



BORING LOG

Barlow Bridge #20  
BHF 0286 (5) - TH-2 (VT-16)  
GeoDesign #888-04.9

Boring No.: B-1  
Page No.: 1 of 2  
Pin No.: 121172  
Checked By: JFW/DTH

Boring Crew: J.Leonhardt (QC/QA), A. Baribault (GeoDesign)  
Date Started: 2/04/14 Date Finished: 2/07/14  
VTSPG NAD83: N 819409.00 ft E 1723363.00 ft  
Station: 12+47.4 Offset: 6.1 LT  
Ground Elevation: 856 ft

Casing Sampler  
Type: FJ SS  
I.D.: 4 in 1.38 in  
Hammer Wt: 140 lb. 140 lb.  
Hammer Fall: 30 in. 30 in.  
Hammer/Rod Type: Auto/NWJ  
Rig: CME 550X ATV CE = 1.4

Groundwater Observations (3)		
Date	Depth (ft)	Notes
02/04/14		See Remark 2.

Depth (ft)	Strat (t)	CLASSIFICATION OF MATERIALS (Description)	Run (tip dep.)	Core Rec. (ROD %)	Drill Rate minutes/ft	Blows/6" (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %
5	X X X	S1 (0.5' to 2'): Refusal, light brown fine to coarse SAND, some Silt, little fine Gravel, frozen. Rec. = 0.4 ft PID = 6.2 (Ross=0)				100/5" (R)				
	X X X	S2 (2' to 4'): Dense, brown/tan fine to medium SAND and SILT, little (-) fine to coarse Gravel, frozen. Lower 8" mostly frozen Sand and Silt. Rec. = 1.5 ft PID = 0.1 (Ross=0)				73-17- 29-33 (46)		13.0	46.0	41.0
	X X X	S3 (4' to 6'): Medium dense, brown fine to coarse SAND, some Silt, little fine Gravel, trace (+) Brick, wet. Rec. = 1.3 ft PID = 0.6 (Ross=0.8)				8-8-7-4 (13)				
	X X X	S4 (6' to 8'): Very dense, brown fine to coarse SAND, some Silt, wet. Rec. = 1.0 ft PID = 0.1 (Ross=0)				1-20-34- 47 (54)				
10		S5 (8' to 10'): Loose, gray-brown fine to medium SAND and SILT, trace Brick (in upper 2'), wet. Strong petroleum odor. Rec. = 1.2 ft PID = 1957 (Ross=730)				2-6-2-1 (5)		5.0	74.0	23.0
		S6 (10' to 12'): Loose, gray fine to medium SAND, little (+) Silt, trace fine Gravel, trace Wood/Organic Fibers, wet. Strong petroleum odor. Rec. = 1.5 ft PID = 873 (Ross=327)				2-4-3-4 (7)				
15		S7 (12' to 14'): Loose, gray and brown layered fine to coarse SAND, little (-) Silt, stratified with trace Wood/Organic Fibers, wet. Strong petroleum odor. Rec. = 1.3 ft PID = 1622 (Ross=486)				2-4-6-3 (10)				
		S8 (14' to 16'): Medium dense, gray fine to coarse SAND and SILT, trace Wood, wet. Significant petroleum odor. Rec. = 1.1 ft PID = 44 (Ross=18)				4-5-3-3 (8)		44.0	17.0	39.0
20		S9 (16' to 18'): Loose, gray/white fine to coarse GRAVEL, some fine to coarse Sand, trace Silt, trace Wood, wet. Slight petroleum odor. (Probable Slough) Rec. = 0.2 ft PID = 72 (Ross=104)				4-4-4-5 (8)				
		S10 (18' to 20'): Loose, gray fine to coarse SAND and SILT, some fine Gravel, wet. Rec. = 0.6 ft PID = 58 (Ross=7.5)				4-4-5-5 (9)				
		S11 (20' to 22'): Loose, gray SILT, some fine Sand, wet. Rec. = 1.4 ft PID = 9.5 (Ross=0.6)				3-4-4-3 (8)		3.0	23.0	74.0
		S12 (24' to 26'): Loose, gray SILT, some fine Sand, wet. Rec. = 0.8 ft PID = 9.2 (Ross=0.6)								
30		S13 (29' to 31'): Loose, gray SILT, some fine Sand, wet. Rec. = 1.1 ft PID = 10.2 (Ross=0)								
		S14 (34' to 36'): Medium dense, gray SILT, some fine Sand, wet. Rec. = 1.1 ft PID = 1.1 (Ross=0.1)				5-6-6-7 (12)				
40		S15 (39' to 41'): Medium dense, gray SILT, little fine Sand, wet. Rec. = 1.0 ft PID = 2.8 (Ross=0.2)				5-6-6-5 (12)		5.0	3.0	92.0
45		S16 (44' to 46'): Refusal, gray SILT, little fine Sand, trace fine Gravel (in spoon shoe, likely fractured rock). Rec. = 0.8 ft PID = 0 (Ross=0)	C1	44	1.5	6-60/3" (R)				
		C1A (44.8' to 47'): BOULDER.				1.8				
		C1B (47' to 48.8'): Gray fine SAND and SILT, wet. PID Not Recorded				0.1				
		S17 (49' to 51'): Medium dense, gray SILT, some fine Sand, wet.				0.1				

Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.  
2. N 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.



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Depth (ft)	Strat (t)	CLASSIFICATION OF MATERIALS (Description)	Run (tip dep.)	Core Rec. (ROD %)	Drill Rate minutes/ft	Blows/6" (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %
		Rec. = 1.0 ft				(15)				
55		Hole stopped @ 51.5 ft								
60		Remarks: 1) Borehole advanced to 4 feet with 4.25" HSA, then to 29 feet with 4" FJ casing, open hole to 44.8 feet. Telescoped 3" FJ casing to 44.8 feet prior to start of rock core. 2) Moisture observations below 4 feet deep may not accurately reflect insitu conditions due to continuously adding water during borehole advance. 3) Strong petroleum odor observed from 8 to 14 feet, decreasing thereafter. Samples S5 through S8 preserved for VOC laboratory testing. 4) Slight roller bit grinding from 16 to 20 feet deep. 5) Wash water brown, turning gray-brown at approximately 12 feet. 6) Approximately 2.2 feet of boulder cored in C1, total penetration 4 feet (1.8 feet through soil). Also recovered approximately 9" of soil (gray fine SAND and SILT, wet). 7) Advanced 3" casing to refusal at 51.5 feet deep. While attempting to remove casing for attachment of washing tee, shoe wedged and casing broke at approximately 41 feet deep. 8) Borehole abandoned at 51.5 feet deep. Tremie grout to bottom of hole to backfill prior to removing casing. 9) Grout mix consisted on +/- 35 gallons water, 94 pounds Type I/II Portland Cement, 25 pounds Bentonite Powder. 10) Samples S1 through S16 screened in the field with an Ion Science PhoCheck 1000 model PID calibrated to a 100 PPM Isobutylene standard. Samples S1 through S16 also screened by Ross Environmental with PhoCheck Tiger calibrated to a benzene standard. 11) All sample descriptions shown are per the Burmister classification system and are based on visual descriptions made in the field by GeoDesign personnel. Where applicable, laboratory testing results shown are from testing performed by GeoTesting Express, with the Gravel/Sand/Fines breakdown shown per AASHTO M145. 12) Northing, easting, and ground surface elevation are estimated from an electronic site plan provided by TY Lin and taped measurements made from existing features in the field by GeoDesign personnel.								
65										
70										
75										
80										
85										
90										
95										

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GEODESIGN BORING LOG 888-04.7 BARTON BR. 20.CP.1 VERMONT DOT LOT 5/12/14

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