



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

BORING LOG

MARLBORO  
BRF 010-1 (43)

Boring No.: B-101

Page No.: 1 of 1

Pin No.:

Checked By: LJD

Boring Crew: Geosearch, Inc. Fitchburg, MA, JE  
 Date Started: 7/30/12 Date Finished: 7/31/12  
 VTSPG NAD83: N 137719.00 ft E 1588828.00 ft  
 Station: 3+60 Offset: 9 RT  
 Ground Elevation: 1,299.0 ft. (approx)

Type: HW SS  
 I.D.: 4 in 1.38 in  
 Hammer Wt: 300 140 lb.  
 Hammer Fall: 24 30 in.  
 Hammer/Rod Type: Auto/N  
 Rig: CME 55 CE = 1.3

Groundwater Observations

Date	Depth (ft)	Notes
07/30/12	9.5	

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (ROD %)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Bituminous concrete, 0.0 ft - 0.5 ft							
	x x x	A-1-a, GrSaSi, gray, Rec. = 1.2 ft, (Fill)			11-17-18 (35)	1.0	54.2	33.7	12.1
	x x x	A-1-b, GrSaSi, gry-brn, Rec. = 1.3 ft, (Fill)			11-14-12-12 (26)	5.0	44.7	42.9	12.4
	x x x	A-1-b, SaGrSi, gry-brn, Rec. = 1.0 ft, (Fill)			23-14-11-8 (25)	9.2	40.9	43.2	15.9
5		A-4, SaSiGr, brn Rec. = 1.7 ft			5-11-13-11 (24)	31.6	14.2	44.5	41.3
		A-1-a, GrSaSi, brn			8-16-19-23 (35)	9.1	55.8	34.6	9.6
		A-1-a, GrSaSi, brn, Rec. = 1.5 ft			20-26-29-46 (55)	8.3	63.0	27.5	9.5
10		A-1-b, GrSaSi, brn, Rec. = 1.3 ft			62/6" (62+)	6.9	53.3	31.6	15.1
		12.0 ft - 14.0 ft, Highly weathered bedrock Rec = 0.3 ft							
15		14.0 ft - 17.5 ft, NXDC, Hard, fresh, dark gray, medium grained QUARTZITE, primary joints low angle, closely spaced (possible boulder).	1 (10-30)	88 (15.5)					
		17.5 ft - 19.0 ft, Hard, fresh light gray, fine grained, QUARTZITE, primary joints low angle, moderately spaced.							
20		19.0 ft - 24.0 ft, NXDC, Hard, fresh light gray, fine grained, QUARTZITE, primary joints low angle, widely spaced.	2 (10-30)	97 (76)					
25		24.0 ft - 29.0 ft, NXDC, Hard, fresh light gray, fine grained, QUARTZITE, primary joints low angle, widely spaced. Qu = 9,390 psi (24.4 ft) Qu = 8,950 psi (24.7 ft)	3 (10-30)	95 (95)					
		Hole stopped @ 29.0 ft							

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.

BORING LOG J1125130.GPJ VERMONT AOT.GDT 10/25/12



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BORING LOG

MARLBORO  
BRF 010-1 (43)

Boring No.: B-102

Page No.: 1 of 1

Pin No.:

Checked By: LJD

Boring Crew: Geosearch, Inc. Fitchburg, MA, JE  
 Date Started: 8/01/12 Date Finished: 8/01/12  
 VTSPG NAD83: N 137775.00 ft E 1588854.00 ft  
 Station: 4+35 Offset: 10 LT  
 Ground Elevation: 1,298.5 ft. (approx)

Casing: HW  
 Sampler: SS  
 Type: HW SS  
 I.D.: 4 in 1.38 in  
 Hammer Wt: 300 140 lb.  
 Hammer Fall: 24 30 in.  
 Hammer/Rod Type: Auto/N  
 Rig: CME 55 CE = 1.3

Groundwater Observations

Date	Depth (ft)	Notes
08/01/12	8.5	

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (ROD %)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Bituminous concrete, 0.0 ft - 0.5 ft							
	x x x	Gravel base, 0.5 ft - 1.0 ft							
	x x x	A-1-a, GrSaSi, gry-brn, Rec. = 1.5 ft, (Fill)			6-11-13-21 (24)	2.3	57.4	31.6	11.0
5	x x x	A-1-b, GrSaSi, gry-brn, Rec. = 1.7 ft, (Fill)			5-2-2-7 (4)	3.7	47.8	43.1	9.1
10	x x x	A-4, SaSiGr, Rec. = 1.5 ft, with roots, wood pieces (Fill)			2-2-52-35 (54)	47.2	13.7	48.7	37.6
		A-4, C-F SAND, some silt, little gravel, brn, very dense							
		13.0 ft - 15.0 ft, Highly weathered bedrock							
15		15.0 ft - 20.0 ft, NXDC, Hard, fresh, gray, fine grained SCHIST, with high angle foliation. Qu = 5,760 psi (16.8 ft) Qu = 3,730 psi (18.6 ft)	1 (60-80)	100 (95)					
20		20.0 ft - 25.0 ft, NXDC, Hard, fresh, gray, fine grained SCHIST, with high angle foliation, primary joint parallel to foliation, widely spaced. Qu = 1,654 psi (21.0 ft) Qu = 1,816 psi (22.2 ft) Qu = 2,430 psi (23.3 ft) Qu = 3,881 PSI (24.6 ft)	2 (60-80)	100 (87)					
25		Hole stopped @ 25.0 ft							

- Notes:
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MARLBORO  
 BRF 010-1 (43)

Boring No.: B-103  
 Page No.: 1 of 1  
 Pin No.: \_\_\_\_\_  
 Checked By: LJD

Boring Crew: Geosearch, Inc. Fitchburg, MA, JE  
 Date Started: 8/01/12 Date Finished: 8/01/12  
 VTSPG NAD83: N 137706.00 ft E 1588885.00 ft  
 Station: 4+50 Offset: 11 RT  
 Ground Elevation: 1,297.0 ft. (approx)

Type: \_\_\_\_\_  
 I.D.: \_\_\_\_\_  
 Hammer Wt: \_\_\_\_\_  
 Hammer Fall: \_\_\_\_\_  
 Hammer/Rod Type: \_\_\_\_\_  
 Rig: \_\_\_\_\_

Casing: HW Sampler: SS  
4 in 1.38 in  
300 140 lb.  
24 30 in.  
Auto/N  
CME 55 CE = 1.3

Groundwater Observations

Date	Depth (ft)	Notes
08/01/12	10.5	

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Bituminous concrete, 0.0 ft - 0.5 ft					
		Gravel base, 0.5 ft - 1.0 ft					
	X X X	A-1-b, SaGrSi, gray, Rec. = 1.5 ft, (Fill)	10-17-9-11 (26)	3.7	41.0	45.2	13.8
5	X X X	A-1-b, SaGrSi, gry-brn, Rec. = 1.0 ft, (Fill)	12-6-8-6 (14)	11.0	44.0	44.2	11.8
10		A-1-b, GrSaSi, gry-brn, Rec. = 1.2 ft	4-6-16-18 (22)	10.0	50.6	34.9	14.5
15		Rec. = 1.3 ft, 15.0 ft - 17.0 ft, Highly weathered bedrock	17-32-46-74 (78)				
20		Hole stopped @ 19.0 ft Auger refusal @ 19.0 ft					
25							

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MARLBORO  
 BRF 010-1 (43)

Boring No.: B-104  
 Page No.: 1 of 1  
 Pin No.: \_\_\_\_\_  
 Checked By: LJD

Boring Crew: Geosearch, Inc. Fitchburg, MA, JE  
 Date Started: 8/01/12 Date Finished: 8/01/12  
 VTSPG NAD83: N 137769.00 ft E 1588797.00 ft  
 Station: 3+55 Offset: 11 LT  
 Ground Elevation: 1,298.5 ft. (approx)

Casing Sampler  
 Type: HW SS  
 I.D.: 4 in 1.38 in  
 Hammer Wt: 300 140 lb.  
 Hammer Fall: 24 30 in.  
 Hammer/Rod Type: Auto/N  
 Rig: CME 55 CE = 1.3

Groundwater Observations

Date	Depth (ft)	Notes
08/01/12		NE

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Bituminous concrete, 0.0 ft - 0.5 ft					
		Gravel base, 0.5 ft - 1.0 ft					
	x x x	A-1-a, GrSaSi occasional cobbles/boulders, gry-brn, Rec. = 1.3 ft, (Fill)	5-9-10-13 (19)	1.9	74.7	15.2	10.1
	x x x						
	x x x						
5	x x x	Rec. = 0.0 ft, 5.0 ft - 6.0 ft	39-63				
		Note: Drill action suggests frequent cobbles and boulders from 4-11 feet (possible fill)					
10							
		A1-b, C-F SAND, some gravel, little silt, brn, occasional cobbles, very dense	65/6"				
15		Hole stopped @ 13.0 ft Auger refusal @ 13.0 ft					
20							
25							

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