CONTENTS

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REFERENCE

DESCRIPTION TITLE SHEET LEGEND SITE PLAN PROFILE(S) CROSS SECTION(S) BORE LOG(S) SOIL TEST RESULTS

STATE OF NORTH CAROLINA

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

STRUCTURE SUBSURFACE INVESTIGATION

COUNTY _BRUNSWICK

PROJECT DESCRIPTION NC 211 FROM SR 1500 (MIDWAY ROAD) TO NC 87

SITE DESCRIPTION DUAL BRIDGES NO. 24 AND NO. 259 ON NC 211 OVER DUTCHMAN CREEK

STATE N.C

R-5021





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 REVEWED OR INSPECTED IN RALE(GH BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (9)97 07-6850, 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 SUBSUFFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSUFFACE 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 DECREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOLI MOISTURE CONDITIONS BUICATED IN THE SUBSUFFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOLI 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 INTERRETATIONS MADE, OR OPNION 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 IMINSELF 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 ACUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- FES: 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 REDUESTED 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

C. WANG

S. DAVIS

W. SHENBERGER

D. JENKS

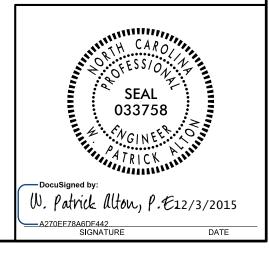
INVESTIGATED BY _F&R Inc.

DRAWN BY _ T.T. WALKER

CHECKED BY _P. ALTON

SUBMITTED BY _P. ALTON

DATE _SEPTEMBER 2015



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

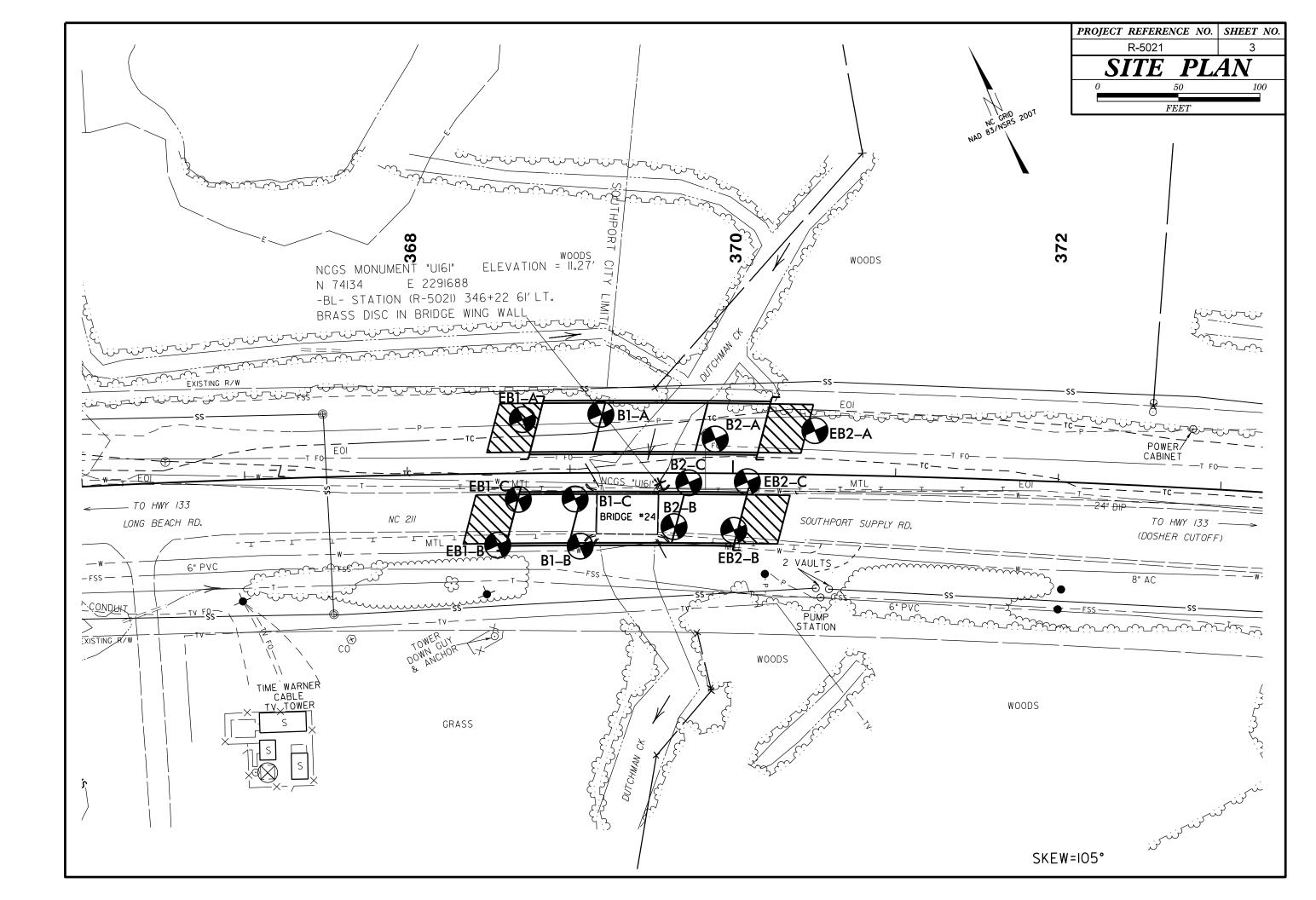
			SOIL D	DESCR	RIPTION							GRADATION						ROCK DE	SCRIPTION
BE PENET ACCORDI	TRATED WITH ING TO THE) UNCONSOLIDA H A CONTINUOU STANDARD PEI HE AASHTO SY	S FLIGHT PO IETRATION TE	WER AUG ST (AAS	er and yi hto t 206	ELD LESS ,ASTM D1	THAN 100 BL 586). SOIL CL	DWS PER FOO ASSIFICATION	т		DICATES THA	T SOIL PARTICLES AR	RE ALL APPRO	S FROM FINE TO COARSE. XIMATELY THE SAME SIZE. IWO OR MORE SIZES.	ROCK LINE SPT REFUSA	INDICATE	S THE LEVEN	L AT WHICH NON-COA BY A SPLIT SPOON SA	YOULD YIELD SPT REFUSAL IF TESTED STAL PLAIN MATERIAL WOULD YIELD MPLER EQUAL TO OR LESS THAN 0.1 NSITION BETWEEN SOIL AND ROCK I
CONSISTE	ENCY, COLOR,	. TEXTURE, MOI	TURE, AASHTO	CLASSI	IFICATION,	AND OTHER	R PERTINENT	ACTORS SUC	- t		ANG	ULARITY OF G	RAINS		REPRESENTE	ED BY A.	ZONE OF WE	ATHERED ROCK. Y DIVIDED AS FOLLOW	
		GICAL COMPOS										ESS OF SOIL GRAINS	IS DESIGNATE	D BY THE TERMS:	WEATHERED	THES HR	E TIPICALLY	3	S: N MATERIAL THAT WOULD YIELD SPT
	S	OIL LEGE	ND AND	AASH	TO CLA	SSIFIC	CATION			ANGULAR, SUBAN		DUNDED, OR <u>ROUNDED</u> . ALOGICAL COMF			ROCK (WR)			100 BLOWS PER FO	
GENERAL CLASS	,	GRANULAR MATER (≤ 35% PASSING ⁺			T-CLAY MATE 35% PASSING		ORGANIC	MATERIALS	ŀ	MINERAL NAM		QUARTZ, FELDSPAR, MI		LIN. ETC.	CRYSTALLIN	١E	I.I.		RAIN IGNEOUS AND METAMORPHIC ROC REFUSAL IF TESTED. ROCK TYPE INC
GROUP	A-1	A-3	A-2				A-1, A-2 A	4. A-5				NS WHEN THEY ARE CO			ROCK (CR)			GNEISS, GABBRO, SC	
	A-1-a A-1-b	A-2-4 A	2-5 A-2-6 A-2	-7		A-7-5, A-7-6		6. A-7				COMPRESSIBILI			NON-CRYSTA ROCK (NCR)	ALLINE		SEDIMENTARY ROCH	THAT WOULD YEILD SPT REFUSAL IF
SYMBOL				3	1.7.1					MODE	HTLY COMPRES	RESSIBLE	LL < LL =	31 31 - 50	COASTAL PL			COASTAL PLAIN SE	ES PHYLLITE, SLATE, SANDSTONE, ETC. DIMENTS CEMENTED INTO ROCK, BUT N
% Passing								ILT-		HIGHL	LY COMPRESSI			50	SEDIMENTAR (CP)	IY ROCK		 SPT REFUSAL. ROC SHELL BEDS. ETC. 	K TYPE INCLUDES LIMESTONE, SANDST
	50 MX 30 MX 50 MX	51 MN						CLAY MU				ENTAGE OF MA NULAR SILT - CLAY			-				ERING
	15 MX 25 MX	10 MX 35 MX 35	MX 35 MX 35 I	4X 36 MN	36 MN 36 M	4N 36 MN		0125		ORGANIC MATERIAL TRACE OF ORGANIC MA	<u>. so</u>	NULAR SILT - CLAY <u>SOILS</u> - 3% 3 - 5%	<u>0</u> TRA	THER MATERIAL CE 1 - 10%	FRESH		FRESH, CRYSTA		S MAY SHOW SLIGHT STAINING. ROCK R
MATERIAL PASSING #40							601 G 1/17	.		LITTLE ORGANIC MATT	TER 3 -	- 5% 5 - 12%	LITT	LE 10 - 20%	VERY SLIGHT				SOME JOINTS MAY SHOW THIN CLAY CO
LL PI	- 6 MX		MN 40 MX 41 M MX 11 MN 11 M				SOILS WIT LITTLE OF	HIG	I Y	MODERATELY ORGANIC HIGHLY ORGANIC		- 10% 12 - 20% 10% > 20%	SOM HIGH		(V SLI.)	CRYSTA	ALS ON A BRO	OKEN SPECIMEN FACE	SHINE BRIGHTLY. ROCK RINGS UNDER HA
GROUP INDEX	0 11/2	0 0	4 MX	_	12 MX 16 M	_	Moderate Amounts (ORG	NIC			GROUND WATE	R		SLIGHT		CRYSTALLINE GENERALLY FE		AND DISCOLORATION EXTENDS INTO ROC
USUAL TYPES	STONE FRAGS.	FINE SILT	Y OR CLAYEY			LAYEY	ORGANIC MATTER	SO	LS	∇	WATER LEV	EL IN BORE HOLE IM	MEDIATELY AF	TER DRILLING	(SLI.)	1 INCH.	. OPEN JOINTS	S MAY CONTAIN CLAY.	IN GRANITOID ROCKS SOME OCCASIONAL
OF MAJOR MATERIALS	GRAVEL, AND SAND		el and sand			SOILS	MATTER			▼	STATIC WA	TER LEVEL AFTER 2	4 HOURS		MODERATE				YSTALLINE ROCKS RING UNDER HAMMER COLORATION AND WEATHERING EFFECTS.
GEN. RATING	0,110						FAIR TO			VPW	PERCHED W	ATER, SATURATED ZON	E, OR WATER	BEARING STRATA	(MOD.)	GRANIT	TOID ROCKS, M	IOST FELDSPARS ARE [ULL AND DISCOLORED, SOME SHOW CLAY
AS SUBGRADE		EXCELLENT TO G			Fair to Poo		POUR	POOR UNSUI	ABLE	O-M−	SPRING OR	SEEP					RESH ROCK.	HAMMER BLUWS AND S	HOWS SIGNIFICANT LOSS OF STRENGTH
		PI OF A-7-5 SUB					> LL - 30								MODERATELY				STAINED. IN GRANITOID ROCKS. ALL FE
			ISISTENC		NGE OF STA		RANGE (F UNCONFINE	n		MISC	ELLANEOUS SY	MBULS		SEVERE (MOD. SEV.)	AND CA	AN BE EXCAVA	ATED WITH A GEOLOGIS	KAOLINIZATION. ROCK SHOWS SEVERE LO T'S PICK. ROCK GIVES "CLUNK" SOUND W
PRIMARY S	SOIL TYPE	COMPACT CONSIS			RATION RES	SISTENCE	COMPRES	SIVE STRENG		L ROADWAY EMB			P DIRECTION STRUCTURES					YIELD SPT REFUSAL	
		VERY	OOSE		< 4	,		1137117		ц.	SCIAL LIGH	SPT		SLOPE INDICATOR	SEVERE (SEV.)				R STAINED. ROCK FABRIC CLEAR AND EV IN GRANITOID ROCKS ALL FELDSPARS AF
GENERAL GRANUL		LO	ISE		4 TO 10 10 TO 30			N / A		SOIL SYMBOL			T BORING	_/ INSTALLATION				SOME FRAGMENTS OF S YIELD SPT N VALUES 2	TRONG ROCK USUALLY REMAIN.
MATERIA (NON-CO		MEDIUM	ISE		30 TO 5			N/A		ARTIFICIAL FI			RING (CONE PENETROMETER TEST	VERY				STAINED. ROCK FABRIC ELEMENTS ARE
		VERY			> 50					INFERRED SOI			INC	SOUNDING ROD	SEVERE (V SEV.)				OIL STATUS, WITH ONLY FRAGMENTS OF ROCK WEATHERED TO A DEGREE THAT
GENERAL	LLY	VERY			< 2 2 TO 4		0.2	< 0.25 5 TO 0.5		INFERRED SUI	L BUUNDHRT	Ý							AIN. <u>IF TESTED, WOULD YIELD SPT N VA</u>
SILT-CL MATERIA		MEDIUM			4 TO 8 8 TO 15			5 TO 1.0 TO 2		INFERRED ROC	K LINE			WITH CORE	COMPLETE				T DISCERNIBLE, OR DISCERNIBLE ONLY IN BE PRESENT AS DIKES OR STRINGERS.
(COHESI		VERY HA	STIFF		15 TO 30 > 30	0		TO 4		ALLUVIAL SOI	L BOUNDARY	△ PIEZOMET INSTALLA		- SPT N-VALUE			AN EXAMPLE.		
			EXTURE	OR G		IZE		/ 1	_		RECO	MMENDATION S	YMBOLS					ROCK H	ARDNESS
U.S. STD. SIE	EVE SIZE		4 10	40		200	270					SIFIED EXCAVATION -		CLASSIFIED EXCAVATION -	VERY HARD			HED BY KNIFE OR SHAN WS OF THE GEOLOGIST	RP PICK. BREAKING OF HAND SPECIMENS
OPENING (M			4.76 2.00							EXCAVATION L		ABLE WASTE		CEPTABLE, BUT NOT TO BE ED IN THE TOP 3 FEET OF	HARD				LY WITH DIFFICULTY. HARD HAMMER BL
BOULDE			RAVEL	COAR SAN		F INE SAND	SILT	CLA		UNDERCUT		SIFIED EXCAVATION - ABLE DEGRADABLE ROO	ск Ем	BANKMENT OR BACKFILL	100550 TEL 11		TACH HAND SF		
(BLDR.)) ((COB.)	(GR.)	CSE.		(F SD.	(SL.	(CL.	' I			ABBREVIATION	S		MODERATELY HARD				DUGES OR GROOVES TO 0.25 INCHES DEE ST'S PICK. HAND SPECIMENS CAN BE DE
GRAIN MM SIZE IN.		75 3	2.0		0.25		0.05	0.005		AR - AUGER REFUSAL BT - BORING TERMINATED	0	MED MEDIUM MICA MICACEOUS		ST - VANE SHEAR TEST EA WEATHERED	MEDUW		DERATE BLOW		
SIZE IN.		•	TUDE							CL CLAY		MOD MODERATELY	7	Y-UNIT WEIGHT	MEDIUM HARD	CAN BE	E EXCAVATED	IN SMALL CHIPS TO P	DEEP BY FIRM PRESSURE OF KNIFE OR EICES 1 INCH MAXIMUM SIZE BY HARD E
SOTI	MOISTURE	SCALE	FIELD M							CPT - CONE PENETRATION CSE COARSE	N TEST	NP - NON PLASTIC ORG ORGANIC	7	∕d-DRY UNIT WEIGHT	COLT		OF A GEOLOG		
	TERBERG LI		DESCRI		GUI	DE FOR F	IELD MOISTU	RE DESCRIPT	ION	DMT - DILATOMETER TES		PMT - PRESSUREMET		SAMPLE ABBREVIATIONS	SOFT	FROM C	CHIPS TO SEV	VERAL INCHES IN SIZE	NIFE OR PICK. CAN BE EXCAVATED IN F BY MODERATE BLOWS OF A PICK POINT
			- SATUR				UID; VERY WE			DPT - DYNAMIC PENETRA e - VOID RATIO	IIUN IESI	SAP SAPROLITIC SD SAND, SANDY		- BULK 5 - SPLIT SPOON	VERY			DEN BY FINGER PRESS	URE. AVATED READILY WITH POINT OF PICK. P
LL		LIMIT	(SAT.)	FRO	M BELOW	THE GROUND	WATER TAB	LE	F - FINE FOSS FOSSILIFEROUS		SL SILT.SILTY SLI SLIGHTLY		T - SHELBY TUBE S - ROCK	SOFT	OR MOR	RE IN THICKN		Y FINGER PRESSURE. CAN BE SCRATCHE
PLASTIC RANGE <			- WET -	0.0	SEM	ISOLID; R	EQUIRES DRY	NG TO		FRAC FRACTURED, FRAC	TURES	TCR - TRICONE REFU	ISAL R	T - RECOMPACTED TRIAXIAL		FINGER			BEDDING
(PI) PI	CE C - WET - (W) SCHOOLD, NEGUNARY MAINT PLL PLASTIC LIMIT									FRAGS FRAGMENTS HI HIGHLY		w - MOISTURE CONTE V - VERY	INT CI	3R - CALIFORNIA BEARING RATIO	TERM		TURE SPA	SPACING	
	T		- MOIST		601	10. AT 00	NEAR OPTIM			EQ	UIPMENT	USED ON SUBJ	ECT PRO	JECT	VERY WI			THAN 10 FEET	VERY THICKLY BEDDED
		M MOISTURE	- MOIST	- (14)	50L	ID; HI ON	NEAR OF TH		-	DRILL UNITS:	ADVANCING	TOOLS:	HAMM	ER TYPE:	WIDE MODERAT	TELY CLOS		TO 10 FEET TO 3 FEET	THICKLY BEDDED 1.5 THINLY BEDDED 0.16
	T				REO	UIRES AD	DITIONAL WA	ER TO		CME-45C		BITS		AUTOMATIC MANUAL	CLOSE VERY CL	OSE		16 TO 1 FOOT THAN 0.16 FEET	VERY THINLY BEDDED 0.03 THICKLY LAMINATED 0.008
			- DRY -	([])			MUM MOISTUR			X CME-55		NTINUOUS FLIGHT AUGER	CORE	SIZE:					THINLY LAMINATED < 1
			PLA	ASTIC	ITY							LOW AUGERS	🗆-	в П-н					ATION
			PLAST		NDEX (PI)			TRENGTH		CME-550		FACED FINGER BITS		N			OCKS, INDURA		ING OF MATERIAL BY CEMENTING, HEA FINGER FREES NUMEROUS GRAINS;
	I PLASTIC GHTLY PLAS	STIC		Ø-5 6-15				Y LOW IGHT		VANE SHEAR TEST		-CARBIDE INSERTS	HAND	TOOLS:	FRIA	BLE			BY HAMMER DISINTEGRATES SAMPLE.
	40DERATELY PLASTIC 16-25 MEDIUM 4IGHLY PLASTIC 26 OR MORE HIGH											IG W/ ADVANCER		POST HOLE DIGGER	MODE	RATELY	INDURATED		SEPARATED FROM SAMPLE WITH STE
										PORTABLE HOIST				HAND AUGER					' WHEN HIT WITH HAMMER. FFICULT TO SEPARATE WITH STEEL P
										□				SOUNDING ROD	INDUF	RATED			BREAK WITH HAMMER.
		INCLUDE COLO UCH AS LIGHT							<i>.</i>			G BIT		VANE SHEAR TEST	EXTR	EMELY IN	NDURATED		BLOWS REQUIRED TO BREAK SAMPLE:
•										└			I L		1			SAMPLE BREAK	5 ACROSS GRAINS.

PROJECT REFERENCE NO.

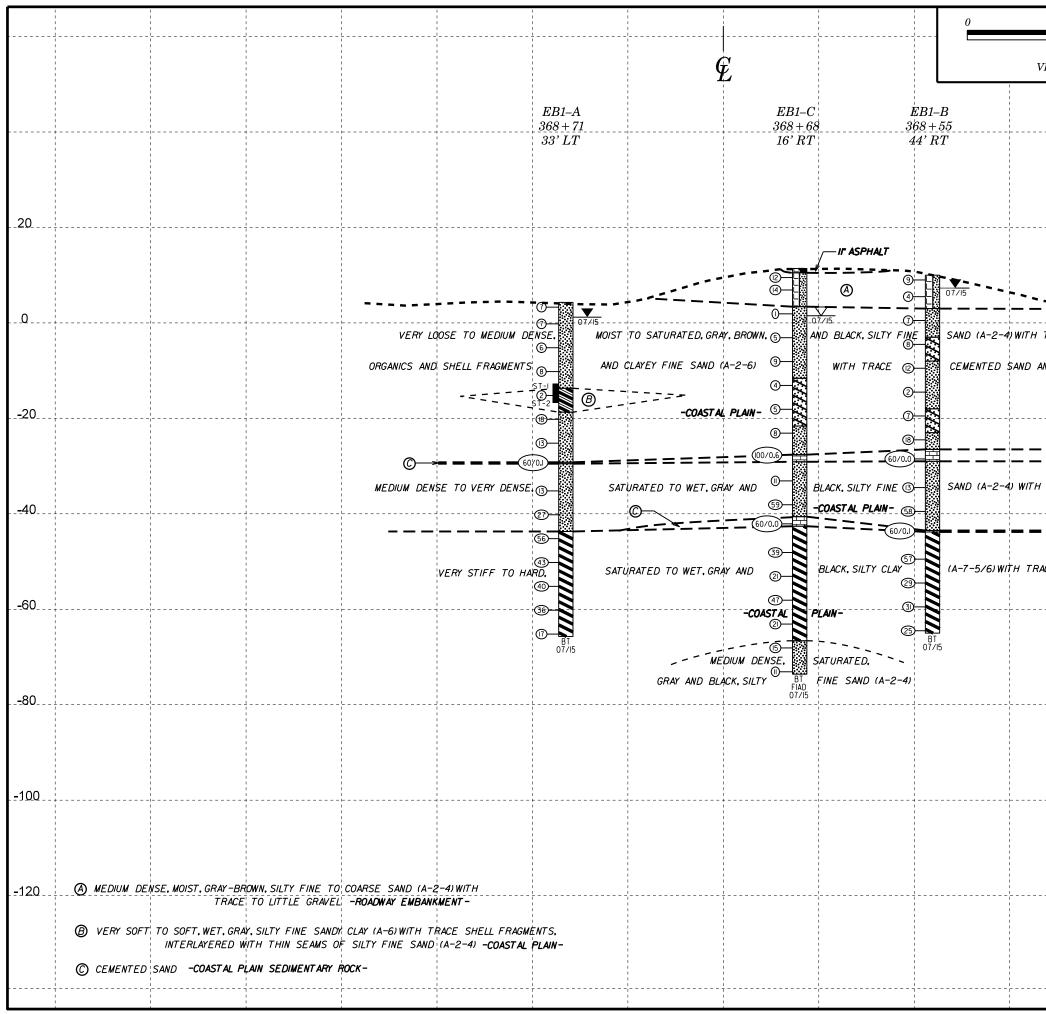


TERMS AND DEFINITIONS

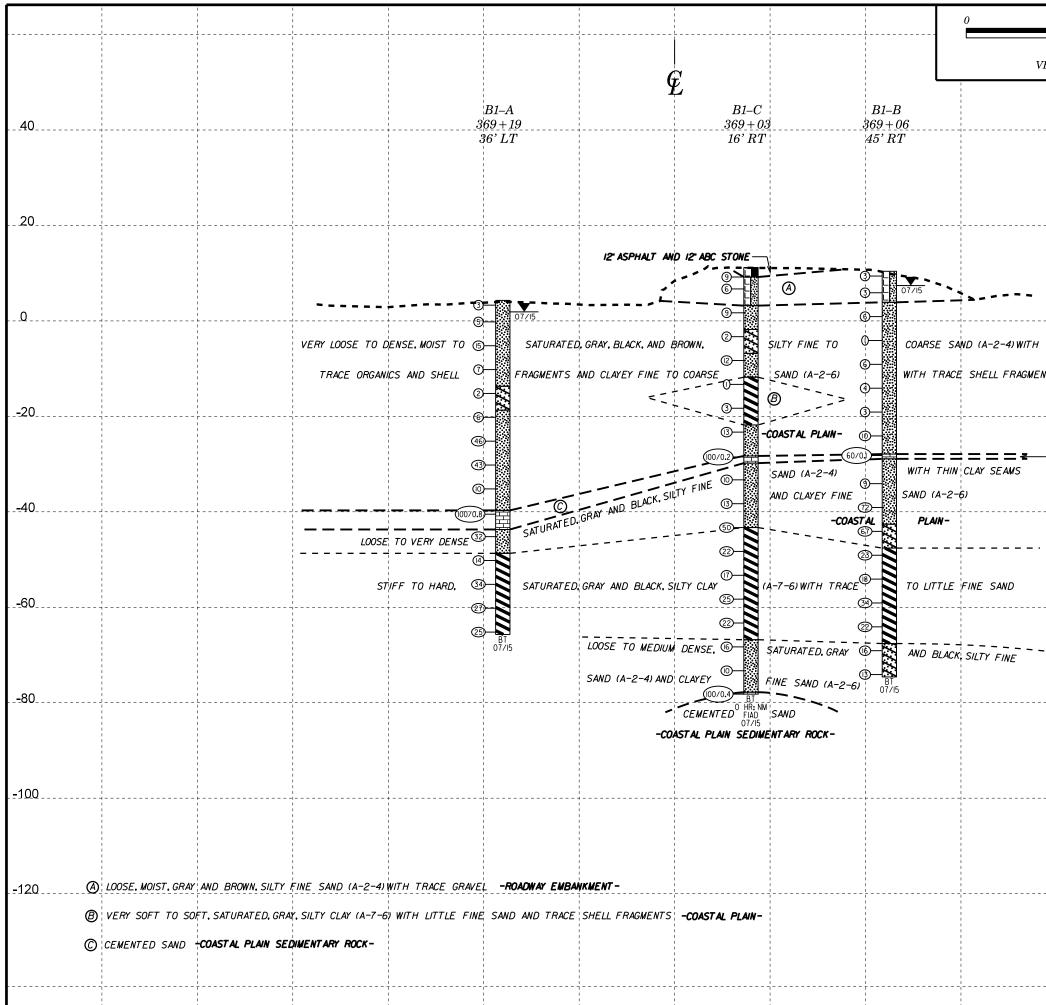
	TERMS AND DEFINITIONS
D. AN INFERRED SPT REFUSAL.	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
FOOT PER 60	AQUIFER - A WATER BEARING FORMATION OR STRATA.
S OFTEN	ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
	ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.
N VALUES >	ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT
K THAT LUDES GRANITE,	WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.
. PLAIN	CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
TESTED.	COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.
MAY NOT YIELD ONE, 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.
1100 LUNDED	DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.
INGS UNDER	$\underline{\text{DIP}}$ - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.
ATINGS IF OPEN. MMER BLOWS IF	<u>DIP DIRECTION (DIP AZIMUTH)</u> - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
K UP TO FELDSPAR	FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
BLOWS.	FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
. IN . ROCK HAS	<u>FLOAT</u> - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIG _I NAL POSITION AND DISLODGED FROM PARENT MATERIAL.
AS COMPARED	FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
ELDSPARS DULL SS OF STRENGTH	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.
HEN STRUCK.	JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
IDENT BUT	LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.
RE KAOLINIZED	LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
	MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS
DISCERNIBLE	USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE
STRONG ROCK ONLY MINOR	OF AN INTERVENING IMPERVIOUS STRATUM.
LUES < 100 BPF	RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
N SMALL AND SAPROLITE IS	ROCK DUALITY DESIGNATION (ROD) - A MEASURE OF ROCK DUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EDUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
	SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.
REQUIRES	SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO
EP CAN BE	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. <u>SLICKENSIDE</u> - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT
TACHED	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE)(SPT) - NUMBER OF BLOWS (N OR BPF)OF
PICK POINT. BLOWS OF THE	A 140 LB HAMMER FALLING 30 INCL. THEND RESIDENCE. A PROFESSION OF A DATA AND A THE STATISTICS OF A DATA AND AND AND AND AND AND AND AND AND AN
RAGMENTS . SMALL, THIN	STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
PIECES 1 INCH	STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
D READILY BY	TOPSOIL (TS,) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
	BENCH MARK: NCGS MONUMENT "UIGI": BRASS DISC IN BRIDGE WING WALL
HICKNESS 4 FEET	AT STATION 346+22, 61' LT. N:74,134 E: 2,291,688
5 - 4 FEET	ELEVATION: II.27' FEET
- 1.5 FEET - 0.16 FEET	NOTES:
8 - 0.03 FEET 0.008 FEET	FIAD: FILLED IMMEDIATELY AFTER DRILLING
0.000 FEE!	
T, PRESSURE, ETC.	
EL PROBE;	
DODE	
ROBE:	
	DATE: 8-15-14



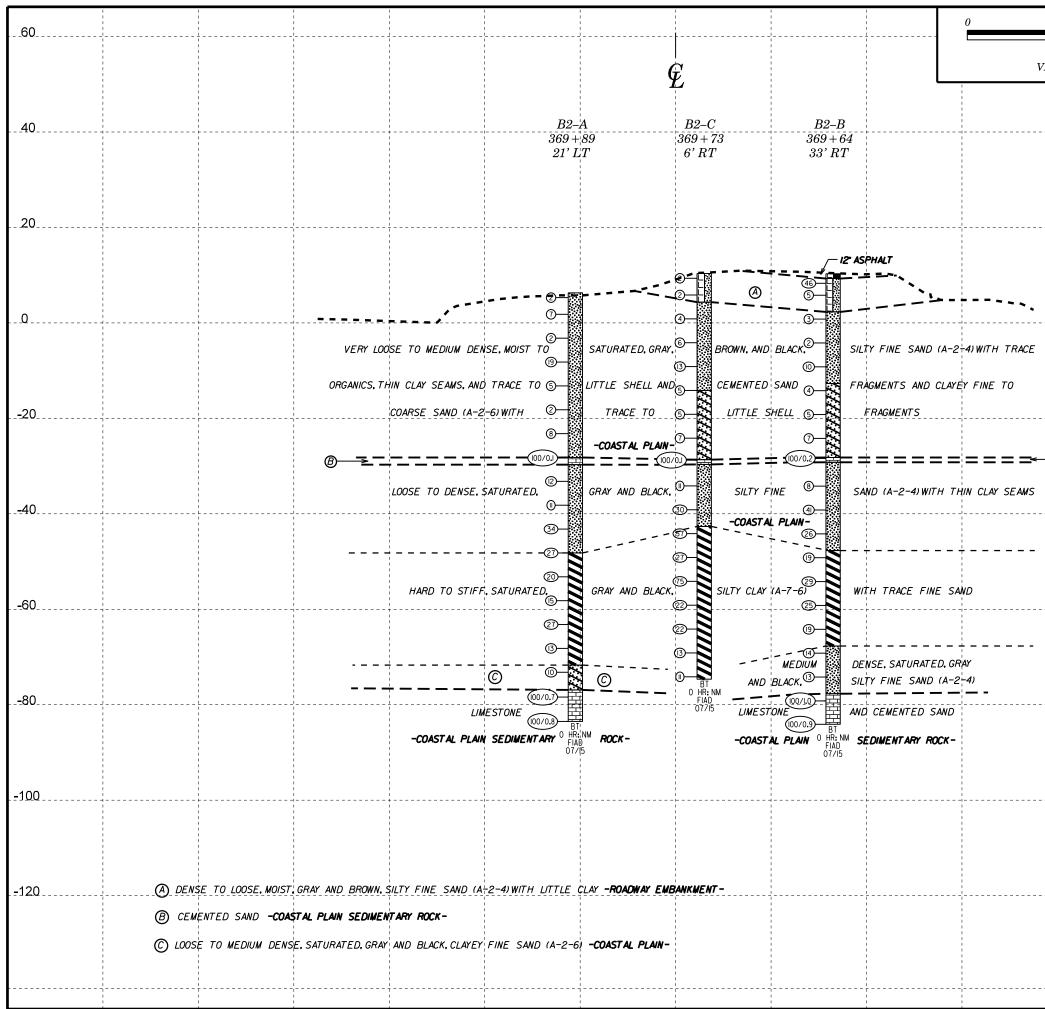
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40		2T 16' R	27			6' R'	Γ	5'1	RT				
_20													
	IF ASPHALT	12" ASPHALT AND 12"	ABC STONE										
			•	DUTCHM	AN CREEK	0 7							
					,	· - (2) 	B		₩ .				
0		<u>. </u>		WATER	SURFACE 7/29/14	 (4			<u> </u>		-		0
- Q	G —		*	; ₩- ₩		•			× _	· • • • • • • • • • • • • • • • • • • •		·	······································
	VERY LOOSE TO	MEDIUM DENSE. MOIŠT	1		AND BLACK, SILTY F	INE [©]	SAND (A-2-4) W			RACE ORGANICS			
		SHELL FRAGMENTS.	AND_G	RAY, CLAYEY FINE	SAND (A-2-6) WITH		TRACE TO LITT		SH SH	IELL FRAGMENTS			
			© _		TAL PLAIN-	5							
_ - 20				 	 	(5)		(4)	×			·	_ 20_
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				=====	=====	00/0.1	=====4	100/0.2		======	: ← (Ľ	D	
	LOOSE TO VERY	DENSE, SATURATED.	GRAY AN	D BLACK. SILTY FI	E SAND (A-2-4) WIT	_н 🔍 –	THIN CLAY SEAMS	AND 9	CL/	AYEY FINE SAND (A-	2-6)		
_ _ 40		<u></u>		-COASTAL F								·	40_
						57-	STIFF TO HA		SATUR	ATED. GRAY AND BLA	- — ск		
	39	2				_ 27-		30-			0.0.		
	STIFF TO HARD.	SATURATED, GRAY,	AND BLA	ICK, SILIY CLAY (A-1	-6) WITH TRACE FIN	¹ (75–	SAND	FINE ¦ 23—	SANDY	' SILT (A-4)			
-60	47-	25				22		35-					-60
	2)	(22)-		 ! !				、 ③					
								` 					
	LOOSE TO MEDIUM DENSE.	SATURATED, GRAY AND	BLACK, SILTY	FINE SAND (A-2					BT IR: NM				
	BT FIAI OT			- SAND (A-2	4)	BT 0 HR:		F OT	IAD 7/15				
-80		CEMENTED HR	NM SAND	_	 	U HR: FIAD 07/1	NM)					·	
		-COASTAL PLAIN	15	ROCK-									
<u>-100</u>	(A) MEDIUM DENSE TO LOOSE, MOIST, GRAY-E	ROWN SILTY FINE TO COARSE S	ΔNΠ (Δ-2-4)	' 			·						<u>-10</u> 0
		UTTLE GRAVEL -ROADWAY EMB											
	B LOOSE. MOIST TO WET. GRAY. BROWN. AND												
		ACE ORGANICS (ROOTS) -COASTAL		1 1 1									
-120	© VERY SOFT TO SOFT. SATURATED. GRAY.	SILTY CLAY (A-7-6) WITH LITTLE ELL FRAGMENTS -COASTAL FLAIN		, , , ,				!					-120
			•	1 1 1 1									
	D CEMENTED SAND -COASTAL PLAIN SED	IMENTARY ROCK-		 									
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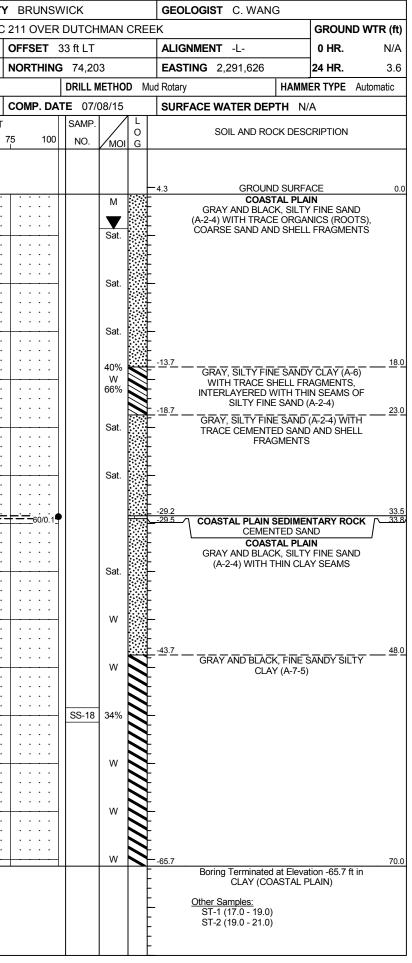
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			É		FEET VE = 1:1	CROSS SECTION THROUGH END BENT 2
40		EB2–A 370+50 27' LT	EB2–C 370+09 5' RT	EB2–B 370+01 35' RT		
						20
0			B MEDIUM DE AND BROW		HALT MOIST, GRAV. SAND (A-2-4) IKMENT	0
		VERY LOOSE TO SOFT TO MEDIUM STIFF. MEDIUM GRAY.SILT (A-4) CLAY AND SHELL FRAGMENTS	SILTY FINE	SAND (A-2- (A-2- CEMENTED SAND	N. AND GRAY. FINE SAND (A-3) 4)WITH TRACE ORGANICS. THIN CLAY SEAMS FRAGMENTS AND CLAYEY FINE SAND (A-2-6	y
	©	(WACCAMAW FORMATION) 2	WITH TRACE TO 	9- PLAIN- 3- = @0/00-	. FRAGMENTS	20 ®
40		())()()()())()()())()()())()())()())())_{(0)}{(0)}	AND SILTY FINE	SAND (A-2-4 PLAN- 0	,	
-60		SATURATED, ⁽³⁾ STIFF TO HARD ⁽²⁰ - ⁽¹⁰ - ⁽²⁰ - ⁽²⁰ -	AND BLACK	39	SANDY SILT (A+4)	60
-80		GRAY. (0.5 BT LIMESTONE	BT 0 HR: NM FIAD 077/15 GH	- Belle	M DENSE. SATURATED. CLAYEY FINE SAND (A-2-6)	-80
		-COAST AL PLAIN SEDIMENT ARY ROCK	-	07715		
-100						
-120	 (A) SOFT TO MEDIUM STIFF. SATURATED. G (B) GRAY, CEMENTED SAND -COASTAL PLAN 	RAY, SILTY CLAY (A-6) WITH TRACE FINE SAND -COASTAL P I N SEDIMENTARY ROCK-	LAIN-			-120
	© VERY DENSE, SATURATED, MEDIUM GRAV	Y.SILTY FINE SAND WITH CEMENTED SAND FRAGMENTS -CO	IASTAL PLAIN-			

WBS	41582	.1.1			T	IP R-5021 COUNT
SITE	DESCR	IPTION	DUA	AL BR	IDGE	S NO. 24 AND NO. 259 ON NO
	NG NO.					TATION 368+71
	AR ELE					OTAL DEPTH 70.0 ft
			-	TE F8		CME-55 80% 04/23/2015
DRIL	LER S	. DAVIS				TART DATE 07/07/15
ELEV (ft)	DRIVE ELEV	DEPTH (ft)	BLC 0.5ft	0.5ft		BLOWS PER FOOT
()	(ft)	(11)	0.51	0.51	0.5ft	
5	4.3	0.0	4	3	4	
	-		4	5	4	. ● 7
0	0.8 -	- 3.5	4	4	3	
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	-42 -	- 8.5				
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	-					
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	-14.2 -	- 18.5				$\left \begin{array}{c} i \\ i $
-15			1	1	1	a 2
-20	-19.2 -	23.5	12	14	4	
	-	F				
	-24.2 -	- 28.5				
-25	-24.2 -	- 28.5	3	5	8	
	-	-				
-30	-29.2 -	33.5	60/0.1			· · i · · · · · · · · · · · · · · · ·
	-	-	00/0.1			
	-	-				
-35	-34.2 -	- 38.5	5	7	6	
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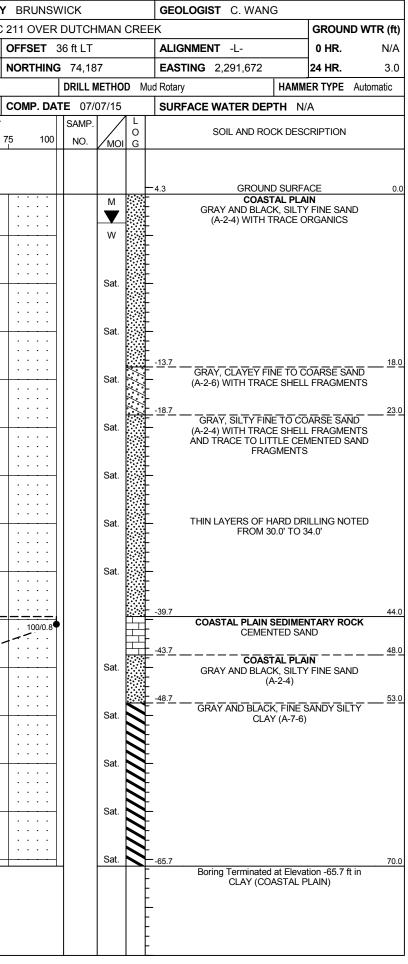


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SITE	DESCR	IPTION	I DU	AL BF	RIDG	ES N	0. 24	AND	NO.	259 (ON NC	211	OVER	DUTC	HMAN	I CR	EEK			GROUNI	OWTR (ft)	SITE	DESCR		I DUA	AL BR	IDGES	S NO.	. 24 AN	ID NO. 2	59 ON N	C 211 O
BORI	NG NO	. EB1-	-C			STA	TION	368	+68			OFF	SET	16 ft R1	-		ALIGN	MENT -L-		0 HR.	10.0	BOR	ING NO	EB1-	·C		S	TATIC	DN 36	8+68		OFFS
COLL	AR ELI	EV. 11	I.4 ft			тот	AL DE	PTH	85.0) ft		NOR	THING	3 74,1	59		EASTIN	IG 2,291,60	5	24 HR.	FIAD	COLI	LAR ELI	EV. 11	.4 ft		Т	OTAL	DEPT	H 85.01	ť	NORT
DRILL	RIG/HA	MMER E	FF./DA	TE F	&R57	35 CN	/IE-55 8	80% (04/23/2	015				DRILL	METHO	DD	Mud Rotary		HAMME	R TYPE	Automatic	DRILL	RIG/HA	MMER E	FF./DA	TE F8	&R5785	CME-	-55 80%	04/23/20	15	
DRILI	L ER S	. DAVIS	S			STA	rt da	TE	07/13	8/15		COM	IP. DA	TE 07	/14/15	5	SURFA	CE WATER D	DEPTH N/	4		DRIL	LER S	. DAVIS	S		S	TART	DATE	07/13/ ⁻	15	COMF
ELEV	DRIVE ELEV	DEPTH	BLC	DW CO	DUNT				BLOW	S PER	FOOT			SAMP		L			ROCK DESC			ELEV	DRIVE ELEV	DEPTH	BLC	w co	UNT			BLOWS	PER FOO	T
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5	ft C)	25		50		75	100	NO.	мо			SOIL AND	ROCK DESC	RIF HON	DEPTH (ft)	(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	2	5	50	75
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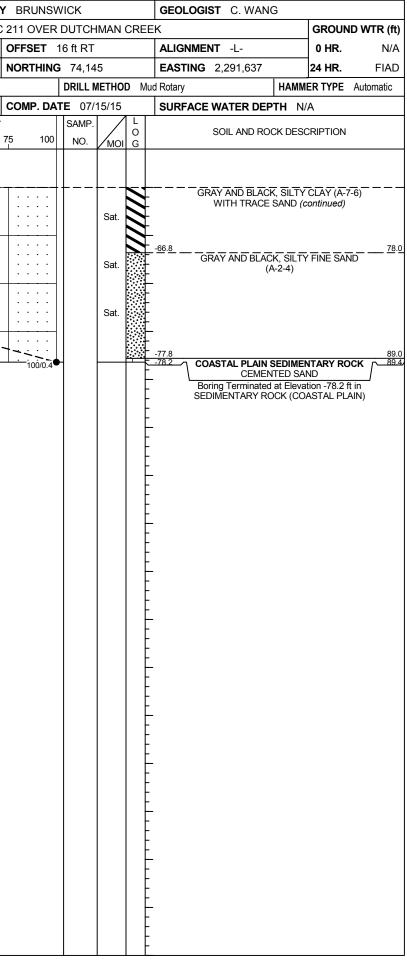
SHEET 10 OF 21

JNT	ΥB	RU	NS\	N	ICK			GEOLOG	IST C. WANG	;		
I NC	; 21 ⁻	0	VER	2 0	DUTCH	MAN	CRE	EK			GROUN	D WTR (ft)
	OF	FSE	т	16	6 ft RT			ALIGNME	NT -L-		0 HR.	10.0
	NO	RTI	HING	3	74,15	9		EASTING	2,291,605		24 HR.	FIAD
					DRILL N	IETHO	D M	ud Rotary		HAMME	ER TYPE	Automatic
	со	MP	. DA	T	E 07/	14/15		SURFACE		FH N//	Ą	
оот					SAMP.		L	-				
	75		100		NO.	моі	O G		SOIL AND ROC	r desc	RIPTION	
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						Sat.		<u>66.6</u>	RAY AND BLACK	K, SILTY	FINE SAN	<u>78.0</u> ID
•••	.	•				Sal.		-	(A	-2-4)		
								-				
		•				Sat.		- 73.6				85.0
								- Bo	oring Terminated a SAND (COA	at Elevat	ion -73.6 f LAIN)	t in
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WBS 41582.1.1		TIP R-	5021	COUNT	BRUNS	NICK			GEOLOGIST C. WANG			41582.					P R-5021]	COUNT	
SITE DESCRIPTION	DUAL BRID	GES NO. 2	24 AND NO. 259	ON NC	211 OVER	DUTCH	IMAN	CREE	K	GROUND WTR (ft)	SITE	DESCRI	PTION	DUAL	BRID	GES	NO. 24 AN	ID NO. 25	59 ON NO	<u>C 2</u>
BORING NO. EB1-	В	STATIO	N 368+55		OFFSET	44 ft RT			ALIGNMENT -L-	0 HR. N/A	BOR	ING NO.	B1-A			ST	ATION 36	9+19		C
COLLAR ELEV. 10	.0 ft	TOTAL	DEPTH 75.0 ft		NORTHING	G 74,13	88		EASTING 2,291,582	24 HR. 3.0	COL	LAR ELE	V. 4.3	3 ft		то	TAL DEPTI	H 70.0 ft	1	N
DRILL RIG/HAMMER EF	FF./DATE F&R	5785 CME-5	5 80% 04/23/2015			DRILL	NETHC	DD Mu	Rotary HAMN	IER TYPE Automatic	DRILI	RIG/HAM	MER E	FF./DATE	F&R	5785	CME-55 80%	04/23/201	5	
DRILLER S. DAVIS	6	START I	DATE 07/08/15	5	COMP. DA	TE 07/	08/15		SURFACE WATER DEPTH N	/A	DRIL	LER S.	DAVIS	6		ST	ART DATE	07/06/1	5	C
ELEV DRIVE DEPTH	BLOW COUN	іт	BLOWS PE	ER FOOT		SAMP.	▼⁄		SOIL AND ROCK DES	CRIPTION	ELEV	DRIVE ELEV	DEPTH	BLOW	COUN	IT		BLOWS P	PER FOOT	Г
(ft) (ft) (ft)	0.5ft 0.5ft (0.5ft 0	25 50)	75 100	NO.	Имо	-	ELEV. (ft)	DEPTH (ft)	(ft)	(ft)	(ft)	0.5ft 0	0.5ft C).5ft	0 25	5 5	50	75
10 10.0 0.0	1 4	5 1							10.0 GROUND SURF ROADWAY EMBAN		5	4.3	0.0							
	' *		9 · · · · · ·	· · · · ·			M		GRAY AND BROWN, SILT	Y FINE SAND				2	1	2	• 3			:
6.5 - 3.5 5 -	3 2	2	· · · · · ·	· · · · ·			M		(A-2-4) WITH TRACE (JRGANICS	0	0.8	3.5		_	_	ι <u>τ</u>			:
									3.0	7.0	0			3	2	3	•5 <u></u> -			
1.5 + 8.5		į :	· · · · · · · · · · · ·	· · · · ·					COASTAL PLA	NN		1								:
	1 3					W	-	GRAY AND BROWN, SILT (A-2-4) WITH TRACE (-5	-4.2 +	8.5	3	7	8	· · · · · ·	· · · ·	· · · ·	·	
			· · · · · ·	· · · · ·				-	-3.0	13.0		‡					<i>/</i>			:
-5 -3.5 - 13.5	1 2	<u>6</u>		· · · · ·			Sat.	\sim	GRAY, CLAYEY FINE SAN TRACE COARSE	D (A-2-6) WITH	-10	-9.2	13.5		4	3	· / · ·			:
		- 1							TRACE COARSE	SAND	-10			2	4	3	•7			
-8.5 + 18.5			· · · · · ·	· · · · ·					- <u>8.0</u>								<i>i</i> :::			:
-10 +	4 4	8 .	12				Sat.	-	(A-2-4) WITH THIN CL		-15	-14.2 +	18.5	WOH	1	1	¢2	· · · ·	· · · ·	-
			· · · · · ·	· · · · ·				Ļ				‡					$\left \begin{array}{ccc} 1 & \cdot & \cdot & \cdot \\ 1 & \cdot & \cdot & \cdot \end{array} \right $:
- <u>13.5</u> + 23.5	WOH 1	1	· · · · · ·	· · · · ·		SS-23	41%	-			-20	-19.2	23.5		3	3				:
		\ <u>+</u>					1	-						2	3	°	•6			
-18.5 + 28.5		<u> </u>	· · · · · ·	· · · · ·					- <u>18.0</u> GRAY, CLAYEY FINE SAN			‡						\sim		:
-20 +	1 3	4	•••				Sat.		TRACE CEMENTED SAN	D ÀND ŚHELL	-25	-24.2 +	28.5	5	10	36		· ``. ·	46	-
			$\langle \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot $	· · · · ·					-23.0	5 33.0		‡								
-23.5 + 33.5	5 7	11		· · · · ·			Sat.		GRAY, SILTY FINE SAND TRACE SHELL FRAGM	(A-2-4) WITH	-30	-29.2	33.5	37	21	22				·
				<u></u>	<u> </u>			-	-26.5 CEMENTED SA	ND 36.5				57	~	~		43	3	I
-28.5 + 38.5				· · · · ·					-29.0 COASTAL PLAIN SEDIME CEMENTED SA			‡						· · · ·		:
-30	60/0.0		[60/0.0				COASTAL PLA GRAY AND BLACK, SILT	AIN	-35	-34.2 -	38.5	4	4	6	• • • •	· · · ·		·
			 	· · · · ·				-	(A-2-4)	TTINE SAND		‡								:
-33.5 + 43.5	2 4	9	$\begin{bmatrix} \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot &$	· · · · ·			Sat.	-			-40	-39.2	43.5	4	50 50	0/0.3				
								-			10			4	50 50	J/0.3		·	<u></u>	
-38.5 + 48.5				· · · · ·				-												:+
-40 +	22 29	29		58			Sat.	-			-45	-44.2 -	48.5	14	14	18		9 32	-	·
			· · · · · ·	$ \cdot \cdot \cdot \cdot$ $ \cdot \cdot \cdot \cdot$				F				‡								:
-43.5 53.5	60/0.1		· · · · · ·	· <u></u>			Cot		-43.5 -43.8/\ COASTAL PLAIN SEDIME		-50	-49.2	53.5	5	6	8				:
							Sat.		CEMENTED SA			1 7		5	Ĭ	°	14		· · · ·	
-48.5 + 58.5			· · · · · ·						GRAY AND BLACK, SILTY WITH TRACE FINE	′ CLAY (A-7-6)		<u>-</u> , †	50 F					<u> </u>		:
-50 +	8 24	33		57			Sat.	N			-55	-54.2 +	58.5	8	17	17		• <u>•</u> 34	+	-
-50				· · · · ·								‡						, <u>, , , , , , , , , , , , , , , , , , </u>		I
<u>-53.5 + 63.5</u> -55	8 11	18	· · · · · · · · · · · · · · · · · · ·	· · · · ·			Sat.				-60	-59.2	63.5	5	11	16		/ · · · ·		:
			· · + · · ·									1 7		5	``			•27 · · · · ·		
				· · · · ·								1	co 5							•
60	10 14	17	<u> </u>	· · · ·			Sat.				-65	-64.2 -	68.5	4	7	18	· · · ·	25		-
			$\left \begin{array}{c} \cdot \cdot \cdot \\ \cdot \cdot \cdot \end{array} \right \left \begin{array}{c} \cdot \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \end{array} \right $	· · · · ·				N								T				
-63.5 - 73.5	6 10	15		· · · · ·			Sat.		-65.0	75.0		‡								
		'						╞	Boring Terminated at Eleva CLAY (COASTAL I	ation -65.0 ft in										
‡												‡								



											URE																		
WBS	41582	2.1.1			Т	IP R-	5021		C	OUNT	BRUN	SWICK			GEO	LOGIST C. WANG				WBS	41582	.1.1			TI	P R-5021	1	COUN	ΓY
SITE	DESCR		UDU	AL BRI	DGE	S NO.	24 AN). 259	ON NC	211 OVE	RDUTC	HMAN		EEK		G		WTR (ft)	SITE	DESCR	IPTION	UU DU	AL BR	IDGES	3 NO. 24 A	AND NO. 2	59 ON N	IC 2
BOR	NG NO.	B1-C	;		s	TATIO	N 36	69+03			OFFSET	16 ft R1	Г		ALIG	NMENT -L-	C) HR.	N/A	BOR	ing no.	B1-C)		S	TATION 3	369+03		C
COLI		EV. 11	I.2 ft		Т	OTAL	DEPT	H 89	9.4 ft		NORTHI	NG 74,1	45		EAS	ING 2,291,637	24	4 HR.	FIAD	COL	LAR ELE	V. 11	1.2 ft		т	OTAL DEP	PTH 89.4 f	ft	N
DRILL	. RIG/HAI	MMER E	FF./DA	TE F8	R5785	CME-5	55 80%	6 04/23	3/2015			DRILL	METH	OD N	Vud Rotary	· H/	AMMER	TYPE Au	utomatic	DRILL	RIG/HAN	IMER E	FF./DA	TE F8	kR5785	CME-55 80	0% 04/23/201	15	
DRIL	LER S	. DAVIS	s		s	TART	DATE	07/	14/15		COMP. D	ATE 07	/15/15	5	SUR		N/A			DRIL	LER S.	DAVIS	s		S	TART DAT	E 07/14/1	15	C
ELEV	DRIVE	DEPTH	-	W COL						R FOOT		SAMP			1.000					ELEV	DRIVE	DEPTH	1	OW CO				PER FOO	
(ft)	ELEV (ft)	(ft)		0.5ft		0	2	25	50		75 10		Имс	O DI G	ELEV. (1	SOIL AND ROCK I	DESCRI		DEPTH (ft)	(ft)	ELEV (ft)	(ft)	' 	0.5ft	-	0	25	50	75
	<u> </u>							I			1					<i>.,</i>			<u> </u>									1	
																				~~~							Mate	ch Line	
20		ŧ													F					-60				+					.
	-	Ł													Ł						-62.3 -	- 73.5	9	10	12		<u>  </u>		•
15	-	F													F					-65		-	ľ	10					I
	-	ŧ													F						-	-					<u> </u>		
	-	ŧ													- - 11.2	GROUND SI	JRFACE	Ξ	0.0		-67.3 -	- 78.5 -	5	8	8				:
10	10.2	1.0	14	6	3	<u>  - </u>			•••						- 	12" ASPHALT AND			2.0	-70		-					· · · · ·		÷
	7.7 -	- 3.5	'4	0	5	:•	9	· · ·		· · · ·			M		3.2	ROADWAY EM					-72.3 -	- - 83.5							:
		- 0.0	5	3	3	<b>∮</b> 6			•••				м			GRAY AND BROWN, (A-2-4) WITH TR/					- 12.0	-	5	5	5	•10 <u></u>			•
5	_	F						· ·			+ · · · ·	_			F					-75	-	-							
	2.7 -	8.5				:¦:				· · · · · · · ·					<u>-</u> <u>3.2</u>	COASTAL			<u> </u>		-77.3	- 88.5		100/0 /					
0	-	ŧ	4	3	6	: <b>•</b> .	9	· · ·		· · · · ·			W			GRAY AND BROWN, (A-2-4) WITH TRACE O	SILTY F	INE SAND				-	38	100/0.4			<u> </u>		·
	_	ŧ									<u> </u>	_				(A-2-4) WITH TRACE 0	NGAINIC		,			-							
	-2.3 -	13.5	1	1	1			· · ·		· · · ·			Sat.	//	; <u> </u> <u>-</u>	GRAY, CLAYEY FIN	IE SAND	D (A-2-6)	<u> </u>			-							
-5	-	ł				$\left  \begin{array}{c} \P^2 \\ \Upsilon \end{array} \right $			•••				J Sai.	. //							-	-							
		F				$  \Box \overline{\chi}$								/.//	-6.8				18.0			-							
	-7.3 -	- <u>18.5</u>	1	6	6	1   ÷ `;	12						Sat.			GRAY, SILTY FINE	SAND	(A-2-4)				-							
-10	-	ŧ				<u>-</u> /	· · ·	• •	•••		· · · ·	·			1							-							
	-12.3 -	- 23.5				/ :	· · ·	· · ·		· · · · ·					- <u>11.8</u> _	GRAY, SILTY CLAY (A			<u> 23.0</u>			-							
			WOH	WOH	1	<b> </b> •1 :		· ·	· ·	 			Sat.			FINE SAND AND	RACE S		-			-							
-15	_	╞					. <b></b>				+				<u>+</u>	FRAGME	NTS				-	-							
	-17.3 -	28.5		1		i									Ŧ							-							
-20	-	ŧ	1	'	2	<b>•</b> 3 :				· · · · ·			Sat.		Ţ							-							
	-	ŧ													-21.8				33.0			-							
	-22.3 -	- 33.5	7	8	5	{ ∶`		· · ·	· ·	· · · · · · · ·			Sat.		<u>↓</u> ↓	GRAY, SILTY FINE TO						-							
-25	-	Ł					•13 •								Ł	(A-2-4) WITH LITTLE ( FRAGME		IED SAND			-	-							
		20 5					· · ·								}						-	-							
2	-27.3 -	- 38.5	5	10	100/0.2	11		L	<u>· · </u>	<u> </u>	<u></u>				-28.3				39.5		7	-				1			
-30	-	F					<u> </u>	<u> </u>	<u> </u>	<u> </u>		<b>-</b>			-29.8	COASTAL PLAIN SED	SAND		41.0			-				1			
3	-32.3 -	43.5				1 :i				· · · · · · · ·					1	COASTAL GRAY, SILTY FINE SA		2-4) WITH				-				1			
÷	-	‡	5	5	5	:4	10	· · ·		 			Sat.		ţ	THIN CLAY						-							
-35	-	ŧ					<u>  · · ·</u>				+				1							-				1			
5	-37.3 -	48.5	4	6	7	::	1		::				Sat.									-				1			
	-	ł			•		•13 •		•••				386.									-				1			
-	-	F						<u>``</u>							F							-				1			
-40	-42.3 -	- 53.5	7	14	36		· · ·			 0			Sat.		-43.3				54.5			-							
-45	-	‡							·//	••••					<u>t</u>	GRAY AND BLACK, S WITH TRAC						-				1			
	-47.3 -	- 58.5				::		1	::	· · · ·					ł							-				1			
	-	1	7	10	12		, e	22 · ·	::				Sat.		ł							-				1			
	-	F						· ·							ŀ						-	-				1			
55	-52.3 -	63.5				::	Ì.			· · · · ·					F							-				1			
-55	-	ţ	′	8	9			· · ·		· · · · · · · ·			Sat.		ţ							-				1			
	_	ŧ					- <b>\</b>				<u> </u>				F							-				1			
5	-57.3 -	68.5	10	11	14	+  : :	::'\		· ·	· · · ·			Sat.		}							-							
-60	-	╞						25	•••				386.		+							-							
			•			• • • • •		•	I		• • • • •		•									_	*	•					



													.06															_		
	41582						R-5021			COUN						GEOLOGIST C. WANG				<b>3</b> 4158					IP R∹				UNTY	
				AL BR						59 ON N	-		DUTCH		CRE	1		GROUND WTR (ft)					AL BR	-			ND NO. 2	259 ON		
BOR	NG NO	. B1-B	8		S	TATI	ON 3	369+(	06		OFF	SET	45 ft RT			ALIGNMENT -L-		<b>0 HR.</b> N/A	BOR	ING NO	. B1-E	3		S	TATIO	<b>N</b> 36	39+06		(	OF
COLL	AR ELI	<b>EV.</b> 10	).4 ft		T	ΟΤΑΙ	L DEP	тн	85.0 ft	t	NOR	THING	<b>G</b> 74,11	17		EASTING 2,291,628		<b>24 HR.</b> 3.0	COL	LAR EL	<b>EV.</b> 10	0.4 ft		Т	OTAL	DEPT	<b>H</b> 85.0	ft	M	NC
DRILL	. RIG/HA	MMER E	FF./DA	TE F8									DRILL	METHO	DD N	/lud Rotary H/		ER TYPE Automatic	DRIL	l Rig/Ha	MMER E	EFF./DA	TE Fé				6 04/23/20			
DRIL	LER S		S		S	TAR	T DAT	<b>E</b> 0	7/09/1	5	CON	IP. DA	<b>TE</b> 07/	10/15		SURFACE WATER DEPTH	N/A	٩	DRIL	LER S		S		S	TART	DATE	07/09/	/15	C	CC
ELEV	DRIVE ELEV									PER FOO			SAMP.	17		SOIL AND ROCK I	DESC	RIPTION	ELEV	DRIVE ELEV	DLFII	·		-		_	BLOWS			_
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0		25	5	50 I	75	100	NO.	Имо	I G	ELEV. (ft)		DEPTH (ft)	(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft		2	25	50	7	5
15		╞														_			-65	+	┿	-	<b>├</b>		<b>∔</b>  ——		Mat	tch Lin	e	
	-	ŧ														-				-68.1	† I 78.5					/.				-
10	10.4	+ _{0.0}														- 10.4 GROUND SI			-70	-00.1	+ /0.5 +	6	8	8	1	• • 16				-
	-	ŧ	1	1	2	•3								м	L	<b>ROADWAY EM</b> GRAY, BROWN, AND E				-	ŧ									
	6.9	3.5	2	2	1		· · · · · ·		· · · · · ·	· · · ·		· · ·				TO COARSE SAND (A ORGANICS AND SHE	-2-4) \	WITH TRACE		-73.1	83.5	5	6	7	::			.		
5	-	‡	1	1		<b>•</b> 3		·		· · ·		· · ·		M	L	3.9		6.5			<del>†</del>			'	$\downarrow \downarrow \cdot \cdot$	<b>•</b> 13	••••	•   • •	• • •	_
	19	+ I 8.5					· · · · · ·	.	· · · · · ·			· · ·				GRAY, BROWN, AND E		<u>N</u>			ŧ									
0	<u> </u>	+ 0.5 +	2	2	4	1  🌢	••••		· · · · · ·		·   ·	· · ·		w		TO CÓARSE SÁND (A	-2-4) \	WITH TRACE			ŧ									
		ŧ				†		1.			.   .					- ORGANICS AND SHE	LL F	RAGIVIENIS		-	ŧ									
	-3.1	13.5	WOH	WOH	1	<i> ¦</i> :	· · · · · ·		· · · · · ·	· · · ·		· · ·									ŧ									
-5	-	ŧ						·			·   ·	•••		Sat.		<b>F</b>					ŧ									
	-8.1	+ 				`;	· · · ·		· · · ·			· · ·				-					ŧ									
-10	-0.1	+ 10.5	2	2	4	1   •	 16 [.]	.	· · · · · ·			· · · · · ·		Sat.		+					ŧ									
	-	Ŧ						1.								+ -				-	Ŧ									
	-13.1	23.5	1	2	2	Ì	· · · ·		· · · · · ·			· · ·				+					ŧ									
-15	-	ŧ	'		2		1 · · ·				· ·	· · ·		Sat.		-				-	ŧ									
	-18.1	+ 				¦	· · · ·		· · · · · ·			· · ·				+					ŧ									
-20	-18.1 .	<u>+ 28.5</u> +	2	2	1		· · ·		· · · · · ·	· · · ·		· · · · · ·		Sat.		-					ŧ									
	-	ŧ						1.								-				-	ŧ									
	-23.1	33.5	3	4	6	.'    .	\ \		· · · · · ·	· · · ·		· · · · · ·				+					ŧ									
-25	-	‡		-	0		•10 ·	· ·				· · ·		Sat.		+ 				-	ŧ									
		+ - - 38.5				:	1::		· · · · · ·	· · · ·		· · · · · ·				-27.9		38.3			ŧ									
-30	-20.1 .	+ 30.5 +	60/0.1			:		<b>+-</b>				60/0.1				-28.9 COASTAL PLAIN SED		ITARY ROCK 39.3			ŧ									
	-	ŧ				11										COASTAL	PLAI	N/		-	ŧ									
	-33.1	43.5	4	4	5	:	· · ·  · · ·		· · · · · ·		:   :	· · ·				- GRAY AND BLACK, S - (A-2-4) WITH THIN					ŧ									
-35	-	ŧ					•9 · ·	<u> </u>			·   ·	•••		Sat.		<u> </u>					ŧ									
	-38.1	+ 				11	· · · · · ·	.			: :	· · ·				-					Ŧ									
-40	-00.1.	+ <u>-0.0</u> +	7	18	54	11	· · · · · ·		· · · · · ·		•72 ·	· · ·		Sat.		HARD DRILLING NOT		ROM 51.8' TO			Ŧ									
	-	Ŧ				11					11:									-	Ŧ									
	-43.1	53.5	20	10	57	4   ·	· · · · · ·	.	· · · · · ·		<i>İ</i> .   .	· · ·		Cot	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	GRAY AND BLACK, CI		Y FINE SAND 53.0			Ŧ									
-45	-	Ŧ	_				· · ·	<u> </u>			67 .	· · ·		Sat.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	- (A-2-6	5)				Ŧ									
	-48.1	+ 58.5				:	· · · · · ·	.			: :	· · ·			<i>%</i> /,	- - <u>-47.6</u>		<u></u>			Ŧ									
-50	-+0.1 .	- <u>30.5</u>	10	12	11	1 :	· · ·	•23·	•••••		:   :	· · ·		Sat.		GRAY AND BLACK, S WITH LITTLE F					Ŧ									
	-	Ŧ				1		i   .			.   .					}				-	ŧ									
	-53.1	63.5	6	8	10	4 ÷	· · /		· · · ·		:   :	· · ·		0		F					Ŧ									
-55	-	Ŧ	ľ	Ĭ			• ••••	18		· · ·	·   ·	•••		Sat.		-					Ŧ									
	-58.1	+ I 68.5				:	· · · · · ·		· · · ·		: :	· · ·									Ŧ									
-60	-00.1 .	- 00.0	7	14	20	1 :	· · · · · ·		•••• ●34 [•] •			· · · · · ·		Sat.		F					Ŧ									
-35 -40 -45 -50 -55 -60	-	Ŧ				1.		1			.   .					F				-	Ŧ									
	-63.1	73.5	8	10	12	<b>  </b> :	· · · · · ·	Y:	· · · · · ·	· · · ·	:   :	· · · · · ·		0							Ŧ									
-65		t	١Ŭ		12	11:	• • •	22 ·		• • •	•	• • •		Sat.		F Contraction of the second seco				1	t			1	1					

UNT	<b>r</b> BRU	NS	N	ICK				GEOLOGI	ST	C. WANG	3		
N NC	211 0\	/ER	C	DUTCH	MAN	CRE	E	ĸ				GROUN	D WTR (ft)
	OFFSE	т	45	5 ft RT				ALIGNME	NT	-L-		0 HR.	N/A
	NORTH	HINC	3	74,11	7			EASTING	2,2	291,628		24 HR.	3.0
1			1	DRILL N	IETHO	D N	luc	Rotary			HAMM	ER TYPE	Automatic
	COMP.	DA	T	E 07/	10/15			SURFACE	WA	TER DEP	TH N/	Ą	
:00T			_	SAMP.	/	L	Γ						
	75	100		NO.	моі	O G			50	IL AND ROO		RIPTION	
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е													
		•				$\boldsymbol{N}$	F	14	RAY . VITH	AND BLACK	K, SILTY IE SAND	CLAY (A-7 (continue)	a)
		•			Sat.		Ē			AND BLACK	, CLAYE		
	+				out.	~~~~	F			(A	-2-6)		
		•				/~/~	F						
		•			Sat.	~./.	Ŀ	-74.6	ei	Torreitado	at Eta at	ion 7404	85.0
							E	Во	ring	Terminated SAND (CO/	at Eleval ASTAL P	ion -74.6 f LAIN)	t in
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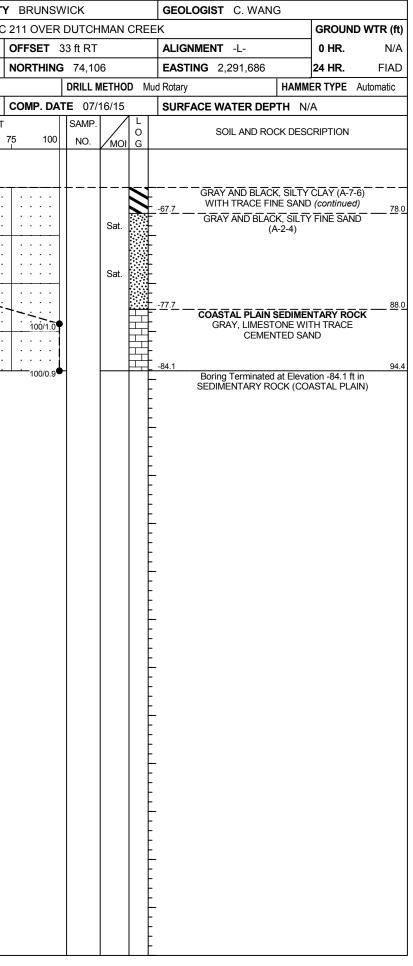
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	41582					<b>IP</b> R					BRUNS					LOGIST C. WANG			-	<b>S</b> 4158					I <b>P</b> R-{			COU	
SITE	DESCR		I DUA	AL BR	IDGE	S NO.	24 Al	ND NO	. 259 (		211 OVE	R DUTCH	HMAN	N CRE	EK		GR	OUND WTR (ft)	SIT	E DESCI	RIPTIO	N DU	AL BR		<u>3 NO. :</u>	24 ANE	) NO. 2	59 ON	NC 2
BORI	NG NO.	. B2-A	۱		s	TATIC	<b>DN</b> 36	69+89			OFFSET	21 ft LT			ALIG	NMENT -L-	0 H	HR. N/A	BOF	RING NC	<b>).</b> B2-A	4		S	ΓΑΤΙΟ	<b>N</b> 369	+89		0
COLL	AR ELE	<b>EV.</b> 6.3	3 ft		Т	OTAL	DEPT	<b>H</b> 89	.8 ft		NORTHIN	<b>G</b> 74,14	45		EAS	<b>FING</b> 2,291,730	24 H	HR. FIAD	COL	LAR EL	<b>EV.</b> 6	.3 ft		т	<b>JTAL</b>	DEPTH	89.81	ft	1
DRILL	RIG/HAI	MMER E	FF./DA	TE F8	R5785	5 CME-	55 80%	6 04/23/	2015	1		DRILL	METH	OD N	lud Rotary	/ HA	MMER T	YPE Automatic	DRIL	L RIG/HA	MMER E	FF./DA	TE F	&R5785	CME-5	55 80%	04/23/20 ⁻	15	
DRIL	LER S	. DAVIS	S		s	TART	DATE	07/2	1/15		COMP. D	ATE 07	/21/15	5	SUR	ACE WATER DEPTH	N/A		DRI	LLER	S. DAVI	S		S	TART	DATE	07/21/	15	
ELEV	DRIVE	DEPTH	BLC	W CO	UNT			BLOV	VS PER	FOOT		SAMP	. 💙 /	L					ELEV	, DRIVE	DEPTH	BLC	ow co	UNT			BLOWS	PER FO	
(ft)	ELEV (ft)	(ft)	0.5ft	0.5ft	0.5ft	10	2	25	50		75 100	NO.		O DI G	ELEV. (	SOIL AND ROCK D	ESCRIPT	FION DEPTH (ft	(ft)	ELEV (ft)	(ft)		0.5ft	0.5ft	0	25		50	7
								1			1		[			•/													
15																			-65								Mate	ch Line	
15	-	ŧ													_				-05	+	±	-	+		<u> </u>				]
	-	t													-					-67.2	73.5	6	6	7	::	<u>,</u> .		· ·	· ·
10	-	Ŧ													_				-70		Ŧ	-				<b>•</b> 13 [•]			
	-	Ŧ													-						Ŧ					i			
	63	t 0.0													- - 6.3	GROUND SL	JRFACE	0.0		-72.2	<u>- 78.5</u> -	5	5	5	:	10	· · · · ·		
5	- 0.5		WOH	1	1		•••		•	• • •					_	COASTAL	PLAIN		-75		ŧ							· ·	• •
	2.8 -	- 3.5				` <u>`</u>			: :						_	GRAY AND BROWN, S (A-2-4) WITH TRACE OF	RGANICS	(ROOTS),		-77.2	+ 83.5						 <del>.</del>	· ·	 — —
	- 2.0	F 0.0	3	3	4	1  🌶	7 • •		.   .				w		-	THIN CLAY SEAMS, A LITTLE SHELL AND C					+ 00.0	32	59	41/0.2					
0	_	‡				<i> </i>	· · ·		·   ·	· · ·					-	FRAGME			-80		Ŧ					· · ·	· · · ·	· ·	
	-2.2 -	8.5					· · · · · ·		:   :	· · · · · ·					-					-82.2	88.5				::		· · · · ·		
	-	t	2	1	1	<b>4</b> 2	· · ·	· · ·		· · ·			W		_						<u>+</u>	28	32	68/0.3		••		• •	
-5	-	ł				+	<u> </u>														+								
	-7.2 -	13.5	8	9	10	41:	ιχ.								-						Ŧ				1				
-10	-	‡	°	9			: ; <b>?</b> !!	9 · · ·   · · ·		· · · · · ·			Sat.		-						‡				1				
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	-12.2 -	18.5	2	3	2		/ 		· · ·				Sat.		_						ŧ				1				
-15	-	ł				<b>T</b> °			•   •						-						ł				1				
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	-17.2 -	23.5	WOH	1	1		· · · · · ·			· · · · · ·			Sat.		-						‡								
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	-22.2 -	28.5				<u>\</u>			: :	· · ·					_						t								
	-	+	4	4	4	1∣.∳	8 • •			· · ·			Sat.		-						ł								
-25	-	Ŧ				╎┝╌┦					+ • • • •				_						Ŧ				1				
	-27.2 -	33.5			100/0		· · · · · ·			· · · · · ·					-						‡								
	-	t	5	9	100/0.	1   · L     .	<u></u>	· <del> </del>		<u></u>	· + :- 100/0.1	<b>•</b>			28.2 29.7	COASTAL PLAIN SED	MENTAR	34.5 XY ROCK 36.0			‡				1				
-30	-	ŧ					<u></u>	+	-+-		+	1			-23.1	CEMENTED					ŧ								
	-32.2 -	38.5	7	6	6	$\left\{ \left  \cdot \right\rangle \right\}$	.		.   .				Cot.		L	GRAY AND BLACK, S	ILTY FINE	E SAND			ł								
-35	-	Ŧ	'	ľ		:	•12 · ·			· · · · · ·			Sat.		F	(A-2-4	.)				Ŧ				1				
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-40	-37.2 -	43.5	4	5	6	$\left  \right $	J ↓11 ·	· · ·	:   :	· · ·			Sat.		Ļ						<b>‡</b>								
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	-47.2 -	- 53.5				]]:	· · ·	!::	:   :	· · ·					F						t				1				
-45			8	10	17	11	· · ·	<b>4</b> 27 · ·					Sat.		-48.2	GRAY AND BLACK, SI		54.5 Y (A-7-6)	41		ł								
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-55	-52.2 -	- 58.5				11:	· · ·/ · · ·/		: :	· · · · · ·					-						‡								
	-	t	6	8	12	:				· · ·			Sat.		F						<b>±</b>				1				
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-60	-	Ŧ	Ĭ			11	· · ·	<b>P</b> 27 · · ·	.   .	· · · · · ·			Sat.		F						Ŧ				1				
00		L		I	1	11.	/	I			1								J L	1	1		I	1	<u> </u>				

BRUNSW	ICK			GEOLOGIST C. WANG	3		
211 OVER [	DUTCH	MAN	CREI	EK		GROUN	D WTR (ft)
OFFSET 2	1 ft LT			ALIGNMENT -L-		0 HR.	N/A
NORTHING	74,14	5		EASTING 2,291,730		24 HR.	FIAD
			D Mu	ud Rotary	HAMME	ER TYPE	Automatic
COMP. DAT				SURFACE WATER DEPT			
	SAMP.		L	SOR ACE WATER DEP			
75 100	NO.	моі	O G	SOIL AND ROC	K DESC	RIPTION	
			6				
				GRAY AND BLACK		CLAY (A-7	<u></u>
		Sat.	N	WITH TRACE FIN	E SAND	(continue	d)
		Sal.	N				
				- <u>-71.7</u>			
		Sat.	/./.	GRAY AND BLACK,	CLAYE -2-6)	Y FINE SA	ND
			$\sim$	-	_ 0)		
· · · ·				-76.9			83.2
 . 100/0.7♥			Ħ	COASTAL PLAIN S	EDIMEN STONE	ITARY RO	UN I
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			+++	-83.5			00.0
100/0.8				Boring Terminated a	at Elevat	ion -83.5 f	89.8 t in
				SEDIMENTARY RO	CK (COA	ASTAL PL/	AIN)
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	41582					<b>FIP</b> F							SWICK					LOGIS	<b>T</b> C.	WANG					4158					<b>P</b> R-{				UNTY E
	DESCR			AL BF						9 ON N					AN (	CREE	-						ND WTR (ft)					AL BR					259 ON	N NC 21
BOR	NG NO.	. B2-C	)		5	STATI	ON 3	869+73	3		O	FFSET	6 ft R	T			ALIG	NMEN	T -L-			0 HR.	N/A	BOR	NG NO	). B2-	С		S	ΓΑΤΙΟ	N 36	69+73		OF
COLI	AR ELI	<b>EV.</b> 10	).6 ft		ר	ΓΟΤΑΙ	DEP	<b>TH</b> 8	5.0 ft		N	ORTHI	<b>IG</b> 74	,127			EAS	TING 2	2,291,	705		24 HR.	FIAD	COLI	AR EL	<b>EV.</b> 1	0.6 ft		т	DTAL I	DEPT	<b>H</b> 85.0	) ft	NC
DRILL	RIG/HA	MMER E	FF./DA	TE F	&R578	5 CME	-55 80	% 04/2	23/2015				DRIL	L ME	тно	D Mu	id Rotary	/			HAMME	ER TYPE	Automatic	DRILL	. RIG/HA	MMER	EFF./DA	TE F	&R5785	CME-5	5 80%	6 04/23/2	015	
DRIL	LER S	-	s		5	STAR	T DAT	E 07	/20/15	5	C	OMP. D	ATE (	)7/21	/15		SUR	FACE V	NATER	R DEPT	<b>H</b> N/ <i>/</i>	A		DRIL	LER S		IS		ST	TART I	DATE	07/20	/15	cc
ELEV	DRIVE ELEV	UEFIN	' <b></b>		-					ER FOC				1P.		L		5	SOIL AN	ND ROC	< DESC	RIPTION		ELEV	DRIVE ELEV	DEFII	·——	ow co					S PER F	
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft			25	50	0	75	10	0 NC	). /	моі	G	ELEV. (1	ft)					DEPTH (ft)	(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	2	25	50	75
15		Ļ															-							-65		╄		<u> </u>				Ma	tch Lin	ie
	-	ŧ																							67.0	+ + 78.5					. <u>/</u> :		:   : :	· · ·   ·
10	10.6 -	± 0.0															10.6		G	ROUND	SURFA	CE	0.0	-70	-67.9	+ ^{/8.5}	5	6	7		<ul> <li>✓ .</li> <li>✓ 13.</li> </ul>		·   · · ·   · ·	· · ·   · · · ·   ·
10	-	ŧ	WOH	1	1	<b>●</b> 2 ⁻		<u> </u>					-11		М		-	GRA		BROWN		<b>(ment</b> / Fine Sa		-70	-	ŧ					<u>}</u>			
	7.1	3.5			1	_   i :	· · ·	· ·	· ·	· · ·	•	· · · ·							2-4) WI		É ORG	GANICS A			-72.9	83.5	-	F			i::			· · ·   ·
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	2.1	8.5	WOH	1	3	-11		· ·	•••						w				2-4) WIT	TH TRAC	E ORG	GANICS A				ł								
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	-2.9	T 13.5				ļļį										-										Ŧ								
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	-7.9	18.5	6	5	8		λ.			· · · ·					Sat.	-										Ŧ								
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	12.0	+ 23.5					/ · · ·			· · · · · ·	:	· · · · ·				-										‡								
-15	- 12.9	+ <u>23.5</u> +	4	3	2	<b>-</b>   ∳	· · · 5· · ·	· ·   · ·	· · · ·	· · · · · ·	:	· · · · ·		s	Sat.		-13.9	-		COAST		N	24.5			‡								
-15	-	ŧ						1									-		Y, CLAY	YEY FINI	E SAND	(A-2-6) V			-	ŧ								
	-17.9	28.5		2	3	_	· · · · · ·	· ·	· · ·	· · ·	:	· · · ·						IRA	CETO	LIIILE	SHELL	FRAGMEI	NIS			‡								
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	-	ŧ					· · ·	· ·	· · ·	· · ·	:					///										ŧ								
	-22.9	33.5	2	3	4			· ·	· · ·	· · ·		· · · ·		s	Sat.											ŧ								
-25	-	ŧ						+									-								-	ŧ								
	-27.9	38.5		100/0			· · ·	· ·	· · ·	· · ·	•	· · · ·					-28.4						39.0			ŧ								
-30	-	£	17	100/0.	1							<u>• 100/0.</u>	1				-29.4			PLAIN SI					-	Ŧ								
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	-32.9	43.5	6	6	5		<b>1</b> 1.	· ·	•••					5	Sat.			GR/	ay anl	) BLACK (A-	, SILTY 2-4)	FINE SA	ND			ł								
-35	-	Ŧ					-									F	-								-	Ŧ								
	-37.9	T 48.5				:						· · · · ·														Ŧ								
-40		Ŧ	6	8	22	1 :	· · ·	30		· · · · · ·		· · · · ·		s	Sat.	-										Ŧ								
-40 -45 -50	-	Ŧ						· ·	<b>`</b> .				1			-	-						50.0		-	Ŧ								
j	-42.9	53.5	21	20	37		· · · · · ·			· · · ·					Sat.	N	42.4	GRA				CLAY (A-	7-6) <u>53.0</u>			ŧ								
-45	-	ŧ						· ·	· ·	57 -	·  -	· · · ·			σαι.	N	-		WITI	H TRAC	= FINE	SAND			-	ŧ								
	-47.9	+ - 58.5					· · · · · ·			· · · · · ·	:	· · · · ·				N										‡								
-50	-47.9	+	7	14	13	11:	· · · · · ·	• <b>.</b> •27 •	· ·	· · · · · ·		· · · ·		s	Sat.	N										‡								
-50	-	‡						<u> </u>			.					N	-								-	‡								
	-52.9	63.5	00	40	07	:	· · ·	· ·	· ·	<u>)</u>	.	· · · ·				N										‡								
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	-57.9	68.5	7	8	14	-  ·		22				· · · · ·			Sat.	N										Ŧ								
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1T	BRUNS	NICK			GEOLOGIST C. WANG			
NC	211 OVER		CHMAI	N CREI	EK		GROUN	ID WTR (ft)
	OFFSET	6 ft R	Т		ALIGNMENT -L-		0 HR.	N/A
	NORTHING	<b>G</b> 74	,127		EASTING 2,291,705		24 HR.	FIAD
		DRIL	L METH	OD Mu	Id Rotary HAN	ΛM	ER TYPE	Automatic
	COMP. DA	TE (	07/21/1		SURFACE WATER DEPTH	N/	A	
от		SAN			SOIL AND ROCK DE	sc	RIPTION	
	75 100	NC	D. M	ы G				
	<del></del>			+	GRAY AND BLACK, SIL	TV		
					WITH TRACE FINE SA	ND	(continue	d)
· ·			Sat					
					-			
			Sat		74.4			05.0
<u> </u>		4			-74.4 - Boring Terminated at Ele	eva	tion -74.4 f	85.0 `t in
				F	CLAY (COASTA	LP	LAIN)	
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	41582					<b>P</b> R-				ry BRUNS					OGIST C. WANG	1			41582					<b>P</b> R-502		COUNTY
SITE	DESCR	IPTION	DUA	L BRI	DGES	S NO.	24 AN	ND NO. 2	59 ON N	C 211 OVE			N CRE				! (ft)	SITE	DESCR	IPTION	DUA	AL BR	IDGES	NO. 24 /	AND NO. 2	259 ON NC
BORI	NG NO.	B2-B			S	ΤΑΤΙΟ	<b>N</b> 36	69+64		OFFSET	33 ft R	Т		ALIGN	IMENT -L-	0 HR.	N/A	BOR	ing no.	B2-B			ST	TATION	369+64	
COLL	AR ELE	<b>V.</b> 10	.3 ft		т	OTAL	DEPT	<b>H</b> 94.4	ft	NORTHIN	<b>IG</b> 74,1	06		EAST	NG 2,291,686	24 HR. F	IAD	COL	LAR ELE	<b>EV.</b> 10	.3 ft		то	TAL DEF	<b>PTH</b> 94.4	ft
DRILL	RIG/HAN	MMER EI	FF./DA1	FE F&	R5785	CME-	55 80%	6 04/23/20	15	•	DRILL	METH	OD N	Jud Rotary	HAM	MER TYPE Automa	tic	DRIL	RIG/HAI	MMER E	FF./DA	TE F8	kR5785	CME-55 8(	0% 04/23/20	
DRILL	ER S.	DAVIS	3		S	TART	DATE	07/15/	15	COMP. D	ATE 07	7/16/15	5	SURF		J/A		DRIL	LER S	. DAVIS	3		ST		<b>TE</b> 07/15/	15
ELEV	DRIVE	DEPTH	BLO	w cou	JNT			BLOWS	PER FOO	T	SAMF	P. 💙						ELEV	DRIVE	DEPTH		w cou	_	Τ		PER FOOT
(ft)	ELEV (ft)	(ft)	0.5ft	0.5ft	0.5ft	0	2	25	50	75 10	0 NO.	M	O DI G	ELEV. (ft)	SOIL AND ROCK DES	SCRIPTION DEP	TH (ft)	(ft)	ELEV (ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	50
									1																	1
15																		-65							Mat	ch Line
15														F				-05					(+	·!		
														F					-68.2 -	78.5					.	
10	-	-												- 10.3	GROUND SURF	ACE	0.0	-70		- 10.0	6	7	7	• • • • 14		
	9.3	- 1.0	7	43	3						1	м		-9.3	ASPHALT ROADWAY EMBAN		1.0		-	F						
	6.8	- 3.5	_	_			· · ·		40	· · · · · ·				+	GRAY AND BROWN, SIL	TY FINE SAND			-73.2 -	83.5	_				.   .	
5	4		3	3	2	<b>•</b> 5°	· · · ·					M	Ľ		(A-2-4) WITH LITTL	LE CLAY		-75	-		5	6		· ·•13		• • • • •
		-				!													-	Ł						
_	1.8	- 8.5	2	2	1									<u> </u>	COASTAL PL		<u>8.0</u>		-78.2 -	88.5	49	54	46/0.5		.	
0	-		2	-		<b>•</b> 3 ·	· · ·			· · · · ·		W		-	GRAY AND BLACK, SILT (A-2-4) WITH TRACE			-80		F	-10	04				
	1									· · · · · ·				+					-						·   · · · · ·	
_	-3.2 -	- 13.5 -	1	1	1		· · ·			· · · · · ·		Sat							-83.2 -	93.5	40	60/0.4			.	
-5	-	-						<u></u>						-					-							
	-8.2	- - 18.5				\.								_					-	-						
-10		- 10.5	5	3	7		10 ·			· · · · · ·		Sat		-					-	F						
	4	-				- /								-					-							
	-13.2	- 23.5				]  ;' :	· · ·		· · · ·	· · · · · ·				- <u>- 12.7</u>	GRAY, CLAYEY FINE TO		<u>23.0</u>		-							
-15	_		WOH	2	2	•4 ·						Sat	/./. /./.	1_ 1_	(A-2-6) WITH TRACE SHEL				-	Ł						
	-	-												f i					-	F						
	-18.2	28.5	WOH		2					· · · · · · ·									-	F						
-20	4		vvОп	2	3	•5 ⁻				· · · · ·	_11	Sat	/./						-							
	1						· · ·			· · · · · ·									-							
-	-23.2	- 33.5	5	3	4							Sat	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1					-							
-25	-	-				••7							~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<b></b>					-	+						
	-28.2					. <u>;</u> .								-28.2			38.5		-	F						
-30	-28.2 -	- 38.5	100/0.2			· ⊡    · ı	·		·	100/0.	2			-29.2	COASTAL PLAIN SEDIME		39.5		-							
-30	4														CEMENTED SA					-						
	-33.2	- 43.5					· · ·			·   · · · ·					GRAY, SILTY FINE SAND THIN CLAY SE	) (A-2-4) WITH			-							
-35	-	-	5	4	4		8					Sat		•	THIN CEAT SEA	AWG			-	Ł						
		-												+					-	╞╴║						
F	-38.2	- - 48.5	6	15	26							-		F					-	FI						
-40	4	t	U	10	20		· · ·	<u> </u>	• • •	· · · · ·	_	Sat		-	HARDER DRILLING NOTE TO 51.7'	ED FROM 51.0'			-	‡						
	1	t						. / . /	· · · ·	· · · · · ·				t L	1051.7				-	t						
_	-43.2	- <u>53.5</u>	17	13	13							Sat		1					-	t l						
-45	-	-						20	+					<b> </b>					-	╞╴║						
	1	- 58.5												-47.7			58.0		-	FI						
-50	-48.2 -	- <u>58.5</u> -	6	8	11			$  \cdot \cdot \cdot \cdot$				Sat		F	GRAY AND BLACK, SILT	Y CLAY (A-7-6)	- 7		-	ļ						
-30	4	t							+					F					-	t						
	-53.2	- - 63.5					· · · · ·							t					-	t l						
-55		-	8	10	19	1		▶29 · ·				Sat		┡					-	+						
	1	F									71			F					-	FI						
L	-58.2	- 68.5	_				· · ·	į::::						Ę –					-	‡						
-60	_		7	11	14		· · · ·	25 • • •				Sat		L					-	t l						
	-						: · · į	 	· · ·					Ł					-	t l						
┝	-63.2	- 73.5	7	8	11		· · /							┞					-	+						
-65	-		'	0	• •		• • • 19	) • • • •				Sat		[						Ī			$\square$			



																	1											
-	4158					' <b>IP</b> R-5				Y BRUNS				GEOI	OGIST Corey Futral	1			41582					<b>P</b> R-50			COUN	
				211 F					MIDWAY	( ROAD) TO			C 87			GROUND	. ,		DESCR			211 FF					MIDWA	
BOR	NG NO	. EB2	-A			TATION				OFFSET					NMENT -L-	0 HR.	3.7		ING NO.					ATION				0
COL	AR EL	<b>EV.</b> 5.	8 ft		T	OTAL D	DEPTH	<b>H</b> 84.1 f	t	NORTHIN	-				ING 2,291,789	24 HR.	2.5	COL	LAR ELE	<b>V.</b> 5.8	8 ft		ТС	DTAL DE	EPTH	84.1 f	t	NC
DRILL	RIG/HA	MMER E	FF./DA	TE CA	AT1303	3 CME-550	0 77.29	% 01/09/20	14		DRILL	METH	OD	Mud Rotary	HAMM	IER TYPE Au	tomatic	DRILL	RIG/HAN	IMER E	FF./DA	TE CA	T1303 (	CME-550	77.2%	01/09/20	)14	
DRIL		D.T. Cha	almers	, Jr.	S	TART D	DATE	10/09/1	4	COMP. D	<b>ATE</b> 10/	/13/14	4	SURF	ACE WATER DEPTH N	/A		DRIL	LER D	T. Cha	Imers	, Jr.	ST	ART DA	ATE	10/09/1	4	C
ELEV	DRIVE ELEV		·						PER FOO		SAMP.	1.7			SOIL AND ROCK DES	CRIPTION		ELEV	DRIVE ELEV	DEPTH		W COL					PER FOO	
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	;	50	75 100	NO.	Имс	DI G	ELEV. (f			DEPTH (ft)	(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25		50 I	75
10		Ļ												F				-70					+			Mato	h Line	
ı.		‡												Ę					-72.7	- 78.5				:: <b> </b> :	:   :	· · · ·	· · ·   · · ·	
	5.8	<u>+</u> 0.0			-									5.8	GROUND SURF		0.0	75	-12.1	- /0.5	5	6	7	<b> </b> .   <b>●</b> 1	 13		· · ·	
5	-	+	2	1	2	• <u>3</u>						M		<u> </u>	UNDIVIDED COASTA Med. gray, f. SA		2.0	-75		-							<u> </u>	+
	3.3	- 2.5	2	1	2		· ·	· · · ·				Ŵ			Black, Silty, f. SAND w/so	ome organics			-77.7	83.5	31	69/0.1					· · ·	
0	0.5	- 5.3		4	6								0 0 0 0 0 0 0 0 0	<u>1.3</u>	Med. brown to gray, f	f. SAND	4.5		-	-		09/0.1						
ĺ	<u> </u>	±					IQ .	· · · ·			SS-13	Sat		<u> </u>			<u>7.5</u>			-								
	-2.7	<u> </u>	WOH	2	2						SS-14	Sat			Med. gray, Silty CLAY w	witr. t. sand			]	-								
-5	-	Ŧ							+		+	1		-5.7			<u>11.5</u>		-	-								
	-7.7	T 13.5												F	COASTAL PLA Med. gray, SILT w/tr. clay a	and shell frags.			-	-								
-10		Ŧ	3	2	3	<b>    ∮</b> 5.						Sat	-	F	Waccamaw Form	ation				-								
	-	Ŧ												F						-								
	-12.7	<u>† 18.5</u>	4	3	3			· · · · ·		· · · · · ·		Sat		F					-	-								
-15	-	‡					• •	· · · ·	· · ·	· · · · ·				-						-								
	-17 7	+ 23.5						· · · · ·						8– 9–						-								
-20		+	WOH	1	1		· ·	· · · · ·		·   · · · · ·		Sat		-					-	-								
-20	-	‡				$\left  \frac{1}{\sqrt{2}} \right $								-						-								
	-22.7	28.5	2	3	5	$\begin{vmatrix} 1 & 1 \\ -1 & -1 \end{vmatrix}$	· ·	· · · ·	· · ·	·   · · · · ·				-					-	-								
-25	_	1		5	5		•••					Sat		L					-	-								
		±					$\vdots$												-	-								
	-27.7	<u>† 33.5</u> †	30	70/0.1					+		SS-15	Sat		-28.3	Med. gray, Silty, f. SAND w/o	comonted can	34.1		-	-								
-30	-	Ŧ													frags.	cemented sand	37.0		-	-								
	-32.7	T 38.5													Med. gray, Sandy	SILT			-	-								
-35		Ŧ	6	8	6		14			· · · · · ·		Sat							-	-								
	-	Ŧ									1			-					-	-								
	-37.7	<u>+ 43.5</u>	4	5	8	∶∶ <b> </b>		· · · · ·		·   · · · · ·		Sat								-								
-40	-	‡	1				13.		· · ·					F					-	-								
	-42 7	+ + 48.5					::`\	 		.				F						-								
-45	TL. 1	+	9	11	30		· ·	· · · · · ·	· · ·   · · ·	·   · · · · ·		Sat	. 👹	-						-								
-40	-	‡						.	· · ·		11			-					-	-								
-45 -50 -55 -60	-47.7	53.5	6	15	24	::	· ·	· · <b>!</b> ·	· · ·   · · ·	·   · · · · ·				1						-								
-50	-	<b>‡</b>	Ĭ				•••					Sat	-	-						-								
	<b>50</b> -	±					· ·	/		.				-						-								
	-52.7	<u> </u>	5	6	20	11::		<i>1</i>				Sat		L						-								
-55	-	ŧ						<u> </u>						L						-								
	-57.7	63.5												Ľ					-	-								
-60		Ŧ	20	22	20			942				Sat		_ 60.2			66.0		-	-								
	-	Ŧ						. /			71			F	Dark gray, Clayey	SILT			7	-								
	-62.7	<u>† 68.5</u> †	7	10	12			· · · · ·				Sat		F						-								
-65	-	‡					- 7	<u>.</u>		· · · · ·							70.0		4	-								
	-67.7	+ + 73.5					'.   / .	· · · · ·		.				<u>66.2</u>	Dark gray, Sandy	SILT	<u> 72.0</u>			-								
-65		+	5	6	6	] ∶;́∳	/ 12.	· · · · ·	· · · ·	· · · · · ·		Sat	. 👹	-						-								
-70		1	1	1	I	<u> </u>	1		L			1	19993	3L				L			I							

T	Y BRUN	ISN	/10	CK				GEOLOGI	ST Corey Fut	ral		
Y	ROAD) 1	TO E	Ē	AST O	FNC	87					GROUN	D WTR (ft)
	OFFSE	<b>T</b> 2	27	ft LT				ALIGNME	NT -L-		0 HR.	3.7
	NORTH	ING		74,12	6		1	EASTING	2,291,789		24 HR.	2.5
_	1			RILLM		D N	lud	Rotary				Automatic
	COMP.	DAT			3/14				WATER DEPI			
)T			-	SAMP.	/	L						
	75 1	100		NO.	моі	O G			SOIL AND ROC	IN DESU		
			ſ									
_			L									
•		:					_		Dark gray, Sandy	/ SILT (a	continued)	
•		•			Sat.		_					
-	+	-						76.2				82.0
•		: ]	1		Sat.		_	78.3	ASTAL PLAIN S Gray, Weathe			CK
·	100/	0.6	t		_0di		_		ring Terminated a	at Elevat	ion -78.3 f	
			1				_		LIMESTONE (C	UASTA	L PLAIN)	
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-40       -42.9       53.5       -40												URE																		
BIORMEND         EVEX         STATION         30-04         Prove	WBS	41582	2.1.1			Т	IP R-	5021		С	OUNT	BRUN	SWICK			GEOLO	OGIST C. WANG				WBS	4158	2.1.1			TIF	<b>P</b> R-5021		COUN	ity br
GOLARELEV.         10:1         TOTAL DEFTH. 50:01         NORTING 7:41:3         PATING 2:20:73         24:R         FAX         TOTAL DEFTH. 50:01:N         TOTAL DEFTH. 50:01:N           DBULERS.         SUBJECTION         STATI DATE.         DOULATE LEV.         10:8:1         TOTAL DEFTH. 50:01:N         TO	SITE	DESCR	RIPTION	UDU	AL BR	IDGE	S NO.	24 AI	ND NO	259	ON NC	211 OVE	R DUTC	HMAN	I CRE	EK		G	ROUND	WTR (ft)	SITE	DESC	RIPTION	UDUA		GES	NO. 24 A	ND NO. 2	59 ON N	NC 211
DBILL REALMERT OF DUE F         DBILL REALMERT OF DUE F         MALLER TYPE         MALLER TYPE <t< th=""><th>BOR</th><th>ING NO</th><th>. EB2</th><th>-C</th><th></th><th>s</th><th>TATIC</th><th><b>N</b> 31</th><th>70+09</th><th></th><th></th><th>OFFSET</th><th>5 ft RT</th><th></th><th></th><th>ALIGN</th><th>MENT -L-</th><th>0</th><th>HR.</th><th>N/A</th><th>BOR</th><th>ING NO</th><th>. EB2-</th><th>-C</th><th></th><th>ST</th><th>ATION 3</th><th>70+09</th><th></th><th>OFF</th></t<>	BOR	ING NO	. EB2	-C		s	TATIC	<b>N</b> 31	70+09			OFFSET	5 ft RT			ALIGN	MENT -L-	0	HR.	N/A	BOR	ING NO	. EB2-	-C		ST	ATION 3	70+09		OFF
DIRULE 8: 0.04/5         THAT DATE 07/21/6         COMPLET 04/21/6         DURACE WATER DEPTH N/A           18         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         100000         1000000         1000000         1000000	COLI	LAR EL	<b>EV.</b> 10	).6 ft		т	OTAL	DEPT	<b>H</b> 80.	0 ft		NORTHI	NG 74,1	13		EASTI	<b>NG</b> 2,291,738	24	HR.	FIAD	COL	LAR EL	<b>EV.</b> 10	).6 ft		то	TAL DEP	TH 80.0	ft	NOR
Dellace is UMS         START DATE         Organization         Dellace is UMS         START DATE         Organization           18         UMORD JAND         PM         UMORD JAND         PM         UMORD JAND         PM         Image: Start Date         Organization         PM         Image: Start Date         PM         PM         Image: Start Da	DRILL	RIG/HA	MMER E	FF./DA	TE F	R5785	CME-	55 80%	6 04/23/	2015	I		DRILL	METHO	DD N	/ud Rotary	Н	AMMER '	TYPE A	utomatic	DRIL	L RIG/HA	MMER E	FF./DA	FE F&R	R5785	CME-55 80	% 04/23/20	15	
Circle With Row Could**       B COM PERFORM       B COM PERFORM       SOL AND SOLC (LSCHPTON)       Circle With Line         13	DRIL	LER S	5. DAVI	s		s	TART	DATE	07/2	2/15		COMP. D						N/A			DRIL	LER	. DAVIS	s		ST		E 07/22/	15	CON
Int       I		DRIVE	1	1	ow co		Π				I				1							DRIVE	1	1	W COUN	_				
B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B     B <td></td> <td></td> <td></td> <td>'<b> </b></td> <td></td> <td></td> <td>0</td> <td>2</td> <td>25</td> <td>50</td> <td></td> <td>75 10</td> <td>00 NO.</td> <td>MO</td> <td></td> <td>FLEV (ff)</td> <td>SOIL AND ROCK</td> <td>DESCRIF</td> <td>PTION</td> <td>DEPTH (fft)</td> <td></td> <td></td> <td></td> <td>'<b> </b></td> <td></td> <td></td> <td>0</td> <td></td> <td></td> <td></td>				' <b> </b>			0	2	25	50		75 10	00 NO.	MO		FLEV (ff)	SOIL AND ROCK	DESCRIF	PTION	DEPTH (fft)				' <b> </b>			0			
10       0.6       0.0       2       4       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u> </u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td>									1			1		1						<u> </u>								1		
10       0.6       0.0       2       4       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0 <td>15</td> <td></td> <td>65</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Mat</td> <td>ch Line</td> <td></td>	15																				65							Mat	ch Line	
10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10 <td< td=""><td>15</td><td></td><td>ŧ</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td>-05</td><td>+</td><td>+</td><td> </td><td></td><td>+</td><td>· · · · /</td><td></td><td></td><td></td></td<>	15		ŧ													-					-05	+	+			+	· · · · /			
0       00       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100<			t													E						-67.9	78.5		7	_	:: <i>'</i> /:			
1       1       1       2       2       1         2       1       2       2       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	10	10.6	+ 0.0	2	2	4	╢╻									- 10.6				0.0			<u>+</u>	0			• • • • 14			
7.1       15       2       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1			ł	_	-									IVI	Ļ	• •	GRAY, BROWN, AND	BLACK, S	SILTY FIN				ŧ							
a       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x		7.1	3.5	2	2	1								М		F			RGANICS	<b>)</b>			Ŧ							
1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	5	-	ŧ					· · ·		· · ·						<u>-</u> 4.6				6.0		-	ŧ							
3       1       2       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1		2.1	‡					· · ·			· · · · · ·					,,,,,,,,,	GRAY, BROWN, AND	BLACK, S					ŧ							
-29       134       -1       -24       -30       -30         -73       185       5       6       -30       -30       -30       -30         -10       -73       185       5       6       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30       -30	•	2.1	- 8.5	3	1	2		· · ·	· · · ·					Sat.					RGANICS	5			ŧ							
323       113       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1 <td>0</td> <td>-</td> <td>ŧ</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u> </u></td> <td></td> <td><u> </u></td> <td>+</td> <td></td> <td></td> <td></td> <td></td> <td>(100</td> <td>0)</td> <td></td> <td></td> <td></td> <td>-</td> <td>ŧ</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	0	-	ŧ						<u> </u>		<u> </u>	+					(100	0)				-	ŧ							
-7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       136       -7.0       -7.0       136       -7.0       -7.0       136       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0       -7.0		-2.9	13.5				]   į ·						.			<u>-</u> - <u>-2.4</u>				<u>13.0</u>			ł							
-10       -7.8       195       5       6       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11       -11<	-5		Ŧ	1	1	1	<b>4</b> 2							Sat.									Ŧ							
		-	ŧ				Ì						.			-						-	ŧ							
.10       .10       .10       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .11       .		-7.9	18.5	5	5	6	.`\    .`\	 ,	· · · ·						/./.								ŧ							
15       15       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	-10		ŧ		5			<b>)</b> 11 ·		• •		· · · ·		Sat.	/./	-							ŧ							
15       15       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1			ŧ				י		· · ·		· · ·		·										ŧ							
15       179       28.8       WOH       1       3         20       33.6       2       4       4       1       1         20       33.6       2       4       4       1       1       1         20       33.6       2       4       4       1       1       1       1       1         20       33.6       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1		-12.9	23.5	1	1	1				.   .			.	Sat		-							ł							
20       129       28.5       WOH       1       3         229       33.5       2       4       4       4       4         25       29       33.5       2       4       4       4       4         20       33.5       2       4       4       4       4       4         25       38.5       0002       1       1       1       1       1         30       30       3       5       4       5       5       4       5         30       32.9       43.5       5       4       5       4       5       5         40       40       45.5       5       4       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5       5 </td <td>-15</td> <td>-</td> <td>Ŧ</td> <td></td> <td></td> <td></td> <td>  <b>T</b>²</td> <td></td> <td></td> <td></td> <td>· · ·</td> <td>+</td> <td></td> <td></td> <td>· / · · /</td> <td><del>-</del></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td>Ŧ</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	-15	-	Ŧ				<b>T</b> ²				· · ·	+			· / · · /	<del>-</del>						-	Ŧ							
20       WOH 1       3         20       23       33.5       2       4       4         25       23       33.5       2       4       4         20       30.5       2       4       4       3         30       30.5       30.5       30.5       30.5       30.5       30.5         30       30.5       4       5       4       5       30.5         35       43.5       5       4       5       30.5       30.5       30.5         40       48.5       5       20       40       48.5       30.5       30.5         42.9       53.5       19       16       46.5       46.5       47.9       58.5       10.7       10.7         50       52.9       68.5       13       12       11       12       42.4       COASTAL PLAN       50.0         51.7       68.5       13       15       20.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7       10.7		47.0	‡					· · · · · ·			· · · · · ·		.			<del>,</del>							ŧ							
229     335     2     4     4       229     335     2     4       30     35     0002       329     435     5       30     35     4       30     35     4       35     5     4       36     5     20       40     45     5       40     45       429     535       440     45       429     535       440     46       429     535       441     46       45     19       45     19       45     19       479     585       585     6       479     585       586     16       479     585       579     635       43     15       20     23       579     685       43     15       579     685       43     15       43     15       20     23       43     15       43     15		-17.9	28.5	WOH	1	3		· · · · · ·	· · · ·					Sat.		-							ŧ							
229       335       2       4       4         279       385       10002	-20	-	ŧ				$ \uparrow$		<u> </u>			+										-	ŧ							
25       2       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4       4		-22.9	33.5										.			-							ł							
-27.9       38.5       00002	-25		Ŧ	2	4	4	.	8 • •						Sat.									Ŧ							
-30       -30       -30       -32       -32       -33       -34       -35       -35       -35       -35       -35       -35       -35       -35       -35       -35       -35       -35       -35       -35       -35       -35       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -36       -37       -			Ŧ										.		·~~~	-						-	Ŧ							
-30       -32.9       43.5       5       4       5       -       -       -       -       -       -       COASTAL PLAIN GRAY AND BLACK, CLAYEY FINE SAND (A-2.6)       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       - <t< td=""><td></td><td>-27.9</td><td>38.5</td><td>100/0 2</td><td>5</td><td></td><td>   :L</td><td>· · ·</td><td>· · · ·</td><td>·</td><td></td><td></td><td>2<b>0</b></td><td></td><td></td><td>-27.9</td><td>COASTAL DI AIN SEL</td><td></td><td>PV POCK</td><td>38.5 39.5</td><td></td><td></td><td>ŧ</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>		-27.9	38.5	100/0 2	5		:L	· · ·	· · · ·	·			2 <b>0</b>			-27.9	COASTAL DI AIN SEL		PV POCK	38.5 39.5			ŧ							
-32.9       43.5	-30	-	‡	100/012			i		+						<b>~</b> ~~		CEMENTE	) SAND		<u> </u>			‡							
-32.9       43.5       5       4       5         -37.9       48.5       5       20       40         -40       -37.9       48.5       -37.9       48.5       -37.9         -40       -37.9       48.5       -37.9       48.5       -37.9         -46       -37.9       53.5       19       16       46         -46       -37.9       58.5       6       16       14         -50       -57.9       68.5       12       11       12         -60       -57.9       68.5       13       15       20         -57.9       68.5       13       15       20       -00       -00         -60       -57.9       68.5       13       15       20       -00       -00         -60       -57.9       68.5       13       15       20       -00       -00       -00         -60       -57.9       68.5       13       15       20       -00       -00       -00       -00       -00       -00       -00       -00       -00       -00       -00       -00       -00       -00       -00       -00       -00       -00       -00			‡					· · ·		:   :	· · · · · ·		:		/./.	<del>,  </del>			INE SANE	o l			‡							
-37.9       48.5       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -<		-32.9	$\frac{43.5}{1}$	5	4	5	1 :4	 9	· · ·				:	Sat.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~								t							
-40       -50       -42.9       53.5       19       16       46		-	t									+			/./.	<u></u>						-	Ŧ							
-40       -50       -42.9       53.5       19       16       46	2	-37 9	48.5							• . ] .			.		/./.	•		o <del></del> -		.			Ŧ							
-42.9       53.5       19       16       46         -45       -47.9       58.5       6       16       14         -50       -57.9       63.5       -0       -0       -0         -57.9       68.5       13       15       20       -0       -0       -0         -60       -57.9       68.5       13       15       20       -0       -0       -0         -60       -57.9       68.5       13       15       20       -0       -0       -0       -0       -0         -60       -57.9       68.5       13       15       20       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0       -0	-		Ŧ	5	20	40				: ] :	•60 ·			Sat.	<i>%</i> ./.				≺OM 52.0	r			Ŧ							
-42.9       53.5		-	ŧ				11			.   .	1	· · · ·			///	<u> </u>						-	ŧ							
-45       -45	5	-42.9	53.5	10	16	46	11				j::			_		- 42.4	COASTAL	PLAIN		53.0			‡							
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			±	1 19	01	40					<b>●</b> 62 ·	· · · ·	·	Sat.		L	GRAY AND BLACK, CL	AYEY FI	NE SAND	ſΥ		.	±							
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			t							<u>,                                     </u>						Ł	Si∟1 (/	(7)					t							
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		-47.9	58.5	6	16	14	$\left\{ \left  \cdot \right\rangle \right\}$							Sat		F							Ŧ							
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		50.0	‡				:	· · ·	/:::	:   :	· · · · · ·		.			+							ŧ							
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		-	t						<u>\</u>			<u> </u>				F						-	ŧ							
		-57.9	68.5						\ <u>`</u> .				·			F							ł							
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$-65$ $+$ $\sim$		-62.9	73.5	0	11	12	:	· · ·	/:::							ļ							‡							
	-65		<u>t</u>	9		12			23	•   •			·	Sat.		-							<u>†</u>							

Ľ	Y BRL	JNS	N	ICK			GEO	OGIS	ST C. WAN	G		
IC	211 0	VER		DUTCH	MAN	CRE	EK				GROUN	D WTR (ft)
1	OFFS	ЕΤ	5	ft RT			ALIG	NMEN	IT -L-		0 HR.	N/A
	NORT	HINC	3	74,11	3		EAST	ING	2,291,738		24 HR.	FIAD
_				DRILL N	IETHO	D M	ud Rotary			HAMM	ER TYPE	Automatic
	COMP	. DA	Т	E 07/2	22/15		SURF	ACE	WATER DEP	TH N/	A	
т				SAMP.		L	1					
	75	100		NO.	мог	O G			SOIL AND RO	CK DESU	RIPTION	
	Τ								Y AND BLACK			
•		· · · ·			0.1		-	GRA	SILT (A-4	) (contin	ued)	
•			Ц		Sat.		69.4	Bor	ing Terminated	at Eleva	ion -69.4 f	80.0 t in
							-		SILT (CO	ASTAL PI	_AIN)	-
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WBS	41582	2.1.1			TI	<b>P</b> R-502	21		COUNT	Y BRUN	SWICK			GEOLO	GIST C. WANG			WBS	<b>3</b> 4158	2.1.1			TI	<b>P</b> R-5021		COUN	NTY B	۶R
SITE	DESCR		DUA	L BRI	DGES	5 NO. 24	AND N	IO. 259	9 ON NO	211 OVE	R DUTCI	HMAN	N CRE	EEK		GROUI	ND WTR (ft)	SITE	DESCI	RIPTION	N DUA	AL BR	IDGES	6 NO. 24 A	ND NO. 2	259 ON I	NC 211	1 (
BORI	NG NO.	. EB2-	В		S	TATION	370+0	1		OFFSET	35 ft R1	Г		ALIGN	MENT -L-	0 HR.	N/A	BOR	RING NC	. EB2	-B		SI	TATION 3	370+01		OF	F
COLL	AR ELE	<b>EV.</b> 10	.2 ft		Т	OTAL DE	<b>ΡΤΗ</b> 8	35.0 ft		NORTHI	<b>IG</b> 74,0	89		EASTIN	<b>IG</b> 2,291,719	24 HR.	FIAD	COL	LAR EL	<b>EV.</b> 10	0.2 ft		т	OTAL DEP	<b>TH</b> 85.0	ft	NO	R
DRILL	RIG/HAI	MMER E	FF./DA	FE F&	R5785	CME-55 8	0% 04/2	23/2015			DRILL	METH	OD N	Mud Rotary	HAN	MER TYPE	Automatic	DRIL	L RIG/HA	MMER E	FF./DA	TE F8	R5785	CME-55 80	% 04/23/20	15		_
DRILL	LER S	. DAVIS	3		S		<b>TE</b> 07	//16/15	;	COMP. D	<b>ATE</b> 07	/17/1	5	SURFA	CE WATER DEPTH	N/A		DRIL	LER S	6. DAVI	S		ST	ART DAT	E 07/16/	15	со	M
ELEV	DRIVE	DEPTH	BLC	w cou	NT		BLO	OWS PE	ER FOOT	-	SAMP	. 🗸		<b> </b>	SOIL AND ROCK DE			ELEV	DRIVE	DEPTH	BLC	W CO	UNT		BLOWS	PER FO	от	
(ft)	ELEV (ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	50	)	75 10	0 NO.	Им		ELEV. (ft)	SOIL AND ROCK DE	SCRIF HON	DEPTH (ft)	(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	50	75	
15																		-65							Mat	ch Line		
	-	Ŧ												F					1	+				/.		· · · ·	.	
	-	ŧ												F					-68.3	78.5		-		:::::::			.	
10	9.1	+ 1.1												- 10.2 - 9.1	GROUND SUF ASPHAL	FACE	0.0	-70		‡	6	7	7	• • • • 14	· · · ·	· · ·	· ·   ·	
F	9.1	+ ^{1.1}	10	8	9	::;	 17			·   · · · · ·		м		·	ROADWAY EMBA					‡								•
_	6.7 -	- 3.5	2	2	3		·   · ·					м			GRAY AND BROWN, SI (A-2-4)	TY FINE SA	ND		-73.3	<u>- 83.5</u>	5	6	7					:
5	-	ŧ					<u> </u>							<u>.</u>	· · · ·					ŧ				<b>•</b> 13	1		I	_
	17 -	8.5						· · ·		.										Ŧ	1							
0	- 1./ -	- 0.5	2	2	1				· · · · ·			w		<u>- 1.4</u>	COASTAL P		8.8	1		Ŧ								
	-	ŧ					.				11				GRAY AND BLACK, SIL (A-2-4) WITH TRACE C				· ·	Ŧ	1							
	-3.3 -	- 13.5				: : : :	·   · · ·   · ·		· · · · ·					• •	THIN CLAY SEAMS, TRA CEMENTED SAND F	CE SHELL,	AND	1		‡								
-5	-	ŧ.	1	1	1	<b>4</b> 2 · ·						Sat		- -	CEMENTED SANDT	AGMENT	,			‡								
	-	t					·   · ·		· · · · ·											ŧ								
-	-8.3 -	- 18.5	3	6	8	· `x ·	.			.				-						+								
-10	_	F	Ũ	Ũ	Ũ		4					Sat	-	F						Ŧ								
	-	ŧ				./				.										Ŧ								
-15	-13.3 -	- 23.5	1	1	1		·   · ·		· · · · ·			Sat		∲- }-						‡								
-15	-	ŧ				<del>  -</del>								<u>}_</u>						‡								
	- -18.3 -	- 28.5					·   · ·													t								
-20	- 10.0	+	1	2	2	<b>4</b> · ·						Sat		• •_						+								
	-	Ŧ												÷						Ŧ								
	-23.3 -	- 33.5	_			:``.			· · · · ·	.				₽ ₽						Ŧ								
-25	-	‡	5	5	8	· · • • 13	· · ·				_	Sat		•						‡								
	-	‡								·   · · · · ·				-						‡								
	-28.3 -	- 38.5	30	100/0.0		::¦:	·   -	· · ·		$\frac{1}{2} + \frac{1}{2} + \frac{1}$				-28.8			39.0			±								
-30	-	Ł						+			=			-30.3	GRAY, CEMENT		JCK <u>40.5</u>			ŧ								
	-33.3 -	43.5					.	•••							COASTAL P GRAY AND BLACK, SIL		ND	1		ł								
-35	-33.3 -	- 43.5	5	5	6		.			.		Sat			(A-2-4)		-			Ŧ	1							
	-	Ŧ									71							1		Ŧ								
-40	-38.3 -	- - 48.5					·   · ·		· · · ·	.				÷.						‡	1							
-40	-	‡	4	6	5		•   • •				_11	Sat		÷-					.	‡	1							
	-	t					:1::			.										±	1							
-45	-43.3	53.5	10	40	20		.	· ? >			00.01		/	<u>-42.8</u>	GRAY AND BLACK, CLAY		NDY 53.0			t	1							
-45	-	f					<u> </u>		<b>.</b> 60	+	SS-81	1 36%	0	<b> </b> -	SILT (A-4	)				f	1							
	-							//		.				F						Ŧ	1							
-50	-48.3 -	- <u>58.5</u>	19	13	15		 		· · · · ·			Sat		F						‡	1							
	-	‡					· .							-						‡	1							
-55	-53.3 -	63.5					: : ``											1		±								
-55		1	6	15	24		· _ · ·	<b>3</b> 9				Sat		Ł						Ŧ	1							
	-	F												F				1		Ŧ								
Ļ	-58.3 -	68.5	_		10		· / · ·		· · · · ·	.				F						ŧ	1							
-60	-	‡	5	8	10	<u>  · · ·</u> ¶	18				_	Sat	-	Ļ				1		‡								
	-	‡					-   -		· · · ·	.				ŀ						‡	1							
-	-63.3 -	- 73.5	6	9	10							Sat		L						±	1							
-65	-		-	-			19	-				Sat	- 1888															

#### SHEET 19 OF 21

Ľ	YE	BRI	JNS	SW	ICK				GEC	DLO	DGI	ST	C. \	NAN	G				
IC	; 21	10	VE	R [	DUTCH	MAN	CRE	Eŀ	<								GROUI	ND W	/TR (ft)
	OF	FS	ЕΤ	3	5 ft RT				ALIC	GN	ME	NT	-L-			1	0 HR.		N/A
	NC	DRT	HIN	IG	74,08	9			EAS	TI	NG	2,	291,	719		1	24 HR.		FIAD
					DRILL N	IETHO	D N	lud	Rota	ry					HAMN	ΛE	R TYPE	Auto	omatic
	СС	OMF	. D	AT	<b>E</b> 07/ ⁻	17/15			SUR	RFA	CE	W	ATER	R DEP	TH N	I/A	۱.		
т					SAMP.		L O					SC	IL AN	ID ROO	CK DES	C	RIPTION		
	75 I		10	0	NO.	/моі	G												
_	Τ-			+-							GR					Ţ	FINE SA		
:			•••					Ē.	67.8				SIL	T (A-4	) (contir	nu	ed)		<u> 78.0</u>
•			· ·			Sat.		F			GR	AY	AND E	BLACK (A	(, CLAYI A-2-6)	ĒΥ	FINE S	AND	
•								F						,					
			•••			0.1		F											
•						Sat.	~~	F	74.8		Во	ring	Term	inated	at Eleva	ati	on -74.8	ft in	85.0
								F				-	SAN	D (CO)	ASTAL	PL	.AIN)		
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T.I.P. ID NO.:R-5021DESCRIPTION:Dual Bridges Nos. 24 and 259 on NC 211 over Dutchman Creek

REPORT ON SAMPLES OF: SOIL FOR QUALITY

PROJECT:	41582.1.1	COUNTY:	Brunswick
DATE SAMPLED:	7/15	RECEIVED:	8/15
SAMPLED FROM:	<u>-L-</u>	REPORTED:	8/15
SUBMITTED BY:	P. Alton, PE	BY:	D. Jenks
			Cert No. 101-02-0603

TEST RESULTS

PROJ. SAMPLE NO.	SS-18	ST-2	ST-2	SS-23	SS-81						
BORING NO.	EB1-A	EB1-A	EB1-A	EB1-B	EB2-B						
Retained #4 Sieve %	0.9	0.0	0.0	0.1	0.0						
Passing #10 Sieve %	99.1	99.7	100.0	99.8	100.0						
Passing #40 Sieve %	95.6	98.7	98.2	88.1	97.9						
Passing #200 Sieve %	74.8	16.2	51.5	31.6	71.0						

SOIL MORTAR - 100%										1 ,
Coarse Sand Ret - #60 %	5.0	2.7	3.6	29.8	3.2					
Fine Sand Ret - #270 %	33.4	81.6	45.8	40.3	42.3					1
Silt 0.053 - 0.010 mm %	26.7	4.5	21.2	9.0	29.9					
Clay < 0.010 mm %	34.9	11.3	29.4	20.9	24.6					
L.L.	57	22	38	24	38					
P.L.	33	NP	19	18	30					
P.I.	24	NP	19	6	8					
AASHTO Classification	A-7-5 (2)	A-2-4 (0)	A-6 (7)	A-2-4 (0)	A-4 (6)					
Station	368+84	368+84	368+84	368+63	370+03					
Offset	37' Lt	37' Lt	37' Lt	40' Rt	47' Rt					
Depth (ft)	53.5	19.5	18.5	23.5	53.5					
to	55.0	20.0	19.0	25.0	55.0					
Moisture Content (%)	34.4	65.8	40.3	40.7	35.5					
Organic Content (%)	NT	NT	NT	NT	NT					

NP=Not plastic NT=Not tested ND = Not Determined CL = Centerline

W.P. Alton, PE

Soils Engineer

T.I.P. ID NO.:R-5021DESCRIPTION:NC 211 from west of SR 1500 (Midway Road) to east of NC 87

#### REPORT ON SAMPLES OF: SOIL FOR QUALITY

PROJECT:	41582.1.1	COUNTY:	Brunswick
DATE SAMPLED:	10/13/14	RECEIVED:	Ν/Α
SAMPLED FROM:	<u>-L-</u>	REPORTED:	9/30/15
SUBMITTED BY:	P. Alton, PE	BY:	Catlin

#### TEST RESULTS

PROJ. SAMPLE NO.	SS-13	SS-14	SS-15							
BORING NO.	L_37050	L_37050	L_37050							
	(EB2-A)	(EB2-A)	(EB2-A)							
Retained #4 Sieve %	0.0	0.5	0.0							
Passing #10 Sieve %	100.0	99.2	100.0							
Passing #40 Sieve %	67.0	99.0	99.0							
Passing #200 Sieve %	3.0	48.0	39.0							

r	1				1	1	1	1	1	1	1	1	1	1	1
SOIL MORTAR - 100%															
Coarse Sand Ret - #60 %	68.3	2.1	1.1												
Fine Sand Ret - #270 %	30.0	50.3	74.2												
Silt 0.053 - 0.010 mm %	1.4	19.8	15.4												
Clay < 0.010 mm %	0.3	27.8	9.4												
L.L.	21	35	28												
P.L.	NP	17	NP												
P.I.	NP	18	NP												
AASHTO Classification	A-3 (0)	A-6 (5)	A-4 (0)												
Station -L-	370+50	370+50	370+50												
Offset	27' Lt.	27' Lt.	27' Lt.												
Depth (ft)	5.3	8.5	33.5												
to	6.8	10.0	34.1												
Moisture Content (%)	28.0	58.0	31.0												
Organic Content (%)	NT	NT	1.1												

NP=Not plastic NT=Not tested ND = Not Determined CL = Centerline