



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

BORING LOG

WATERBURY
NHG SGNL(43)
I-89 & VT-100 EXIT #10

Boring No.: **B-101**

Page No.: 1 of 1

Pin No.: 13B018

Checked By: LAR

Boring Crew: GARROW, SALISBURY, DAIGNEAULT

Date Started: 3/25/13 Date Finished: 3/25/13

VTSPG NAD83: N 672184.97 ft E 1575013.29 ft

Station: 26+44 Offset: -3.00

Ground Elevation: 499.84 ft

Type: _____
 I.D.: _____
 Hammer Wt: _____
 Hammer Fall: _____
 Hammer/Rod Type: _____
 Rig: _____

Casing _____
 Sampler _____

WB SS

4 in 1.5 in

N.A. 140 lb.

N.A. 30 in.

Auto/AWJ

CME 55 TRACK C_r = 1.46

Groundwater Observations

Date _____ Depth (ft) _____ Notes _____

None Taken.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RCD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
0.0 - 1.2		Asphalt Pavement, 0.0 ft - 1.2 ft								
1.2 - 5.3		A-1-a, SaGr, gry, MTW, Rec. = 5.3 ft				13-22-25-R (47)	5.3	65.6	26.3	8.1
5.3 - 7.5		Field Note:, NXDC, Cleaned out casing								
7.5 - 12.5		A-1-b, SaGr, gry, MTW, Rec. = 1.2 ft, Soft & Pulverized Ledge Cut Fill				11-26-17-16 (43)	11.4	46.0	34.8	19.2
12.5 - 14.0		A-1-b, SiGrSa, gry, MTW, Rec. = 0.7 ft, Soft & Pulverized Ledge Cut Fill				10-R@5.0" (R)	12.3	39.9	40.0	20.1
14.0 - 17.0		Field Note:, NXDC, Cleaned out casing								
17.0 - 19.0		Field Note:, BXMDC, Rec. = 0.3', Soft & Pulverized Ledge Cut Fill								
19.0 - 20.0		Field Note:, NXDC, Cleaned out casing								
20.0 - 22.5		A-1-b, SiSaGr, gry, MTW, Rec. = 0.6 ft, Soft & Pulverized Ledge Cut Fill				38-R@1.0" (R)	9.8	44.8	35.1	20.1
22.5 - 14.0		14.0 ft - 17.0 ft, Laminated dark-gray to black, Carbonaceous to highly graphitic Phyllite, and white quartz. Moderately hard, Unweathered, Fair rock, BXMDC, RMR = 50	1 (70)	80 (77)	5					
14.0 - 17.0					5					
17.0 - 19.0		17.0 ft - 19.0 ft, Laminated dark-gray to black, Carbonaceous to highly graphitic Phyllite, and white quartz. Moderately hard, Unweathered, Fair rock, BXMDC, RMR = 46	2 (70)	100 (70)	4					
19.0 - 20.0					4					
20.0 - 22.5		Hole stopped @ 19.0 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. C is the hammer energy correction factor.
 3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

BORING LOG 2 WATERBURY NHG SGNL(43).GPJ VERMONT AOT.GDT 4/15/13



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

BORING LOG

WATERBURY
NHG SGNL(43)
I-89 & VT-100 EXIT #10

Boring No.: **B-102**
 Page No.: 1 of 1
 Pin No.: 13B018
 Checked By: LAR

Boring Crew: DAIGNEAULT, GARROW, SALISBURY
 Date Started: 3/26/13 Date Finished: 3/26/13
 VTSPG NAD83: N 672144.29 ft E 1575062.79 ft
 Station: 26+80 Offset: 50.00
 Ground Elevation: 497.66 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 55 TRACK C = 1.46

Groundwater Observations

Date	Depth (ft)	Notes
03/27/13	6.8	See Remarks.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Groundwater Observations				
						Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
2.5		A-1-b, SiGrSa, Dk/brn, Moist, Rec. = 1.4 ft Visual Description: GrSa with Broken Rock, Dk/gry, Moist, Rec. = 0.3 ft Field Note: NXDC, Possible Ledge Cut Fill				WH-4-7-10 (11) R@3.5"	14.1	32.8	47.0	20.2
5.0		4.0 ft - 7.5 ft, Laminated dark-gray to black, Carbonaceous to highly graphitic Phyllite, and white quartz. Moderately hard, Unweathered, Poor rock, BXMDC, Unknown Dip. RMR = 36	1 (?)	11 (0)	2					Top of Bedrock @ 4.0 ft
7.5		7.5 ft - 9.5 ft, Laminated dark-gray to black, Carbonaceous to highly graphitic Phyllite, and white quartz. Moderately hard, Unweathered, Poor rock, BXMDC, Unknown Dip. RMR = 36	2 (?)	40 (0)	2					
10.0		9.5 ft - 11.1 ft, Laminated dark-gray to black, Carbonaceous to highly graphitic Phyllite, and white quartz. Moderately hard, Unweathered, Fair rock, BXMDC, Unknown Dip. RMR = 46	3 (?)	100 (63)	6					
12.5		11.1 ft - 14.0 ft, Laminated dark-gray to black, Carbonaceous to highly graphitic Phyllite, and white quartz. Moderately hard, Unweathered, Fair rock, BXMDC, RMR = 41	4 (45)	90 (31)	2					
15.0		14.0 ft - 16.6 ft, Laminated dark-gray to black, Carbonaceous to highly graphitic Phyllite, and white quartz. Moderately hard, Unweathered, Fair rock, BXMDC, RMR = 50	5 (45)	85 (82)	1					
17.5		Hole stopped @ 16.6 ft								
20.0		Remarks: Hole collapsed at 6.8 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. C is the hammer energy correction factor.
 3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

BORING LOG 2 WATERBURY NHG SGNL(43).GPJ VERMONT AOT.GDT 4/15/13



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

BORING LOG

**WATERBURY
 NHG SGNL(43)
 I-89 & VT-100 EXIT #10**

Boring No.: B-103
 Page No.: 1 of 1
 Pin No.: 13B018
 Checked By: LAR

Boring Crew: DAIGNEAULT, GARROW, SALISBURY
 Date Started: 3/27/13 Date Finished: 3/27/13
 VTSPG NAD83: N 672240.06 ft E 1575065.88 ft
 Station: 27+10 Offset: -41.00
 Ground Elevation: 497.3 ft

Casing Type: 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 55 TRACK C_s = 1.46

Groundwater Observations		
Date	Depth (ft)	Notes
03/27/13	3.1	Casing was pulled.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (FCD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
2.5		A-1-b, SiGrSa, Dk/brn, Moist, Rec. = 0.8 ft				WH-1-2-1 (3)	16.1	33.2	44.6	22.2
		A-2-4, GrSiSa, Dk/brn, Moist, Rec. = 0.4 ft								
		A-1-b, SaGr, gry, Moist, Rec. = 0.7 ft, Lab Note: Sample was mostly Broken & Pulverized Rock. Field Note:, NXDC Field Note:, NXDC, Possible Ledge Cut Fill								
7.5		7.0 ft - 9.0 ft, Laminated dark-gray to black, Carbonaceous to highly graphitic Phyllite, and white quartz. Moderately hard, Unweathered, Poor (70) rock, BXMDC, RMR = 36	1	85 (0)	6					
10.0		9.0 ft - 14.0 ft, Laminated dark-gray to black, Carbonaceous to highly graphitic Phyllite, and white quartz. Moderately hard, Unweathered, Poor (70) rock, BXMDC, RMR = 36	2	38 (0)	6					
12.5					5					
					5					
					6					
					9					
15.0	Hole stopped @ 14.0 ft									
17.5	Remarks: Hole collapsed at 5.4 ft.									
20.0										
22.5										

Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
 2. N Values have not been corrected for hammer energy. C is the hammer energy correction factor.
 3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

BORING LOG 2 WATERBURY NHG SGNL(43).GPJ VERMONT AOT.GDT 4/15/13