

REFERENCE: I-5987B

PROJECT: 47533

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5987B	1	19

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4	PROFILE
5-8	CROSS SECTIONS
9-19	BORE LOGS

**STRUCTURE**  
**SUBSURFACE INVESTIGATION**

COUNTY ROBESON

PROJECT DESCRIPTION I-95 IMPROVEMENTS FROM  
US 301 (EXIT 22) IN ROBESON COUNTY TO NC 59  
(EXIT 41) IN CUMBERLAND COUNTY

SITE DESCRIPTION BRIDGE ON -L- (I-95)  
OVER BIG MARSH SWAMP AT -L- STA. 586+14.00

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

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

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

- NOTES:
1. THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
  2. BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

M.A.D.

WEIS, J.M.

LANE, R.W.

F&R, INC.

INVESTIGATED BY GOODNIGHT, D.J.

DRAWN BY CROCKETT, S.C.

CHECKED BY HAMM, J. R.

SUBMITTED BY FALCON

DATE DECEMBER 2021



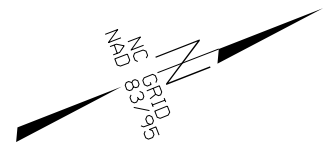
DocuSigned by:  
Stephen C Crockett Dec 16, 2021

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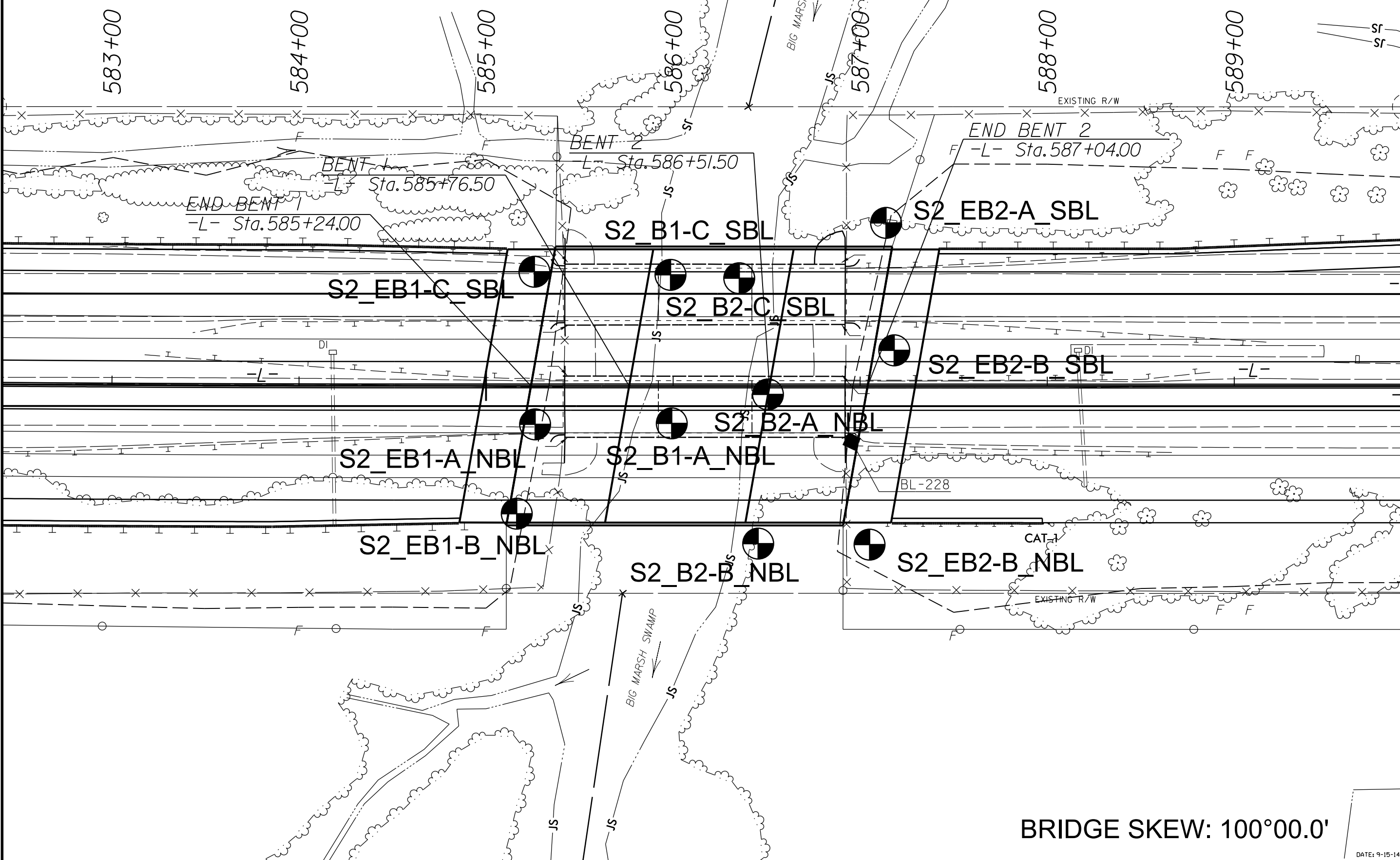
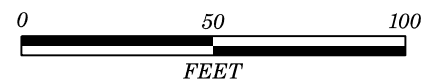
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
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**SUBSURFACE INVESTIGATION**  
 SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

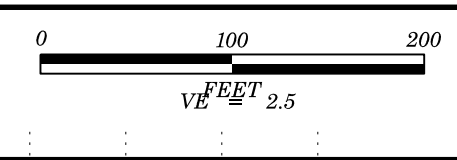
SOIL DESCRIPTION										GRADATION					ROCK DESCRIPTION					TERMS AND DEFINITIONS																																																																																																														
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6										WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.					HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:					ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. 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. ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. 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. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOGGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. 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 USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. ROCK QUALITY DESIGNATION (ROQ) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL 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. 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 THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SCREC) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROQ) - 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. TOPSOIL (TS) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.																																																																																																														
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COMPLETE	ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.																																																																																																																																	
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COLOR										BENCH MARK: ELEVATIONS TAKEN FROM I5987_LS_TIN2_TIN DATED 05/21					ELEVATION: FEET																																																																																																																			
DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-BROWN). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.										ELEVATION: _____ FEET					ELEVATION: _____ FEET																																																																																																																			
NOTES:										FIAD - FILLED IMMEDIATELY AFTER DRILLING																																																																																																																								
DATE: 8-15-14																																																																																																																																		



WOODS



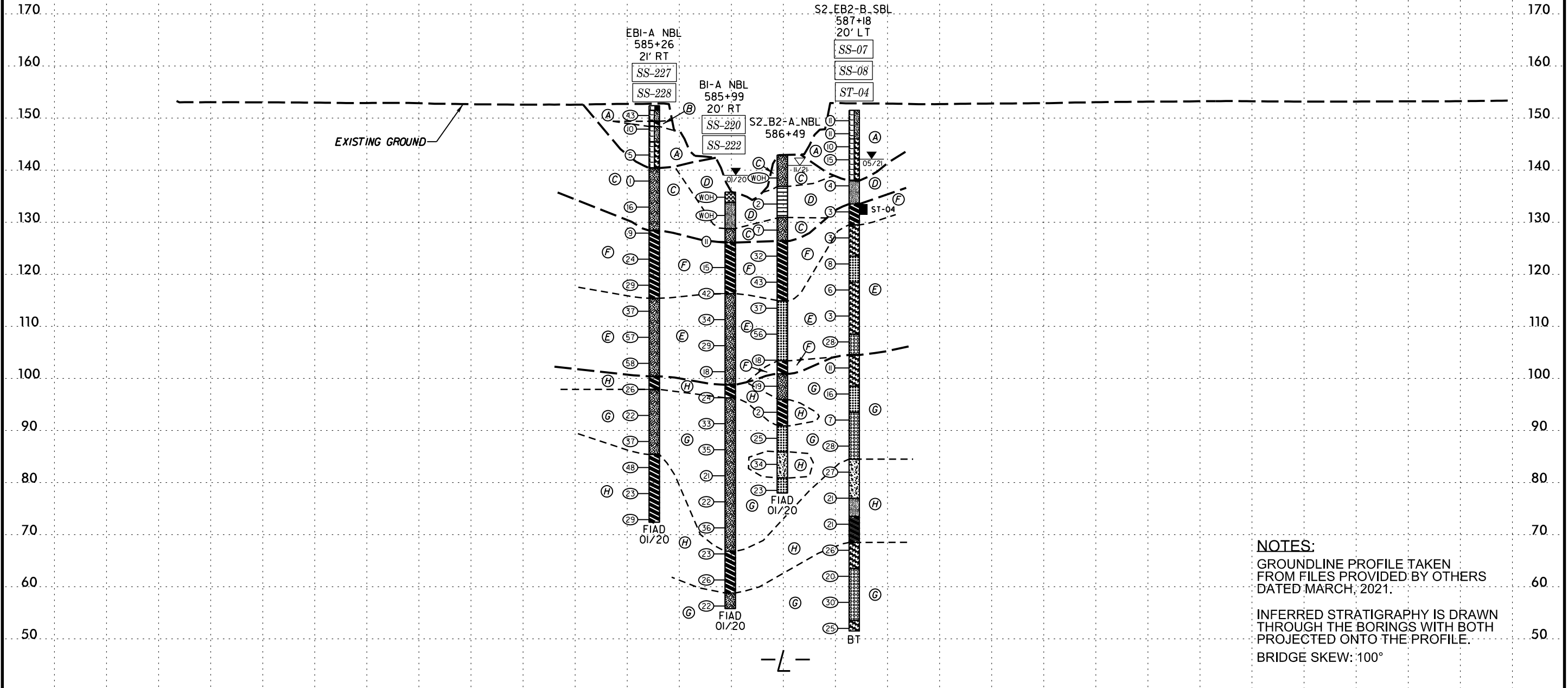
BRIDGE SKEW: 100°00.0'



- 230 (A) ROADWAY EMBANKMENT: BROWN RED ORANGE TAN AND GRAY, MOIST TO SAT, LOOSE TO DENSE, CLAYEY AND SILTY SAND (A-2-4, A-2-6) (MOD. TO HIGHLY PLASTIC) WITH TRACE GRAVEL
- (B) ROADWAY EMBANKMENT: GRAY, MOIST, STIFF, SANDY SILTY CLAY (A-7-6) (MOD. TO HIGHLY PLASTIC)
- (C) ALLUVIAL: BROWN TAN GRAY AND ORANGE, SAT, V. LOOSE TO M. DENSE, SILTY AND CLAYEY SAND (A-2-4, A-2-7) (MOD. TO HIGHLY PLASTIC)
- 220 (D) ALLUVIAL: BROWN GRAY AND BLACK, WET TO SAT, V. SOFT TO SOFT, CLAYEY AND SANDY SILT (A-4, A-5) AND MUCK WITH TRACE GRAVEL
- (E) UNDIVIDED COASTAL PLAIN: GRAY TAN BROWN ORANGE AND WHITE, MOIST TO SAT, V. LOOSE TO V. DENSE, SILTY AND CLAYEY SAND (A-2-4, A-2-6) AND F. AND CSE. SAND (A-3, A-1-b) WITH TRACE MICA
- (F) UNDIVIDED COASTAL PLAIN: TAN AND GRAY, MOIST TO SAT, SOFT TO HARD, SANDY AND SILTY CLAY (A-7, A-7-6) HIGHLY PLASTIC
- 210 (G) COASTAL PLAIN: GRAY ORANGE AND BROWN, SAT, LOOSE TO DENSE, CLAYEY AND SILTY SAND (A-2-4, A-2-6, A-2-7) AND F. TO CSE. SAND (A-3, A-1-b) WITH TRACE MICA AND TRACE CEMENTED SAND FRAGMENTS (BLACK CREEK FORMATION)
- (H) COASTAL PLAIN: GRAY, MOIST TO SAT, SOFT TO HARD, SANDY AND SILTY CLAY (A-6, A-7) AND SANDY AND CLAYEY SILT (A-4, A-5) WITH TRACE MICA, WOOD FRAGMENTS, ORGANICS AND SAND LENSES (BLACK CREEK FORMATION)

### SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-227	21 FT RT	585+26	3.5'-4.0'	A-7-6	48	29	11	30	14	46	100	93	66	23	-
SS-228	21 FT RT	585+26	8.5'-10.0'	A-2-6	32	16	58	17	3	22	99	60	26	12	-
SS-220	20 FT RT	585+99	3.5'-5.0'	A-4	25	9	4	51	20	26	100	99	56	25	-
SS-222	20 FT RT	585+99	9.7'-10.0'	A-7-6	51	29	13	11	18	59	99	92	79	26	-
SS-07	20 FT LT	587+18	3.5'-5.0'	A-2-6	39	21	50	19	4	27	99	68	33	16	-
SS-08	20 FT LT	587+18	13.5'-14.5'	A-4	32	10	46	21	5	28	99	69	36	29	-
ST-04	20 FT LT	587+18	18.0'-20.0'	A-7-6	60	36	1	19	24	57	100	100	81	30	-



**NOTES:**  
 GROUNDLINE PROFILE TAKEN FROM FILES PROVIDED BY OTHERS DATED MARCH, 2021.  
 INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE PROFILE.  
 BRIDGE SKEW: 100°

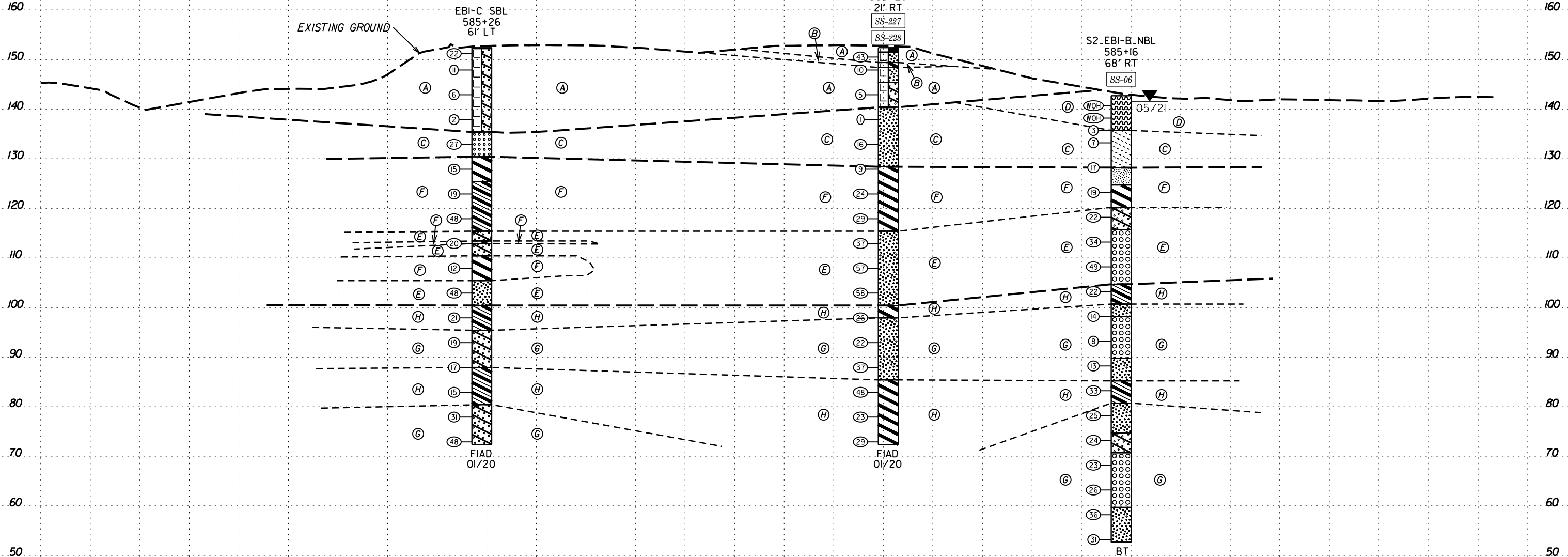
8/23/99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

0 20 40  
FEET

- (A) ROADWAY EMBANKMENT: BROWN ORANGE RED AND TAN, MOIST TO SAT., V. LOOSE TO DENSE, SILTY AND CLAYEY SAND (A-2-4, A-2-6) (MOD. TO HIGHLY PLASTIC) WITH TRACE GRAVEL
- (B) ROADWAY EMBANKMENT: GRAY, MOIST, STIFF, SILTY CLAY (A-7-6) (HIGHLY PLASTIC)
- (C) ALLUVIAL: GRAY BROWN AND TAN, WET TO SAT., V. LOOSE TO MED. DENSE, F. SAND (A-3) AND CLAYEY SILTY SAND (A-2-4) (TRACE TO HIGHLY ORGANIC)
- (D) ALLUVIAL: BLACK, SAT., V. SOFT TO SOFT, MUCK AND PEAT
- (E) UNDIVIDED COASTAL PLAIN: ORANGE BROWN TAN AND GRAY, WET TO SAT., MED. DENSE TO V. DENSE, SILTY AND CLAYEY SAND (A-2-4, A-2-6) AND CSE. SAND (A-1-b) WITH TRACE TO LITTLE MICA
- (F) UNDIVIDED COASTAL PLAIN: GRAY, MOIST TO WET, STIFF TO HARD, SILTY AND SANDY CLAY (A-6, A-7) AND SANDY SILT (A-4) WITH TRACE TO LITTLE MICA AND TRACE ORGANICS
- (G) COASTAL PLAIN: GRAY, WET TO SAT., LOOSE TO DENSE, CLAYEY AND SILTY SAND (A-2-4, A-2-5, A-2-6) AND CSE. SAND (A-1-b) WITH LITTLE MICA AND INTERMITTENT LENSES OF CLAY (BLACK CREEK FORMATION)
- (H) COASTAL PLAIN: GRAY, MOIST TO WET, V. STIFF TO HARD, SILTY AND SANDY CLAY (A-6, A-7) WITH TRACE TO LITTLE MICA AND TRACE WOOD FRAGMENTS (BLACK CREEK FORMATION)

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-227	21 FT RT	585+26	3.5'-4.0'	A-7-6	48	29	11	30	14	46	100	93	66	23	-
SS-228	21 FT RT	585+26	8.5'-10.0'	A-2-6	32	16	58	17	3	22	99	60	26	12	-
SS-06	68 FT RT	585+16	13.5'-15.0'	A-4	21	6	36	12	20	32	99	76	52	12	-



END BENT #1  
585+24.00

-L-

NOTES:  
GROUNDLINE CROSS SECTION ALONG BENT LINE DRAWN FROM TOPOGRAPHIC DATA IN ELECTRONIC FILES RECEIVED FROM OTHERS DATED MARCH 2021.  
INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.  
BRIDGE SKEW: 100°

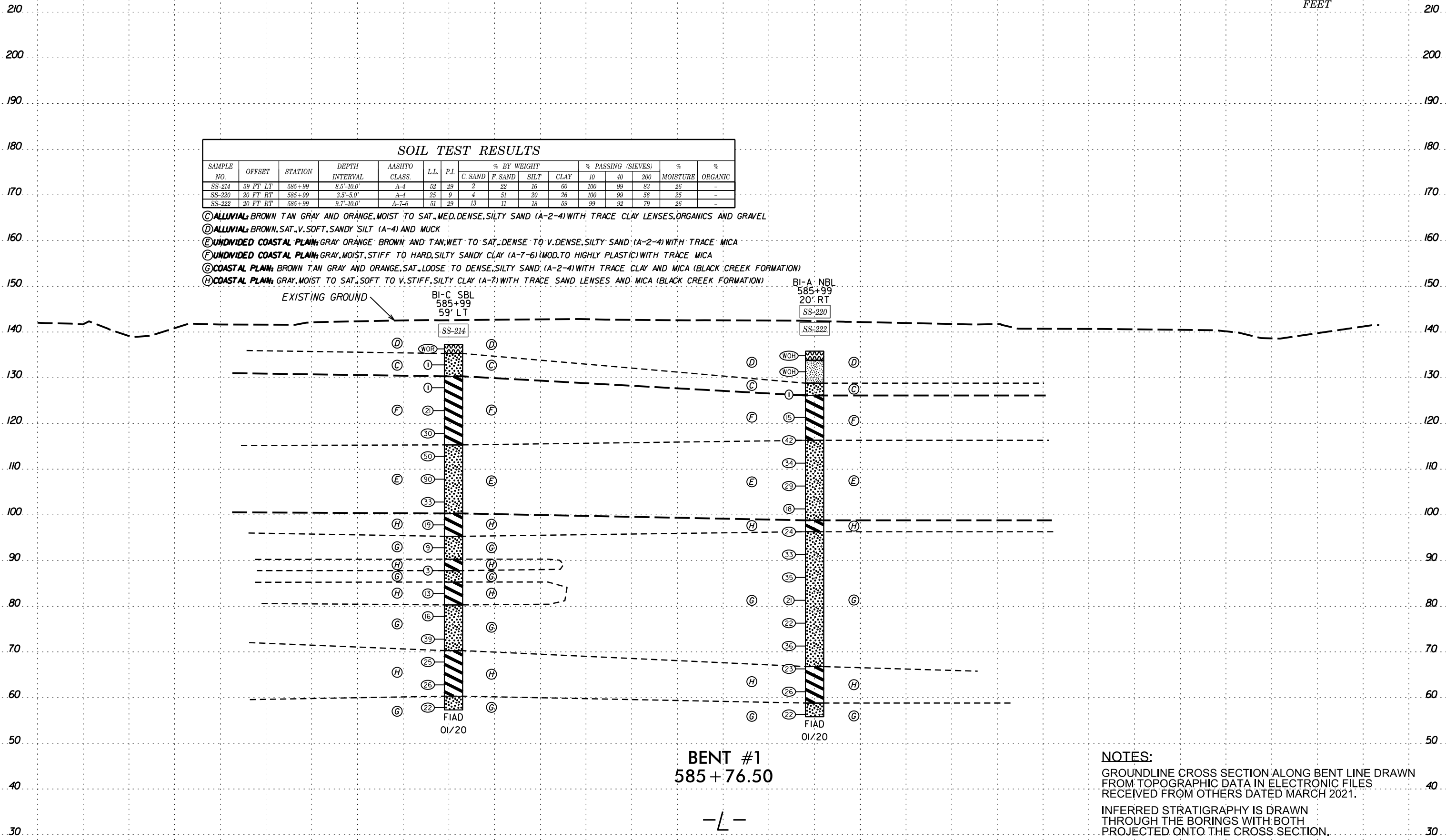
8/23/99

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8/23/99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

0 20 40  
FEET



SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-214	59 FT LT	585+99	8.5'-10.0'	A-4	52	29	2	22	16	60	100	99	83	26	-
SS-220	20 FT RT	585+99	3.5'-5.0'	A-4	25	9	4	51	20	26	100	99	56	25	-
SS-222	20 FT RT	585+99	9.7'-10.0'	A-7-6	51	29	13	11	18	59	99	92	79	26	-

- (C) ALLUVIAL; BROWN TAN GRAY AND ORANGE, MOIST TO SAT., MED. DENSE, SILTY SAND (A-2-4) WITH TRACE CLAY LENSES, ORGANICS AND GRAVEL
- (D) ALLUVIAL; BROWN, SAT., V. SOFT, SANDY SILT (A-4) AND MUCK
- (E) UNDIVIDED COASTAL PLAIN; GRAY ORANGE BROWN AND TAN, WET TO SAT., DENSE TO V. DENSE, SILTY SAND (A-2-4) WITH TRACE MICA
- (F) UNDIVIDED COASTAL PLAIN; GRAY, MOIST, STIFF TO HARD, SILTY SANDY CLAY (A-7-6) (MOD. TO HIGHLY PLASTIC) WITH TRACE MICA
- (G) COASTAL PLAIN; BROWN TAN GRAY AND ORANGE, SAT., LOOSE TO DENSE, SILTY SAND (A-2-4) WITH TRACE CLAY AND MICA (BLACK CREEK FORMATION)
- (H) COASTAL PLAIN; GRAY, MOIST TO SAT., SOFT TO V. STIFF, SILTY CLAY (A-7) WITH TRACE SAND LENSES AND MICA (BLACK CREEK FORMATION)

BENT #1  
585+76.50

-L-

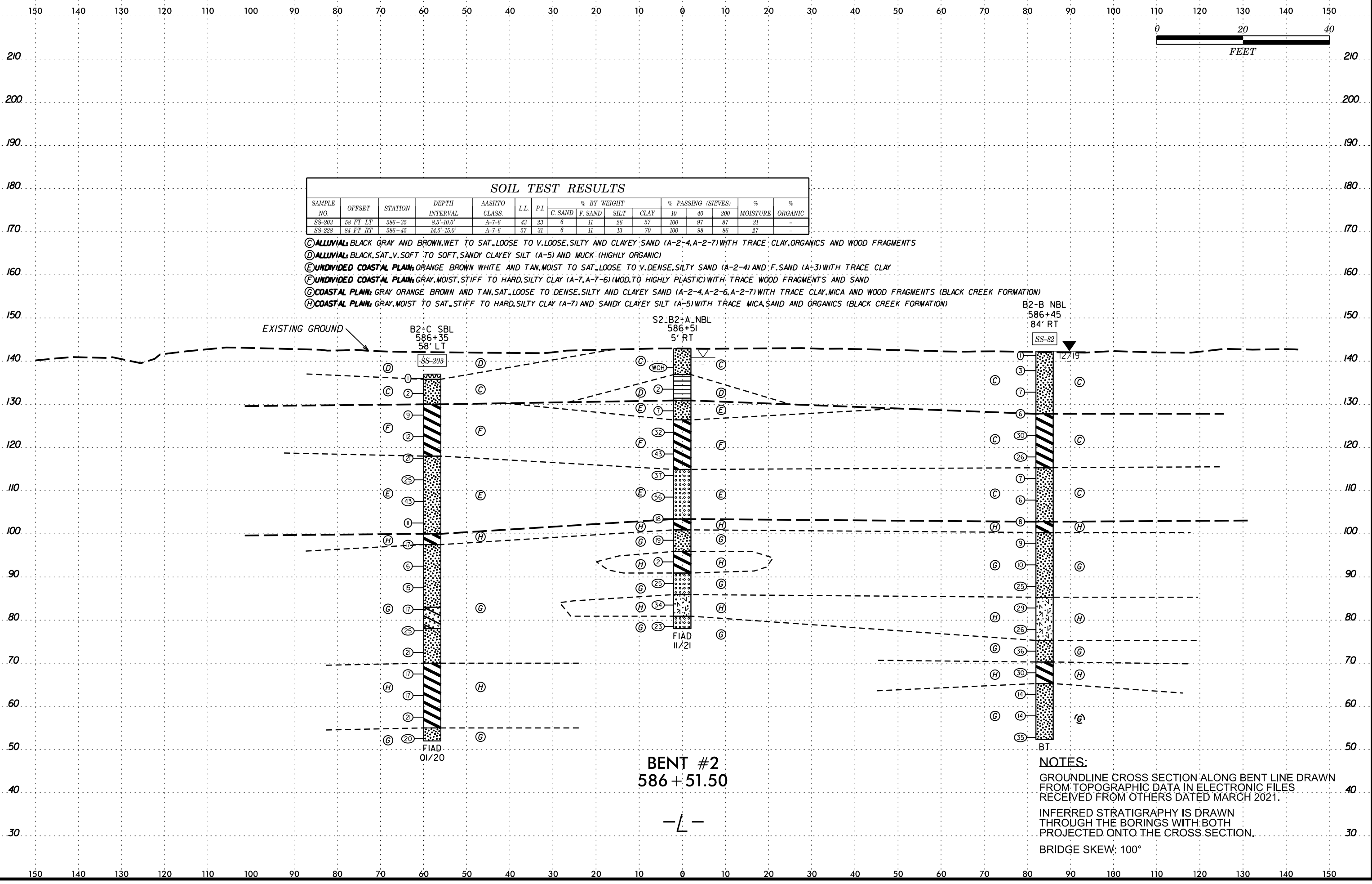
NOTES:  
GROUNDLINE CROSS SECTION ALONG BENT LINE DRAWN FROM TOPOGRAPHIC DATA IN ELECTRONIC FILES RECEIVED FROM OTHERS DATED MARCH 2021.  
INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.  
BRIDGE SKEW: 100°

8/23/99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



8/23/99



SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-203	58 FT LT	586+35	8.5'-10.0'	A-7-6	43	23	6	11	26	57	100	97	87	21	-
SS-228	84 FT RT	586+45	14.5'-15.0'	A-7-6	57	31	6	11	13	70	100	98	86	27	-

- (C) ALLUVIAL: BLACK GRAY AND BROWN, WET TO SAT., LOOSE TO V. LOOSE, SILTY AND CLAYEY SAND (A-2-4, A-2-7) WITH TRACE CLAY, ORGANICS AND WOOD FRAGMENTS
- (D) ALLUVIAL: BLACK, SAT., V. SOFT TO SOFT, SANDY CLAYEY SILT (A-5) AND MUCK (HIGHLY ORGANIC)
- (E) UNDIVIDED COASTAL PLAIN: ORANGE BROWN WHITE AND TAN, MOIST TO SAT., LOOSE TO V. DENSE, SILTY SAND (A-2-4) AND F. SAND (A-3) WITH TRACE CLAY
- (F) UNDIVIDED COASTAL PLAIN: GRAY, MOIST, STIFF TO HARD, SILTY CLAY (A-7, A-7-6) (MOD. TO HIGHLY PLASTIC) WITH TRACE WOOD FRAGMENTS AND SAND
- (G) COASTAL PLAIN: GRAY ORANGE BROWN AND TAN, SAT., LOOSE TO DENSE, SILTY AND CLAYEY SAND (A-2-4, A-2-6, A-2-7) WITH TRACE CLAY, MICA AND WOOD FRAGMENTS (BLACK CREEK FORMATION)
- (H) COASTAL PLAIN: GRAY, MOIST TO SAT., STIFF TO HARD, SILTY CLAY (A-7) AND SANDY CLAYEY SILT (A-5) WITH TRACE MICA, SAND AND ORGANICS (BLACK CREEK FORMATION)

**BENT #2**  
586 + 51.50

**NOTES:**  
 GROUNDLINE CROSS SECTION ALONG BENT LINE DRAWN FROM TOPOGRAPHIC DATA IN ELECTRONIC FILES RECEIVED FROM OTHERS DATED MARCH 2021.  
 INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.  
 BRIDGE SKEW: 100°

SDATES

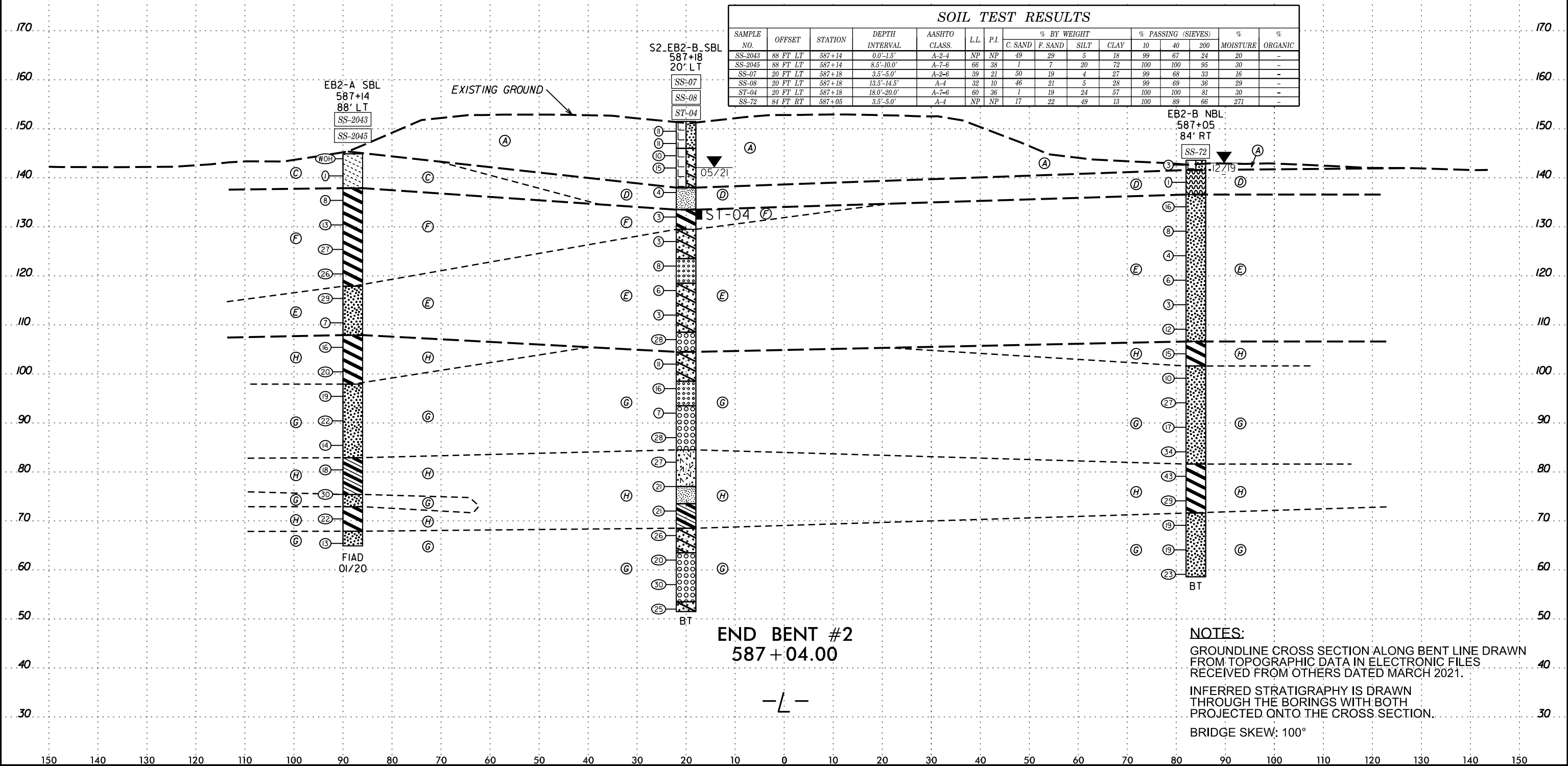
8/23/99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

0 20 40  
FEET

- (A) ROADWAY EMBANKMENT: BROWN AND GRAY, MOIST TO SAT., V. LOOSE TO MED. DENSE CLAYEY AND SILTY SAND (A-2-4, A-2-6) WITH TRACE ORGANICS
- (C) ALLUVIAL: BROWN AND BLACK, MOIST TO SAT., V. LOOSE, CLAYEY SILTY SAND (A-2-4) WITH LITTLE TO MOD. ORGANICS
- (D) ALLUVIAL: BROWN BLACK, MOIST TO WET, V. SOFT TO SOFT, SANDY SILT (A-4) AND MUCK WITH TRACE GRAVEL
- (E) UNDIVIDED COASTAL PLAIN: ORANGE TAN BROWN GRAY AND BROWN-TAN, SAT., V. LOOSE TO DENSE, CLAYEY AND SILTY SAND (A-2-4, A-2-6) AND F. AND CSE. SAND (A-1-b, A-3) WITH TRACE MICA
- (F) UNDIVIDED COASTAL PLAIN: GRAY AND TAN, MOIST TO SAT., SOFT TO V. STIFF, SILTY CLAY (A-7-6) (MOD. TO HIGHLY PLASTIC) WITH TRACE ORGANICS AND GRAVEL
- (G) COASTAL PLAIN: GRAY ORANGE AND BROWN, SAT., LOOSE TO DENSE, CLAYEY AND SILTY SAND (A-2-4, A-2-6) AND F. TO CSE. SAND (A-1-b, A-3) WITH TRACE TO LITTLE MICA AND TRACE CEMENTED SAND FRAGMENTS (BLACK CREEK FORMATION)
- (H) COASTAL PLAIN: GRAY, MOIST TO SAT., V. STIFF TO HARD, SANDY AND SILTY CLAY (A-6, A-7) AND SANDY AND CLAYEY SILT (A-4, A-5) WITH TRACE TO LITTLE MICA AND TRACE GRAVEL AND ORGANICS (BLACK CREEK FORMATION)

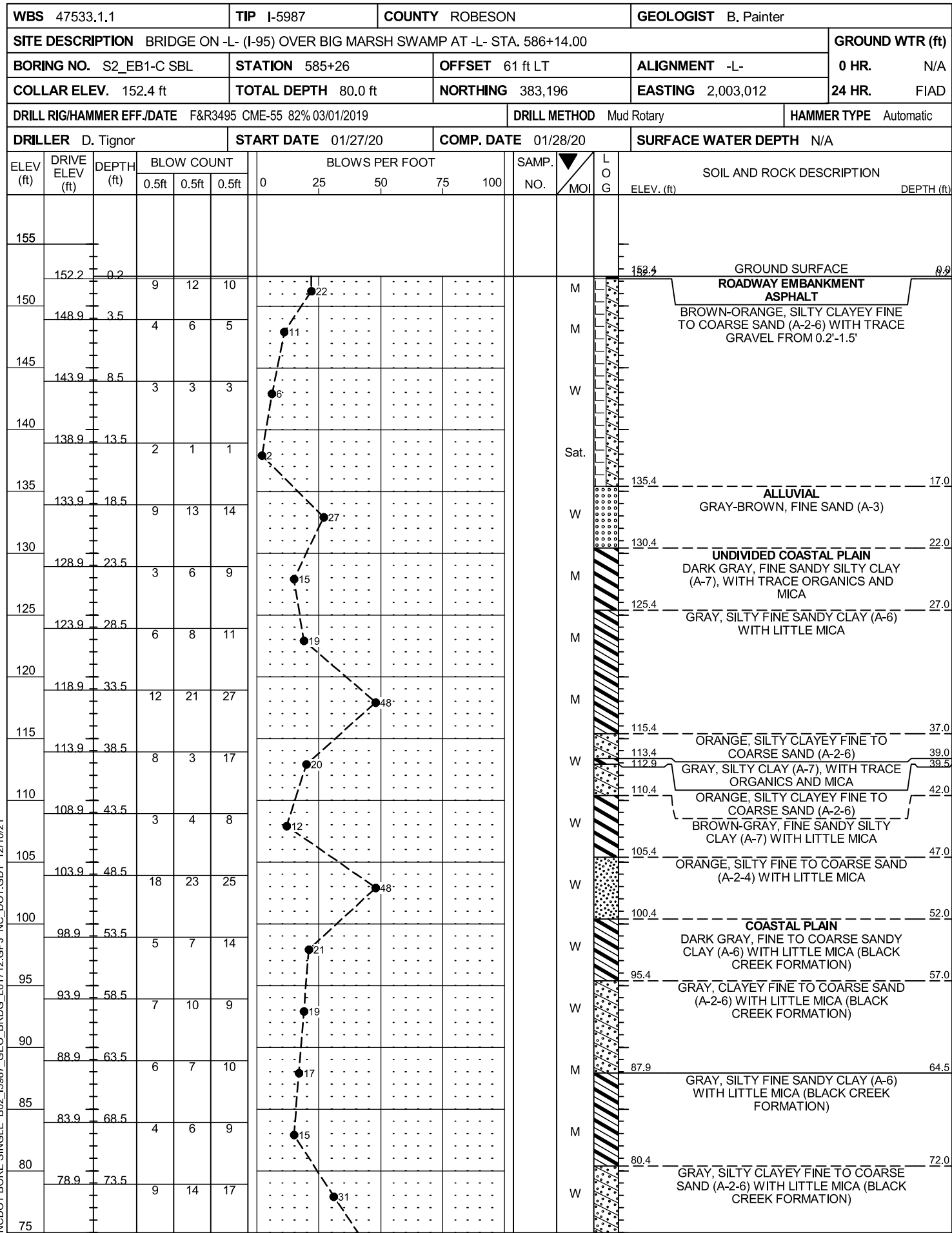
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-2043	88 FT LT	587+14	0.0'-1.5'	A-2-4	NP	NP	49	29	5	18	99	67	24	-	-
SS-2045	88 FT LT	587+14	8.5'-10.0'	A-7-6	66	38	1	7	20	72	100	100	95	30	-
SS-07	20 FT LT	587+18	3.5'-5.0'	A-2-6	39	21	50	19	4	27	99	68	33	16	-
SS-08	20 FT LT	587+18	13.5'-14.5'	A-4	32	10	46	21	5	28	99	69	36	29	-
ST-04	20 FT LT	587+18	18.0'-20.0'	A-7-6	60	36	1	19	24	57	100	100	81	30	-
SS-72	84 FT RT	587+05	3.5'-5.0'	A-4	NP	NP	17	22	49	13	100	89	66	271	-



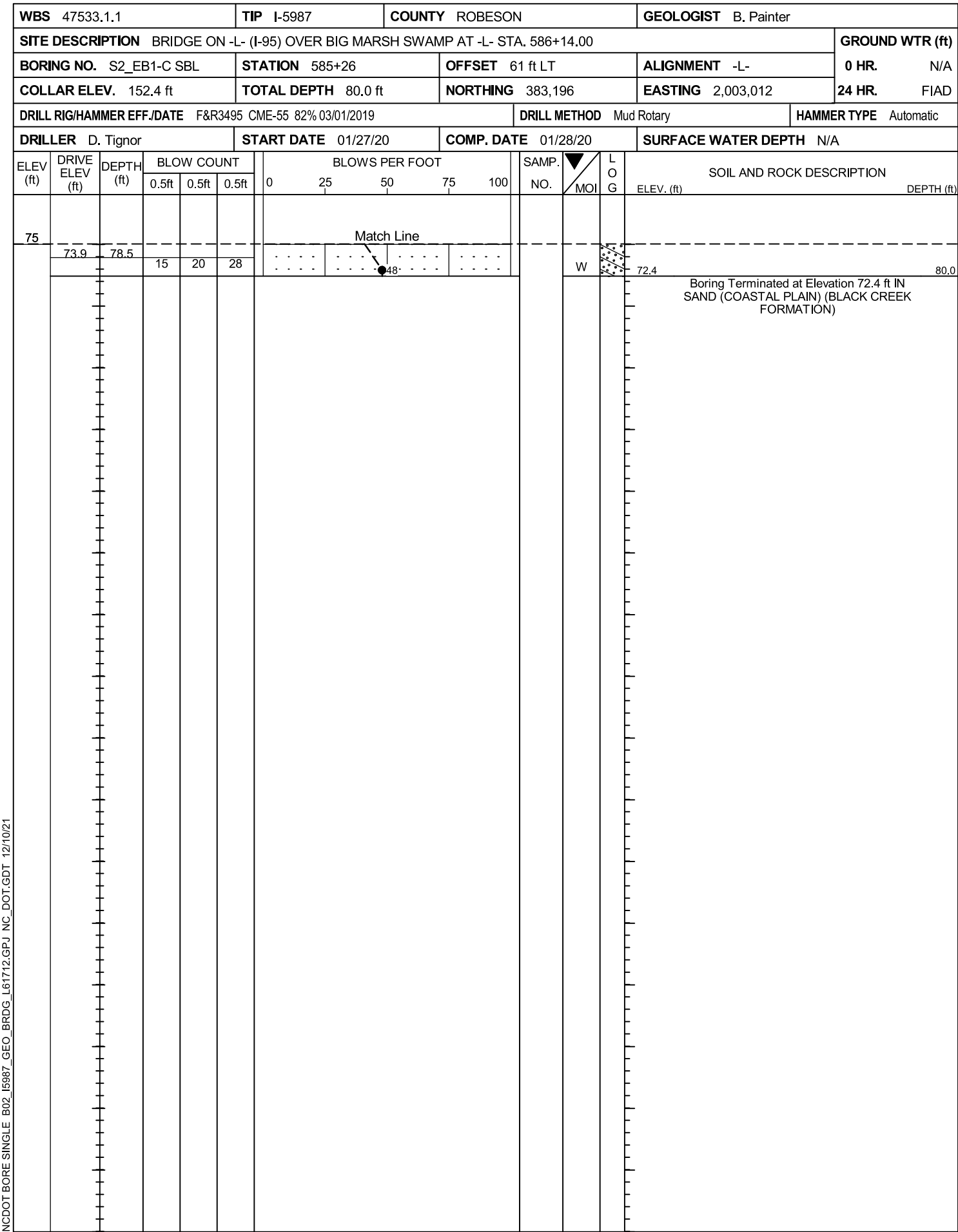
8/23/99



## GEOTECHNICAL BORING REPORT BORE LOG



## GEOTECHNICAL BORING REPORT BORE LOG



# GEOTECHNICAL BORING REPORT BORE LOG

<b>WBS</b> 47533.1.1	<b>TIP</b> I-5987	<b>COUNTY</b> ROBESON	<b>GEOLOGIST</b> W. Pesl
<b>SITE DESCRIPTION</b> BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00			<b>GROUND WTR (ft)</b>
<b>BORING NO.</b> S2_EB1-A NBL	<b>STATION</b> 585+26	<b>OFFSET</b> 21 ft RT	<b>ALIGNMENT</b> -L-
<b>COLLAR ELEV.</b> 152.4 ft	<b>TOTAL DEPTH</b> 80.0 ft	<b>NORTHING</b> 383,169	<b>EASTING</b> 2,003,089
<b>DRILL RIG/HAMMER EFF./DATE</b> F&R2175 CME-55 84% 03/01/2019		<b>DRILL METHOD</b> Mud Rotary	<b>HAMMER TYPE</b> Automatic
<b>DRILLER</b> S. Davis	<b>START DATE</b> 01/30/20	<b>COMP. DATE</b> 01/31/20	<b>SURFACE WATER DEPTH</b> N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
160															
155															
150	151.5	0.9	19	22	21										
145	148.9	3.5	3	5	5										
140	143.9	8.5	2	2	3										
135	138.9	13.5	WOH	1	0										
130	133.9	18.5	5	8	8										
125	128.9	23.5	4	2	7										
120	123.9	28.5	7	11	13										
115	118.9	33.5	8	11	18										
110	113.9	38.5	12	16	21										
105	108.9	43.5	24	30	27										
100	103.9	48.5	20	26	32										
95	98.9	53.5	5	11	15										
90	93.9	58.5	10	10	12										
85	88.9	63.5	13	15	22										
80	83.9	68.5	14	20	28										

# GEOTECHNICAL BORING REPORT BORE LOG

<b>WBS</b> 47533.1.1	<b>TIP</b> I-5987	<b>COUNTY</b> ROBESON	<b>GEOLOGIST</b> W. Pesl
<b>SITE DESCRIPTION</b> BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00			<b>GROUND WTR (ft)</b>
<b>BORING NO.</b> S2_EB1-A NBL	<b>STATION</b> 585+26	<b>OFFSET</b> 21 ft RT	<b>ALIGNMENT</b> -L-
<b>COLLAR ELEV.</b> 152.4 ft	<b>TOTAL DEPTH</b> 80.0 ft	<b>NORTHING</b> 383,169	<b>EASTING</b> 2,003,089
<b>DRILL RIG/HAMMER EFF./DATE</b> F&R2175 CME-55 84% 03/01/2019		<b>DRILL METHOD</b> Mud Rotary	<b>HAMMER TYPE</b> Automatic
<b>DRILLER</b> S. Davis	<b>START DATE</b> 01/30/20	<b>COMP. DATE</b> 01/31/20	<b>SURFACE WATER DEPTH</b> N/A

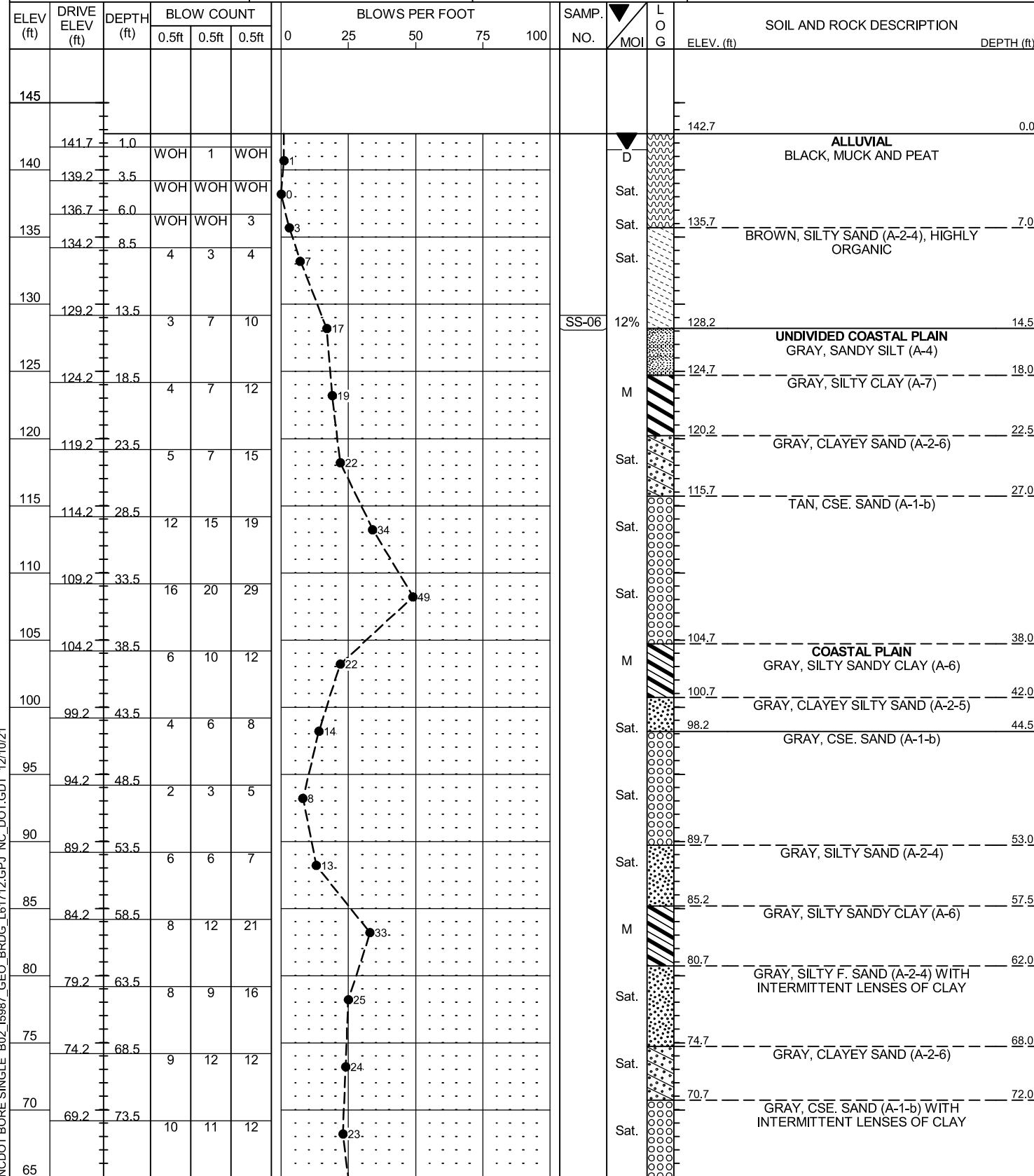
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
80															
75	78.9	73.5	7	9	14										
	73.9	78.5	9	13	16										

NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21

NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21

# GEOTECHNICAL BORING REPORT BORE LOG

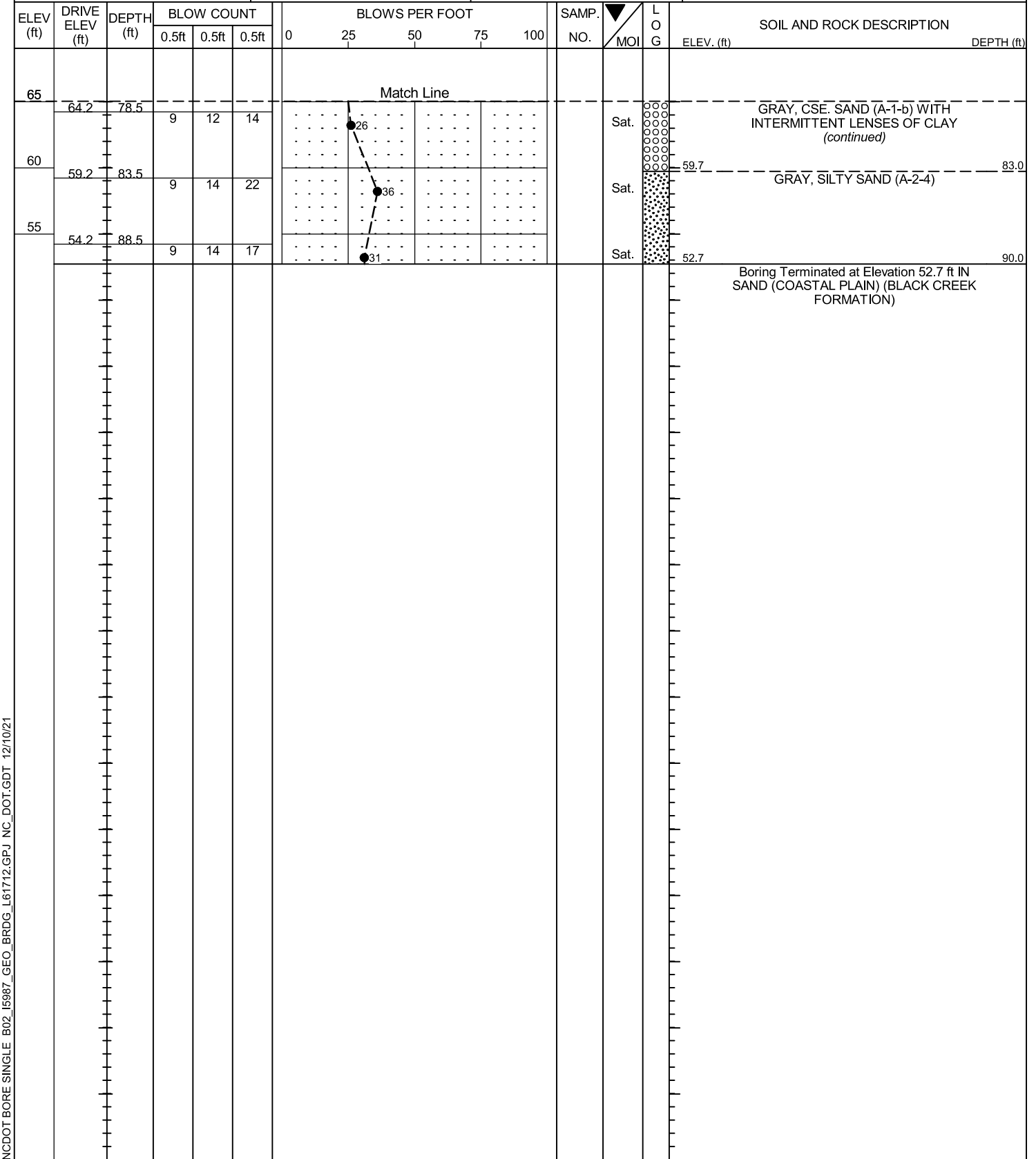
<b>WBS</b> 47533.1.1	<b>TIP</b> I-5987	<b>COUNTY</b> ROBESON	<b>GEOLOGIST</b> Weis, J. M.
<b>SITE DESCRIPTION</b> BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00			<b>GROUND WTR (ft)</b>
<b>BORING NO.</b> S2_EB1-B_NBL	<b>STATION</b> 585+16	<b>OFFSET</b> 68 ft RT	<b>ALIGNMENT</b> -L-
<b>COLLAR ELEV.</b> 142.7 ft	<b>TOTAL DEPTH</b> 90.0 ft	<b>NORTHING</b> 383,144	<b>EASTING</b> 2,003,131
<b>DRILL RIG/HAMMER EFF./DATE</b> MID3964 CME-45C 91% 02/21/2019		<b>DRILL METHOD</b> Mud Rotary	<b>HAMMER TYPE</b> Automatic
<b>DRILLER</b> Powell, B.	<b>START DATE</b> 05/24/21	<b>COMP. DATE</b> 05/25/21	<b>SURFACE WATER DEPTH</b> N/A



NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21

# GEOTECHNICAL BORING REPORT BORE LOG

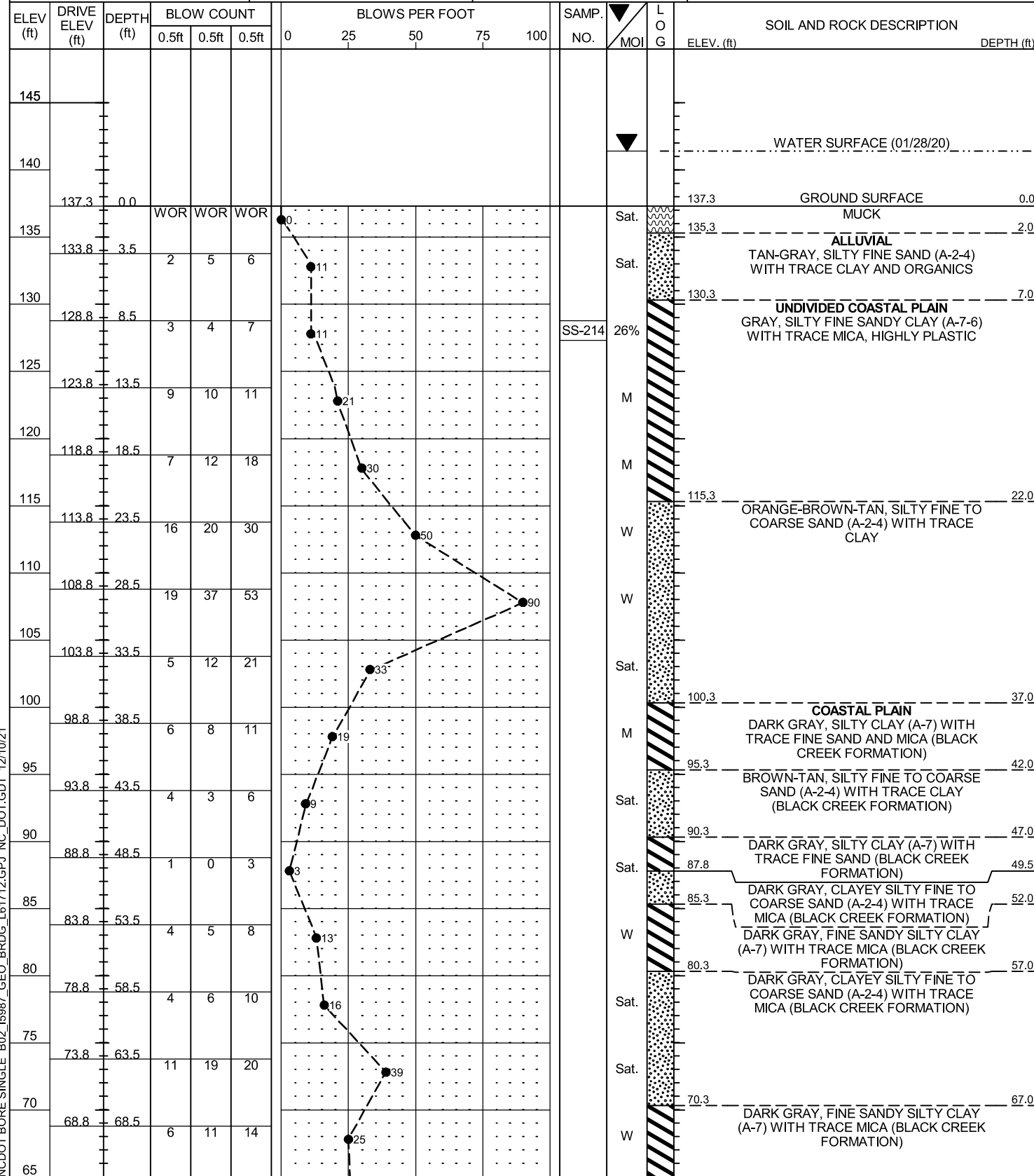
<b>WBS</b> 47533.1.1	<b>TIP</b> I-5987	<b>COUNTY</b> ROBESON	<b>GEOLOGIST</b> Weis, J. M.
<b>SITE DESCRIPTION</b> BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00			<b>GROUND WTR (ft)</b>
<b>BORING NO.</b> S2_EB1-B_NBL	<b>STATION</b> 585+16	<b>OFFSET</b> 68 ft RT	<b>ALIGNMENT</b> -L-
<b>COLLAR ELEV.</b> 142.7 ft	<b>TOTAL DEPTH</b> 90.0 ft	<b>NORTHING</b> 383,144	<b>EASTING</b> 2,003,131
<b>DRILL RIG/HAMMER EFF./DATE</b> MID3964 CME-45C 91% 02/21/2019		<b>DRILL METHOD</b> Mud Rotary	<b>HAMMER TYPE</b> Automatic
<b>DRILLER</b> Powell, B.	<b>START DATE</b> 05/24/21	<b>COMP. DATE</b> 05/25/21	<b>SURFACE WATER DEPTH</b> N/A



NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21

# GEOTECHNICAL BORING REPORT BORE LOG

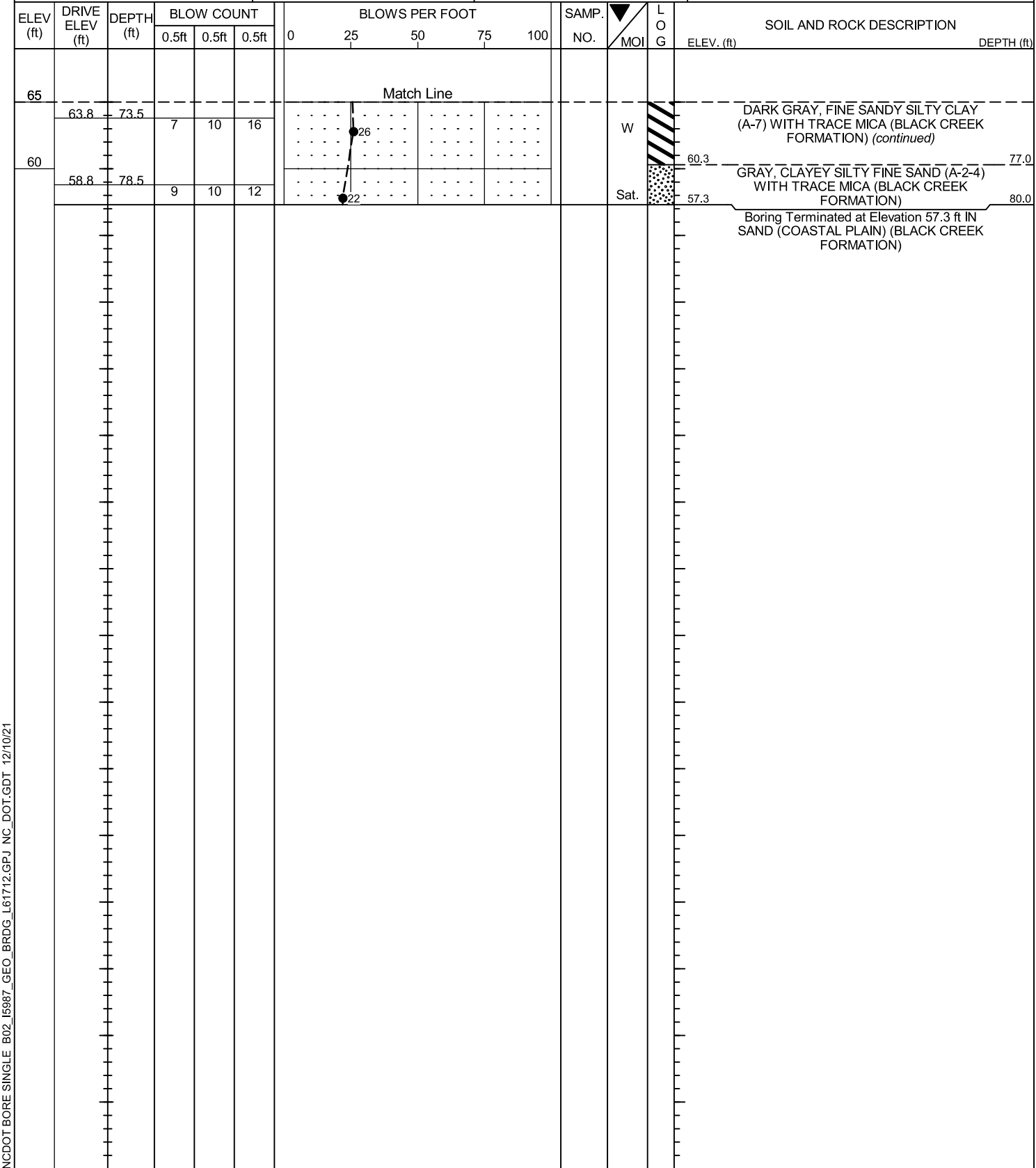
<b>WBS</b> 47533.1.1	<b>TIP</b> I-5987	<b>COUNTY</b> ROBESON	<b>GEOLOGIST</b> W. Pesl
<b>SITE DESCRIPTION</b> BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00			<b>GROUND WTR (ft)</b>
<b>BORING NO.</b> S2_B1-C SBL	<b>STATION</b> 585+99	<b>OFFSET</b> 59 ft LT	<b>ALIGNMENT</b> -L-
<b>COLLAR ELEV.</b> 137.3 ft	<b>TOTAL DEPTH</b> 80.0 ft	<b>NORTHING</b> 383,264	<b>EASTING</b> 2,003,038
<b>DRILL RIG/HAMMER EFF./DATE</b> F&R2175 CME-55 84% 03/01/2019		<b>DRILL METHOD</b> Mud Rotary	<b>HAMMER TYPE</b> Automatic
<b>DRILLER</b> S. Davis	<b>START DATE</b> 01/28/20	<b>COMP. DATE</b> 01/29/20	<b>SURFACE WATER DEPTH</b> 4.1ft



NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21

# GEOTECHNICAL BORING REPORT BORE LOG

<b>WBS</b> 47533.1.1	<b>TIP</b> I-5987	<b>COUNTY</b> ROBESON	<b>GEOLOGIST</b> W. Pesl
<b>SITE DESCRIPTION</b> BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00			<b>GROUND WTR (ft)</b>
<b>BORING NO.</b> S2_B1-C SBL	<b>STATION</b> 585+99	<b>OFFSET</b> 59 ft LT	<b>ALIGNMENT</b> -L-
<b>COLLAR ELEV.</b> 137.3 ft	<b>TOTAL DEPTH</b> 80.0 ft	<b>NORTHING</b> 383,264	<b>EASTING</b> 2,003,038
<b>DRILL RIG/HAMMER EFF./DATE</b> F&R2175 CME-55 84% 03/01/2019		<b>DRILL METHOD</b> Mud Rotary	<b>HAMMER TYPE</b> Automatic
<b>DRILLER</b> S. Davis	<b>START DATE</b> 01/28/20	<b>COMP. DATE</b> 01/29/20	<b>SURFACE WATER DEPTH</b> 4.1ft

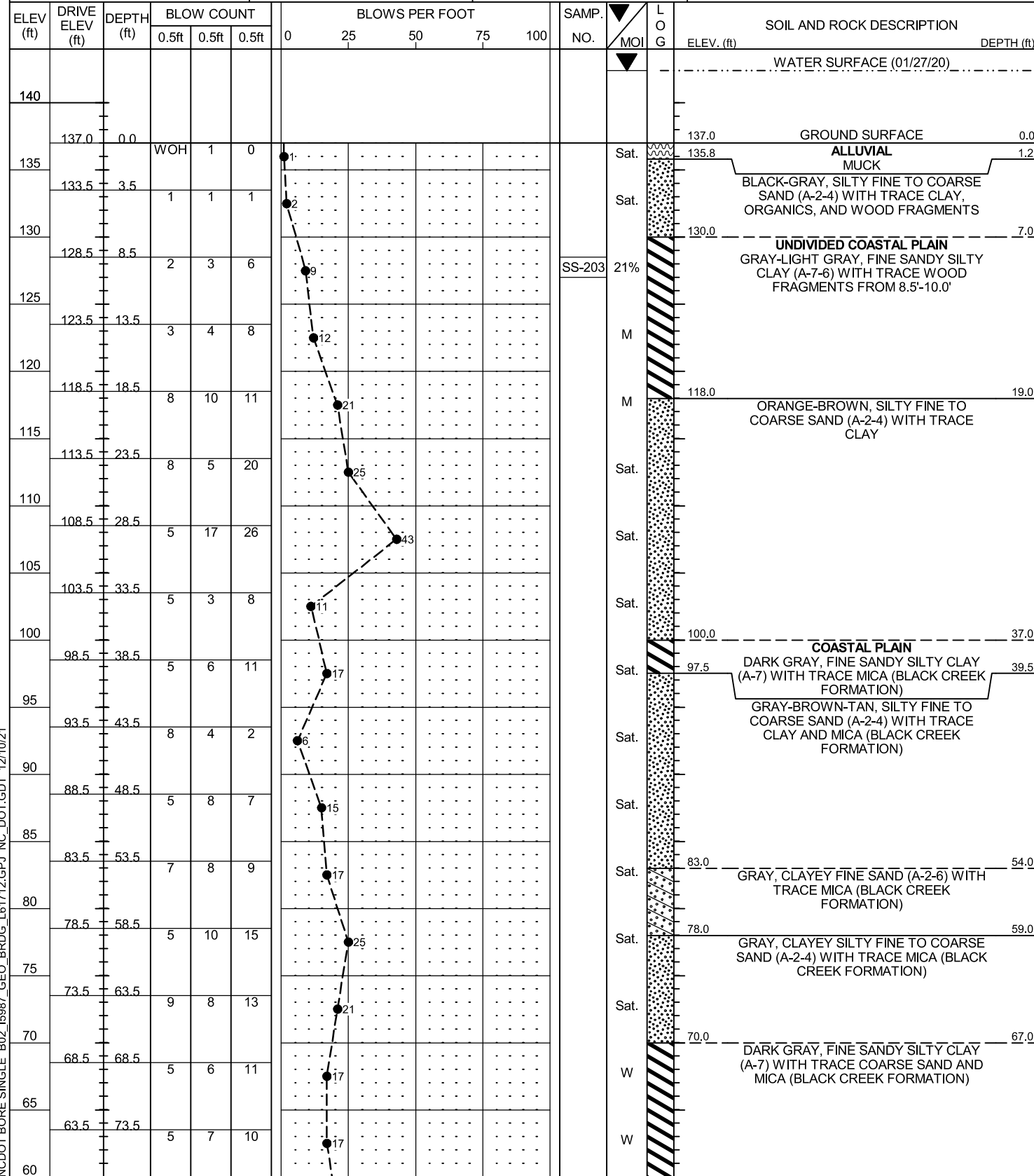


NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21



# GEOTECHNICAL BORING REPORT BORE LOG

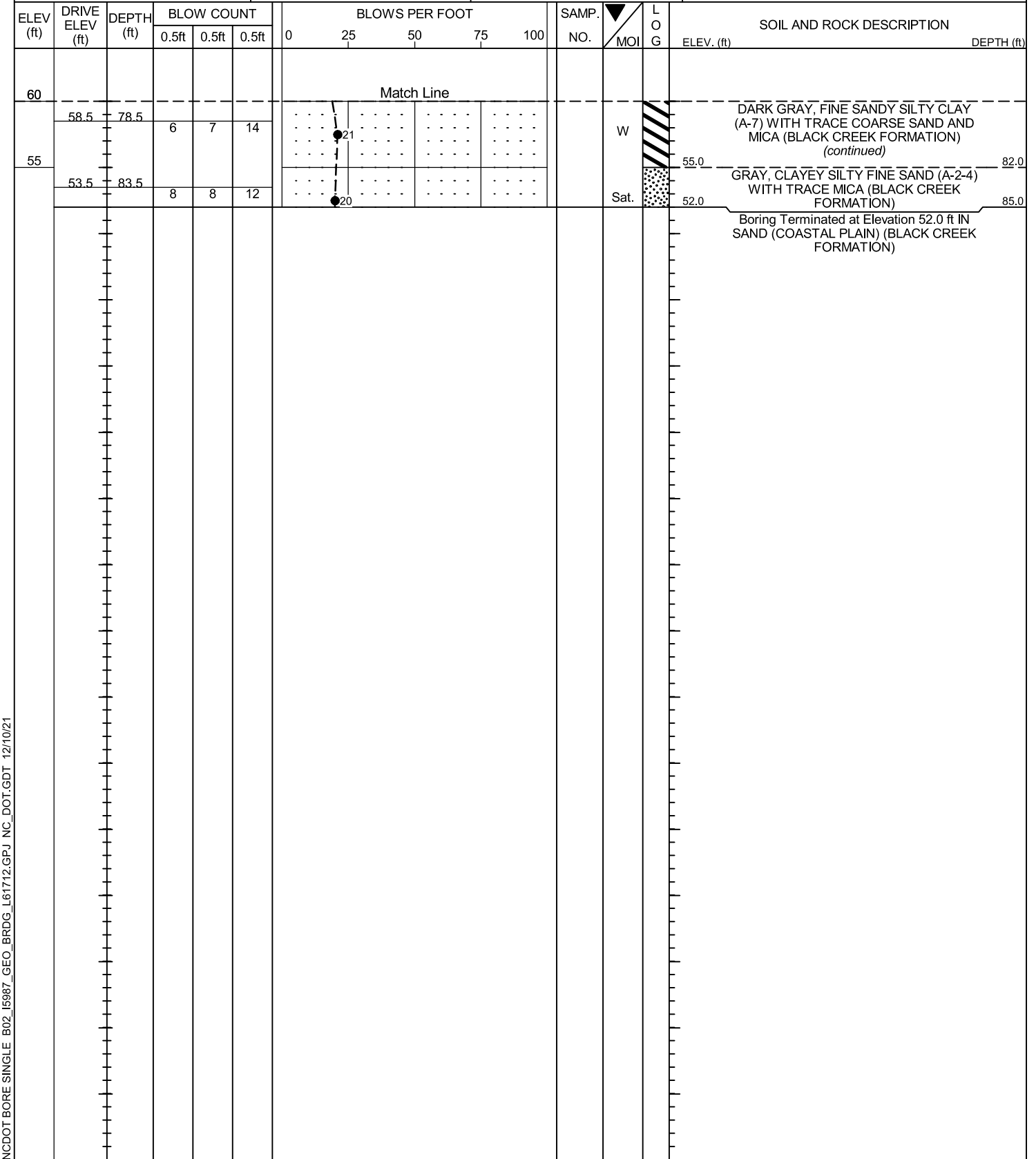
<b>WBS</b> 47533.1.1	<b>TIP</b> I-5987	<b>COUNTY</b> ROBESON	<b>GEOLOGIST</b> W. Pesl
<b>SITE DESCRIPTION</b> BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00			<b>GROUND WTR (ft)</b>
<b>BORING NO.</b> S2_B2-C SBL	<b>STATION</b> 586+35	<b>OFFSET</b> 58 ft LT	<b>ALIGNMENT</b> -L-
<b>COLLAR ELEV.</b> 137.0 ft	<b>TOTAL DEPTH</b> 85.0 ft	<b>NORTHING</b> 383,298	<b>EASTING</b> 2,003,052
<b>DRILL RIG/HAMMER EFF./DATE</b> F&R2175 CME-55 84% 03/01/2019		<b>DRILL METHOD</b> Mud Rotary	<b>HAMMER TYPE</b> Automatic
<b>DRILLER</b> S. Davis	<b>START DATE</b> 01/27/20	<b>COMP. DATE</b> 01/28/20	<b>SURFACE WATER DEPTH</b> 5.4ft



NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21

# GEOTECHNICAL BORING REPORT BORE LOG

<b>WBS</b> 47533.1.1	<b>TIP</b> I-5987	<b>COUNTY</b> ROBESON	<b>GEOLOGIST</b> W. Pesl
<b>SITE DESCRIPTION</b> BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00			<b>GROUND WTR (ft)</b>
<b>BORING NO.</b> S2_B2-C SBL	<b>STATION</b> 586+35	<b>OFFSET</b> 58 ft LT	<b>ALIGNMENT</b> -L-
<b>COLLAR ELEV.</b> 137.0 ft	<b>TOTAL DEPTH</b> 85.0 ft	<b>NORTHING</b> 383,298	<b>EASTING</b> 2,003,052
<b>DRILL RIG/HAMMER EFF./DATE</b> F&R2175 CME-55 84% 03/01/2019		<b>DRILL METHOD</b> Mud Rotary	<b>HAMMER TYPE</b> Automatic
<b>DRILLER</b> S. Davis	<b>START DATE</b> 01/27/20	<b>COMP. DATE</b> 01/28/20	<b>SURFACE WATER DEPTH</b> 5.4ft



NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21

# GEOTECHNICAL BORING REPORT

## BORE LOG

<b>WBS</b> 47533.1.1		<b>TIP</b> I-5987		<b>COUNTY</b> ROBESON		<b>GEOLOGIST</b> Lane, R. W.	
<b>SITE DESCRIPTION</b> BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00							<b>GROUND WTR (ft)</b>
<b>BORING NO.</b> S2_B2-A_NBL		<b>STATION</b> 586+49		<b>OFFSET</b> CL		<b>ALIGNMENT</b> -L-	
<b>COLLAR ELEV.</b> 142.9 ft		<b>TOTAL DEPTH</b> 64.9 ft		<b>NORTHING</b> 383,292		<b>EASTING</b> 2,003,111	
<b>DRILL RIG/HAMMER EFF./DATE</b> MID636214 CME-45C 86% 02/21/2019				<b>DRILL METHOD</b> Mud Rotary		<b>HAMMER TYPE</b> Automatic	
<b>DRILLER</b> Strickland, T.		<b>START DATE</b> 11/09/21		<b>COMP. DATE</b> 11/09/21		<b>SURFACE WATER DEPTH</b> N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
145														
140	139.5	3.4	WOH	WOH	WOH	0							ALLUVIAL GRAY, CLAYEY SAND (A-2-7)	0.0
135	134.5	8.4	WOH	WOH	2								BLACK, SANDY SILT (A-5) HIGHLY ORGANIC	6.0
130	129.5	13.4	2	3	4								UNDIVIDED COASTAL PLAIN WHITE AND TAN, SILTY FINE SAND (A-2-4)	12.0
125	124.5	18.4	7	12	20								GRAY, SILTY CLAY (A-7)	16.5
120	119.5	23.4	10	17	26									
115	114.5	28.4	10	18	19								TAN, SAND (A-3)	28.0
110	109.5	33.4	20	26	30									
105	104.5	38.4	16	9	9								COASTAL PLAIN GRAY, SILTY CLAY (A-7) WITH TRACE ORGANICS (BLACK CREEK FORMATION)	39.5
100	99.5	43.4	5	8	11								GRAY, CLAYEY SAND (A-2-7) (BLACK CREEK FORMATION)	42.0
95	94.5	48.4	2	1	1								GRAY, SILTY CLAY (A-7) (BLACK CREEK FORMATION)	47.0
90	89.5	53.4	8	11	14								GRAY, SAND (A-3) (BLACK CREEK FORMATION)	52.0
85	84.5	58.4	8	14	20								GRAY, FINE SANDY CLAYEY SILT (A-5) WITH TRACE MICA (BLACK CREEK FORMATION)	57.0
80	79.5	63.4	10	10	13								GRAY, SAND (A-3) WITH TRACE MICA (BLACK CREEK FORMATION)	62.0
													Boring Terminated at Elevation 78.0 ft IN SAND (COASTAL PLAIN) (BLACK CREEK FORMATION)	64.9

NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21



# GEOTECHNICAL BORING REPORT BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST W. Pesl										
SITE DESCRIPTION BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00							GROUND WTR (ft)									
BORING NO. S2_B2-B NBL		STATION 586+45		OFFSET 84 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 142.3 ft		TOTAL DEPTH 90.0 ft		NORTHING 383,260		EASTING 2,003,189										
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 80% 03/08/2019		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
DRILLER D. Pinter		START DATE 12/17/19		COMP. DATE 12/18/19		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
145																
	142.3	0.0													142.3	GROUND SURFACE
140	138.8	3.5	1	2	1									W	ALLUVIAL BROWN-GRAY, SILTY FINE TO COARSE SAND (A-2-4) WITH TRACE WOOD FRAGMENTS, AND CLAY	
135	133.8	8.5	1	2	5									Sat.		
130	128.8	13.5	1	3	3									Sat.		
125	123.8	18.5	8	14	16									M	UNDIVIDED COASTAL PLAIN DARK GRAY TO LIGHT GRAY, SILTY CLAY (A-7-6) WITH TRACE FINE TO COARSE SAND, HIGHLY PLASTIC (BLACK CREEK FORMATION)	
120	118.8	23.5	8	12	14									M		
115	113.8	28.5	1	2	5									Sat.	ORANGE-BROWN-TAN, SILTY FINE TO COARSE SAND (A-2-4)	
110	108.8	33.5	6	3	3									Sat.		
105	103.8	38.5	4	4	4									Sat.	COASTAL PLAIN DARK GRAY, SILTY CLAY (A-7) WITH TRACE MICA (BLACK CREEK FORMATION)	
100	98.8	43.5	3	5	4									Sat.	GRAY TO ORANGE-BROWN-TAN, SILTY FINE TO COARSE SAND (A-2-4) WITH TRACE MICA (BLACK CREEK FORMATION)	
95	93.8	48.5	6	4	6									Sat.		
90	88.8	53.5	10	11	14									Sat.		
85	83.8	58.5	7	13	16									M	DARK GRAY, FINE SANDY CLAYEY SILT (A-5) WITH TRACE MICA (BLACK CREEK FORMATION)	
80	78.8	63.5	7	12	14									M		
75	73.8	68.5	10	20	16									Sat.	GRAY, SILTY FINE TO COARSE SAND (A-2-4) WITH TRACE CLAY, WOOD FRAGMENTS, AND MICA (BLACK CREEK FORMATION)	
70	68.8	73.5	6	13	17									M	DARK GRAY, FINE SANDY SILTY CLAY (A-7) WITH TRACE MICA (BLACK CREEK FORMATION)	
65															65.3	Boring Terminated at Elevation 52.3 ft IN SAND (COASTAL PLAIN) (BLACK CREEK FORMATION)

NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21

# GEOTECHNICAL BORING REPORT BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST W. Pesl										
SITE DESCRIPTION BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00							GROUND WTR (ft)									
BORING NO. S2_B2-B NBL		STATION 586+45		OFFSET 84 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 142.3 ft		TOTAL DEPTH 90.0 ft		NORTHING 383,260		EASTING 2,003,189										
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 80% 03/08/2019		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
DRILLER D. Pinter		START DATE 12/17/19		COMP. DATE 12/18/19		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
65																
	63.8	78.5	4	7	7											Match Line
60	58.8	83.5	4	6	8									Sat.	GRAY, SILTY FINE SAND (A-2-4) WITH TRACE MICA AND CLAY (BLACK CREEK FORMATION) (continued)	
55	53.8	88.5	6	15	20									Sat.		
															52.3	Boring Terminated at Elevation 52.3 ft IN SAND (COASTAL PLAIN) (BLACK CREEK FORMATION)

NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21

# GEOTECHNICAL BORING REPORT BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST B. Painter										
SITE DESCRIPTION BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00							GROUND WTR (ft)									
BORING NO. S2_EB2-A SBL		STATION 587+14		OFFSET 88 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 144.9 ft		TOTAL DEPTH 80.0 ft		NORTHING 383,382		EASTING 2,003,050										
DRILL RIG/HAMMER EFF./DATE F&R5785 CME-55 73% 03/01/2019				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic										
DRILLER D. Tignor		START DATE 01/08/20		COMP. DATE 01/09/20		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
155																
150																
145	144.9	0.0	WOH	WOH	WOH										144.9	0.0
140	141.4	3.5	WOH	WOH	1											
135	136.4	8.5	2	3	5											
130	131.4	13.5	3	6	7											
125	126.4	18.5	6	12	15											
120	121.4	23.5	6	12	14											
115	116.4	28.5	15	16	13											
110	111.4	33.5	3	4	3											
105	106.4	38.5	3	7	9											
100	101.4	43.5	4	9	11											
95	96.4	48.5	2	7	12											
90	91.4	53.5	8	12	10											
85	86.4	58.5	4	5	9											
80	81.4	63.5	3	7	11											
75	76.4	68.5	7	10	20											

NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21

# GEOTECHNICAL BORING REPORT BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST B. Painter										
SITE DESCRIPTION BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00							GROUND WTR (ft)									
BORING NO. S2_EB2-A SBL		STATION 587+14		OFFSET 88 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 144.9 ft		TOTAL DEPTH 80.0 ft		NORTHING 383,382		EASTING 2,003,050										
DRILL RIG/HAMMER EFF./DATE F&R5785 CME-55 73% 03/01/2019				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic										
DRILLER D. Tignor		START DATE 01/08/20		COMP. DATE 01/09/20		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
75																
70	71.4	73.5	6	8	14											
65	66.4	78.5	5	5	8											

Match Line

72.9

72.0

67.9

77.0

64.9

80.0

Boring Terminated at Elevation 64.9 ft IN SAND (COASTAL PLAIN) (BLACK CREEK FORMATION)

NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21

# GEOTECHNICAL BORING REPORT BORE LOG

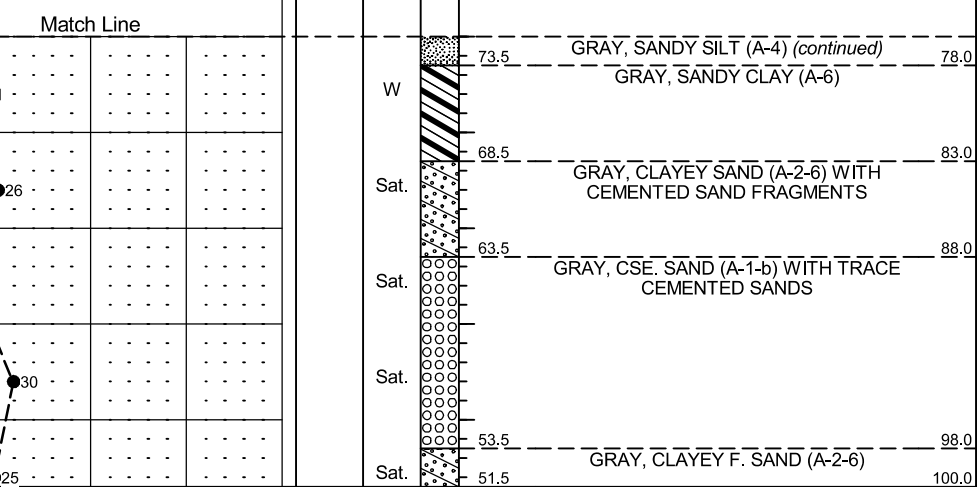
WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST Weis, J. M.										
SITE DESCRIPTION BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00							GROUND WTR (ft)									
BORING NO. S2_EB2-B_SBL		STATION 587+18		OFFSET 20 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 151.5 ft		TOTAL DEPTH 100.0 ft		NORTHING 383,363		EASTING 2,003,116										
DRILL RIG/HAMMER EFF./DATE MID3964 CME-45C 91% 02/21/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER Powell, B.		START DATE 05/27/21		COMP. DATE 05/28/21		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
155																
150	150.5	1.0	12	7	4											
	148.0	3.5	6	5	6											
145	145.5	6.0	3	5	5											
	143.0	8.5	6	8	7											
140																
	138.0	13.5	WOH	WOH	4											
135																
	133.0	18.5	WOH	WOH	3											
130																
	128.0	23.5	1	1	2											
125																
	123.0	28.5	2	4	4											
120																
	118.0	33.5	2	3	3											
115																
	113.0	38.5	1	1	2											
110																
	108.0	43.5	4	14	14											
105																
	103.0	48.5	5	5	6											
100																
	98.0	53.5	5	8	8											
95																
	93.0	58.5	6	6	1											
90																
	88.0	63.5	8	12	16											
85																
	83.0	68.5	7	11	16											
80																
	78.0	73.5	5	10	11											
75																

NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21

# GEOTECHNICAL BORING REPORT BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST Weis, J. M.										
SITE DESCRIPTION BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00							GROUND WTR (ft)									
BORING NO. S2_EB2-B_SBL		STATION 587+18		OFFSET 20 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 151.5 ft		TOTAL DEPTH 100.0 ft		NORTHING 383,363		EASTING 2,003,116										
DRILL RIG/HAMMER EFF./DATE MID3964 CME-45C 91% 02/21/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER Powell, B.		START DATE 05/27/21		COMP. DATE 05/28/21		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
75																
	73.0	78.5	5	8	13											
70																
	68.0	83.5	5	11	15											
65																
	63.0	88.5	7	10	10											
60																
	58.0	93.5	10	12	18											
55																
	53.0	98.5	7	12	13											

NCDOT BORE SINGLE B02\_15987\_GEO\_BRDG\_L61712.GPJ\_NC\_DOT.GDT 12/10/21



Boring Terminated at Elevation 51.5 ft IN SAND (COASTAL PLAIN) (BLACK CREEK FORMATION)

Other Samples:  
ST-04 (18.0 - 20.0)

# GEOTECHNICAL BORING REPORT BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST W. Pesl									
SITE DESCRIPTION BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00							GROUND WTR (ft)								
BORING NO. S2_EB2-B NBL		STATION 587+05		OFFSET 84 ft RT		ALIGNMENT -L-									
COLLAR ELEV. 143.6 ft		TOTAL DEPTH 85.0 ft		NORTHING 383,316		EASTING 2,003,209									
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 80% 03/08/2019				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic									
DRILLER R. Smith		START DATE 12/12/19		COMP. DATE 12/12/19		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
145	143.6	0.0	1	1	2									GROUND SURFACE	0.0
140	140.1	3.5	WOH	WOH	1									ROADWAY EMBANKMENT BROWN-GRAY, CLAYEY SILTY FINE TO COARSE SAND (A-2-4) WITH TRACE ORGANICS	2.0
135	135.1	8.5	7	7	9									ALLUVIAL BLACK, MUCK (ORGANIC CONTENT=29.6%)	7.0
130	130.1	13.5	2	4	4								Sat.	UNDIVIDED COASTAL PLAIN GRAY AND BROWN-TAN, CLAYEY SILTY FINE SAND (A-2-4)	
125	125.1	18.5	1	2	2								Sat.		
120	120.1	23.5	1	2	4								Sat.		
115	115.1	28.5	1	1	2								Sat.		
110	110.1	33.5	2	5	7								Sat.		
105	105.1	38.5	7	7	8								M	COASTAL PLAIN DARK GRAY, FINE SANDY SILTY CLAY (A-7) (BLACK CREEK FORMATION)	37.0
100	100.1	43.5	3	5	5								Sat.	GRAY AND ORANGE-BROWN, SILTY FINE TO COARSE SAND (A-2-4) WITH TRACE CLAY AND MICA (BLACK CREEK FORMATION)	42.0
95	95.1	48.5	10	14	13								Sat.		
90	90.1	53.5	11	9	8								Sat.		
85	85.1	58.5	13	18	16								Sat.		
80	80.1	63.5	10	19	24								M	DARK GRAY, FINE SANDY SILTY CLAY (A-7) WITH TRACE MICA (BLACK CREEK FORMATION)	62.0
75	75.1	68.5	5	12	17								M		
70	70.1	73.5	3	7	12								Sat.	GRAY, SILTY FINE TO COARSE SAND (A-2-4) WITH TRACE MICA (BLACK CREEK FORMATION)	72.0
65	65.1	78.5													

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# GEOTECHNICAL BORING REPORT BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST W. Pesl									
SITE DESCRIPTION BRIDGE ON -L- (I-95) OVER BIG MARSH SWAMP AT -L- STA. 586+14.00							GROUND WTR (ft)								
BORING NO. S2_EB2-B NBL		STATION 587+05		OFFSET 84 ft RT		ALIGNMENT -L-									
COLLAR ELEV. 143.6 ft		TOTAL DEPTH 85.0 ft		NORTHING 383,316		EASTING 2,003,209									
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 80% 03/08/2019				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic									
DRILLER R. Smith		START DATE 12/12/19		COMP. DATE 12/12/19		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
65			5	9	10									Match Line	
60	60.1	83.5	7	11	12									GRAY, SILTY FINE TO COARSE SAND (A-2-4) WITH TRACE MICA (BLACK CREEK FORMATION) (continued)	
														Boring Terminated at Elevation 58.6 ft IN SAND (COASTAL PLAIN) (BLACK CREEK FORMATION)	85.0

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