NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL UNIT BORING LOG

PROJECT NO 33356.1.1	ID B-3922	COUNTY WATAUGA	GEOLOGIST L. L. ACKER	
SITE DESCRIPTION BRIDGE NO. 316 ON SR 1149 OVER COVE CREEK				GND WATER
BORING NO B2-A	NORTHING 0.00	EASTING 0.00		0 HR N/A
ALIGNMENT -L-	BORING LOCATION 11+45.000	OFFSET 15.00ft LT		24 HR N/A
COLLAR ELEV 2635.00ft	TOTAL DEPTH 38.70ft	START DATE 4/20/04	COMPLETION DATE 04/20/04	
DRILL MACHINE CME 550	DRILL METHOD H.S. AUGERS		HAMMER TYPE AUTOMATIC	
SURFACE WATER DEPTH	DEPTH TO ROCK 11.00ft		Log B2-A, Page 1 of 1	

ELEV	DEPTH	BLOW CT 6in	6in	6in	PEN (ft)	BLOWS PER FOOT 0 25 50 75 100	SAMPLE NO	MOI	LOG	SOIL AND ROCK DESCRIPTION
2635.00						Ground Surface				
2630.00	4.00	18	6	7	1.0	13				ALLUVIUM: SAND AND GRAVEL TO BOULDERS
	9.40	100			0.2	100				WEATHERED ROCK
2620.00							CORE 1			HARD ROCK: MOD. HARD, SLI. WEATHERED META-GABBRO REC=85 RQD=31
							CORE 2			HARD ROCK: HARD, SLI. WEATHERED PEGMATITE REC=69 RQD=0
							CORE 3			HARD ROCK: HARD, FRESH PEGMATITE REC=100 RQD=91
2610.00							CORE 4			HARD ROCK: HARD, SLI. WEATHERED, SHEARED TRANSITION FROM PEGMATITE TO BIOTITE GNEISS REC=55 RQD=7 (MACHINE LOSS)
							CORE 5			HARD ROCK: HARD, FRESH FESIC GNEISS REC=100 RQD=88
2600.00							CORE 6			HARD ROCK: HARD, FRESH META-GABBRO REC=100 RQD=100
2596.30						TERMINATED BORING IN HARD ROCK AT ELEVATION 2596.3 FEET.				HARD ROCK: HARD, FRESH, LAYERED BIOTITE GNEISS REC=100 RQD=93

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WATAUGA COUNTY

CORE BORING REPORT
B2-A

CORE 1: 11.0 – 13.7	REC=85% RQD=31%
CORE 2: 13.7 – 18.7	REC=82% RQD=42%
CORE 3: 18.7 – 23.7	REC=82% RQD=56%
CORE 4: 23.7 – 28.7	REC=33% RQD=0%
CORE 5: 28.7 – 33.7	REC=95% RQD=58%
CORE 6: 33.7 – 38.7	REC=100% RQD=97%

LAYER 1: 11.0 – 13.7 Moderately hard, slightly weathered, hornblende-chlorite meta-gabbro, massive, highly fractured, well-foliated at 20 degrees. Severely weathered at base. >20 pieces, longest piece 0.9 feet. Joints indeterminate, most at 20 degrees or 70 degrees, clean or coated with Fe-oxide. REC=85% RQD=31%

LAYER 2: 13.7 – 16.6 Hard, slightly weathered, fractured white pegmatite. Poorly developed micaceous shear cleavage at 20 degrees. 30 pieces, longest piece 0.3 feet. Joints indeterminate and numerous due to weathering on shear cleavage, mica coated. REC=69% RQD=0%

LAYER 3: 16.6 – 21.2 Hard, fresh, white pegmatite. 5 pieces, longest piece 1.5 feet. Thin, micaceous shear planes dipping 20 degrees, most not open. 5 joints at 20 degrees on shear planes, smooth to moderately rough, coated with mica. REC=100% RQD=91%

LAYER 4: 21.2 – 31.2 Hard, slightly weathered transition from sheared pegmatite to layered biotite gneiss. 33 pieces, longest piece 0.45 feet. Poorly foliated and more or less layered, dipping about 20-25 degrees. 14 joints on foliation, moderately rough, clean or with a little Fe-oxide. 8 joints at 0-10 degrees, moderately rough, clean. One joint at 80-90 degrees, rough, coated with chlorite. Severely weathered seam at basal 0.1 foot. Most core loss due to core barrel malfunction. REC=55% RQD=6.5%

LAYER 5: 31.2 – 33.2 Hard, fresh felsic gneiss. 3 pieces, longest piece 1.75 feet. Very poorly foliated at 10 degrees. 3 joints on foliation close together, smooth, clean. REC=100% RQD=88%

LAYER 6: 33.2 – 35.9 Moderately hard, fresh, hornblende-chlorite meta-gabbro. 2 pieces, longer piece 2.2 feet. Well foliated at 10 degrees. REC=100% RQD=100%

LAYER 7: 35.9 – 38.7 Hard, fresh, layered biotite gneiss. 8 pieces, longest piece 0.9 feet. Foliated parallel with layering at 10 degrees. Layers are 0.05 to 0.5 feet thick. 7 joints on foliation, smooth, clean. REC=100% RQD=93%