



STATE OF VERMONT  
AGENCY OF TRANSPORTATION  
MATERIALS & RESEARCH SECTION  
SUBSURFACE INFORMATION

BORING LOG

Highgate BO 1448 (43)  
(GeoDesign #750-09.16)  
Bridge #25, Highgate, VT

Boring No.: B-104  
Page No.: 1 of 1  
Pin No.: PS0171  
Checked By: JFW/SPK

Boring Crew: J. Leonhardt (OCCA), A. Baribault (GeoDesign)  
Date Started: 8/20/14 Date Finished: 8/20/14  
VTSPG NAD83: N 885137.00 ft E 1514173.00 ft  
Station: 13+85 Offset: -21.00  
Ground Elevation: 223 ft

Casing Sampler  
Type: FJ N.A.  
I.D.: 3 in 1.38 in  
Hammer Wt: 140 lb. N.A.  
Hammer Fall: 30 in. N.A.  
Hammer/Rod Type: N.A./NWJ  
Rig: CME 45C SKID CE = 1

Groundwater Observations (3)		
Date	Depth (ft)	Notes
08/20/14	27.0	River surface.

Depth (ft)	Strat(1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (ROD %)	Drill Rate minutes/ft	Blows/ft (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %
0		Bridge Deck to Water Surface								
28		River								
29		Boulders/Cobbles (Inferred)								
29.7		C1A (29' - 29.7'): BOULDERS/COBBLES.	C1	83 (0)	2.2					
29.7		C1B (29.7' - 31') Very poor quality, moderately hard, slightly weathered, gray with white banding, fine-grained SLATE. Fracturing approximately 30 to 80 degrees above horizontal.	C2	0 (0)	4.3					
31		C2 (31'-32'): No recovery.	C3	89 (59)	2.5					
32		C3 (32'-36.5'): Fair quality, moderately hard slightly weathered to fresh, fine-grained gray with white banding SLATE. Fracturing approximately laterally 30 to 60 degrees			3					
36.5		C4 (36.5'-40.5'): Good quality, moderately hard to hard, fresh to slightly weathered fine grained gray with larger gray and white banding SLATE. Fracturing approximately 50 to 45 degrees from horizontal. Possible Pyrite inclusions.	C4	100 (81)	3.3					
40.5		Hole stopped @ 40.5 ft			4.2					
40.5					3.5					
40.5					3.8					

Remarks:  
 1) Boring performed through 6" diameter hole cored through the bridge deck (deck thickness 8").  
 2) Advanced casing with a spin shoe approximately 1 foot into a boulder located immediately at the river bottom (28 to 29 feet below bridge deck). Began coring at 29 feet below the bridge deck.  
 3) Wash water return light gray, with a total loss of return at approximately 29.5 feet below bridge deck during core.  
 4) Advance spin casing past the bottom of the boulder to seat into bedrock at 31 feet below bridge deck. Attempt core C2 beginning at 31 feet below bridge deck but stopped due to oscillations and re-set casing to 32 feet below bridge deck prior to core attempting C3 advance.  
 5) Lost water during coring of C3 at approximately 36 feet below bridge deck. Water return was not observed for the remainder of the borehole. Infer being lost through rock fractures.  
 6) Bedrock cores were obtained with a NX-size rock core barrel.

Notes:  
 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.  
 2. If Values have not been corrected for hammer energy, CE is the hammer energy correction factor.  
 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

GEODESIGN BORING LOG 750-09.16 HIGHGATE BRIDGE 25 BO 1448(43) GP J VERMONT AOTL DOT 2/11/15