

REFERENCE: SF-970105

PROJECT: 17BP.4.R.95

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
GEOTECHNICAL ENGINEERING UNIT

STRUCTURE  
SUBSURFACE INVESTIGATION

COUNTY WILSON  
PROJECT DESCRIPTION BRIDGE NO. 105 ON -L- (SR 1418)  
OVER WHITE SWAMP AT STA. 15 + 33.00

CONTENTS

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2	LEGEND (SOIL & ROCK)
3	SITE PLAN
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5-6	BORE LOGS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	SF-970105	1	6

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE 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 (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL 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 SITU (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 INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME 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 DOES NOT WARRANT OR GUARANTEE 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:
- 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.
  - 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.

PERSONNEL

S.N. ZIMARINO

R.E. SMITH

J.M. EDMONDSON

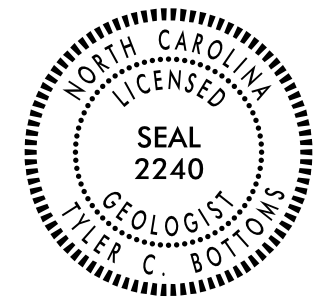
INVESTIGATED BY T.C. BOTTOMS

DRAWN BY C.J. CORNETTE

CHECKED BY D.N. ARGENBRIGHT

SUBMITTED BY D.N. ARGENBRIGHT

DATE AUGUST 2018



DocuSigned by:

Tyler C. Bottoms

10/16/2018

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SIGNATURE

DATE

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



# SITE PLAN



SKEW = 90°

14

15

16

17

SWAMP

SWAMP

EBI BENT LINE

BIBENT LINE

WHITE SWAMP

EB2 BENT LINE

WOODS

WOODS

F

C

C

C

F

F

← TO CATTAIL RD.

BRIDGERSVILLE RD.

BRIDGE #105

EB2-A

BL 101

TO TOWN CREEK RD. →

F

F

WOODS

F

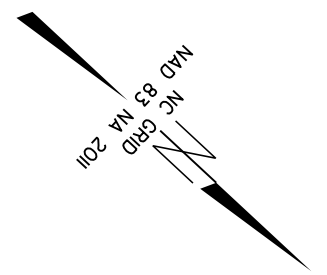
WOODS

F

WOODS

SWAMP

WHITE SWAMP

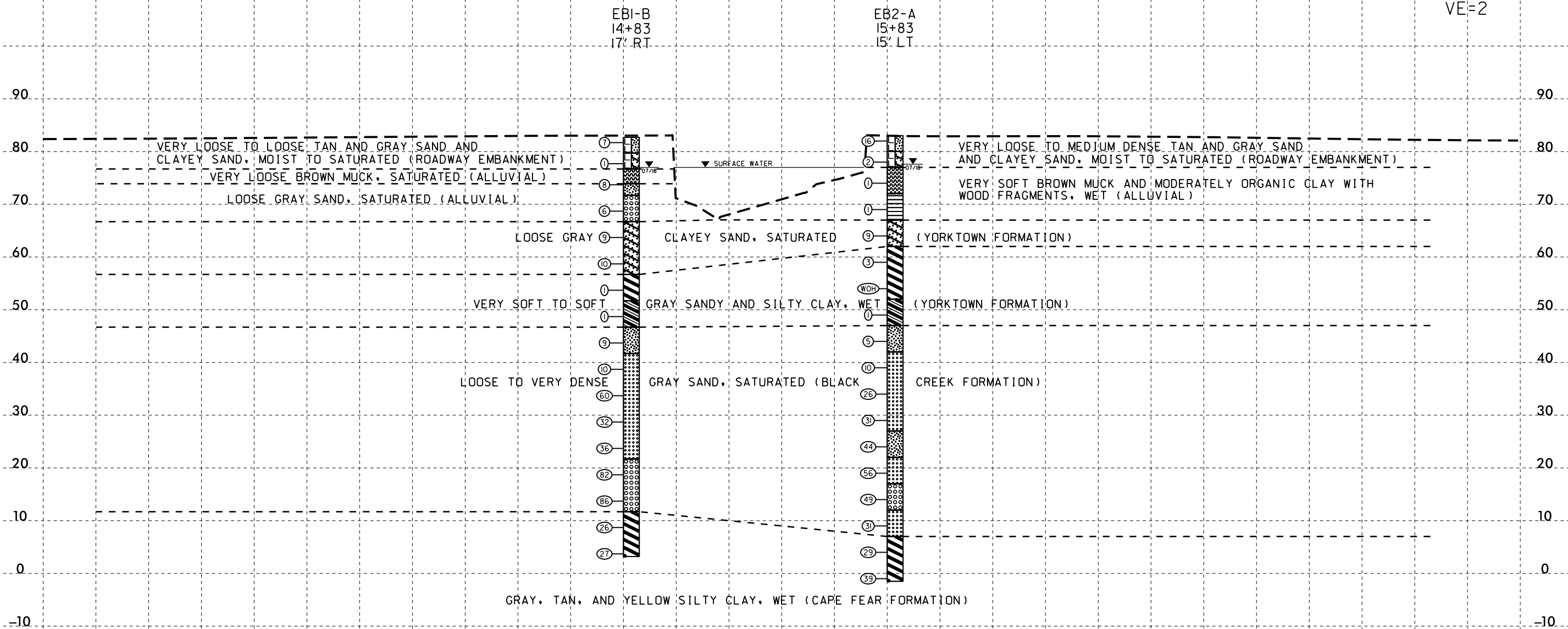


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PROJECT REFERENCE NO. <i>SF-970105</i>	SHEET NO. <b>4</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

# PROFILE THROUGH BORINGS PROJECTED ALONG -L-

VE=2



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NOTE: GROUNDLINE PROFILE ALONG -L- TAKEN FROM BRIDGE SURVEY AND HYDRAULIC DESIGN REPORT DATED 7/18/2018

NOTE: INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE PROFILE

# GEOTECHNICAL BORING REPORT

## BORE LOG

WBS 17BP.4.R.95		TIP SF-970105		COUNTY WILSON		GEOLOGIST Zimarino, S. N.	
SITE DESCRIPTION BRIDGE NO. 105 ON -L- (SR 1418) OVER WHITE SWAMP							GROUND WTR (ft)
BORING NO. EB1-B		STATION 14+83		OFFSET 17 ft RT		ALIGNMENT -L-	
COLLAR ELEV. 82.7 ft		TOTAL DEPTH 79.5 ft		NORTHING 740,315		EASTING 2,360,983	
DRILL RIG/HAMMER EFF./DATE GFO0075 CME-45C 84% 08/21/2017			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic		
DRILLER Smith, R. E.		START DATE 07/12/18		COMP. DATE 07/12/18		SURFACE WATER DEPTH N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
85	82.7	0.0											GROUND SURFACE	0.0
			3	4	3								ROADWAY EMBANKMENT	
80	78.7	4.0	2	0	1								TAN AND GRAY SAND AND CLAYEY SAND, MOIST TO SATURATED	3.0
													ROADWAY EMBANKMENT	
75	74.7	8.0	WOH	1	7								ALLUVIAL	6.0
													BROWN MUCK, SATURATED	8.8
70	69.7	13.0	2	2	4								ALLUVIAL	11.0
													GRAY SAND, SATURATED	
65	64.7	18.0	2	4	5								COASTAL PLAIN	16.0
													GRAY CLAYEY SAND, SATURATED (YORKTOWN FORMATION)	
60	59.7	23.0	2	5	5								COASTAL PLAIN	26.0
													GRAY SANDY AND SILTY CLAY, WET (YORKTOWN FORMATION)	
55	54.7	28.0	WOH	WOH	1								COASTAL PLAIN	31.0
													GRAY SANDY AND SILTY CLAY, WET (YORKTOWN FORMATION)	
50	49.7	33.0	WOH	WOH	1								COASTAL PLAIN	36.0
													GRAY SAND, SATURATED (BLACK CREEK FORMATION)	
45	44.7	38.0	3	4	5								COASTAL PLAIN	41.0
													GRAY SAND, SATURATED (BLACK CREEK FORMATION)	
40	39.7	43.0	4	5	5								COASTAL PLAIN	46.0
													GRAY SAND, SATURATED (BLACK CREEK FORMATION)	
35	34.7	48.0	8	13	47								COASTAL PLAIN	51.0
													GRAY SAND, SATURATED (BLACK CREEK FORMATION)	
30	29.7	53.0	9	17	15								COASTAL PLAIN	56.0
													GRAY SAND, SATURATED (BLACK CREEK FORMATION)	
25	24.7	58.0	7	17	19								COASTAL PLAIN	61.0
													GRAY SAND, SATURATED (BLACK CREEK FORMATION)	
20	19.7	63.0	29	50	32								COASTAL PLAIN	66.0
													GRAY SAND, SATURATED (BLACK CREEK FORMATION)	
15	14.7	68.0	37	51	35								COASTAL PLAIN	71.0
													GRAY, TAN AND YELLOW SILTY CLAY, WET (CAPE FEAR FORMATION)	
10	9.7	73.0	9	9	17								COASTAL PLAIN	76.0
													GRAY, TAN AND YELLOW SILTY CLAY, WET (CAPE FEAR FORMATION)	
5													COASTAL PLAIN	79.5
													GRAY, TAN AND YELLOW SILTY CLAY, WET (CAPE FEAR FORMATION)	

NCDOT BORE DOUBLE SF-970105\_GEO\_BRDG.GPJ NC\_DOT\_GDT 7/20/18

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SITE DESCRIPTION BRIDGE NO. 105 ON -L- (SR 1418) OVER WHITE SWAMP							GROUND WTR (ft)
BORING NO. EB1-B		STATION 14+83		OFFSET 17 ft RT		ALIGNMENT -L-	
COLLAR ELEV. 82.7 ft		TOTAL DEPTH 79.5 ft		NORTHING 740,315		EASTING 2,360,983	
DRILL RIG/HAMMER EFF./DATE GFO0075 CME-45C 84% 08/21/2017			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic		
DRILLER Smith, R. E.		START DATE 07/12/18		COMP. DATE 07/12/18		SURFACE WATER DEPTH N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
5	47.8	78.0											Match Line	79.5
													Boring Terminated at Elevation 3.2 ft in Very Stiff Silty Clay	

# GEOTECHNICAL BORING REPORT BORE LOG

WBS 17BP.4.R.95		TIP SF-970105		COUNTY WILSON		GEOLOGIST Zimarino, S. N.									
SITE DESCRIPTION BRIDGE NO. 105 ON -L- (SR 1418) OVER WHITE SWAMP								GROUND WTR (ft)							
BORING NO. EB2-A		STATION 15+83		OFFSET 15 ft LT		ALIGNMENT -L-		0 HR.	N/A						
COLLAR ELEV. 83.0 ft		TOTAL DEPTH 84.5 ft		NORTHING 740,366		EASTING 2,360,891		24 HR.	5.4						
DRILL RIG/HAMMER EFF./DATE GFO0075 CME-45C 84% 08/21/2017				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic									
DRILLER Smith, R. E.		START DATE 07/12/18		COMP. DATE 07/12/18		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
85															
	83.0	0.0	4	6	10										
80	79.0	4.0	1	1	1										
75	75.0	8.0	1	0	1										
70	70.0	13.0	WOH	WOH	1										
65	65.0	18.0	3	3	6										
60	60.0	23.0	2	1	2										
55	55.0	28.0	WOH	WOH	WOH										
50	50.0	33.0	1	0	1										
45	45.0	38.0	2	2	3										
40	40.0	43.0	4	4	6										
35	35.0	48.0	10	11	15										
30	30.0	53.0	11	13	18										
25	25.0	58.0	8	13	31										
20	20.0	63.0	12	19	37										
15	15.0	68.0	24	24	25										
10	10.0	73.0	7	16	15										
5	5.0	78.0													

NCDOT BORE DOUBLE SF-970105\_GEO\_BRDG.GPJ NC\_DOT\_GDT 7/20/18

WBS 17BP.4.R.95		TIP SF-970105		COUNTY WILSON		GEOLOGIST Zimarino, S. N.													
SITE DESCRIPTION BRIDGE NO. 105 ON -L- (SR 1418) OVER WHITE SWAMP								GROUND WTR (ft)											
BORING NO. EB2-A		STATION 15+83		OFFSET 15 ft LT		ALIGNMENT -L-		0 HR.	N/A										
COLLAR ELEV. 83.0 ft		TOTAL DEPTH 84.5 ft		NORTHING 740,366		EASTING 2,360,891		24 HR.	5.4										
DRILL RIG/HAMMER EFF./DATE GFO0075 CME-45C 84% 08/21/2017				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic													
DRILLER Smith, R. E.		START DATE 07/12/18		COMP. DATE 07/12/18		SURFACE WATER DEPTH N/A													
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)				
			0.5ft	0.5ft	0.5ft	0	25	50	75	100									
5																			
			4	11	18														
0	0.0	83.0	11	15	24														
Match Line																			
COASTAL PLAIN GRAY, TAN AND YELLOW SILTY CLAY, WET (CAPE FEAR FORMATION) <i>(continued)</i>																			
Boring Terminated at Elevation -1.5 ft in Hard Silty Clay																			