

VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-1A/B						
				Richford BRF 0302(29) Richford, VT GeoDesign # 750-09.13		Page No.: 1 of 3 Pin No.: 12j158 Checked By: JFW						
Boring Crew: J. Leonhardt (TransTech), A. Baribault (GeoDesign)		Casing Type: FJ		Sampler Type: SS		Groundwater Observations ⁽³⁾						
Date Started: 9/04/13 Date Finished: 9/05/13		I.D.: 4 in		Date: 09/04/13		Depth (ft):						
VTSPG NAD83: N 909695.07 ft E 1592596.89 ft		Hammer Wt: 140 lb		Blows/6" (N Value) ⁽²⁾		Notes: See Note 3.						
Station: 44+19 Offset: 5' L		Hammer Fall: 30 in		Moisture Content %								
Ground Elevation: 436.5 ft		Hammer/Rod Type: Auto/NWJ		Gravel %								
		Rig: CME 550X ATV		Sand %								
		C _E = ~1.5		Fines %								
				LL %								
				PI %								
Depth (ft)	Strata ⁽¹⁾	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Cone Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value) ⁽²⁾	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
0	6" Asphalt											
0.5	S1 (0.5' to 2'): Medium dense, brown-gray fine to coarse SAND, little fine Gravel, little Silt, slightly moist. (Fill) Rec. = 1.0 ft (AASHTO M145 Classification: A-1-b.)					16-9-8 (17)	4.2	35.4	49.5	15.1	NP	NP
2	S2 (2' to 4'): Medium dense, brown-gray fine to coarse SAND, some fine to coarse Gravel, little Silt, slightly moist. (Fill) Rec. = 1.42 ft (AASHTO M145 Classification: A-1-b.)					4-6-11-11 (17)	7.1	41.4	43.3	15.3	NP	NP
4	S3 (4' to 6'): Medium dense, brown fine to coarse SAND and fine to coarse GRAVEL, little Silt, very moist to wet. (Fill) Rec. = 1.17 ft (AASHTO M145 Classification: A-1-b.)					10-9-6-5 (15)	10.2	49.5	35.6	14.9	NP	NP
6	S4 (6' to 8'): Loose, brown fine to coarse SAND, some Silt, little fine Gravel, very moist. (Possible Fill) Rec. = 0.83 ft (AASHTO M145 Classification: A-2-4.)					4-5-4-5 (9)	15.7	21.6	49.9	28.5	NP	NP
9	S5 (9' to 11'): Loose, no recovery. Rec. = 0.0 ft					7-4-5-7 (9)						
11	S6 (11' to 13'): Medium dense; S6A (Upper 5'): Brown fine to coarse SAND and SILT, trace fine Gravel (concentrated at top of sample), wet. S6B (Lower 3'): Gray SILT, trace fine Sand, wet. (Sand/Silt) Rec. = 0.67 ft (AASHTO M145 Classification: A-4.)					7-6-6-6 (12)	28.7	2.3	97.7		NP	NP
13	C1 (13' to 13.7'): Hard, slightly weathered, gray with white QUARTZITE BOULDER.					16-18-20-24 (38)	10.5	48.1	17.5	34.4	NP	NP
14	S7 (14' to 16'): Dense, greenish-gray fine to coarse GRAVEL and SILT, some fine to coarse Sand, moist. (Glacial Till) Rec. = 0.5 ft (AASHTO M145 Classification: A-2-4.)					9-19-19-16 (38)	10.4	39.0	31.5	29.5	NP	NP
16	S8 (16' to 18'): Dense, gray fine to coarse SAND, some Silt, some fine Gravel, moist to wet. (Glacial Till) Rec. = 1.17 ft (AASHTO M145 Classification: A-2-4.)					80/3" (R)	8.5	38.4	23.4	38.2	NP	NP
19	S9 (19' to 19.3'): Refusal, gray SILT, some fine to coarse Sand, some fine to coarse Gravel (fractured), wet. (Glacial Till) Rec. = 0.25 ft (AASHTO M145 Classification: A-4.)					80/2" (R)	7.5	63.1	20.0	16.9	NP	NP
21	S10 (21' to 21.2'): Refusal, gray fine to coarse GRAVEL, some fine to coarse Sand, little Silt, wet. (Glacial Till) Rec. = 0.17 ft (AASHTO M145 Classification: A-1-b.)					100/6" (R)	8.5	14.9	31.7	53.4	NP	NP
24	S11 (24' to 24.5'): Refusal, gray SILT and fine to coarse SAND, trace fine Gravel, moist. (Glacial Till) Rec. = 0.5 ft (AASHTO M145 Classification: A-4.)					100/6" (R)	9.0	18.1	29.9	52.0	NP	NP
29	S12 (29' to 29.5'): Refusal, gray SILT and fine to coarse SAND, little fine Gravel, moist. (Glacial Till) Rec. = 0.5 ft											

BOTTOM OF FOOTING
ELEV 420.00

GEODESIGN BORING LOG 750-09.13 RICHFORD VTRANS.GPJ VERMONT AOT.GDT 10/9/13

Notes:

1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. C_e 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.

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Depth (ft)	Strata ⁽¹⁾	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Cone Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value) ⁽²⁾	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
0	(AASHTO M145 Classification: A-4.)											
35	S13 (34' to 35'): Refusal, gray fine to coarse SAND and SILT, little fine Gravel, wet. (Glacial Till) Rec. = 0.83 ft (AASHTO M145 Classification: A-4.)					58-100/5.5" (R)	12.2	18.0	46.3	35.7	NP	NP
40	S14 (39' to 39.4'): Refusal, gray and greenish gray fine to coarse SAND and SILT, some fine Gravel, wet. Approximately 2" in spoon shoe of possible weathered bedrock. (Glacial Till) Rec. = 0.42 ft (AASHTO M145 Classification: A-2-4.) Inferred Weathered Bedrock					100/5" (R)	11.8	35.2	30.4	34.4	NP	NP
41	C2 (41' to 46'): Poor quality, gray-greenish gray, moderately hard, fine grained, moderately weathered PHYLLITE interbedded with Quartz, fracture angle approximately 45 to 90 degrees.											
45	C3 (46' to 51'): Poor quality, greenish gray, moderately hard, fine grained, moderately weathered PHYLLITE, fracture angle approximately 60 to 80 degrees.											
51	Hole stopped @ 51.0 ft B-1A abandoned; B-1B end of Core											
55	Remarks: 1) Hammer efficiency correction factor is assumed. Elevation, station and offset are estimated by GeoDesign from site plans provided by VTrans and taped measurements from existing features made in the field by GeoDesign personnel. They should be considered accurate only to the degree implied by the method of location used. 2) Sample S2 not performed in accordance with ASTM D1586, (sampled immediately after sample S1 without clearing the borehole with the roller bit). 3) Soil moisture descriptions may not accurately depict actual conditions due to wash and drive drilling methods. Wash water observed to be brown in color to approximately 11' deep, then turning gray by 13' deep. 4) Cored through a boulder from 13' to 13.7' deep. Lost water upon breaking through. Casing became out of alignment while attempting to drive through boulder. Abandoned location and moved to B-1B, offset 3.5' south/west. (approximate STA 44+16, 5' L)											

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PROJECT NAME:	RICHFORD	PLOT DATE:	11-DEC-2014
PROJECT NUMBER:	BRF 0302(29)	DRAWN BY:	R. PELLET
FILE NAME:	st2j158bor.dgn	CHECKED BY:	H. SALLS
PROJECT LEADER:	C. CARLSON	BORING LOGS I	SHEET 15 OF 36