



SERT OF T	MANSE) s	HEET 3 OF	- 3
PROJE	CT NO.	3442	24.1.1			ID.	R-2404A	С	COUNTY	BER	TIE		GEOLO	OGIST Tom Ste		
SITE D	ESCRIP	TION	US 17	7 (Winc	dsor	r Bypass) from US 13-	17 TO E	AST OF	SR 1	503 (Davis	s Drive)		GROUN WATER	ND (ft)
BORIN	G NO.	CB-98	3 (LLB1	IA)		BORING	LOCATION	154+95		OFFS	ET 1	4ft R	T ALIGNME	ENT -L-		4.6
COLLA	R ELEV	/. 13.1	l ft	NORT	HIN	IG 830	,102		EAST	ING 2	,607,0)32			24 HR. 10	0.5
TOTAL	DEPTH	8 5.0	ft	DRILL	_ M <i>A</i>	ACHINE	CME 45B AT	∨ DRIL	L METH	OD N	lud Ro	otary		HAMMER T	YPE Manual	
DATE S	STARTE	D 6/3	30/04			СОМІ	PLETED 6/30/	/04	CORE	BARR	EL TY	PE.	N/A	SURFACE WA	ATER DEPTH	N/A
ELEV.	DEPTH	BLO	ow cor	JNT			BLOWS PER F			SAMP.	lacksquare	1 L	SOIL AN	ID ROCK DE	SCRIPTION	
(ft)	(ft)	0.5ft	0.5ft	0.5ft	ļ	20	40 60	0 80	100	NO.	/мо			- TOOK BE		
							ONȚINUED,FROM,PREVI	QU\$ PAGE								
														gray, SILTY, to v		
-50.4	63.5	2	3	20	$\left\{ \right.$	/								erbedded with SII v to med. plastici		
-	_			20			 23							agments. <i>(contin</i>		64.5
.	_											000000	-			
l .							\					000000	_			
												000000				
-	_				'							000000	- Gray, f. to	v.f. SAND. Mod	derately poorly	
-55.4	68.5						\					000000		race, cse. to gra quartz grains.	vel sized, well	
	_	22	30	24							Sat.	000000	-	quartz grairis.		
					١.							000000				
												000000	-			
-	_						/					000000	-58.4			71.5
-	_				.		/						-			
l							/						_			
60.4	73.5	10	12	15	$\frac{1}{2}$						М	N	Dark gree	nish-gray, v.f. SA	ANDY to SILTY	
-	_		'-		•		•27						CLAY. So	ome f. to v.f. opa	que minerals.	
-	_				•		. /						Well grade	au.		
	_						\					N	_			
					١.		\						-63.9			77.0
													-			
-65.4	78.5						/						_			
-	_	12	23	26									-			
													Dark gree	nish gray, SILTY	, v.f. to cse.	
7													Moderatel	eathered Limes y indurated at 77	7 feet (driller	
<u> </u>	_												noted har	d layers) to poorl Vhite shell fragm	y indurated	
	_						\						- Overall. v	ville shell flagifi	enis iniougnoui	•
-70.4	83.5							\					_			
-70.4 -	03.3	23	39	33	١.			.\								
-								72					-71.9			85.0
<u>-</u>					<u> </u>							1	Boring Te	rminated at Elev	ation -71.9 ft	03.0
. [-												in SILTY, Limestone	v.f. to cse. SANI e. Yorktown For	D. Weathered mation	
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OF T	BARS																SHE	ET 3 C	F 3
PROJE	CT NO.	3442	24.1.1			ID.	R-2404A		C	YTNUC	BER	TIE			GEOLO	GIST Tom S	Stetler		
SITE D	ESCRIP [*]	TION	US 17	(Wind	lsor	Bypass	s) from US	13-17	TO E	AST OF	SR 1	503 (E	Davis	s Drive)				GROU WATE	JND R (ft)
BORING	G NO.	CB-95	(LLEE	31B)		BORING	G LOCATIO	N 15	4+11		OFFS	ET 18	Bft L7	Γ	ALIGNME	NT -L-			10.8
COLLA	R ELEV	' . 12.3	ß ft	NORT	HIN	G 830	,098			EASTI	NG 2	,606,9	43					24 HR.	9.6
TOTAL	DEPTH	80.0	ft	DRILL	. MA	CHINE	CME 45B	ATV	DRILL	METHO	OD M	lud Ro	tary			HAMMER	TYPE	E Manua	al
DATE S	STARTE	D 6/3	30/04	!		СОМ	PLETED 6	5/30/04		CORE	BARR	EL TY	PE	N/A	A	SURFACE V	NATE	R DEPTH	N/A
ELEV.	DEPTH	BLC	ow cor	JNT			BLOWS PE	R FOO	T	<u> </u>	SAMP.	V /	L		0011 411	D DOOK D		DIDTION	
(ft)	(ft)	0.5ft	0.5ft	0.5ft	Ŷ	20	40 I	60 I	80 I	100	NO.	моі	O G		SOIL AN	D ROCK D	ESC	RIPTIO	N
						C	ONTINUED,FROM,	PREVIOUS	PAGE										
-	-																		
-51.2 -	- 63.5													-					
		13	30	27				· · ·				Sat.							
								● 57											
-	-							\						_					
-	-							/ .						-	Dark gray,	well graded,	SILTY	, f. to v.f.	
								\.							CLAY. So	rbedded (~.3 me cse. blue	ft.) wit quartz	n SILTY grains.	
	00														(continued			-	
-56.2 -	- 68.5	14	35	36	-			\	1			Sat.							
-	-								71					<u> </u>					
-	_							/	/					58.2 -58.5					70.5
								/-					A	-58.5	DRILLER'	S NOTE. HAP	RD LA	YER.	70.8
								. / .											
-	-														Dark greei	nish gray, v.f.	SAND	Y to SILTY	1
61.2 -	- 73.5							/						-	gravel size	ell graded. So d well rounde	ome cs d quar	se. sand to tz grains.	
		7	11	37			/					Sat.					•	· ·	
								18 					••••	-62.7					75.0
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-	-						/						0000	-					
-	_						/						0000		Dark greei	n and light gra NE. Mangane	y, poo	rly indurate	ed
66.2	- 78.5						/						0000		and large	shell fragment	S.	Triodules	
-00.2	70.5	6	9	17	١.		. /					Sat.	0000						
	-						é 26						0000	- -67.7					80.0
-	_						.l						****			minated at Ele			
	_													_	in poorly ir Yorktown	idurated LIME Formation	2101	IE.	
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BORING LOG

SHEET 1 OF 3

OF T	RANS																			SHEE	T 1	OF 3	В
PROJE	CT NO.	3442	24.1.1			ID.	R-2	2404 <i>F</i>	4		CO	UNTY	BER	TIE			GEOLO	GIST	Tom S	Stetler			
SITE D	ESCRIP	TION	US 17	7 (Winc	lsor E	Bypas	s) fr	om U	IS 13-	17 TO	EAS	ST OF	SR 1	503 (I	Davis D	Orive)					GR WA1	OUND ER (ft))
BORIN	G NO.	CB-96	(RLEI	B1B)	E	BORIN	IG L	OCAT	ION	154+00)		OFFS	ET 5	7ft RT		ALIGNME	NT	-L-		HR.	9.4	
COLLA	R ELEV	/. 12.1	l ft	NORT	HING	83	0,02	5			ı	EASTI	NG 2	,606,9	63					24	HR.	9.5	
TOTAL	DEPTH	l 82.4	·ft	DRILL	MAC	HINE	С	ME 4	5B AT\	/ DRI	LL I	METH	OD M	lud Ro	tary			H	AMMER	TYPE	Mar	ual	
DATE :	STARTE	ED 6/2	29/04			CON	MPLE	ETED	6/29/	04	-	CORE	BARR	EL TY	PE	N/A		SUR	FACE V	VATER	DEPT	H N/.	Α
ELEV.	DEPTH	BLO	ow cor	JNT					PER F				SAMP.	lacksquare	L	9	OIL AN) RC	טכא ם	ESCE	PIPTIO	ואכ	
(ft)	(ft)	0.5ft	0.5ft	0.5ft	Ŷ	20 L)	40 	60 L	8	0	100 	NO.	МО							<u> </u>		
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-1.4	13.5														N								
	- 10.0	3	4	5	1	ļ								М		(Gray, SILT	Y CL	AY. Stif	f. Med	. plasti	citv.	
						9										(Organic fra	gmen	ts paral	lel to be	edding.	,-	
-	-														N	L	_ittle silt.						
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-6.4	18.5	2	3	3	-									М									
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-	_					6					•					5	SAND. Wo	ood (b	ark) frag	gments			
-	-				• •									1		τ	mougnout	. iviOC	acialely	organic	<i>.</i> .		





SHEET 2 OF 3 **PROJECT NO.** 34424.1.1 **ID**. R-2404A COUNTY BERTIE **GEOLOGIST** Tom Stetler GROUND WATER (ft) SITE DESCRIPTION US 17 (Windsor Bypass) from US 13-17 TO EAST OF SR 1503 (Davis Drive) **BORING NO.** CB-96 (RLEB1B) BORING LOCATION 154+00 OFFSET 57ft RT ALIGNMENT -L-0 HR. 9.4 COLLAR ELEV. 12.1 ft **NORTHING** 830,025 **EASTING** 2,606,963 24 HR. 9.5 TOTAL DEPTH 82.4 ft DRILL MACHINE CME 45B ATV DRILL METHOD Mud Rotary HAMMER TYPE Manual DATE STARTED COMPLETED 6/29/04 CORE BARREL TYPE SURFACE WATER DEPTH N/A ELEV. DEPTH **BLOW COUNT BLOWS PER FOOT** SOIL AND ROCK DESCRIPTION 60 NO. (ft) 0.5ft | 0.5ft | 0.5ft CONTINUED FROM PREVIOUS PAGE -21.4 33.5 3 Dark brown, SILTY to CLAYEY, f. to v.f. SAND. Wood (bark) fragments throughout. Moderately organic. (continued) -26.4 38.5 3 4 5 -31.4 43.5 2 3 Dark gray brown, SILTY CLAY. High plasticity. Little to some wood/organic fragments. -36.4 48.5 3 3 Light gray, SILTY, v.f. SAND. Poorly graded. Trace well rounded cse. quartz -41.4 53.5 CS-46 grains. Interbedded clay rich layers (0.2 ft. thick). -46.4 58.5 Gray, SILTY to v.f. SANDY CLAY. High plasticity. Trace to little wood and organic fragments.





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PROJE	CT NO.	3442	24.1.1			ID.	R-2404A		C	YTNUC	BER	TIE			GEOLO	OGIST Tom	Stetle		
SITE D	ESCRIP [*]	TION	US 17	7 (Wind	dsor I	Bypass	s) from US	S 13-17	TO E	AST OF	SR 1	503 (E	Davis	Drive)	•			GROI WATE	JND R (ft)
BORING	G NO.	CB-96	RLEI	B1B)	I	BORING	G LOCATION	ON 15	54+00		OFFS	ET 57	7ft R	Γ	ALIGNME	NT -L-		0 HR.	9.4
COLLA	R ELEV	'. 12.1	ft	NORT	HING	830),025			EASTI	NG 2	,606,9	63					24 HR.	9.5
TOTAL	DEPTH	82.4	ft	DRILL	. MAC	CHINE	CME 45	B ATV	DRILL	METHO	OD M	lud Ro	tary			HAMME	R TY	PE Manua	al
	STARTE		29/04	l		1	PLETED	6/29/04	l	CORE			_	N/	Α	_ '		ER DEPTH	N/A
ELEV.	DEPTH	BLC	ow cou	JNT			BLOWS F	PER FOO	T		SAMP.	V /	L						
(ft)	(ft)	0.5ft	0.5ft	0.5ft	P	20	40	60	80	100	NO.	моі	O G		SOIL AN	D ROCK I	DES	CRIPTIO	N
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PROJE	CT NO.	3442	24.1.1			ID.	R-2404A		C	YTNUC	BER	TIE			GEOLOG	IST Tom Ste		
SITE DI	ESCRIP'	TION	US 17	(Wind	lsor E	Bypass	s) from US	13-17 T	O EA	AST OF	SR 1	503 (E	Davis	Drive)			GROU WATER	IND R (ft)
BORING	G NO.	CB-97	(RLB	1B)	E	BORING	G LOCATION	N 154+	+74		OFFS	ET 73	Sft RT	Al	LIGNMEN	T -L-		7.2
COLLA	R ELEV	13.0) ft	NORT	HING	830	,030			EASTI	NG 2	,607,03	38				24 HR. 1	10.6
TOTAL	DEPTH	84.8	ft	DRILL	MAC	HINE	CME 45B	ATV C	RILL	METHO	OD M	lud Ro	tary			HAMMER TY	PE Manua	ıl
DATE S	TARTE	D 7/	1/04			СОМ	PLETED 7/	/1/04		CORE	BARR	EL TYI	PE	N/A	;	SURFACE WA	TER DEPTH	N/A
ELEV.	DEPTH	BLO	ow cor	JNT			BLOWS PE				SAMP.	lacksquare	υ О	90	JII AND	ROCK DES	CRIPTION	J
(ft)	(ft)	0.5ft	0.5ft	0.5ft	Ŷ	20 	40 I	60 L	80 	100 	NO.	МОІ				- NOON DEC		'
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PROJE	CT NO.	3442	24.1.1			ID.	R-2404 <i>P</i>	١	C	OUNTY	BER	TIE			GEOLO	GIST Tom Stetl		
SITE D	ESCRIP	TION	US 17	7 (Winc	dsor E	3ypass	s) from U	S 13-17	TO E	AST OF	SR 1	503 (E	Davis	Drive)			GROU WATER	IND R (ft)
BORIN	G NO.	CB-97	7 (RLB	1B)		BORIN	G LOCAT	ION 1	54+74		OFFS	ET 73	3ft R	Γ	ALIGNME	NT -L-	0 HR.	7.2
COLLA	R ELEV	. 13.0) ft	NORT	HING	830	0,030			EASTI	NG 2	,607,0	38				24 HR. ′	10.6
TOTAL	DEPTH	84.8	ft	DRILL	. MAC		CME 4		DRILL	METH	OD M	lud Ro	tary			HAMMER TY	PE Manua	ıl
	STARTE		1/04			СОМ	PLETED			CORE	BARR		<i>a</i>	N/A	4	SURFACE WAT	ER DEPTH	N/A
I	DEPTH		OW COL		_	20	BLOWS			100	SAMP.			,	SOIL AN	D ROCK DES	CRIPTION	J
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PROJE	CT NO.	3442	24.1.1			ID.	R-2404A		COUN	Y B	ERT	ΙE			GEOLO	GIST Tom Stet		
SITE D	ESCRIP	TION	US 17	(Wind	lsor E	Bypass	s) from US 13-	17 TO	EAST	OF SE	R 15	03 ([Davis	Drive)			GROU WATE	IND R (ft)
BORIN	G NO.	CB-97	'(RLB	1B)	E	BORING	G LOCATION	154+74	ļ	OF	FSE	T 73	3ft R7	-	ALIGNME	NT -L-	0 HR.	7.2
COLLA	AR ELEV	. 13.0	ft	NORT	HING	830	,030		EAS	STING	2,6	07,0	38				24 HR.	10.6
TOTAL	. DEPTH	84.8	ft	DRILL	. MAC	HINE	CME 45B AT\	/ DRI	LL ME	HOD	Mu	d Ro	tary			HAMMER TY	PE Manua	ıl
DATE	STARTE	D 7/1	1/04			СОМ	PLETED 7/1/0	4	СО	RE BA	RRE	L TY	PE	N/A	A	SURFACE WA	TER DEPTH	N/A
ELEV.	DEPTH	BLC	ow cor	JNT			BLOWS PER F	ТОС	_	SA	MP.	▼/	LO			D ROCK DES	CDIDTION	
(ft)	(ft)	0.5ft	0.5ft	0.5ft	Ŷ	20	40 60	80 I	0 1	00 N	0.	MOI		•	SOIL AIN	D ROCK DES	CKIPTIOI	N
-50.5	63.5						ONTINUED,FROM,PREVIO	OUS PAGE.]	_				
	-	2	4	5		9						М			Greenish g sand. Med	ray, SILTY CLA\ d. to high plasticit	/. Trace v.f. /. (continued)
-55.5	68.5											0		-55.0				68.
	-	17	22	37			• • • • • • • • • • • • • • • • • • •	 59 		· -		Sat.			Gray, well hard layers driller.	graded, v.f. to cso noted throughou	e. SAND. Th	in
60.5	73.5						/ . /							-60.0				73
	-	6	9	10			/					М		· ·	CLAY. V.f	nish gray, SANDY . sands. Some o . Little cse. sand	paque grains	
65.5	78.5	57	43/.2									М	000000000000000000000000000000000000000	-64.0				77
	-								100/.7				000000000000000000000000000000000000000	·	Light gray w/shell frag	to white, Calc. f. f gments. Weathe	o cse. SAND red limeston	Э.
70.5	83.5	44	55	45/.3						•		W	000000000000000000000000000000000000000	- - -71.8 _	D. C. T.		74.0 %	84
70.5 	-														in Calc. f. t	minated at Eleva o cse. SAND w/s I limestone. York	hell fragmen	ss.





NCDOT BORING LOG

SHEET 1 OF 3

W. OF I	RANS												SH	HEET 1 (OF 3
PROJE	CT NO.	3442	24.1.1		ID.	R-2404A	C	OUNTY	BER	ΓIE		GEOLOG	GIST Tom Stet		
SITE D	ESCRIP	TION	US 17	(Wind	lsor Bypass	s) from US 13-17	TO EA	AST OF	SR 15	503 (E	Davis	s Drive)		GRO WATE	UND R (ft)
BORIN	G NO.	CB-98	3 (LLB1	A)	BORIN	G LOCATION 15	4+95		OFFS	ET 14	4ft R7	T ALIGNMEN	IT -L-	0 HR.	4.6
COLLA	AR ELEV	/. 13.1	l ft	NORT	HING 830),102		EASTI	NG 2,	607,0	32	•		24 HR.	10.5
TOTAL	. DEPTH	85.0	ft	DRILL	MACHINE	CME 45B ATV	DRILL	METHO	D M	ud Ro	tary		HAMMER TY	PE Manu	al
DATE	STARTE	D 6/3	30/04		COM	IPLETED 6/30/04		CORE	BARRI	EL TY	PE	N/A	SURFACE WA	TER DEPTH	I N/A
ELEV.	DEPTH	BLO	ow cor	JNT		BLOWS PER FOO)T	<u> </u>	SAMP.	V /	L	COUL AND		COLOTIO	N.I.
(ft)	(ft)	0.5ft	0.5ft	0.5ft	0 20	40 60 I I	80	100	NO.	моі	O G	SOIL AND	ROCK DES	CRIPTIO	N
						Land Surface	-					13.1			0.0
12.1	1.0											Topsoil.			0.:
12.1	1.0	4	4	3						М			e brown, SILTY,		
	_				. •7							SAND. Mod Yorktown Fo	derately poorly gormation.	raded.	
					l \							10.1			3.0
9.6	3.5	4	6	8	\					М	000000	_			
-	 		"		14					\Box		-			
	-]						000000	-			
7.1	6.0										000000	_			
		3	5	7											
-	<u> </u>				· · · •12·							 Light brown SAND. Gra 	to orange-brow in size increase	n, v.f. to f. s with depth	
4.6	8.5											_ Trace opaqu		o mar dopar	
	0.0	5	7	7						w		_			
					• 14										
-	T									V		-			
	-											-			
	_										0000	1.1			12.0
											0000				
-0.4	13.5			_						Sat.	0000	_			
	-	5	7	7	•14					Sal.	0000		, cse. to f. SANI er of gravel at 1		lad
	_]						0000	bedding.	yei di giavei at i	4.5 it. Glac	ieu
											0000				
	Ī										0000	-3.9			17.
	_											-5.5			
-5.4	18.5				/							_			
, <u>, , , , , , , , , , , , , , , , , , </u>	10.0	2	2	3					CS-45	М		_			
					• 5										
	_				.							-			
<u> </u>	 											-	NI T. (1D) (O) A) (
	<u> </u>				\							Light gray, \$ - Med. to low	SILTY to v.f. SAI plasticity w/little	Y CLAY. to some	
					\							organic mat	ter.		
-10.4	23.5	_	_	_						М		_			
	+	2	5	6						IVI		-			
	<u> </u>				'. ' .							_			
												_			
	ſ											- -13.9			27.0
	†											-			27.0
-15.4	28.5											_			
10.4	20.0	1	2	2	.					М		Dark brown	, SILTY to v.f. Sa c matter w/orga	ANDY CLAY	′. s
					♦ 4							oriented par	allel to bedding.		~
-5.4 -10.4 -10.4 -15.4 -	 				.							-			





SERT OF T	AVR16														Y	SH	HEET 2 O	F 3
PROJE	CT NO.	3442	24.1.1			ID.	R-2404A	\	C	OUNTY	BER	TIE		GEOLO	GIST T		tler	
SITE D	ESCRIP	TION	US 17	(Winc	dsor	Bypas	s) from U	S 13-17	TO E	AST OF	SR 1	503 (E	Davis	s Drive)			GROU WATEI	JND R (ft)
BORIN	G NO.	CB-98	(LLB1	A)		BORIN	G LOCATI	ION 1	54+95		OFFS	ET 14	4ft R	T ALIGNME	NT -L-		0 HR.	4.6
	R ELEV			NORT			0,102			l	ING 2	,607,0	32				24 HR.	10.5
TOTAL	DEPTH	85.0	ft	DRILL	MA	CHINE	CME 45	B ATV	DRILL	METH		lud Ro	_		HAM	MER TY	/PE Manua	al
	STARTE		30/04			COM	IPLETED			CORE	BARR	EL TY	<i>x</i>	N/A	SURFA	CE WA	TER DEPTH	N/A
1	DEPTH		OW COL		_	20	BLOWS			100	SAMP.	V /	O	SOIL ANI	D ROC	K DES	CRIPTION	١
(ft)	(ft)	0.5ft	0.5ft	0.5ft	P	20	40 I	60	80 	100	NO.	/MOI	G					
-					ļ ₁	¢	ONTINUED,FRC	M, PREVIQUS	PAGE					<u></u>				
.	=				.									_				
-20.4	33.5	1	3	3	-						CS-59	-		_				
-	_	'				• • • •6								_				
-	_													=				
-	_													_				
					l													
														_				
-25.4	38.5				ļ · ·									Dark brown	, SILTY	to v.f. S	ANDY CLAY	
-	_	1	3	5								М		Little organ oriented pa	ic matter rallel to b	· w/orgai bedding.	nic fragments (continued)	3
-	_													=				
														_				
-	_				` `									_				
-30.4	43.5													_				
-	_	1	4	3								М		_				
.						● 7								=				
					l													
														-33.9				47.0
-	_				' '									-				47.0
-35.4	48.5													<u>: </u>				
		2	2	5]						CS-47			-				
					. :	∳ 7												
														-				
-	_				' '	1								<u>-</u>				
-	_				· ·									- - !				
-40.4	53.5																	
10.1		8	5	7	1							Sat.		Greenish g	ray, SIL7	ΓΥ, to v.i	f. SANDY	
					l	•12								Clay is low	to med.	vith SIL plasticity	TY, v.f. SAND y. Trace).
	=				' '									organic fra	gments.			
-	_				• •	-								.				
-	_					.								<u>-</u>				
45 4-	L 50 5													<u>. </u>				
-45.4	58.5	6	7	9	ł	.] .												
						16	3							- :				
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-	_				· ·	-								_				
1	l	Ī	I	I	1	1					1	1	1/1					





OF T	24191					,									SI	HEET 1 (OF 3
PROJE	CT NO.	3442	24.1.1			ID.	R-2404A		COUNTY	BER	TIE			GEOLO	GIST Tom Ste		
SITE DI	ESCRIP'	TION	US 17	(Wind	dsor E	Bypass	s) from US 13	-17 TO E	AST OF	SR 1	503 (I	Davis	Drive)			GRO WATE	UND R (ft)
BORING	G NO.	CB-95	(LLEE	31B)	E	BORING	LOCATION	154+11		OFFS	ET 18	8ft LT		ALIGNME	NT -L-		10.8
COLLA	R ELEV	12.3	3 ft	NORT	HING	830,	,098		EAST	NG 2	,606,9	43				24 HR.	9.6
TOTAL	DEPTH	80.0	ft	DRILL	MAC	HINE	CME 45B AT	√ DRIL	L METH	OD N	lud Ro	tary			HAMMER T	YPE Manu	al
DATE S	STARTE	D 6/3	30/04			СОМІ	PLETED 6/30)/04	CORE	BARR	EL TY	PE	N/A	\	SURFACE WA	TER DEPTH	N/A
ELEV.	DEPTH	BLO	ow cor	JNT			BLOWS PER			SAMP.	lacksquare	LO			D ROCK DES	SCRIPTIO	N
(ft)	(ft)	0.5ft	0.5ft	0.5ft	Ŷ	20 	40 6	0 80 L L	100	NO.	МОІ				- NOCK DE		
					ļ		Land Surfa	ice					12.3				0.0
11.3	1.0											000000	=				
-	_	6	7	5]						М	000000	-				
4	_					•12·							_				
88	- 3.5											000000	_				
0.0	0.0	3	6	9	1						М						
†	-					• 15						000000	•				
6.3	- 6.0					\ .						000000			n to orange brow		
0.3	- 6.0	6	10	12		/					М	000000		graded, v.f. Formation.	. SAND w/trace	silt. Yorktow	n
	_					•2	22					000000	_	i omiation.			
						\											
3.8	- 8.5	9	14	18							w	000000	-				
+	-		' '				32					000000	-				
	_						. /					000000	_				
						/	/				\vdash	000000					
1	_				١	/ .							0.3				12.0
+	_												_				
-1.2	- 13.5					. /					┧		-				
	_	3	4	4		<u>/</u>				CS-52	M	N	_	Light gray b	orown, SILTY CI	_AY. Root ar	nd
						8 					1			wood fragn	nents. Low plas	ticity.	
1	_												-				
†	-											H	4.2				16.5
4	_				•								_				
-6.2	- 18.5											N	_				
		2	2	3] .						М		_	Greenish g	ray, SILTY CLA vood fragments.	Y, trace v.f.	,
1					. •	5 						N		plasticity.		ca. to riigi	•
†	-												-				
+	-												-				
4	_												-9.7 -				22.0
11.0	22 E																
-11.2 -	- 23.5	3	4	6	l						М		-				
†	_					10							-	Greenish g	ray, SILTY CLA organic fragment	Y w/v.f. sand	
+	-													plasticity.	gaino naginoni	2011	
]	_												_				
						'							45.0				
1	_											Ħ	 -15.2 _				27.5
-16.2	- 28.5	1	2	2			• •			CS-57	М	F	-	Dark brown	little organise	SILTV CLAN	,
	-	'	_			 1				00-07	'"		-	Some f. to	n, little organics, v.f. sand. Organ	nics oriented	•
	_				.						1	Ħ	_	parallel with	n bedding.		
1		1			1 \					I							





SECT OF T	ANSION .															y s	SHEET 2 O	F 3
PROJE	CT NO.	3442	24.1.1			ID.	R-2404A		C	YTNUC	BER'	TIE		GE	OLOC	SIST Tom St		
SITE D	ESCRIP						s) from US			AST OF	SR 1	503 (E	Davis	Drive)			GROU WATER	IND R (ft)
BORIN			(LLEI				G LOCATION	ON 15	54+11		OFFS			ALIG	NMEN	IT -L-	0 HR.	10.8
COLLA	R ELEV	. 12.3	3 ft	NORT	HING	830	,098		,	EAST	NG 2						24 HR.	9.6
TOTAL	DEPTH	80.0	ft	DRILL	_ MA(CHINE	CME 45	B ATV	DRILL	METH	OD M	lud Ro	tary			HAMMER	TYPE Manua	al
DATE S	STARTE		30/04			СОМ	PLETED			CORE	BARR	EL TY		N/A		SURFACE W	ATER DEPTH	N/A
	DEPTH		OW COI		_	20	BLOWS F			100	SAMP.	▼/	O	SOIL	AND	ROCK DE	SCRIPTION	١
(ft)	(ft)	0.5ft	0.5ft	0.5ft	<u> </u>	20 	40 	60	80 	100	NO.	/MOI	G					
					ļ _[ç	ONTINUED,FROM	M.P.R.EVIQUS	PAGE									
-	_													_				
-21.2 -	- 33.5				ļ · ·									-				
-		2	4	6								М		_				
						● 10												
	_				١									-				
-	_													-				
_	_													_				
-26 2 -	- 38.5													_				
20.2		2	3	4	١							М						
-	_				•	7								- Dark Some	brown e f. to v	, little organics ⁄.f. sand. Orga	, SILTY CLAY. anics oriented	
-	_				' '									- parall	lel with	bedding. (cor	ntinued)	
-														_				
_	_				١									_				
-31.2 -	- 43.5	3	3	5	` `							М		-				
-	_	3	3	3	• •	8						""		_				
	_													_				
-	-													-				
-	-				' '									_				
-36.2 -	- 48.5				• •									-35.7 -				
		1	2	4								М						
						6								- Light	gray-g	reen, SILTY to e organic mate	v.f. SANDY	
-	_					\								- CLAY	/. Little	e organic mate	erial.	
-	_													-				
_	_					1							000000	-39.7 -				
44.5	F0 -					.\							000000					
-41.2 -	- 53.5	5	10	5	1	.\.						Sat.	000000	-				
_	L					15							000000	- Light	gray-g	reen, SILTY, f	to v.f. SAND.	
-	-					. .							000000	-				
						.								_				
													000000	-44.7				
-	-													_				
-46.2 -	- 58.5		<u> </u>		ļ	. .								-				
-	_	2	4	8								М		- Liaht	grav. S	SILTY CLAY w	//some f. to v.f.	
						•12 · .\.										plasticity. Mo		
-						\	\ ·							-				
-	_						\							- 40.7				6



N.C.D.O.T. GEOTECHNICAL UNIT BORING LOG

PAGE 1 OF 2

OF I	NA.																PAG	E 1 OF	2	
PROJE	CT NO.	34	1424.1.	1		ID N	0.	R	-2404 <i>F</i>	CC	YTNUC	Bertie	e			GEOLOG	IST D	. Goodnight		
SITE D	ESCRIP	TION	US 17	(Winds	or By	/pass)		111										GROUN	D WATER	(ft)
BORIN	G NO.	TEB2-	۹-L-	во	RING	LOC	ATION	172+0	00		OFFS	ET 571	ft LT		ALIGN	MENT -L-		0 HR.	11.9	9
COLLA	R ELEV	. 18.6	ft	NORTI	IING	830	0845.4	5			EAST	NG 2	60857	0.03	L			24 HR.	11.1	1
TOTAL	DEPTH	95.0	ft	DRILL			CMF	E 850	D	RILL	METH	OD V	Vash/N	/Jud F	lotarv		HAMN	MER TYPE	140 lb. At	utomat
	STARTE		9/04					D 6/10				ACE W				\	1			
ELEV.	DEPTH		W COL	INT		100		WS PER I				SAMP.		1		•				
(ft)	(ft)	0.5ft	0.5ft	0.5ft	Ō	20			50	80	100	i	MOI	O		SOIL AN	ID ROCK	K DESCRIPTI	ON	
(14)	(14)						·	l	L				VIVIO			<u> </u>				
18.6															18.6					0.00
17.6 -	- 1.0	5	5	6		11.						SS-T33	м		•	COASTAL PL to Loose, Tan				
15.1	3.5					7"							1			SAND (Yorkto				
12.6	6.0	4	4	5	: :	∳9 ∷							M		13.1					5.5
12.0	0.0	2	4	4		•8 · ·							М	N	. 10.6	COASTAL PL Grey, Fine Sa				8.0
10.1	8.5	2	2	3	Ιſ	J							М		-	\Formation) COASTAL PL			/	0.0
-	‡	_	_			5							X		•	Grey, Fine Sa				
5.1	125				. L	٦٠.							<u> </u>		6.6	COASTAL PL	AIN MA	TERIAL: Med	lium	12.0
3.1	13.5	6	6	6		12							w		-	Dense, Tan, S Formation)	Silty, Fine	SAND (Yorkt	town	
	+														- - 1.6	i oimation)				17.0
0.1	18.5					: -										COASTAL PL				77.0
-	_	8	10	10		: : •	20						W			Dense, Tan, I	-ine SAN	AD (YORKTOWN	Formation)	
	‡														3.4					22.0
-4.9	23.5				-[-								l		_	COASTAL PI Medium Stiff,				
1 :	ŧ	WOH	WOH	1	•1								W		-	CLAY (Yorkto			,,,	
	-				1:										-					
-9.9	28.5	WOH	WOH	WOH								SS-T34	154 6%		-					
	‡		11011	****	•wic	OH						-	-		-					
-14.9	† † 33.5														-					
-14.5	33.3	WOH	WOH	WOH	wi	он							w		-					
	İ				1:										-					
-19.9	38.5				:\:										-					
_	Ŧ	2	2	2	; \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	4							W	N	-					
	‡				· -										-					
-24.9	43.5	MOLL											l w		- _{-25.9}					44.5
	<u> </u>	WOH	2	6		● 8							"	11	-20.5			TERIAL: Loo		44.0
	<u> </u>]: : :									28.4	∖Silty, Coarse	to Fine S	Nood Debris), SAND with So		47.0
-29.9	48.5	2	1	2								SS-T3	5 5 52.19	<u>ا</u>	_	(Yorktown Fo		TERIAL: Sof	t. Grev.	1
	F					·							1		- 22 4	Clayey, Fine	Sandy S	ILT with Some	e Mica and	EO (
-34.9	53.5				. L 	7: : :								1	33.4 -	\Formation)				52.0
5	1 33.3	2	3	5		8							w		-			TERIAL: Med AY (Yorktown		
2	‡					[: : :									- 38.4		•	•	,	57.0
-39.9	58.5].								• • • • • • • • • • • • • • • • • • • •	_			TERIAL: Med ayey, Coarse		
	+	5	6	13		: : ; 	19						W		-	SAND with a		f Mica (Yorkto		
5	Ŧ				::	: :/:									-	Formation)				
-44.9	63.5	4	5	6	: :	: :/: :							l w		_					
5	‡	4				● 11							"		<u>-</u>					
10.0	‡				: :	.] : :								:::	- 49.4					68.0
-49.9 -49.9	68.5	5	5	10									w					TERIAL: Med		
אַר	Ŧ					:	 								- FO 4	Debris), Silty	, Clayey,	Coarse to Fir	ne SAND	70.4
-54.9	73.5				: :	L	7: : :								53.4 -	and a Trace	of Mica (Yorktown For	mation)	72.0
-54.9	T	11	11	13	Ŀ.		24						W	<u> </u>						



N.C.D.O.T. GEOTECHNICAL UNIT BORING LOG

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OP TRAN															PAGI	2 OF	2	
PROJECT	ΓNO.	34	1424.1.	1		ID No.	R-2	404A C	OUNTY	Bertie	÷			GEOLOGI	ST D.	Goodnight		
SITE DES	CRIPT	ION	US 17	(Winds	or By	pass)										GROUN	D WATER ((ft)
BORING I	NO.	TEB2-/	\-L-	во	RING	LOCATION	1 172+00		OFFSI	≘T 57f	t LT		ALIGNM	ENT -L-		0 HR.	11.9)
COLLAR	ELEV.	18.6	ft	NORT	HING	830845.	45		EASTI	NG 26	30857	0.03				24 HR.	11.1	
TOTAL DI	EPTH	95.0	ft	DRILL	MAC	HINE CA	/IE 850	DRILL	METH	V dc	/ash/N	/Jud R	Rotary		HAMN	IER TYPE	140 lb. Au	ıtomat
DATE STA	ARTE	6/9	/04			COMPLE	FED 6/10/0)4	SURF	ACE W	ATER	DEP	TH NA					
ELEV. DE	EPTH	BLC	w cou	JNT		BLO	OWS PER FO	OOT	1	SAMP.	lacksquare	L		SOIL AN	D BOCK	DESCRIPTI	7N	
(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	20 I	40 60	80 	100	NO.	МОІ		a rigativo a	SOIL AIN		DESCRIPTI	JN	
-56.2						Continue	d from previ	ious nad	2									
-50.2						· · · L	a nom provi							OASTAL PL				76.0
-59.9	78.5											0000	- <i>\</i> (^	ense, Grey, S Yorktown For	mation) (continued)		
-59.9	70.5	14	15	16			1]]]			SS-T36	w	6000		OASTAL PLA				
‡												000	63.4 `	Yorktown For	,			82.0
-64.9 + 8	83.5				: :									OASTAL PL				
		4	6	8	: :	∮ 14					M	1		Yorktown For				
	00.5				: :								68.4 - C	OASTAL PL	AIN MAT	ERIAL: Ven	Dense to	87.0
-69.9	88.5	33	42	33	: :			75			М		– c	ense, Grey a layey, Coarse	nd Gree	n, Glauconitic	, Silty,	
+								/					- F	ragments (Yo	orktown I	ormation)	one one	
-74.9	93.5] : :		/. 						-					
Į Ţ		25	24	24	<u> </u>		48				W		_ <u>76.4</u>	oring Termin	otod ot F	laudian 76	footin —	95.0
													- S - w - F	oastal Plain I iilty, Clayey, C vith Some Shi ormation) lote: Mud mi Mud da	Coarse to ell Fragn x = Bento	Fine SAND nents (Yorkto	(A-2-4) vn rry	





OF TRA																	E 1 OF		
PROJEC			1424.1.			ID No	•	R-24	04A C	YTNUC	Bertie				GEOLOG	IST D	. Goodnigh	· · · · · · · · · · · · · · · · · · ·	
SITE DES				(Winds						1							-	ND WATE	
BORING	NO.	TEB2-E	3-L-	ВО	RING	LOCA	TION	172+00		 	T 57f			ALIGNI	MENT -L-		0 HR.		9.3
COLLAR	ELEV.	16.3	ft	NORTI	HING	830	739.96			EASTI	NG 26	50861	3.26		····		24 HR.		3.8
TOTAL D	DEPTH	90.0		DRILL	MAC		CME 8		DRILL	METHO		/ash/N				HAMI	VIER TYPE	140 lb.	Autom
DATE ST	ARTE	6/8	3/04			COM	PLETED	6/9/04		SURF	ACE W	ATER	DEPT	'H NA					
	DEPTH		W COL		0	20	BLOWS 40	PER FOO 60	TC 80	100	SAMP.	V /	0		SOIL AN	ID ROCI	K DESCRIPT	ΓΙΟΝ	
(ft)	(ft)	0.5ft	0.5ft	0.5ft	Ĭ		40			100	NO.	MOI	G						
16.3														16.3					0.
15.3	1.0	2	2	1								D			COASTAL PL Tan, Silty, Fin				
12.8	3.5				. [· · ·						١		13.3	COASTAL PL			·	3
10.3	6.0	5	4	5	1.19	9						M		40.0	Orange-Tan, SAND (Yorkto	Silty, Cla	vev. Coarse		
+		3	2	5	•	7						М	N	-	COASTAL PL	AIN MA	TERIAL: Me		
7.8	8.5	5	7	8	: :L	15						\checkmark	•		Grey, Fine Sa) ;
Ŧ															Dense, Grey a Fine SAND (Y			y, Coarse to)
2.8	13.5							<i></i> .							1 1110 07 1110 (1	O I I I O I I I	T Officiation,		
<u> </u>		2	5	9	1 : :	•14						w							
+						<u> </u>								-0.7					1
-2.2	18.5										00.707		000		COASTAL PL Fine to Coars				
‡		2	4	2	•	5					SS-T37	W	000				(,	
_ ‡					لزا								888	-5.7	COASTAL PL	ΔΙΝ ΜΔ	TERIAI · VA	ny Soft	2
-7.2	23.5	WOH	WOH	WOH	- I	 						w			Blue-Grey, Fir				
+					•wic	, 									Formation)				
-12.2 T	28.5													-					
12.2	20.0	WOH	WOH	WOH	-wic	 Н						w	N						
‡																			
-17.2	33.5] :\:									•					
<u>†</u>		WOH	1	2	3							W							
\pm					: :									-20.7	C-# Di		Madayatak	Organia	3
-22.2	38.5	WOH	2	1	│ :[:							w			(Wood Debris	ie-Grey, s), Fine S	Moderately (Sandy CLAY	Yorktown	
Ŧ		*****	_	'	. •3							''			Formation)				
-27.2	43.5				. ५								• • • •	-25.7	COASTAL PI	LAIN MA	TERIAL: Lo	ose to	
-21.2	43.5	2	2	5		 7						w	• • • •	•	Medium Dens SAND with a	se, Grey,	Silty, Clayey	y, Fine	
‡					: :	\								_	Mica (Yorktov			voca, ana	
-32.2	48.5					1								•					
İ		7	4	10	1 : :	14						W							
\pm	-					: :\ :								_					
-37.2	53.5	6	11	10	1::	· · \					SS-T38	3 W		-					
Ŧ			''	"	1::		21				00 100	7		-					
-42.2	- . 58.5					: : :								-					
-72.2	. 50.5	10	9	14	1		23					w		-					
‡	• •				: :		<u> </u>							- -					
-47.2	63.5] : :		1 : : :							-					
Ŧ	-	6	12	15	1 : :		27					W		-					
Ŧ	-				: :		<u>:::</u> :							-50.7					
-52.2	68.5	3	5	11	-							w		-	COASTAL P	ey, Silty,	Coarse to Fi	ne SAND	
‡	•		5	''		• 16						"		-	with a Little C Formation)	Organics	(Wood Debr	is) (Yorktov	v n
‡	.				: :	/: :								-	. omiauon)				
-57.2	73.5	2	3	2	1::/	<u>/</u> : : :						l w	[::3	-					



N.C.D.O.T. GEOTECHNICAL UNIT BORING LOG

PAGE 2 OF 2

Ster 20 11	MILE														PAG	E 2 OF	2	
PROJE	CT NO.	34	1424.1.	1		ID No.		R-240	4A C	OUNTY	Bertie			GEOLOG	IST D	Goodnight		
SITE DI	ESCRIP	TION	US 17	(Winds	or By	pass)										GROUN	D WATE	R (ft)
BORING	G NO.	TEB2-I	3-L-	во	RING	LOCA	TION	172+00		OFFSI	ET 57ff	RT		ALIGNMENT -L-		0 HR.	!	9.3
COLLA	R ELEV	. 16.3	ft	NORT	HING	830	739.96			EAST	NG 26	08613	3.26			24 HR.	1	8.8
TOTAL	DEPTH	90.0	ft	DRILL	MAC	HINE	CME 8	350	DRILL	L METH	W QC	ash/N	lud R	Rotary	HAM	MER TYPE	140 lb.	Automa
DATE S	STARTE	D 6/8	3/04			COME	LETED	6/9/04		SURF	ACE W	ATER	DEP	TH NA		-		
ELEV. (ft)	DEPTH (ft)	BLC 0.5ft	OW COL	JNT 0.5ft	0	20	BLOWS 40	PER FOO	T 80	100	SAMP. NO.	MOI	L O G	SOIL AI	ND ROCH	C DESCRIPT	ION	
						0												
-58.5	-					Conti	nuea ire	m previou	is pag	e 			177	_				
-	<u> </u>					_ · · · ·								60.7 COASTAL P	AIN MA	ΓERIAL: Stiff	Grey,	77.
-62.2 ₋	78.5	7	4	8		12					SS-T39	29.9%		Fine Sandy,	Silty CLA	Y (Yorktown I	Formation)	1
-													N	- 				82
-67.2	83.5] : :									COASTAL P Dense, Grey	LAIN MA	TERIAL: Med	dium	
-		6	10	13		: : : •	23					М		to Fine SANI) with a T	race of Shell	Yorktow	'n
_	-													Formation)				
-72.2	88.5	5	10	14	1::							w						00
	ļ	-	10	1-7	ļ	9	24						•••	73.7Boring Termi	nated at	Elevation -73	7 feet in	90
-	- -													Coastal Plair Clayey, Coar (Yorktown Fo	se to Fine	: Medium De e SAND (A-2-	nse, Silty, 4)	
	Ŧ													Note: Mud n	nix = Ben	tonite, mud s	urry	
-	Ŧ															63 to 69 lbs./		
	‡													F				
-	‡													-				
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WBS No.34424.1.1 **TIP No. R-2404A**

US 17 (Windsor Bypass)

Bertie County, North Carolina SUMMARY OF LABORATORY TEST DATA

						Atte	Atterberg Limits	ıits				Gradation Results	Results			
Boring Number	Sample Depth (ft.)	Sample No.*	Natural Moisture Content (%)	AASHTO Class (Group Index)	N-Value (blows/ ft.)	L.L	P.L.	P.I.	Pass #10 Sieve	Pass #40 Sieve	Pass #200 Sieve	Retained #270 Sieve	Coarse Sand (%)	Fine Sand (%)	Silt (%)	Clay (%)
TEB2-A	1.0-2.5	SS-T33	1	A-2-4 (0)	11	22	NP	ďΝ	100	95	35	29	32	35	12	21
TEB2-A	28.5-30.0	SS-T34	54.6	A-7-6 (16)	W.O.H.	41	23	81	100	66	87	24	2	22	61	15
TEB2-A	48.5-50.0	SS-T35	52.1	A-4 (1)	3	36	ďN	ď	100	66	29	48	2	45	37	16
TEB2-A	78.5-80.0	SS-T36	1	A-1 b (0)	31	12	NP	₫.	06	42	5	96	78	17	4	-
TEB2-B	18.5-20.0	SS-T37		A-1-b (0)	9	14	dN	NP	91	22	5	95	87	~	4	-
TEB2-B	53.5-55.0	SS-T38		A-2-4 (0)	21	16	NP	NP	100	80	13	88	50	39	11	0
TEB2-B	78.5-80.0	SS-T39	29.9	A-7-6 (18)	12	41	21	20	100	66	86	33	2	31	67	0
* CC = Cn	* SS = Split Spoon Sample (ASTM-D-1586)	TS () Sluc	M-D-1586)								TR	TRIGON ENGINEERING CONSULTANTS, INC.	TINEERI	NG CON	SULTANT	S, INC.

* SS = Split-Spoon Sample (ASTM-D-1586) ** G = Grab Sample

***ST=Shelby Tube (Undisturbed) Sample NP -- Non Plastic NA-- Non Applicable

GREENSBORO, NORTH CAROLINA
Trigon Job Number: 071-04-021
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