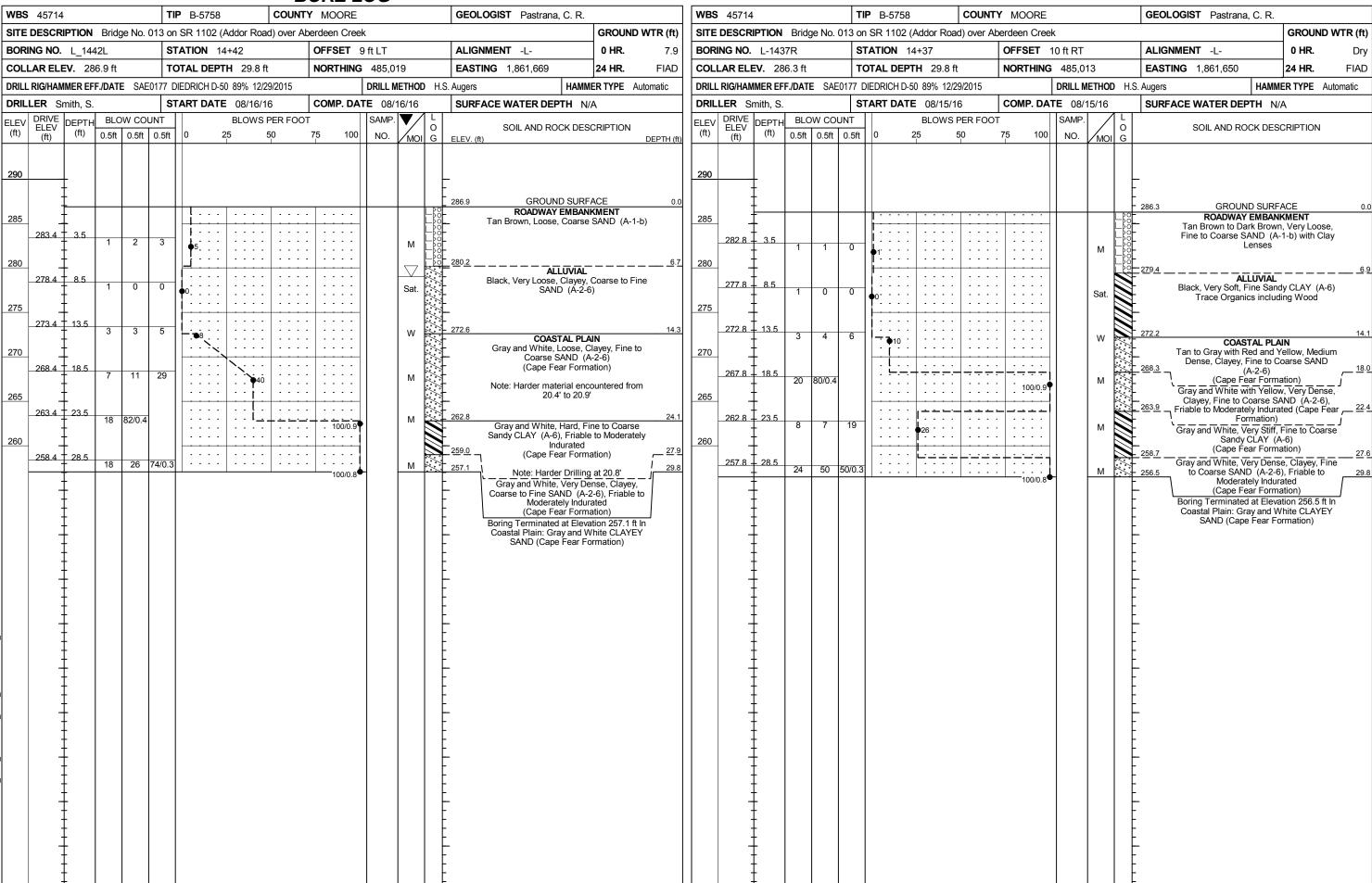
Texture Text	MATERIAL STIFF 8 TO 15 1 TO 2	A DISTONETED	SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS	
STATE STAT				
Control Professional Control	TEXTURE OR GRAIN SIZE	RECOMMENDATION SYMBOLS		
Section County		UNCLASSIFIED EXCAVATION -		
COLD MON MON PON DON PON DON DON PON DON DON PON DON		SHALLOW UNCLASSIFIED EXCAVATION - USED TO PAGE 1		
### ABBREVIATIONS FEET ABBREVIATIONS FE	BOULDER COBBLE GRAVEL SAND SAND SILT CLAY			SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT
SILE MOISTURE CORRELATION OF TERMS SOIL MOISTURE SCALE SOIL MOISTURE S	(CSE, SU,) (F SU,)		HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED	
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SOL. MOSTURE SCALE FELO MOSTURE SCALE FELO MOSTURE CORPECT ON PROCESSION CORPECT ON PROCESSION		- CL CLAY MOD MODERATELY γ - UNIT WEIGHT	HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE	
A STERRED LIMITS DESCRIPTION DESCRIPTION DESCRIPTION STATUS DESCRIPTION	SOIL MOISTURE SCALE FIELD MOISTURE CHIDE FOR FIELD MOISTURE DESCRIPTION	CSE COARSE ORG ORGANIC		STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY
SATION PLASTIC TYPINGE (PP) PLASTICITY PL	(ATTERBERG LIMITS) DESCRIPTION OUIDE FOR FIELD MOISTORE DESCRIPTION		FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN	TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
LIGUID LIMIT - WET - (M) - SEMISOLID REQUIRES DRYING TO ARTHAN OPTIMAM MOISTURE - MOIST - (M) - PLASTIC ITY - PLASTICITY		e - VOID RATIO SD SAND, SANDY SS - SPLIT SPOON		STRATA HUCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY
PLASTIC LIMIT PROPRIABLE HOIST PROPRIABLE HOIST INCOMENTE BUT SAID ARE CONTENT AND ARE PROPAGANCE. POST LIMIT COMPANDA LIMIT SIGN LAND ARE PROPAGANCE. POST NUMBER OF THICK, PROCED AS PACING REPORT AND AREA PROPAGANCE. POST NUMBER OF THICK, PROCED AS PACING REPORT AND AREA PROPAGANCE. POST NUMBER OF THICK, PROCED AS PACING AND PLASTIC LIMIT SIGN LAND AREA PROCESS. POST NUMBER OF THICK, PROCED AS PACING AND PLASTIC LIMIT SIGN LAND AREA PROPAGANCE. POST NUMBER OF THICK, PROCED AS PACING AND PLASTIC LIMIT SIGN LAND AREA PROCESS. POST NUMBER OF THICK, PROCED AS PACING AND PLASTIC LIMIT SIGN LAND AREA PROCESS. POST NUMBER OF THICK, PROCED AS PACING AND PLASTIC LIMIT SIGN LAND AREA PROCESS. POST NUMBER OF THICK, PROCED AS PACING AND PLASTIC LIMIT SIGN LAND AREA PROCESS. POST NUMBER OF THICK, PROCED AND PLASTIC LIMIT SIGN LAND AREA PROCESS. POST NUMBER OF THICK, PROCED AND PLASTIC LIMIT SIGN LAND AREA PROCESS. POST NUMBER OF THICK, PROCED AND PLASTIC LIMIT SIGN LAND AREA PROCESS. POST NUMBER OF THICK, PROCESS. POST NU	LL LIQUID LIMIT		SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY	THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
PLASTIC LIMIT W-Y-VERY WOIST - (M) SOLIDAT OR NEAR DPTIMUM MOISTURE SHRINK AGE LIMIT W-Y-VERY WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WE-95 WERY LOW LESS THAN UNDER SIZE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WE WIDE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRE ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRE ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRE ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRE ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRE ADDITIONAL WATER TO A WAS SEAR TEST WOIST - (M) REQUIRE ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE WOIST - (M) REQUIRE ADDITIONAL WATER TO A WAS SEAR TEST WOIST - (M) REQUIRE MOIST - (M) REQUIRE MOIST - (M) REQUIRE MOIST - (M) REQU	RANGE - WET - (W) SEMISOLIDE REQUIRES DRYING TO	FRAC FRACTURED, FRACTURES TCR - TRICONE REFUSAL RT - RECOMPACTED TRIAXIAL	1772 7 72	
OF THIMM MOISTURE OF THIM WOISTURE SLI SHRINAGE LIMIT OF THIM WOISTURE SHRINAGE LIMIT OF SEDIMENTARY ROCKS, INDURATION IS THE MARGENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. HODERATELY PLASTIC OF SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. HODERATELY PLASTIC OF SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. HODERATELY PLASTIC OF SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. HODERATELY PLASTIC OF SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. HODERATELY PLASTIC OF SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. HODERATELY PLASTIC OF SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. HODERATELY LABINED OF SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. OF SEDIMENTARY ROCKS, INDURATION OF SED	(PI) PL PLASTIC LIMIT ATTAIN OPTIMUM MOISTURE			BENUH MARK: BM "I: SPIKE IN 14" OAK TREE, -L- STATION 14+05, 88' RT
OF IREM MUSTORE SHRINKAGE LIMIT - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - CME -55	- MOIST - /M) COLID. AT OR NEAR ORTIMUM MOISTURE		VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED 4 FEET	ELEVATION: 287.22 FEET
- DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE - DRY - (D) REQUIREM TAIN OPTIMUM MOISTURE - DRY - (D) REQUIREM TAIN OF THICK, MANIACE OF A BABBING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. - NO N	OM T ON IMOM MOTSTOKE		MODERATELY CLOSE 1 TO 3 FEET THINLY BEDDED 0.16 - 1.5 FEET	NOTES:
ATTAIN OPTIMUM MOISTURE PLASTICITY PLASTICITY INDEX (PI) NON PLASTIC 6-55 VERY LOW SILIGHT PLASTIC 6-15 SILIGHT PLASTIC 6-15 SILIGHT PLASTIC 6-15 SILIGHT PLASTIC 16-25 MEDIUM MODERATELY PLASTIC 26 OR MORE HIGH PORTABLE HOIST PORTABLE HOIST PORTABLE HOIST TRICONE STELL TEETH NODERATELY INDURATED PORTABLE HOIST TRICONE TR	REQUIRES ADDITIONAL WATER TO	1 — 1 — 1 — — —	VERY CLOSE LESS THAN 0.16 FEET THICKLY LAMINATED 0.008 - 0.03 FEET	
PLASTICITY PLASTICITY INDEX (PI) DRY STRENGTH CME-550 HARD FACED FINGER BITS NUMBER OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. NON PLASTIC	ATTAIN OPTIMUM MOISTURE	CME-55 <u>□</u> CORE 512E:	THINLY LAMINATED < 0.008 FEET	The state of the s
NON PLASTIC 9-5 VERY LOW ONE SHEAR TEST		X 8" HOLLOW AUGERS □-B □-H		
NOT PLASTIC 6-15 SLIGHT NODERATELY PLASTIC 6-15 SLIGHT MODERATELY PLASTIC 16-25 MEDIUM HIGHLY PLASTIC 26 OR MORE HIGH PORTABLE HOIST PORTABLE HOIST TRICONE STEEL TEETH HAND TOOLS: POST HOLE DIGGER HODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE: BREAKS ASRLI WHEN HIT WITH HAMMER. MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE: BREAKS ASRLI WHEN HIT WITH HAMMER. OF A DESCRIPTIONS MAY INCLUDE COLOR OR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STEAKER, ETC. ARE USED TO DESCRIBE APPEARANCE. SUMDING ROD VANE SHEAR TEST HAND TOOLS: POST HOLE DIGGER HODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE: BREAKS ASRLI WITH HAMMER. OF A DESCRIPTIONS MAY INCLUDE COLOR OR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). WANE SHEAR TEST HAND TOOLS: HAND TOOLS: HODERATELY INDURATED OF A DESCRIPTION BY MAMMER BLOWS REQUIRED TO BREAK SAMPLE: FRIBBE GENTLE BLOW BY MAMMER DISNITEGRATES SAMPLE. HODERATELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE:		1 □	DIRRING WITH FINGED EDEES NUMEROUS CRAINS.	
HIGHLY PLASTIC 26 OR MORE HIGH PORTABLE HOIST TRICONE STEEL TEETH HAND AUGER HAND AUGER GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE: DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC, ARE USED TO DESCRIBE APPEARANCE. OCRE BIT TRICONE STEEL TEETH HAND AUGER SOUNDING ROD TRICONE VANE SHEAR TEST VANE SHEAR TEST FYTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE:	SLIGHTLY PLASTIC 6-15 SLIGHT	I VANE SHEAR TEST		
COLOR COLOR DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC., ARE USED TO DESCRIBE APPEARANCE. COLOR TRICONE TRICONE TRICONE TRICONE TRICONE TOURIS-CARB. SOUNDING ROD TOURIS-CARB. SOUNDING ROD INDURATED GRAINS ARE DIFFICULT TO BREAK WITH HAMMER. DIFFICULT TO BREAK WITH HAMMER. SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE:		TRICONS LIGHT LIGHT LIGHT		
DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC, ARE USED TO DESCRIBE APPEARANCE. CORE BIT CORE BIT SUMMING ROU INDURATED DIFFICULT TO BREAK WITH HAMMER. SUMMING ROU SHEAK WITH HAMMER. SUMMING ROU SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE:		- C - C	COMING ARE DISCIPLED TO SEPARATE WITH STEEL PROPE.	
MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC, ARE USED TO DESCRIBE APPEARANCE.				
SAMPLE BREAKS ACROSS GRAINS. DATE: 8-15-14		VANE SHEAR TEST		
			SAMPLE BREAKS ACROSS GRAINS.	DATE: 8-15-14



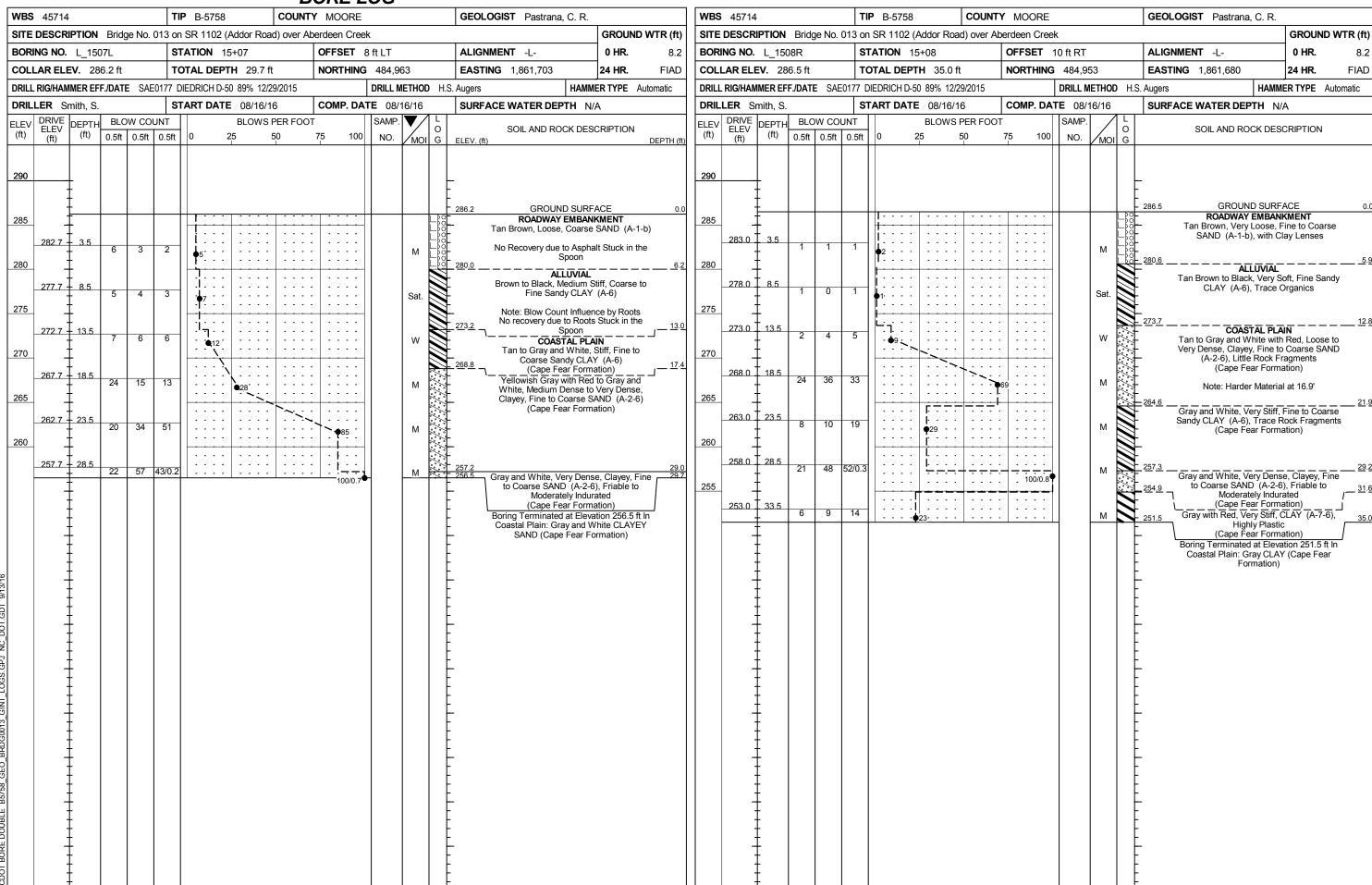
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Coastal Plain: Coastal With But a but Yallow to Wall to Maint Too to Coastal White Jacob to War	2
Wet to Moist, Tan to Gray with Red and Yellow to Gray and White, Loose to Very Dense Friable to Moderately lodgrated Clavey Fine to Coarse SAND (A-2-6)	
period, Triable 16 model arely model arely 11 model are 15 model are 1	
(100/0.9)	
	2
Moist, Gray and White, BT Very Dense, 600/0.8 BT Friable to Moderately Indurated,	
Clayey, Fine to Coarse SAND (A-2-6) (CAPE FEAR FORMATION)	
250	2
_240	2
_ 230	2
220 (A) Roadway Embankment: Moist, Tan Brown to Dark Brown, Ve Loose, Fine to Coarse SAND (A-I-b) with Clay Lenses	ery Loose to 2
Loose, Fine to Coarse SAND (A-I-b) with Clay Lenses	
GROUNDLINE TAKEN FROM .TIN FILE PROVIDED BY NCDOT DATED 08232016.	
INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION	
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_280			!				ind Surface	/				280.
				Saturated, Ta	Brown to	Allu Brown to	vial: b Black, Very S AY (A-6) with Trac	Soft to Medic	ım			
				Stiff,Coo	r <u>se to Fine</u>	Sandy CLA	$\frac{\Delta Y}{\Delta M} = \frac{(\Delta - 6)}{M} \frac{With}{M} = \frac{1 r d\Omega}{M}$	<u>e Organics</u>	- — — - :			
_270		 	; ! !			<u>Coastal</u>	Plain:	<u> </u>				270.
				Wet to Moist, I	nterbedded, 28	Stiff to		e to Modera				
					¦ ġd, Fine to	Coarse	Sandy CLAY	(A-6) and I	Medium			
_260	i 	,	i - -	Dense to	Very Dense,	Friable to	(29)	ated, Clayey,	i			260
				 	1		-2-6) (00/0.8——— (CAPE	FFAR FO	RMATION			
			! ! !		1 (10070.7	BT FIAD	Coastal Plain		, , , , , , , , , , , , , , , , , , ,			
250			! ! !		1 	! ! !	Z = 3 N		ery			250
_250	!	<u></u>			<u> </u> 		Moist, 23 BT Gray FIAD Stiff, CLAY (A-7,-6), Hig	hly Plastic	· 			
			1 1 1 1		1 1 1 1	 	(CAPE FEAR FORM	AT ION)	 			
			! ! !		1 1 1 1	! ! !			 			
_240			: !		: 	: !		<u>-</u>				240.
					! !							
					; ; ; ;	; !			į			
_230			· ·		; ; ; ;	; ; ;						230
			 		1 1 1 1	! ! !			 			
			! !		1 1 1 1	! ! !			 			
_220		! !	! ! !		! ! ! !	! ! !						220
					1			 				
	GROUNDLINE TAKEN FROM .TIN		:		! !							
	INFERRED STRATIGRAPHY IS DRA PROJECTED ONTO THE CROSS SA		me bokings with	BUTH	! !				 			
			iD 3			i <u>.</u> 1 <mark>:</mark> O (1,0	20		40		

GEOTECHNICAL BORING REPORT BORE LOG



GEOTECHNICAL BORING REPORT BORE LOG



SITE PHOTOGRAPHS

State Project No. 45714 – TIP No. B-5758 – Bridge No. 013 on SR 1102 (Addor Road) over Aberdeen Creek - Moore County, NC



