



PROJECT REFERENCE No.	SHEET No.
	SUB-2

SHEET 7 OF 35  
N.C.D.O.T. GEOTECHNICAL UNIT BORING LOG

**S&ME**  
ENGINEERING - TESTING  
ENVIRONMENTAL SERVICES

SHEET 1 OF 1

PROJECT NO. 36971	ID. NCMA10001B	COUNTY Union	GEOLOGIST J. MURPHY
SITE DESCRIPTION Replacement of Bridge No. 33 over Twelve Mile Creek on NC 16			
BORING NO. EB1-A	BORING LOCATION 16+41	OFFSET 12 ft LT	ALIGNMENT -L-
COLLAR ELEV. 517.6 ft		NORTHING	
TOTAL DEPTH 44.2 ft		DRILL MACHINE CME-55	
DATE STARTED 2/3/04		COMPLETED 2/3/04	
SURFACE WATER DEPTH N/A		HAMMER TYPE AUTOMATIC	
ELEV. (ft)	DEPTH (ft)	BLOW COUNT	SOIL AND ROCK DESCRIPTION
517.6	0.0		GROUND SURFACE
514.1	3.5	3 3 3	ROADWAY EMBANKMENT FILL: MEDIUM STIFF TAN AND RED-BROWN CLAYEY SILT (A-4)
508.1	9.5	3 2 4	
504.1	13.5	3 3 3	
500.1	17.5	5 4 4	
494.1	23.5	4 5 6	RESIDUUM: STIFF GRAY-BROWN AND TAN FINE SANDY SILT (A-4) WITH TRACE OF ROCK FRAGMENTS
489.1	28.5	4 6 9	
485.4	31.2	1000.4	WEATHERED ROCK: (GRAY-TAN METAVOLCANIC MUDSTONE)
484.1	33.5	43 57/0.2	
479.1	38.5	60/0.2	
474.1	43.5	37 63/0.2	BORING TERMINATED AT ELEVATION 473.4 FEET IN WEATHERED ROCK (METAVOLCANIC MUDSTONE)

1) ADVANCED 3-1/4" HSA TO 43.5 FEET

SHEET 8 OF 35  
N.C.D.O.T. GEOTECHNICAL UNIT BORING LOG

**S&ME**  
ENGINEERING - TESTING  
ENVIRONMENTAL SERVICES

SHEET 1 OF 1

PROJECT NO. 36971	ID. NCMA10001B	COUNTY Union	GEOLOGIST D. BENTS
SITE DESCRIPTION Replacement of Bridge No. 33 over Twelve Mile Creek on NC 16			
BORING NO. EB1-B	BORING LOCATION 16+41	OFFSET 11 ft RT	ALIGNMENT -L-
COLLAR ELEV. 517.6 ft		EASTING	
TOTAL DEPTH 38.7 ft		DRILL MACHINE CME-45B	
DATE STARTED 2/3/04		COMPLETED 2/3/04	
SURFACE WATER DEPTH N/A		HAMMER TYPE AUTOMATIC	
ELEV. (ft)	DEPTH (ft)	BLOW COUNT	SOIL AND ROCK DESCRIPTION
517.6	0.0		GROUND SURFACE
514.1	3.5	3 2 3	ROADWAY EMBANKMENT FILL: MEDIUM STIFF TO STIFF RED-BROWN AND TAN CLAYEY SILT (A-4) WITH TRACE OF ORGANIC MATTER
509.1	8.5	2 2 2	
504.1	13.5	1 2 3	
501.1	16.5	5 4 5	
499.1	18.5	3 2 3	
494.1	23.5	3 3 4	
489.1	28.5	45 55/0.3	RESIDUUM: MEDIUM STIFF ORANGE-GRAY AND BROWN FINE SANDY SILT (A-4) WITH TRACE OF ROOTS AND ROCK FRAGMENTS WEATHERED ROCK: (GRAY-TAN METAVOLCANIC MUDSTONE)
484.1	33.5	60/0.2	
479.1	38.5	60/0.2	

1) ADVANCED 2-1/4" HSA TO 38.5 FEET

BORING TERMINATED AT ELEVATION 478.9 FEET IN WEATHERED ROCK (METAVOLCANIC MUDSTONE)

SHEET 9 OF 35  
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ENGINEERING - TESTING  
ENVIRONMENTAL SERVICES

SHEET 1 OF 1

PROJECT NO. 36971	ID. NCMA10001B	COUNTY Union	GEOLOGIST D. BENTS
SITE DESCRIPTION Replacement of Bridge No. 33 over Twelve Mile Creek on NC 16			
BORING NO. EB1-A	BORING LOCATION 16+41	OFFSET 22 ft LT	ALIGNMENT -L-
COLLAR ELEV. 501.5 ft		NORTHING	
TOTAL DEPTH 40.9 ft		DRILL MACHINE Diedrich D-50	
DATE STARTED 2/5/04		COMPLETED 2/5/04	
SURFACE WATER DEPTH N/A		HAMMER TYPE MANUAL	
ELEV. (ft)	DEPTH (ft)	BLOW COUNT	SOIL AND ROCK DESCRIPTION
501.5	0.0		GROUND SURFACE
500.5	1.0	2 1 2	ALLUVIUM: SOFT TO STIFF TAN SILT (A-4) WITH TRACE OF ROOTS
498.0	3.5	3 4 8	
493.0	8.5	4 8 10	RESIDUUM: VERY STIFF TO HARD GRAY-TAN FINE SANDY SILT (A-4)
488.0	13.5	21 20 35	
485.8	16.0	60 40/0.2	WEATHERED ROCK: (GRAY-TAN METAVOLCANIC MUDSTONE)
483.0	18.5	1000.3	
481.4	20.1	1000.3	NON-CRYSTALLINE ROCK: MEDIUM TO MODERATELY HARD MODERATELY TO SLIGHTLY WEATHERED GRAY-WHITE-GREEN METAVOLCANIC MUDSTONE WITH MODERATELY CLOSE TO CLOSE FRACTURE SPACING

1) ADVANCED 2-1/4" HSA TO 20.1 FEET.  
2) SET 20.1 FEET OF NW CASING.  
3) ADVANCED NO. 2 CORE BARREL FROM 20.1 TO 40.9 FEET.  
4) CREEK WATER USED AS DRILLING FLUID.  
5) APPROXIMATE DRILLING FLUID DENSITY 62.4 PCF.  
6) NO LOSS OF DRILLING FLUID OBSERVED.