

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

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**STRUCTURE**  
**SUBSURFACE INVESTIGATION**

PROJ. REFERENCE NO. 45348.1.17 (BD-5102Q) F.A. PROJ. BRZ-1520(21)  
 COUNTY BEAUFORT  
 PROJECT DESCRIPTION BRIDGE NO. 297 ON SR 1520 (TERRAPIN TRACK RD.) OVER HALL SWAMP AT -L- STA. 12+19.00

**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 FURNISHING BORE LOGS, PORE PRESSURE AND SOIL TEST DATA AVAILABLE HAVE BEEN REVIEWED OR INSPECTED IN WHOLE OR IN PART BY THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT 8911 TOTTENHAM, WHETHER THE SUBSURFACE PLANS AND REPORTS, FOR THE FIELD BEING LOGS, CORES, OR SOIL TEST DATA ARE PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND BOREHOLE DIMENSIONS ARE BASED ON A CONSERVATIVE INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BOREHOLES OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU UNSATURATED DATA CAN BE RELIED ON ONLY TO THE DEGREE OF PROBABILITY INHERENT IN THE STANDARD TEST METHOD.

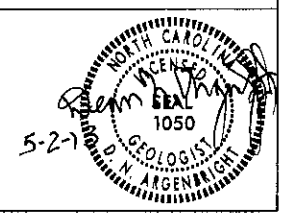
THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS REPORTED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH THE ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER HYDROLOGIC FACTORS.

THE BIDDOR 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 CONTRACTOR'S PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE ACCURACY OR ADEQUACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE BY PERSONNEL OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDOR OR CONTRACTOR IS CAUTIONED TO MAKE SUCH PRELIMINARY CONSIDERATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THIS PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF THE FIDELITY ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED BY THE SUBSURFACE INFORMATION.

**PROJECT: 45348.1.17 ID: BD-5102Q**

PERSONNEL  
C.M. WRIKE  
R.E. SMITH  
D.G. PINTER

INVESTIGATED BY D.N. ARGENBRIGHT  
 CHECKED BY D.N. ARGENBRIGHT  
 SUBMITTED BY D.N. ARGENBRIGHT  
 DATE MAY 2013



DRAWN BY: C.P. TURNER

NOTE - THE INFORMATION CONTAINED HEREIN IS NOT WARRANTEED OR GUARANTEED BY THE N.C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IS IT CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

NOTE - BY HAVING REQUESTED THIS INFORMATION THE CONTRACTOR SPECIFICALLY MAKES 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.

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

**SOIL DESCRIPTION**  
SOIL IS CONSIDERED TO BE THE UNCONSOLIDATED, SEMI-COHERENT OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER NUMBER AND YIELD LESS THAN 100 BLAND PER FOOT ACCORDING TO STANDARD PENETRATION TEST UNLESS OTHERWISE SPECIFIED. CLASSIFICATION IS BASED ON THE MATHIEU SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AND/OR PERTINENT FACTORS SUCH AS HYDROLOGICAL, COMPRESSIBILITY, PLASTICITY, ETC. EXAMPLE:   
 10% WAT. SANDY SILT, 10% WAT. WEATHERED FINE SAND (WEATHERED PLASTIC A-2)

**GRADATION**  
WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.   
 SLOTTED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE.   
 UNIFORM - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES.

**ANGULARITY OF GRAINS**  
THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUND, OR ROUND.

**MINERALOGICAL COMPOSITION**  
MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.

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**COMPRESSIBILITY**  
SLIGHTLY COMPRESSIBLE - LIQUID LIMIT LESS THAN 20   
 MODERATELY COMPRESSIBLE - LIQUID LIMIT EQUAL TO 20-30   
 HIGHLY COMPRESSIBLE - LIQUID LIMIT GREATER THAN 30

**PERCENTAGE OF MATERIAL**  
PERCENTAGE OF MATERIAL TABLE WITH COLUMNS FOR SANDS, SILTS, CLAYS, AND OTHER MATERIALS.

**GROUND WATER**  
WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING   
 STATIC WATER LEVEL AFTER 24 HOURS   
 FRENCH WATER, SATURATED ZONE, OR WATER BEARING STRATA   
 SPRING OR SEEP

**MISCELLANEOUS SYMBOLS**  
SYMBOLS FOR ROADWAY ENHANCEMENT, SOIL SYMBOLS, ARTIFICIAL FILL, WEATHERED ROCK, ALLUVIAL SOIL BOUNDARY, BIP & RP DIRECTION OF ROCK STRUCTURES, AND DRUMMING POND.

**TEXTURE OR GRAIN SIZE**  
TABLE WITH COLUMNS FOR GRAIN SIZE RANGES: GRAVEL, SAND, SILT, CLAY.

**SOIL MOISTURE - CORRELATION OF TERMS**  
TABLE CORRELATING FIELD MOISTURE DESCRIPTIONS WITH GUIDE FOR FIELD MOISTURE DESCRIPTIONS.

**PLASTICITY**  
TABLE CORRELATING PLASTICITY INDEX (PI) WITH DRY STRENGTH, VERY LOW SLIGHT, MEDIUM, AND HIGH.

**COLOR**  
TABLE CORRELATING COLOR (MUNICH) WITH DRY STRENGTH.

**ABBREVIATIONS**  
LIST OF ABBREVIATIONS FOR SOIL TYPES AND TEST METHODS.

**EQUIPMENT USED ON SUBJECT PROJECT**  
CHECKLIST OF EQUIPMENT USED: DRILL UNITS, ADVANCING TOOLS, HAMMER TYPE, CORE SIZE, CORE LOGS, PORTABLE HOIST, etc.

**ROCK DESCRIPTION**  
TABLE WITH COLUMNS FOR WEATHERED ROCK (NON-CRYSTALLINE, CRYSTALLINE), NON-CRYSTALLINE ROCK (SANDSTONE, SLATE, etc.), and CRYSTALLINE ROCK (GNEISS, GRANITE, etc.).

**WEATHERING**  
TABLE WITH COLUMNS FOR FRESH, VERY SLIGHT, SLIGHT, MODERATE, and COMPLETE weathering stages.

**ROCK HARDNESS**  
TABLE WITH COLUMNS FOR VERY HARD, HARD, MODERATELY HARD, and SOFT rock categories.

**FRACTURE SPACING**  
TABLE WITH COLUMNS FOR SPACING (VERY WIDE, WIDE, MODERATELY CLOSE, VERY CLOSE) and BEDDING (VERY THICKLY BEDDED, THICKLY BEDDED, etc.).

**INDURATION**  
TABLE WITH COLUMNS FOR FRAGILE, MODERATELY INDURATED, and INDURATED rock types.

**TERMS AND DEFINITIONS**  
DEFINITIONS FOR TERMS SUCH AS ALLUVIAL, ANISOTROPIC, ANISOTROPIC, ANISOTROPIC, ANISOTROPIC, etc.

SKEW = 90°



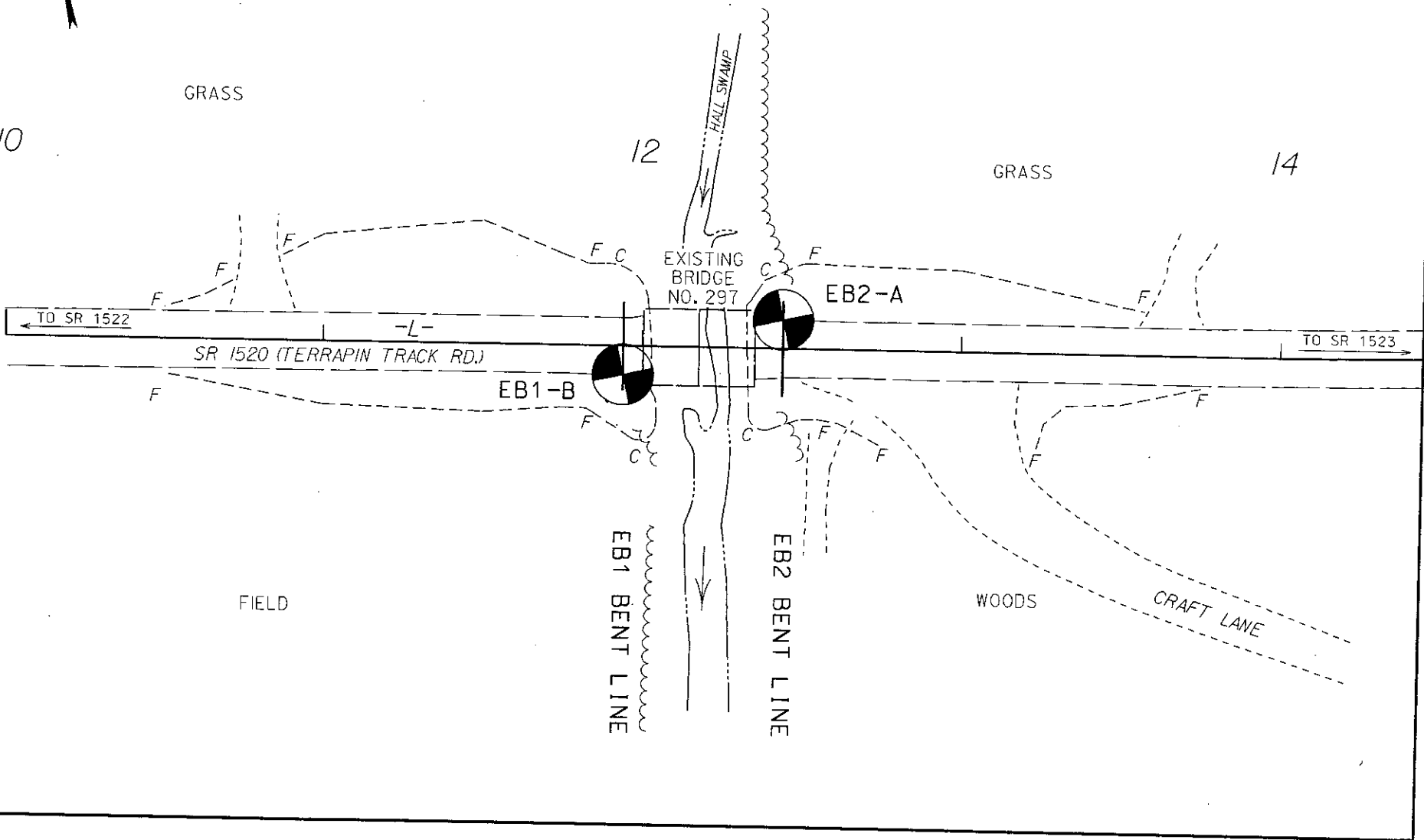
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GRASS

12

GRASS

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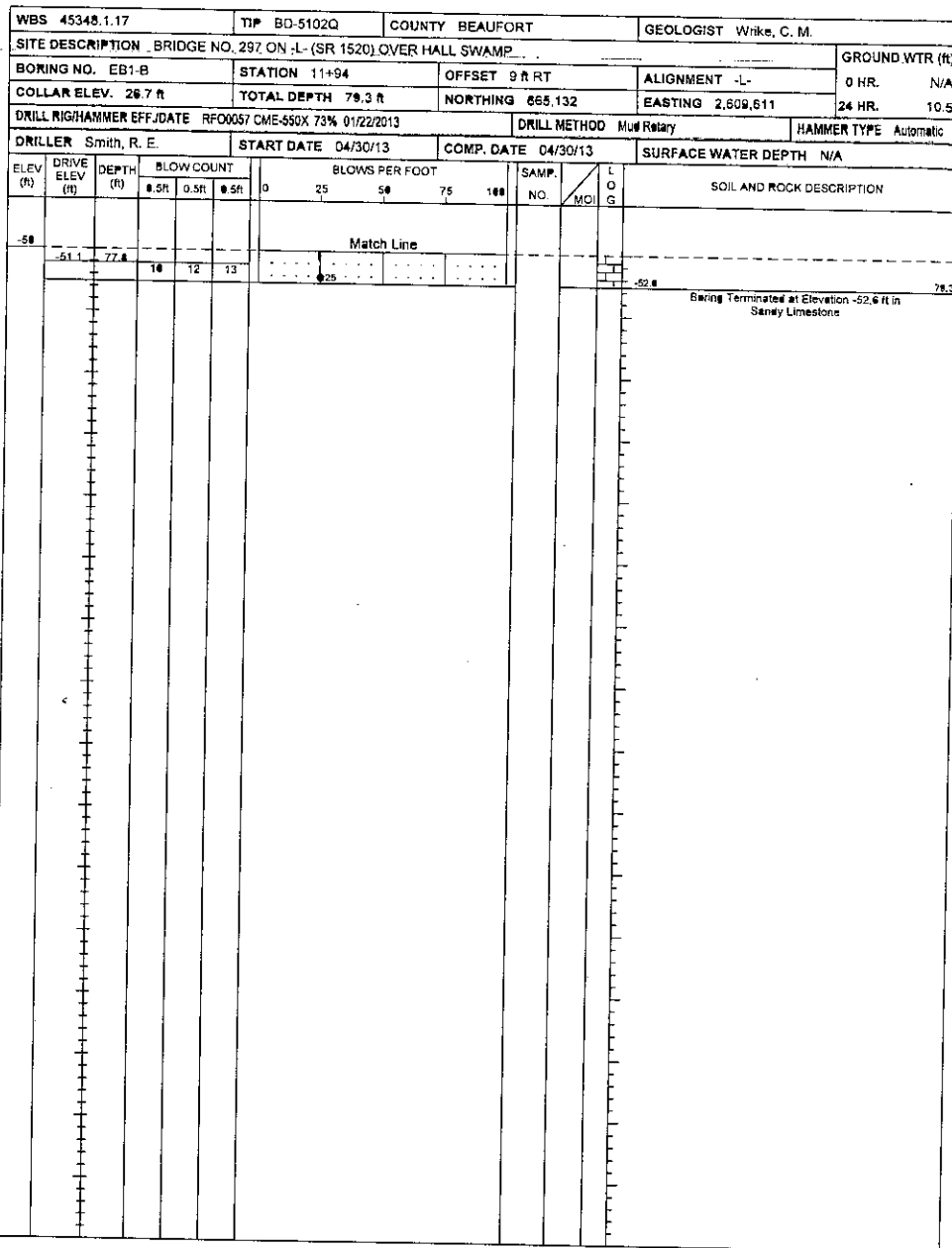
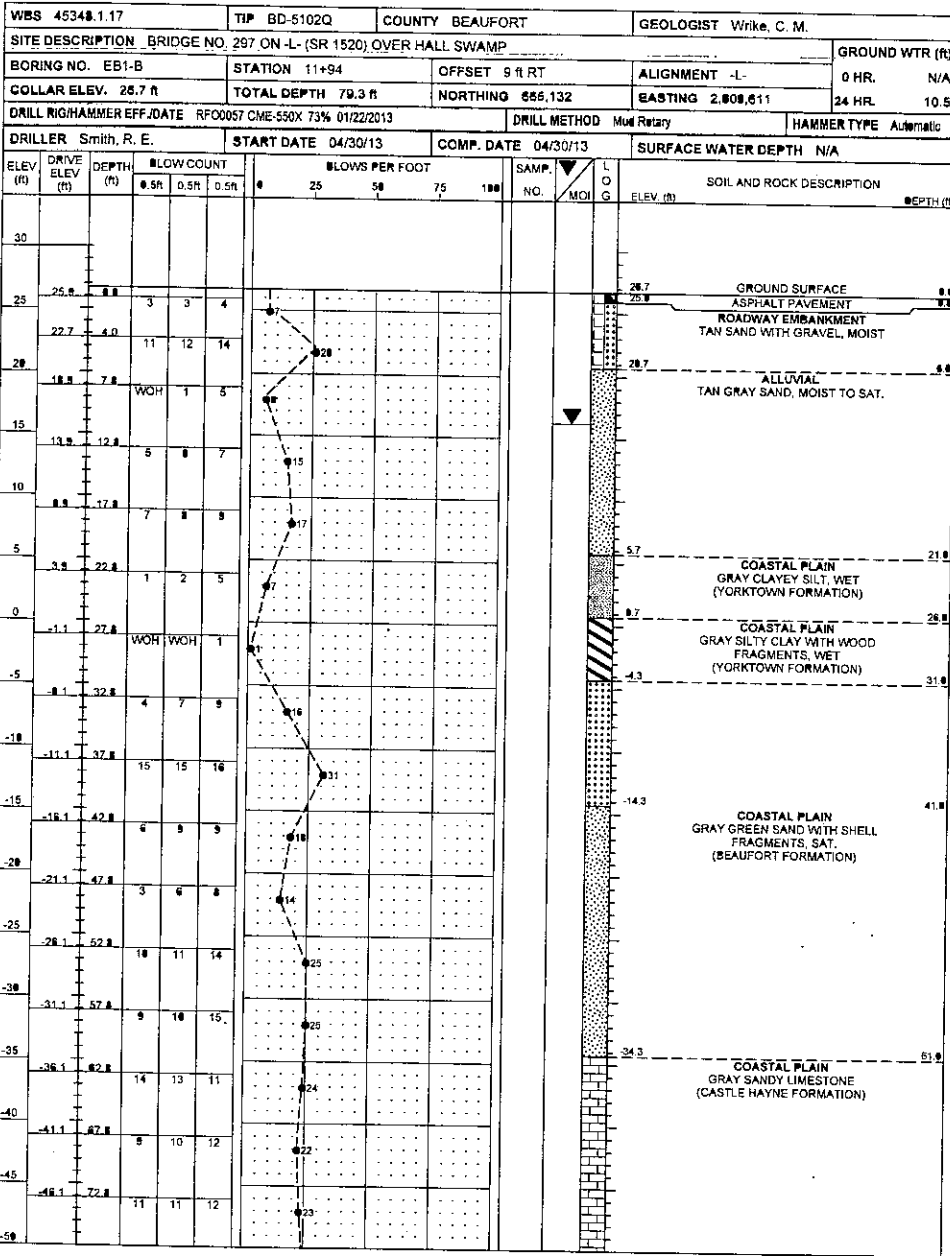






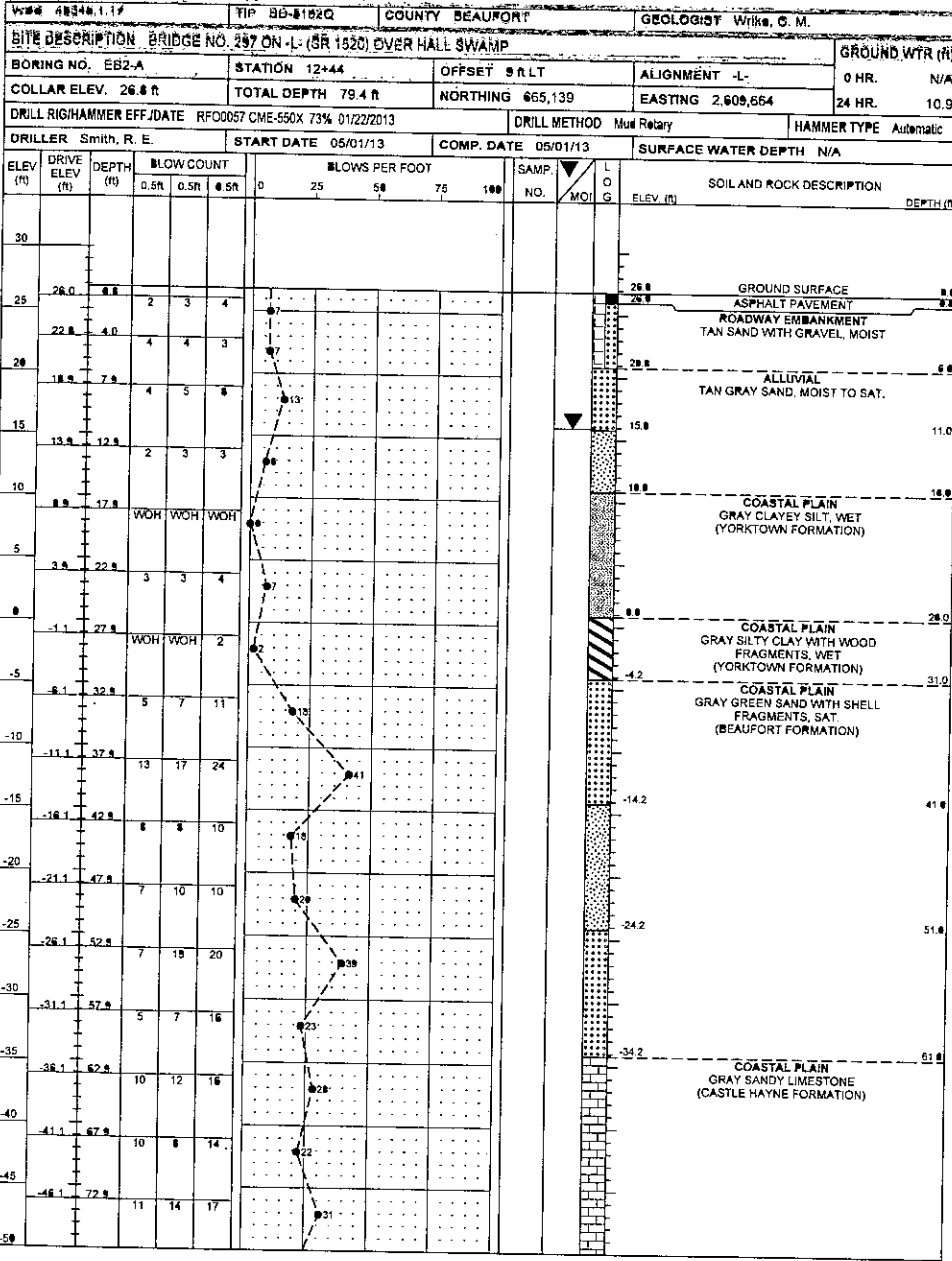
# NC DOT GEOTECHNICAL ENGINEERING UNIT

## BORELOG REPORT

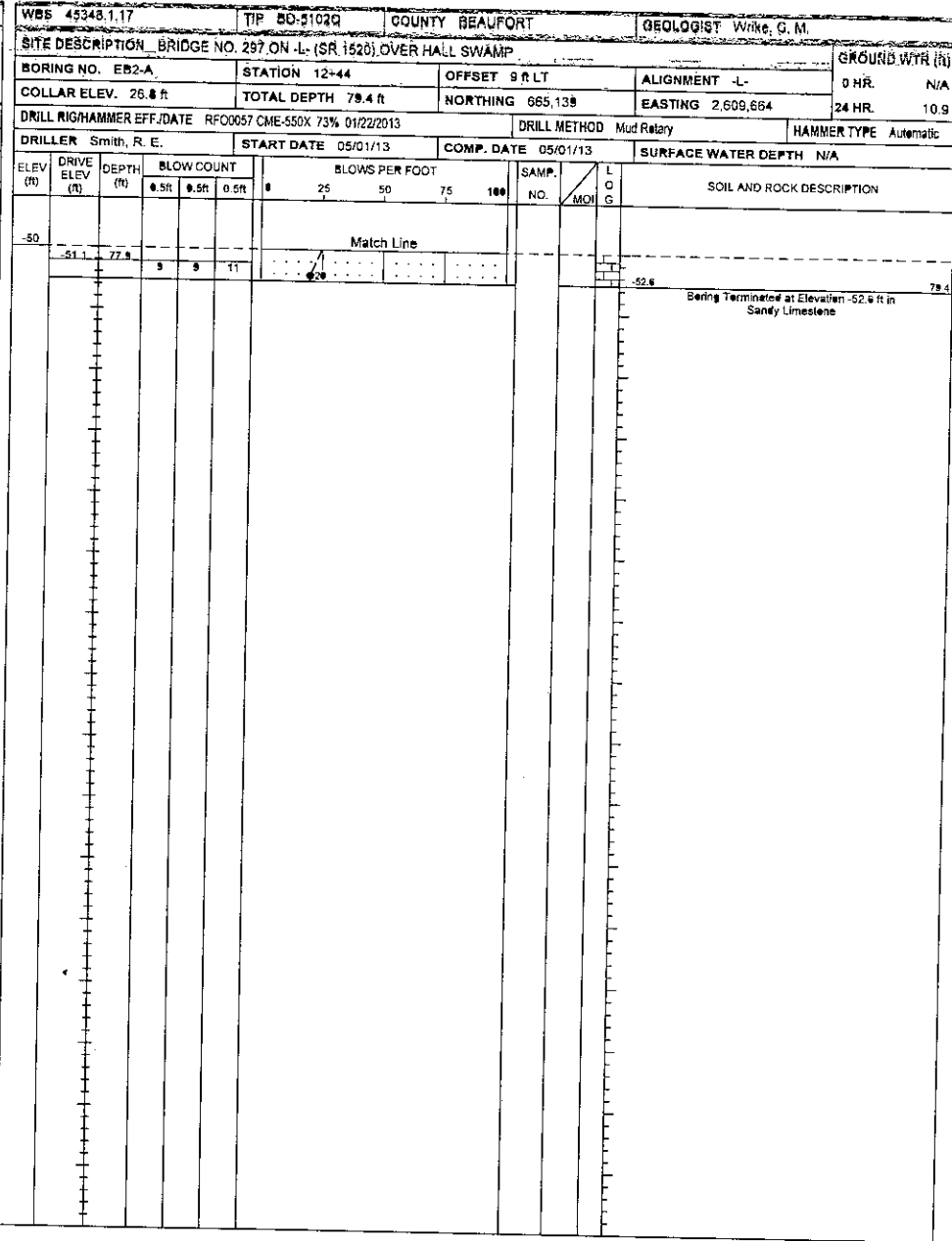


NC DOT BORE LOG FILE: WBS10203.GP, I NC\_DOT\_GDT\_62713

Boring Terminated at Elevation -52.6 ft in Sandy Limestone



NCDOT BORE DOUBLE #051020.GPJ, NC\_DOT\_GDT\_52013



Boring Terminated at Elevation -52.6 ft in Sandy Limestone