BORING LOG

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Project Name: Stowe STP 0235(17), Stowe, VT

Boring No.: B-2 (IC)

File No.: 750-09.9
Checked By: JFW

Boring Company:	SJB Drilling
Foreman:	Tom Farrell
GeoDesign Rep.:	Alan Baribault
Date Started:	December 3, 2012
Date Finished:	December 4, 2012
N. Coordinate:	730196
E. Coordinate:	1572433
Ground Surface Elevation (feet):	1022
Station:	
Offset:	ft

	Casing	Sampler
Type:	FJ	SS
I.D.:	5.0 in.	1.38 in.
Hammer Wt.:	140/300	140 lbs
Hammer Fall:	30 in.	30 in.
Rig Type:	CME 550X	
Hammer Type:	Automatic	

Groundwater Observations

Date	Depth (ft)	Elev. (ft)	Notes
⊻ 11/29/12, 0:00			See Note 3.
⊻			
⊻			
⊻			

Sample Information

Depth (ft)	Casing Blows/ft	Number	Type	Penetration (inches)	Recovery (inches)	Depth (ft)	Blows 0 - 6	Blows 6 - 12	Blows 12 - 18	Blows 18 - 24	Coring Time (min./ft)	Moisture Content (%)
	P	S1	SS	24	13	0	1	1	3	2		
	10											
5	20/3'											
	30	S2	SS	24	11	5	8	14	13	15		12.4
	75											
	90											
	90											
10	130											
	55	S3	SS	24	12	10	12	9	20	15		14.5 (S3A)
	65											
	75											
	90											
15	102											
	75	S4	SS	24	12	15	3	20	29	27		
	130											
	155											
	140											
20	160											
	20+30	S5	SS	24	13	20	15	19	18	16		12.3
	50											
	60											
	80											
25	115											

Strata Description (Depth & Elevation(feet)):
- Topsoil — 1021.8
- Silty Sand
- 5 — 1017.0 — Silty Gravelly Sand (Kame Terrace)

Sample Description (Classification System: Burmister):

S1) Very loose;
S1A (top 2"): Dark brown SILT and fine to medium SAND, moist. (Topsoil).
S1B (bottom 11"): Brown fine to coarse SAND, little Silt, moist. Piece of plastic pipe located 2" above bottom of sample.

S2) Medium dense, brown and gray-brown fine to coarse SAND, some fine Gravel (1 pc. coarse) some Silt, moist.

S3) Medium dense;
S3A (top 5"): Gray fine to coarse SAND and SILT (some layering), little (+) fine Gravel, moist.
S3B (lower 7"): Brown and gray fine to coarse GRAVEL, some fine to coarse Sand, trace Silt (possibly extremely weathered cobble or boulder).

S4) Dense, gray fine to medium SAND and SILT, little fine Gravel, moist.

S5) Dense, gray with occasional tan layers SILT and fine to coarse SAND, some (+) fine to coarse Gravel (1 pc. >1" not in jar), moist.

Well Log

Remarks:
1) Northing, easting, and ground surface elevation shown based on visual approximations made in the field by GeoDesign personnel and an electronic site plan titled, "d12c388_nu1.dgn" provided by VTrans on December 10, 2012.
2) Apparently abandoned copper and steel conduits and abandoned concrete spring visible on slope. Encountered (and destroyed) approximately 3/4" dia. black plastic pipe at 12 to 18 inches deep in sample S1 based on bouncing behavior of spoon during SPT test.
3) Began borehole with 5-inch casing and auto hammer to 10 feet, then switched to 300-pound donut hammer. Borehole advanced using wash-drive drilling techniques. Moisture observations may not accurately reflect actual moisture conditions.
4) Driller noted possible cobble at bottom of borehole at 15 feet deep may have been disturbed by roller bit, causing low blow in first 6-inch segment of S4.

Notes:
1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual.
2) 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.
A.C. = After coring; N.R. = Not Recorded.
3) Sample Type Coding: A=Auger; C=Core; D=Driven; G=Grab; PS=Piston Sampler; SS=Split Barrel (Split Spoon); ST=Shelby Tube; Geo=GeoProbe V=Vane;
WOR/H=Weight of Rod/Hammer
4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%
5) Stratification lines represent approximate boundary between material types, transitions may be gradual.

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		S6	SS	24	14	25	12	16	18	22		
30												
		S7	SS	24	13	30	15	18	22	23		
35												
		S8	SS	24	10	35	4	7	11	12		27.5
40												
		S9	SS	6	6	40	11	25/0"				16.4
45												
		S10	SS	22.5	19	45	22	29	41	50/4.5"		14.3
50												

Strata Description (Depth & Elevation(feet)):
- Silty Gravelly Sand (Kame Terrace) (Continued)
- 35 — 987.0 — Clay & Silt
- 40.5 — 981.5 — Glacial Till
- 46.9 — 975.1 — Bottom of Exploration at 46.9 ft

Sample Description (Classification System: Burmister):

S6) Dense, fine to medium SAND and SILT, little fine Gravel, moist.

S7) Similar to S6, except 1 pc. coarse Gravel fractured by spoon.

S8) Medium dense, gray Clayey SILT, trace (-) fine to medium Sand (in seam), moist.

S9) Refusal, dark gray with light gray layers/mottling CLAY & SILT, little fine to coarse Gravel (1 pc in spoon tip), trace fine Sand partings, moist.

S10) Very dense, yellow brown SILT, some fine Sand, trace fine Gravel (friable), slightly moist.

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Remarks:
5) Roller bit advanced ahead of casing below 20 feet deep to improve driving time. Attempted to drive casing with auto hammer but switched to donut hammer after approximately 0.3 feet of penetration due to slow casing advancement.
6) Wash water brown and gray-brown, turning gray at approximately 20 feet deep.
7) Casing driven from 20 to 45 feet deep using approximately 24-inch stroke due to worn hammer guide. Approximately 600 blows from 30 to 35 feet deep. Blows not recorded below 35 feet deep.
8) Sample S10 driven in firmly and had do be hammered out with donut hammer.

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