



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

BORING LOG

BARNARD  
BHF 0241(39)  
VT-12 BR-25

Boring No.: B-101

Page No.: 1 of 1

Pin No.: 10C410

Checked By: NSM

Boring Crew: SALISBURY, GARROW, DAIVSON  
Date Started: 5/04/12 Date Finished: 5/14/12  
VTSPG NAD83: N 458380.14 ft E 1605144.36 ft  
Station: 370+59 Offset: 20.70  
Ground Elevation: 881.12 ft

Type: WB SS  
I.D.: 4 in 1.5 in  
Hammer Wt: N.A. 140 lb.  
Hammer Fall: N.A. 30 in.  
Hammer/Rod Type: Auto/AWJ  
Rig: CME 45C TRACK CE = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
05/14/12	11.0	AM

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (ROD %)	Drill Rate minutes/ft	Blows/c (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-1-b, SiGrSa, brn, Moist, Rec. = 1.4 ft				4-3-6-5 (9)	13.5	35.7	41.1	23.2
		A-1-b, SiGrSa, brn, Moist, Rec. = 1.1 ft, NXDC				8-6-6-3 (12)	9.9	38.3	40.1	21.6
		A-2-4, SiSa, brn, Moist, Rec. = 0.8 ft				5-2-3-3 (5)	15.8	17.6	56.9	25.5
		A-1-b, GrGr, brn, Moist, Rec. = 0.9 ft				3-2-4-10 (6)	14.6	36.4	45.0	18.6
10		Field Note: NXDC, Cobbles								
		A-4, SiSa, brn, Wet, Rec. = 1.1 ft				8-8-8-11 (16)	23.6	0.2	62.3	37.5
15		A-2-4, Sa, brn, Wet, Rec. = 1.4 ft				4-7-8-10 (15)	21.3	7.5	75.5	17.0
		A-2-4, SiGrSa, brn, Moist, Rec. = 1.0 ft, NXDC				7-25-35-R@2.5" (60)	10.8	32.7	40.2	27.1
		A-2-4, SiSaGr, brn, Moist, Rec. = 1.0 ft, NXDC				2-11-32-55 (43) R@3.5"	9.9	38.0	36.0	26.0
20		Visual Description: Broken Rock, gry, Moist, Rec. = 0.3 ft					9.1			
		Field Note: NXDC, Cobbles & Gravel								
25		A-1-b, SiSaGr, gry, Moist, Rec. = 0.5 ft, NXDC				5-17-R@2.5"	11.2	43.5	35.4	21.1
30		A-1-b, GrSa, brn, Moist, Rec. = 0.8 ft				9-R@6.0"	15.2	25.7	58.3	16.0
35		Field Note: NXDC, Broken Rock								
		Field Note: Possible Bedrock 33.0 ft								
40		34.0 ft - 39.0 ft, Light-pale-green chloritic ankeritic Greenstone, with amphibolite and hornblende. Moderately hard, Slightly weathered, Fair rock, NXMDC, Stained near vertical joint from 35.5-39.0 feet. RMR = 52	1 (85)	88 (0)	6 4 3 3					
		39.0 ft - 44.0 ft, Light-pale-green chloritic ankeritic Greenstone, with amphibolite and hornblende. Moderately hard, Slightly weathered, Fair rock, NXMDC, RMR = 52	2 (85)	100 (10)	4 3 4 4 5					
45		Hole stopped @ 44.0 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.



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BORING LOG

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 BHF 0241(39)  
 VT-12 BR-25

Boring No.: B-102  
 Page No.: 1 of 1  
 Pin No.: 10C410  
 Checked By: NSM

Boring Crew: SALISBURY, GARROW  
 Date Started: 5/03/12 Date Finished: 5/03/12  
 VTSPG NAD83: N 458462.67 ft E 1605125.39 ft  
 Station: 371+43 Offset: 5.90  
 Ground Elevation: 885.82 ft

Casing: WB Sampler: SS  
 I.D.: 4 in 1.5 in  
 Hammer Wt: N.A. 140 lb.  
 Hammer Fall: N.A. 30 in.  
 Hammer/Rod Type: Auto/AWJ  
 Rig: CME 45C TRACK CE = 1.34

Groundwater Observations		
Date	Depth (ft)	Notes
		Collapsed at 14.0 ft.
		Drilled same day.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (ROD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Asphalt Pavement, 0.0 ft - 0.8 ft								
		A-1-b, SaGr, brn, Moist, Rec. = 1.3 ft				10-10-10-10 (20)	7.5	47.6	36.6	15.8
		A-1-b, SaGr, brn, Moist, Rec. = 0.9 ft, NXDC				10-7-11-10 (18)	9.4	53.8	31.9	14.3
		A-1-b, SaGr, brn, Moist, Rec. = 0.5 ft, NXDC				6-7-8-6 (15)	8.3	52.4	28.9	18.7
		Visual Description: Broken Rock with Sand, brn-gry, Moist, Rec. = 0.3 ft, Stone in end of sampler. Insufficient sample for testing. NXDC				10-14-15-7 (29)				
		Field Note: No Recovery				5-4-4-4 (8)				
		A-2-4, SiSa, brn, Moist, Rec. = 0.8 ft				2-2-1-R@3.5" (3)	17.5	19.9	56.2	23.9
		Field Note: NXDC, Cobbles								
		A-2-4, SiGrSa, brn, Moist, Rec. = 1.0 ft, NXDC				5-9-15-25 (24)	12.2	30.1	41.6	28.3
		A-4, GrSaSi, brn, Moist, Rec. = 0.4 ft, NXDC				R@5.0"	17.9	28.3	32.0	39.7
		17.5 ft - 22.5 ft, Light gray, To pale-green schist and feldspathic biotite quartzite Hard, Unweathered to slightly weathered, Fair rock, NXMDC, RMR = 57	1 (85)	96 (48)	3	Top of Bedrock @ 17.5 ft				
		22.5 ft - 27.5 ft, Light gray, To pale-green schist and feldspathic biotite quartzite Hard, Unweathered, Good rock, NXMDC, RMR = 69	2 (85)	100 (90)	3					
		Hole stopped @ 27.5 ft								

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

BORING LOG 2 BARNARD BHF 0241(39).GPJ VERMONT AOT.GDT 6/20/12



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BORING LOG

BARNARD  
 BHF 0241(39)  
 VT-12 BR-25

Boring No.: B-103

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Pin No.: 10C410

Checked By: NSM

Boring Crew: SALISBURY, GARROW  
 Date Started: 5/03/12 Date Finished: 5/03/12  
 VTSPG NAD83: N 458436.07 ft E 1605096.79 ft  
 Station: 371+18 Offset: -24.00  
 Ground Elevation: 884.37 ft

Casing: WB Sampler: SS  
 I.D.: 4 in 1.5 in  
 Hammer Wt: N.A. 140 lb.  
 Hammer Fall: N.A. 30 in.  
 Hammer/Rod Type: Auto/AWJ  
 Rig: CME 45C TRACK CE = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
		Drilled same day.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (ROD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
0.0 - 1.5		A-2-4, GrSiSa, brn, Moist, Rec. = 1.5 ft				4-4-7-4 (11)	13.6	23.4	48.7	27.9
1.5 - 2.5		A-2-4, SiSa, brn, Moist, Rec. = 1.2 ft				3-3-2-2 (5)	17.5	18.5	52.1	29.4
2.5 - 3.5		A-2-4, SiGrSa, brn, Moist, Rec. = 0.8 ft				3-2-2-2 (4)	19.3	29.0	46.8	24.2
3.5 - 4.5		A-2-4, SiGrSa, brn, Moist, Rec. = 0.5 ft				2-2-12-R@3.5" (14)	18.4	37.0	41.7	21.3
4.5 - 7.5		Visual Description: Broken Rock with Silty Sand, Rec. = 0.3 ft					3.4			
7.5 - 9.0		7.8 ft - 9.0 ft, NXDC, Weathered Rock. Very poor rock								Top of Bedrock @ 7.8 ft
9.0 - 14.0		9.0 ft - 14.0 ft, Light gray, To pale-green schist and feldspathic biotite quartzite Hard, Unweathered to slightly weathered, Good rock, NXMDC, RMR = 62	1 (30)	88 (58)	4					
14.0 - 19.0		14.0 ft - 19.0 ft, Light gray, To pale-green schist and feldspathic biotite quartzite Hard, Unweathered to slightly weathered, Good rock, NXMDC, RMR = 62	2 (30)	100 (70)	3					
19.0 - 20.0	Hole stopped @ 19.0 ft									

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BORING LOG

BARNARD  
BHF 0241(39)  
VT-12 BR-25

Boring No.: B-104

Page No.: 1 of 1

Pin No.: 10C410

Checked By: NSM

Boring Crew: SALISBURY, GARROW  
Date Started: 5/16/12 Date Finished: 5/16/12  
VTSPG NAD83: N 458462.67 ft E 1605125.39 ft  
Station: 370+21.5 Offset: -8.00  
Ground Elevation: 882.35 ft

Casing: WB  
Sampler: SS  
I.D.: 4 in 1.5 in  
Hammer Wt: N.A. 140 lb.  
Hammer Fall: N.A. 30 in.  
Hammer/Rod Type: Auto/AWJ  
Rig: CME 45C TRACK CE = 1.34

Groundwater Observations

Date	Depth (ft)	Notes

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Asphalt Pavement, 0.0 ft - 0.6 ft								
		A-1-a, SaGr, brn, Moist, Rec. = 1.2 ft				7-9-12-16 (21)	6.2	63.7	24.9	11.4
5		Field Note:, NXDC, Gravel								
		A-1-b, SaGr, brn, Moist, Rec. = 0.6 ft, Lab Note: Lots of Broken Rock was within sample.				5-4-4-5 (8)	10.8	52.4	31.8	15.8
		Field Note:, NXDC, Gravel								
		Visual Description:, Very Weathered Rock, grn, Moist, Rec. = 0.6 ft				18-R@3.5"	10.5			
10		Field Note:, NXDC, Cobbles								
		A-1-b, SiGrSa, brn, Moist, Rec. = 1.5 ft				22-33-40-50 (73)	9.7	38.7	38.8	22.5
		Visual Description:, Weathered & Broken Rock, gry, Moist, Rec. = 0.4 ft				R@6.0"	9.7			
20		Field Class:, NXDC, Cobbles								
		A-2-4, GrSiSa, brn, Moist, Rec. = 1.6 ft				20-28-24-40 (52)	12.5	22.3	49.6	28.1
25		Field Note:, Soft Weathered Rock								
		28.0 ft - 33.0 ft, Light gray, To pale-green schist and feldspathic biotite quartzite and amphibolite. Hard, Unweathered to slightly weathered, Good rock, NXMDC, RMR = 62	1 (85)	100 (50)	3					
30					3					
					3					
					3					
					3					
35		33.0 ft - 38.0 ft, Light gray, To pale-green schist and feldspathic biotite quartzite Hard, Unweathered to slightly weathered, Good rock, NXMDC, RMR = 66	2 (85)	100 (84)	3					
					3					
					2					
					2					
					2					
					2					
		Hole stopped @ 38.0 ft								

Top of Bedrock @ 26.5 ft

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BORING LOG 2 BARNARD BHF 0241(39).CPJ VERMONT AOT.GDT 6/20/12