

Boring Crew: NH Borling, Derry, NH, Burke (Stantec)		Casing Sampler		Groundwater Observations			
Date Started: 12/02/13	Date Finished: 12/04/13	Type: WASH BORE SS	I.D.: 4 in. 1.38 in.	Date	Depth (ft)	Notes	
VTSPG NAD83: N 696354.25 ft E 1766333.22 ft		Hammer Wt: 300 lb. 140 lb.	Hammer Fall: 24 in. 30 in.	12/04/13	25.0		
Station: 17+47.61	Offset: 5.92 RT	Hammer/Rod Type: Safety/N	Hammer/Rod Type: Safety/N				
Ground Elevation: 566.0 ft		Rig: N,H,BORING - Truck	C: 1				

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. (POD %)	Drill Rate (min/ft)	Blow# (N Value)	Moisture Content (%)	Gravel %	Sand %	Fines %
0-0.5		Asphalt, 0.0 ft - 0.5 ft								
0.5-2.0		Gravel base course, 0.5 ft - 2.0 ft								
2.0-3.0		12 Inches of Concrete, 2.0 ft - 3.0 ft								
3.0-5.0		Visual Classification, Sa, brn, Molst, Rec. = 1.0 ft				3-3-2-4 (5)				
5.0-17.0		A-3, Sa, brn, Molst, Rec. = 1.0 ft				4.5-7.8 (12)	5.2	17.0	77.0	6.0
17.0-5.4		Visual Classification, GrSa, brn, Molst, Rec. = 0.3 ft				5-5-4-4 (9)				
5.4-7.6		Visual Classification, GrSa, brn, Molst, Rec. = 0.7 ft				7-6-5-5 (11)				
7.6-2.3		A-1-b, GrSa, brn, Molst, Rec. = 0.3 ft				2-3-3-4 (6)	17.2	21.0	69.0	10.0
2.3-1.1		A-2-4, SiSa, brn, Wet, Rec. = 1.5 ft				1-1-1-2 (2)	34.2		75.0	25.0
1.1-10-11		Visual Classification, Sa, brn, Wet, Rec. = 0.8 ft				10-11-12-12 (23)				
10-11-6-7		Visual Classification, Sa, brn, Wet, Rec. = 0.8 ft				6-7-10-10 (17)				

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0-45		A-1-b, Sa, brn, Wet, Rec. = 1.2 ft				10-17-18-12 (35)	16.6	20.0	74.0	6.0
45-50		Visual Classification, SiSa, brn, Wet, Rec. = 0.7 ft				16-25-80-99 (105)				
50-55		A-2-4, SiSa, Ltbrn, Wet, Rec. = 1.0 ft				26-25-29-30 (54)	21.8		76.0	24.0
55-60		Visual Classification, SiSa, gry, Wet, Rec. = 1.0 ft				24-24-33-36 (62)				
60-65		Visual Classification, SiSa, gry, Wet, Rec. = 1.3 ft				17-20-24-24 (44)				
65-70		A-2-4, SiSa, gry, Wet, Rec. = 0.8 ft				17-27-29-29 (56)	23.0		74.0	26.0
70-75		Visual Classification, Sa, gry, Wet, Rec. = 1.2 ft				15-17-18-19 (35)				
75-116.5		A-3, Sa, gry, Wet, Rec. = 1.5 ft				24-24-25-28 (49)	19.2		94.0	6.0

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Station: 17+47.61	Offset: 5.92 RT	Hammer/Rod Type: Safety/N	Hammer/Rod Type: Safety/N				
Ground Elevation: 566.0 ft		Rig: N,H,BORING - Truck	C: 1				


Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. (POD %)	Drill Rate (min/ft)	Blow# (N Value)	Moisture Content (%)	Gravel %	Sand %	Fines %
0-85		Visual Classification, Sa, gry, Wet, Rec. = 1.2 ft								
85-95		Visual Classification, Sa, gry, Wet, Rec. = 1.3 ft								
95-106.5		106.5 ft - 111.5 ft. Gry, Phyllite, Hard, Fresh, Good rock, NXDC, Joints are moderately dipping, moderately spaced, smooth to rough, and light, RMR = 61	1	98 (88)	4	17-27-100-5 (92)				
106.5-111.5		Top of Bedrock @ 106.5 ft								
111.5-116.5		111.5 ft - 116.5 ft. Gry, Phyllite, Hard, Fresh, Good rock, NXDC, Joints are moderately dipping, moderately spaced, smooth to rough, and light, RMR = 64	2	97 (92)	12					
116.5-115		Hole stopped @ 116.5 ft								

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 STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION	BORING LOG		Boring No.: B-2
	St. Johnsbury BRO 1447(30) TH 371, Bridge #46 Over Sleepers River		Page No.: 1 of 3 Pln No.: 12J164 Checked By: TAD
Boring Crew: NH Boring, Derry, NH, Burke (Stantec) Date Started: 12/04/13 Date Finished: 2/06/13 VTSPG NAD83: N 696223.63 ft. E 1766260.41 ft. Station: 15+98.34 Offset: 7.35 RT Ground Elevation: 557.0 ft		Casing Sampler Type: WASH BORE SS I.D.: 4 in. 1.38 in. Hammer Wt: 300 lb. 140 lb. Hammer Fall: 24 in. 30 in. Hammer/Rod Type: Safety/N Rlg: N,H,BORING - Truck C = 1	
Groundwater Observations Date Depth (ft) Notes 12/06/13 15.0			


Depth (ft)	Strata (f)	CLASSIFICATION OF MATERIALS (Description)	Run (bip deg)	Cove Rec. % (ROD %)	Drill Rate (min/assault)	Blow# (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
0		Asphalt, 0.0 ft - 0.25 ft Sand, 0.25 ft - 0.42 ft Concrete with rebar, 0.42 ft - 1.92 ft Visual Classification, GrSa, brn, Moist, Rec. = 0.7 ft								
5		A-1-b, GrSa, brn, Moist, Rec. = 0.8 ft Visual Classification, GrSa, blk-brn, Wet, Rec. = 0.3 ft				2-3-5-3 (8) 3-4-5-4 (9) 4-3-8-5 (11) 7-24-10-7 (34) 6 (100/5 (R))	8.6	33.0	60.0	7.0
10		Visual Classification, Wood, Rec. = 0.3 ft Visual Classification, GrSa, brn, Wet, Rec. = 0.7 ft								
15		A-2-4, Sa, gry, Moist, Rec. = 1.0 ft Visual Classification, SiSa, gry, Wet, Rec. = 1.5 ft Visual Classification, SiSa, gry, Wet, Rec. = 1.3 ft Visual Classification, Sa, brn-gry, Moist, Rec. = 0.3 ft Visual Classification, GrSa, brn-gry, Moist, Rec. = 0.8 ft				7-5-3-2 (8) 1-5-5-4 (10) 4-5-7-8 (12) 5-7-12-10 (19) 12-10-33-41 (43) 35-22-25-29 (47) 41-38-31-39 (69)	27.3		83.0	17.0
25		A-1-b, SaGr, gry, Wet, Rec. = 1.0 ft Visual Classification, GrSa, gry, Wet, Rec. = 1.2 ft, organic material in sample					11.6	47.0	44.0	9.0
30		Visual Classification, Sa, brn-gry, Wet, Rec. = 1.2 ft				66-44-21-17 (65)				
35		A-1-b, GrSa, brn, Wet, Rec. = 0.8 ft				38-21-26-29 (47)	15.9	23.0	69.0	8.0

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	St. Johnsbury BRO 1447(30) TH 371, Bridge #46 Over Sleepers River		Page No.: 2 of 3 Pln No.: 12J164 Checked By: TAD
Boring Crew: NH Boring, Derry, NH, Burke (Stantec) Date Started: 12/04/13 Date Finished: 2/06/13 VTSPG NAD83: N 696223.63 ft. E 1766260.41 ft. Station: 15+98.34 Offset: 7.35 RT Ground Elevation: 557.0 ft		Casing Sampler Type: WASH BORE SS I.D.: 4 in. 1.38 in. Hammer Wt: 300 lb. 140 lb. Hammer Fall: 24 in. 30 in. Hammer/Rod Type: Safety/N Rlg: N,H,BORING - Truck C = 1	
Groundwater Observations Date Depth (ft) Notes 12/06/13 15.0			

Depth (ft)	Strata (f)	CLASSIFICATION OF MATERIALS (Description)	Run (bip deg)	Cove Rec. % (ROD %)	Drill Rate (min/assault)	Blow# (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
0		Visual Classification, Sa, brn, Wet, Rec. = 1.0 ft				15-24-23-30 (66)				
45		A-4, SiSa, brn, Wet, Rec. = 1.5 ft				9-11-18-21 (29)	22.9		57.0	43.0
50		Visual Classification, Sa, brn, Wet, Rec. = 1.3 ft				15-24-18-30 (42)				
55		A-3, Sa, brn, Wet, Rec. = 1.2 ft				17-17-26-24 (37)	26.8		93.0	7.0
60		Visual Classification, SiSa, brn, Wet, Rec. = 1.3 ft				18-18-20-19 (38)				
65		Visual Classification, Sa, gry, Wet, Rec. = 1.2 ft				15-21-36-27 (57)				
70		A-3, Sa, gry, Wet, Rec. = 1.3 ft				26-44-51-40 (95)	25.3		94.0	6.0
75		Visual Classification, Sa, gry, Wet, Rec. = 1.5 ft				14-29-41-36 (70)				

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Groundwater Observations Date Depth (ft) Notes 12/06/13 15.0			

Depth (ft)	Strata (f)	CLASSIFICATION OF MATERIALS (Description)	Run (bip deg)	Cove Rec. % (ROD %)	Drill Rate (min/assault)	Blow# (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
0		Visual Classification, Sa, gry, Wet, Rec. = 1.2 ft				17-26-27-27 (53)				
85		A-3, Sa, gry, Wet, Rec. = 0.8 ft				18-24-25-24 (49)	20.2		91.0	9.0
90		Visual Classification, Sa, gry, Wet, Rec. = 1.2 ft				21-23-32-32 (55)				
95		93.5 ft - 98.5 ft, Gry, Phyllite, Hard, Fresh, Poor rock, NXDC, Joints are low angle to moderately dipping, closely spaced, smooth to rough, and tight to open. RMR = 39	1 (5-55)	53 (28)	10					Top of Bedrock @ 93.5 ft
100		99.0 ft - 104.0 ft, Gry, Phyllite, Hard, Fresh, Fair rock, NXDC, Joints are low angle, moderately close, smooth to rough, and tight. RMR = 58	2 (5-55)	93 (80)	6					
105		Hole stopped @ 104.0 ft								
110		Remarks: Cleaned out hole to 99 feet bgs with roller bit after core run, no. 1.								

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STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
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BORING LOG
St. Johnsbury
BRO 1447(30)
TH 371, Bridge #46 Over Sleepers River

Boring No.: B-3
Page No.: 1 of 2
Pin No.: 12J164
Checked By: TAD

Boring Crew: NH Boring, Derry, NH, Burke (Stantec)
Date Started: 12/06/13 Date Finished: 12/06/13
VTSPG NAD83: N 696241.43 ft E 1766306.51 ft
Station: 16+36.69 Offset: 38.53 RT
Ground Elevation: 553.0 ft

Casing Sampler
Type: WASH BORE SS
I.D.: 4 in 1.38 in
Hammer Wt: 300 lb. 140 lb.
Hammer Fall: 24 in 30 in.
Hammer/Rod Type: Safety/N
Rig: N.H. BORING - Truck C = 1

Groundwater Observations		
Date	Depth (ft)	Notes
12/06/13	9.0	

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/ft (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		Not Sampled, 12 inches of crushed stone for parking area, Dry					
		Visual Classification, Sa, tan, Moist, Rec. = 1.2 ft, PID = 0 ppm	12-13-13-15 (26)				
		Visual Classification, Sa, brn, Moist, Rec. = 0.8 ft, PID = 0.1 ppm (3-4 ft) and 5.2 ppm (3-4 ft)	52-39-27-21 (66)				
		Visual Classification, Sa, red-brn, Moist, Rec. = 1.2 ft, PID = 6.2 ppm (4-5 ft) and 5.2 ppm (5-6 ft)	18-22-20-35 (42)				
10		A-3, Sa, red-brn, Moist, Rec. = 0.8 ft, PID = 14.8 ppm (6-7 ft) and 15.2 ppm (7-8 ft)	18-16-12-7 (28)	9.9	2.0	89.0	9.0
		Visual Classification, SiSa, brn, Wet, Rec. = 1.0 ft, PID = 15.9 ppm (8-9 ft) and 16.5 ppm (9-10 ft)	17-23-25-25 (48)				
15		Visual Classification, SiSa, Dk/gry, Wet, Rec. = 1.5 ft, Strong petroleum odor, PID = 65.2 ppm (14-15 ft) and 62.2 ppm (15-16 ft)	3-2-1-2 (3)				
20		Visual Classification, Sa, Dk/gry, Wet, Rec. = 1.3 ft, Petroleum odor, PID = 3.2 ppm (19-20 ft) and 0.8 ppm (20-21 ft), Organic Content = 6.4%	5-5-7-8 (12)	78.3			
25		Visual Classification, SaSi, brn-gry, Wet, Rec. = 1.5 ft	6-8-11-11 (19)				
30		A-2-4, Sa, Lt/brn, Wet, Rec. = 1.2 ft	11-13-17-11 (30)	24.7		82.0	18.0
35		Visual Classification, Sa, brn, Wet, Rec. = 1.7 ft	5-10-11-12 (21)				
		Visual Classification, SaSi, Lt/brn, Wet, Rec. = 1.2 ft	19-24-				

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MATERIALS & RESEARCH SECTION
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BORING LOG
St. Johnsbury
BRO 1447(30)
TH 371, Bridge #46 Over Sleepers River

Boring No.: B-3
Page No.: 2 of 2
Pin No.: 12J164
Checked By: TAD

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Date	Depth (ft)	Notes
12/06/13	9.0	

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/ft (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
45		Visual Classification, Sa, brn, Wet, Rec. = 1.5 ft	34-15 (58)				
			18-26-22-29 (48)				
50		Visual Classification, Sa, brn, Wet, Rec. = 1.5 ft	14-18-29-32 (47)				
55		Hole stopped @ 51.0 ft					
		Remarks: No refusal.					
60							
65							
70							
75							

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