Metric

BOTTOM OF FOOTING
ELEV. = 377.200

GEODESIGN INCORPORATED
P.O. Box 699, Windsor, VT 05089, Tel: (802) 674-2035
1233 Shelburne Road, Suite E-1, South Burlington, VT 05403, Tel: (802) 652-3140

BORING LOG

Project Name: Readsboro BHO 1441 (25), Readsboro, VT

Boring No.: GB-1
Page No.: 1 of 3
File No.: 750-3.7m
Checked By: RSA

Boring Company: M & W Soils Engineering
Foreman: Jim Ferguson
GeoDesign Rep.: Jason Gaudette
Date Started: April 22, 2002 — Date Finished: April 25, 2002
N. Coordinate: 317.91 m — E. Coordinate: -1.50 m
Ground Surface Elevation (meters): 381.40
Station: 1043 — Offset: 1.50 m LT

Casing: HSA — Sampler: SS
I.D./O.D.: 11 cm / 5 cm
Hammer Wt.: NA — 63.5 kg
Hammer Fall: NA — 76 cm
Rig Type: Acker Track Mounted
Other:

Date and Time	Depth (m)	Elevation (m)	Notes
4/22/02 1:45 PM	6.71	374.78	Open Hole
4/23/02 8:15 AM	8.55	374.93	Open Hole

Sample Information

Depth (m)	Casing Blows/0.3m	Number	Type	Penetration (cm)	Recovery (cm)	Depth (m)	Blows / 0.15 m Interval 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	Visually Estimated Soil Strata	PID Reading
1		S-1	SS	64	58	0.64	9	9	7	7		
		S-2	SS	41	25	1.27	14	6	6	19		
2		S-3	SS	91	15	1.83	3	5	13	4		
		S-4	SS	91	4	2.44	5	8	9	7		
3		S-5	SS	61	53	3.05	7	2	3	3		
4		S-6	SS	51	3	3.66	7	11	9	10		
		S-7	SS	61	33	4.27	11	11	6	13		
5		S-8	SS	91	30	4.88	9	13	13	16		
		S-9	SS	0	29	5.49	1	1	10	22		
6		S-10	SS	61	25	6.10	24	15	31	18		
7		S-11	SS	61	48	6.71	12	18	30	30		

Sample Description / Strata Description

Elevation & Depth (meters)	Description
381.24 / 0.24	CONCRETE.
	SAND and GRAVEL with Boulders (FILL).
	(S-1): Medium dense, moist, mottled light brown to green, fine to coarse SAND, some fine Gravel, trace Silt, moist.
	(S-2): Medium dense, similar to S1, except with angular fine Gravel rock fragments.
	(S-3): Similar to S2 except with little Silt.
	(S-4): Similar to S2.
	(S-5): Loose, dark brown, fine to medium SAND, some Gravel, little Silt, moist.
	(S-6): No soil recovery, fine Gravel sized piece of quartzite in spoon tip (possible cobble).
	(S-7): Medium dense. Top 22.8 cm: Similar to S5. Bottom 7.6 cm: Dark brown SILT, little fine to medium Sand with trace organics, moist.
376.28 / 4.92	SILT and fine SAND with trace Organics (FILL).
	(S-8): Medium dense. Top 15.2 cm: Similar to bottom of S7, except with beige fine SAND seams. Bottom 15.2 cm: Beige brown, fine to medium SAND, little Silt.
	(S-9): Medium dense, light brown to oxidized orange red, fine to medium SAND, little Silt with trace organics and root fibers.
375.39 / 6.10	Gravelly SAND.
	(S-10): Dense, beige brown, fine to coarse SAND, some fine
374.85 / 6.66	

Remarks:
(GW): Ground surface elevation estimated from WAGS Main Line profile based on locations taken from existing features and plotted by GeoDesign. Elevations and locations should be considered accurate only to the degree implied by the method used.
(1) S3-2 (24hr): Observed difficulty advancing HSA through probable cobbles/small boulders.
(2) S7-7: Observed very hard drilling resistance using HSA advancing through possible rock/boulder (50/5mm diameter).
(3) S7-7 (24hr): Moderate drilling resistance observed during HSA advance.
(4) 46-6.96m: Observed HSA penetration through possible cobble/small boulder.

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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. AD = After Drilling.
4) Sample Type: Casing, A = Auger, C = Core, HS = Hand Sampler, SS = Split Barrel (Split Spoon), ST = Shelby Tube, V = Vane.
5) Penetration Resistance: Blows = 140lb. Hammer Dropping 30 Inches. Blows = 25-50%, Loose = 10-30%.

Boring No.: GB-1

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Page No.: 2 of 3
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Hammer Fall: NA — 76 cm
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Other:

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		S-10	SS	76	38	7.32	40	50/0.13	-	-		
8		S-11	SS	76	76	7.92	50/0.15	-	-	-		
		S-12	SS	76	76	8.53	50/0.15	-	-	-		
9												
		S-14	SS	25	20	9.14	50/0.10	-	-	-		
10												
		S-15	SS	38	38	10.67	13	50/0.13	-	-		
11		C-1	C	152	142	11.40	-	-	-	-		1
												5.5
12												4.4
												5.5
												4
13		C-2	C	152	142	12.92	-	-	-	-		5.5
												6
												7
14												

Sample Description / Strata Description

Elevation & Depth (meters)	Description
	GLACIAL TILL (Continued)
	Gravel, with pink quartzite rock fragments.
	(S-11): Very dense, light green brown to oxidized orange fine to medium SAND, little Silt, little Gravel, wet.
	(S-12): Similar to S11, except with coarse Sand and pinkish fine Gravel.
	(S-13): Similar to S-11.
	(S-14): Similar to S11, except Bottom 2.5 cm: Green gray, schistose decomposed rock.
	(S-15): Similar to S11, except observed small air voids (pin hole porosity).
370.26 / 11.13	BEDROCK (Gneiss).
	(C-1): Dark gray blue with white banding, moderately hard, very slightly weathered, moderately to widely jointed, good quality. GNEISS (RQD = 83%).
	(C-2): Similar to core C1, except fresh, widely jointed with white quartz veins, excellent quality (RQD = 93%).

Remarks:
(6) Seep: Groundwater depth based on water inside casing after stabilization overnight.
(7) Seep: Groundwater depth based on water level observed during drilling.
(8) 00-9.61m: Very hard HSA drilling resistance observed through possible boulder or bedrock.
(9) 10.13 (24hr): Very hard HSA drilling resistance through possible boulder or bedrock.
(10) 12.01m: 152mm I.D. thin walled coring (Hydraulic) used HSA to 11.13m prior to coring C2.

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												7
15												
16												
17												
18												
19												
20												
21												

Sample Description / Strata Description

Elevation & Depth (meters)	Description
	BEDROCK (Gneiss). (Continued)
367.04 / 14.45	Bottom of Borehole at 14.45 m

Remarks:

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Boring No.: GB-1

PROJECT NAME:	READSBORO
PROJECT NUMBER:	BRO 1441(25)
FILE NAME: sj070ref.dgn	PLOT DATE: 05-JAN-2010
PROJECT LEADER: C.P. WILLIAMS	DRAWN BY: L.J. STONE
DESIGNED BY: H.I. SALLS	CHECKED BY: K.M. HIGGINS
BORING LOG SHEET 1	SHEET 14 OF 60