



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

BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B101

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, NIETO, JUDKINS
 Date Started: 3/20/14 Date Finished: 3/20/14
 VTSPG NAD83: N 900943.21 ft E 1457823.82 ft
 Station: 1113+40 Offset: 25.00
 Ground Elevation: 99.5 ft

Type: _____
 I.D.: _____
 Hammer Wt: _____
 Hammer Fall: _____
 Hammer/Rod Type: _____
 Rig: CME 45C TRACK C = 1.34

Groundwater Observations		
Date	Depth (ft)	Notes
03/20/14	1.1	After drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-4, GrSaSi, gry-Lt/brn, Moist, Rec. = 2.0 ft, Lab Note: A small layer of clay was noticeable. Sticks & wood were within sample.	4-11-11-22 (22)	16.7	24.0	34.9	41.1
		A-4, GrSiSa, Lt/brn, Moist, Rec. = 1.7 ft	17-20-23-26 (43)	12.5	21.5	39.8	38.7
		A-4, GrSaSi, Lt/brn, Moist, Rec. = 1.4 ft	8-11-16-9 (27)	11.5	29.6	34.5	35.9
		A-4, GrSaSi, gry, Moist, Rec. = 0.6 ft	5-7-39-10 (46)	10.6	22.7	30.5	46.8
10		Tested, SaGr, gry, Dry, Rec. = 0.3 ft, Lab Note: Lots of Broken & pulverized rock was within sample.	WH-3-8-12 (11)	3.4	56.0	33.8	10.2
		A-2-4, SaSiGr, gry, Wet, Rec. = 1.0 ft		15.2	44.9	21.1	34.0
		A-4, SaGrSi, gry, Wet, Rec. = 0.7 ft	10-16-48-R@1.0" (64)	10.4	32.2	26.4	41.4
		Tested, SaGr, gry, Wet, Lab Note: Mostly Broken Rock. Could not penetrate further.		9.1	56.3	23.9	19.8
		Hole stopped @ 11.6 ft CNPF-TLOB					

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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: **B-102**

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Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, NIETO, JUDKINS
 Date Started: 3/20/14 Date Finished: 3/20/14
 VTSPG NAD83: N 901024.32 ft E 1458314.40 ft
 Station: 1118+50 Offset: -34.00
 Ground Elevation: 97.2 ft

Type: H.S.A. SS & TUBE
 I.D.: 3.25 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 C_r = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/20/14	5.3	After drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
5		A-7-6, SiCl, brn, MTW, Rec. = 0.9 ft, Lab Note: Roots & sticks were within sample. Sample tested: Trace of Organics (3.9%)	2-1-1-1 (2)	52.0	0.3	13.9	85.8	46	18
		A-7-6, Cl, brn-gry, Moist, Rec. = 1.5 ft	1-3-4-5 (7)	35.0	3.7	3.5	92.8	48	22
		Field Note: Attempted Shelby Tube sample., No Recovery.							
10		A-7-6, Cl, brn-Lt/gry, MTW, Rec. = 2.0 ft	2-2-2-3 (4)	44.1	0.8	2.6	96.6	50	24
		Shelby Tube, gry, Moist, Rec. = 1.3 ft, 8.0 ft - 10.0 ft							
15		A-2-4, GrSiSa, gry, Moist, Rec. = 1.0 ft	3-6-6-9 (12)	13.1	23.5	46.7	29.8		
		A-2-4, SiGrSa, gry, Wet, Rec. = 1.4 ft	12-24-30-R@5.0" (54)	7.9	35.2	34.5	30.3		
20		A-4, SaGrSi, gry, Wet, Rec. = 1.4 ft	6-17-18-39 (35)	7.3	31.3	30.8	37.9		
Hole stopped @ 22.0 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 may occur due to other factors than those present at the time measurements were made.

BORING LOG 2 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-103

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: DAIGNEAULT, GARROW, NIETO

Date Started: 3/18/14 Date Finished: 3/18/14

VTSPG NAD83: N 901120.82 ft E 1460800.92 ft

Station: 1143+50 Offset: 21.00

Ground Elevation: 103.3 ft

Type: H.S.A. Sampler SS
 I.D.: 3.25 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 C_e = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/18/14	5.2	After drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-2-4, GrSiSa, Lt/brn, MTW, Rec. = 1.4 ft, Sample tested: Trace of Organics (7.7%)	5-7-5-5 (12)	33.7	31.0	37.9	31.1
		Visual Description: Broken Rock with silty sand, Lt/brn, Moist, Rec. = 0.6 ft, Insufficient sample for testing.	3-5-9-13 (14)	9.7			
		A-2-4, SiSaGr, gry-Lt/brn, Moist, Rec. = 1.6 ft, Lab Note: Broke Rock was within sample.	6-27-10-9 (37)	11.1	41.6	31.4	27.0
		A-1-b, SiSaGr, gry-brn, MTW, Rec. = 1.5 ft, Auger could not penetrate further. To ledge or boulder.	5-14-14-13 (28)	11.5	43.1	33.8	23.1
10	Hole stopped @ 8.0 ft CNPF-TLOB						
15	Remarks: 1. Hole collapsed at 5.3 ft.						
20							
25							

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 may occur due to other factors than those present at the time measurements were made.

BORING LOG 2 SWANTON NH 036-1(9), GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-104
 Page No.: 1 of 1
 Pin No.: 96B032
 Checked By: CEE

Boring Crew: GARROW, NIETO
 Date Started: 3/11/14 Date Finished: 3/11/14
 VTSPG NAD83: N 901339.48 ft E 1463305.42 ft
 Station: 1168+45 Offset: 24.00
 Ground Elevation: 99.4 ft

Casing H.S.A. Sampler SS & TUBE
 I.D.: 3.25 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 C_r = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/11/14	4.3	After drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %	
5		A-1-b, SaGr, brn, Moist, Rec. = 0.4 ft, Lab Note: Sticks & grass were within sample.	1-1-1-1 (2)	22.7	42.1	41.0	16.9			
		A-7-5, CI, Lt/brn, MTW, Rec. = 0.6 ft, Sample tested: Trace of Organics (6.2%)	WH-WH-1-2 (1)	58.0	0.6	2.9	96.5	62	25	
		A-7-5, CI, brn, MTW, Rec. = 2.0 ft, Sample tested: Trace of Organics (6.0%)		50.5		2.2	97.8	61	25	
	10		A-7-6, CI, Lt/brn, MTW, Rec. = 0.5 ft, Sample tested: Trace of Organics (5.5%)	1-2-4-9 (6)	44.2	0.3	3.0	96.7	54	24
			A-6, SiCl, gry-Lt/brn, MTW, Rec. = 1.5 ft, Sample tested: Trace of Organics (1.2%)		28.4	0.8	16.3	82.9	30	12
		A-2-4, SiGrSa, gry, MTW, Rec. = 1.3 ft	7-13-13-15 (26)	9.5	34.4	38.8	26.8			
15		A-1-b, SiSaGr, gry, MTW, Rec. = 1.1 ft	5-13-12-10 (25)	9.1	39.3	35.7	25.0			
		A-2-4, SaSiGr, gry, MTW, Rec. = 1.6 ft	2-25-24-33 (49)	7.8	42.7	27.3	30.0			
20		A-4, GrSaSi, gry, MTW, Rec. = 0.8 ft, Augers could not penetrate further. To ledge or boulder.	30-R@3.5" (R)	8.2	28.4	32.6	39.0			
		Hole stopped @ 18.8 ft CNPF-TLOB								

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 may occur due to other factors than those present at the time measurements were made.

BORING LOG 2 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-105
 Page No.: 1 of 1
 Pin No.: 96B032
 Checked By: CEE

Boring Crew: GARROW, NIETO
 Date Started: 3/11/14 Date Finished: 3/11/14
 VTSPG NAD83: N 901231.09 ft E 1463789.54 ft
 Station: 1173+55 Offset: 26.00
 Ground Elevation: 97.8 ft

Type: H.S.A. SS
 I.D.: 3.25 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 C_s = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/11/14	2.9	After drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-2-4, SaGrSi, brn, MTW, Rec. = 0.7 ft, Lab Notes: Roots & sticks were within sample. Broken Rock was within sample.	1-1-1-1 (2)	33.4	32.7	32.4	34.9
		A-2-4, GrSiSa, Lt/brn, MTW, Rec. = 1.3 ft, Lab Note: Wood & sticks were within sample.	1-2-4-6 (6)	23.0	31.2	35.1	33.7
		Field Note: Augers could not penetrate further. To ledge or boulder.					
5		Hole stopped @ 5.0 ft CNPF-TLOB					
10							
15							
20							
25							

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 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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: **B-105A**

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Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, NIETO

Date Started: 3/11/14 Date Finished: 3/11/14

VTSPG NAD83: N 901282.70 ft E 1463839.96 ft

Station: 1173+80 Offset: 26.00

Ground Elevation: 99.1 ft

Casing: H.S.A. Sampler: SS
 I.D.: 3.25 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 C_r = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/11/14		No water after drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5							
9.0		A-4, SaGrSi, gry-Lt/brn, MTW, Rec. = 0.5 ft, Lab Note: Broken Rock was within sample. Field Note: Augers could not penetrate further. To ledge or boulder. Hole stopped @ 9.0 ft CNPf-TLOB	R@6.0"	11.5	32.7	30.3	37.0

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

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-106

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Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, NIETO, JUDKINS
 Date Started: 3/21/14 Date Finished: 3/21/14
 VTSPG NAD83: N 901017.70 ft E 1464225.35 ft
 Station: 1178+56 Offset: 25.00
 Ground Elevation: 100.8 ft

Type: H.S.A. SS
 I.D.: 3.25 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 C_c = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/21/14	6.8	After drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-1-b, SaGr, brn, Moist, Rec. = 1.5 ft, Lab Note: Broken Rock was within sample.	9-15-31-17 (46)	15.4	50.3	33.7	16.0
		A-1-b, SaGr, brn, Moist, Rec. = 0.7 ft, Lab Note: Broken Rock was within sample.	11-5-4-4 (9)	10.7	49.2	33.8	17.0
		Visual Description:, Broken Rock, gry, Moist, Rec. = 0.1 ft	7-9-10-22 (19)				
10		A-1-a, SaGr, Lt/brn-Lt/gry, Moist, Rec. = 0.7 ft, Lab Note: Broken Rock was within sample.	9-21-20-7 (41)	7.8	56.2	30.2	13.6
		A-1-b, SiSaGr, brn, Moist, Rec. = 0.7 ft, Lab Note: Broken Rock was within sample.	6-21-13-7 (34)	12.9	45.9	33.8	20.3
		A-1-a, SaGr, brn-white, Dry, Rec. = 0.3 ft, Lab Note: Broken Rock was within sample.		2.9	54.5	36.3	9.2
		A-1-b, SaGr, gry, Wet, Rec. = 0.7 ft, Lab Note: Broken Rock was within sample.	2-6-8-2 (14)	50.2	47.9	34.6	17.5
15		A-1-b, SaGr, gry, Wet, Rec. = 0.9 ft, Lab Note: Broken Rock was within sample. Could not penetrate further.	22-50-R@5.0" (R)	12.8	47.7	40.9	11.4
Hole stopped @ 15.9 ft CNPF-TLOB							
20							
25							

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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-107
 Page No.: 1 of 1
 Pin No.: 96B032
 Checked By: CEE

Boring Crew: GARROW, JUDKINS
 Date Started: 3/25/14 Date Finished: 3/25/14
 VTSPG NAD83: N 901060.52 ft E 1464225.43 ft
 Station: 1178+22 Offset: -14.50
 Ground Elevation: 103.8 ft

Type: _____
 I.D.: _____
 Hammer Wt: _____
 Hammer Fall: _____
 Hammer/Rod Type: _____
 Rig: CME 45C TRACK C_c = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/25/14		No water to depth.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-1-b, SaGr, Dk/brn, Moist, Rec. = 1.3 ft, Lab Note: Broken Rock was within sample.	25-39-R@6.0" (R)	12.4	42.6	38.1	19.3
		A-1-b, SiSaGr, Dk/brn, Moist, Rec. = 1.0 ft, Lab Note: Broken Rock was within sample.	17-49-R@1.0" (R)	8.2	38.6	38.3	23.1
5		Tested, SaGr, Dk/gry, Moist, Rec. = 1.0 ft, Lab Note: Mostly Broken Rock	14-22-19-6 (41)	6.2	65.6	25.5	8.9
		A-1-b, SiGrSa, brn, Moist, Rec. = 0.4 ft	4-4-5-3 (9)	13.4	34.2	44.4	21.4
		Field Note: Could not penetrate further, No Recovery Hole stopped @ 8.0 ft CNPF-TLOB	R@0.0"				

Notes:
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BORING LOG 2 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: **B-108**

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Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, NIETO
 Date Started: 3/07/14 Date Finished: 3/07/14
 VTSPG NAD83: N 900814.74 ft E 1464698.29 ft
 Station: 1183+50 Offset: -40.00
 Ground Elevation: 94.9 ft

Casing H.S.A. Sampler SS & TUBE
 I.D.: 3.25 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 C_s = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/07/14	5.2	

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
5	[Diagonal Hatching]	A-4, SaSi, brn, MTW, Rec. = 1.0 ft, Sample tested: Little Organics (13.3%)	4-9-6-1 (15)	197.1		27.8	72.2		
		A-4, SaSi, brn, MTW, Rec. = 0.3 ft, Sample tested: Trace of Organics (9.6%)	1-1-1-1 (2)	141.9		27.2	72.8		
		A-4, SaSi, gry-brn, MTW, Rec. = 1.7 ft	WH-WH-1-1 (1)	39.1	0.6	21.8	77.6	28	1
10	[Diagonal Hatching]	A-4, SiSa, gry, Wet, Rec. = 0.8 ft		26.1	1.8	57.3	40.9		
		A-4, SiSa, Lt/gry, MTW, Rec. = 1.2 ft	WH-WH-WH (WH)	34.2	0.4	55.2	44.4		
		A-4, SaSi, gry, MTW, Rec. = 2.0 ft, Sample tested: Trace of Organics (2.1%)	WH-WH-WH (WH)	38.2	0.3	41.4	58.3		
15	[Diagonal Hatching]	A-4, SaSi, gry, Wet, Rec. = 2.0 ft, Sample tested: Trace of Organics (1.5%)	WH-WH-WH (WH)	39.0	0.2	26.8	73.0		
20	[Diagonal Hatching]	A-4, Si, gry, MTW, Rec. = 2.0 ft, Sample tested: Trace of Organics (1.5%)	WR-WR-WH-1 (WH)	36.6	0.2	14.6	85.2		
Hole stopped @ 22.0 ft									
25									

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 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 SWANTON NH 036-1(9),GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: **B-109**

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Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, NIETO
 Date Started: 3/10/14 Date Finished: 3/10/14
 VTSPG NAD83: N 900350.01 ft E 1465228.17 ft
 Station: 1190+49 Offset: -35.00
 Ground Elevation: 98.9 ft

Type: H.S.A. SS
 I.D.: 3.25 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 $C_r = 1.34$

Groundwater Observations

Date	Depth (ft)	Notes
03/10/14	9.8	While drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-2-4, GrSiSa, brn, Moist, Rec. = 1.3 ft, Lab Note: Sticks & roots were within sample.	8-17-26-38 (43)	23.4	21.0	55.8	23.2
		A-4, SaSi, gry-brn, MTW, Rec. = 1.2 ft, Lab Note: Sample was rusty colored.	10-6-2-3 (8)	29.1	12.3	23.7	64.0
5		A-4, SaSi, gry-brn, MTW, Rec. = 1.4 ft, Lab Note: Sample was rusty-orange colored.	1-2-2-2 (4)	28.3	0.8	21.9	77.3
		A-4, SaSi, gry-brn, MTW, Rec. = 1.4 ft	1-2-1-2 (3)	29.2	1.6	35.7	62.7
		A-4, SaSi, gry, MTW, Rec. = 1.9 ft	1-1-1-1 (2)	35.7		35.1	64.9
10		A-4, SaSi, gry, MTW, Rec. = 2.0 ft	WH-1-1-1 (2)	39.4	0.2	31.9	67.9
15		A-2-4, SiSa, gry, Wet, Rec. = 0.5 ft	WH-WH-1-1 (1)	26.9	1.7	75.3	23.0
		A-4, Si, gry, Wet, Rec. = 0.7 ft, Lab Note: a very small section of clay was noticeable.		42.7	0.4	9.7	89.9
		Field Note: Attempted Shelby Tube sample, No Recovery.					
20		A-4, SiSa, gry, Wet, Rec. = 1.8 ft	1-2-5-6 (7)	29.9	0.4	62.4	37.2
		Hole stopped @ 22.0 ft					
25							

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 SWANTON NH 036-1(9).GPFJ VERMONT AOT.GDT 8/4/14



STATE OF VERMONT
AGENCY OF TRANSPORTATION
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SUBSURFACE INFORMATION

BORING LOG

SWANTON
NH 036-1(9)
VT-78 ROADWAY

Boring No.: B-110

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, DAIGNEAULT, NIETO
Date Started: 3/06/14 Date Finished: 3/06/14
VTSPG NAD83: N 899710.99 ft E 1465699.75 ft
Station: 1198+48 Offset: -40.00
Ground Elevation: 96.2 ft

Casing H.S.A. Sampler SS
Type: H.S.A. SS
I.D.: 3.25 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 C_r = 1.34

Groundwater Observations

Date	Depth (ft)	Notes

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-8, Organic silt with sticks & grass pieces, brn, MTW, Rec. = 0.2 ft, Lab Note: Removed a lot of sticks & grass pieces and tested for organics. Sample tested: Organic silt (29.2%)	3-4-1-1 (5)	118.0		19.5	80.5
5		A-4, SaSi, gry-brn, MTW, Rec. = 1.2 ft, Sample tested: Trace of Organics (3.7%)	WH-1-3-1 (4)	33.0		20.3	79.7
		A-4, SaSi, gry-brn, MTW, Rec. = 1.6 ft, Sample tested: Trace of Organics (2.9%)	WH-1-1-1 (2)	35.6		29.3	70.7
		A-4, SaSi, gry, Wet, Rec. = 1.6 ft, Sample tested: Trace of Organics (2.6%)	WH-1-1-1 (2)	40.7	0.1	47.2	52.7
10		A-3, Sa, gry, Wet, Rec. = 1.5 ft	WH-WH-1-1 (1)	25.5	0.8	97.3	1.9
		A-4, SaSi, gry, MTW, Rec. = 0.7 ft, Sample tested: Trace of Organics (2.3%)	WH-WH-1-1 (1)	42.7	0.4	23.2	76.4
15		A-4, Si, gry, Wet, Rec. = 1.4 ft, Sample tested: Trace of Organics (3.0%)	WH-WH-1-1 (1)	39.8	0.1	17.4	82.5
20		A-4, SiSa, gry, Wet, Rec. = 1.7 ft, Sample tested: Trace of Organics (2.9%)	WR-WR-4-4 (4)	34.5	0.4	57.0	42.6
	Hole stopped @ 22.0 ft						
25							

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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: **B-111**

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, NIETO
 Date Started: 3/05/14 Date Finished: 3/05/14
 VTSPG NAD83: N 898391.89 ft E 1466422.26 ft
 Station: 1213+42 Offset: -18.00
 Ground Elevation: 98.9 ft

Type: H.S.A. SS & TUBE
 I.D.: 3.25 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 C_r = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/05/14	14.4	While drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Visual Description:, Broken Rock (Limestone), gry, Moist, Rec. = 0.3 ft	45-R@1.0" (R)	6.3			
		Field Note:, No Recovery	14-8-8-7 (16)				
5		A-1-a, SaGr, brn, Moist, Rec. = 0.9 ft, Lab Note: Broken Rock was within sample.	2-4-4-4 (8)	19.6	53.8	34.3	11.9
		A-2-4, SaSiGr, gry, Moist, Rec. = 0.8 ft, Lab Note: Broken Rock was within sample.	1-2-3-3 (5)	16.7	42.2	28.2	29.6
		Field Note:, SiCl Shelby Tube, Moist, Rec. = 1.9 ft					
10		A-4, Si, gry, MTW, Rec. = 0.5 ft, Lab Note: A very small section of clay was noticeable.	1-2-1-1 (3)	28.6	0.9	13.3	85.8
		A-4, SaSi, gry, MTW, Rec. = 1.1 ft, Lab Note: A very small section of clay was noticeable.		29.7		25.9	74.1
15		A-3, Sa, Lt/gry, Wet, Rec. = 1.6 ft	1-1-1-1 (2)	23.4	0.4	96.7	2.9
20		A-4, Si, gry, Wet, Rec. = 1.3 ft, Sample tested: Trace of Organics (2.3%)	WR-WR-WH-1 (WH)	36.7	0.2	11.6	88.2
		Hole stopped @ 22.0 ft					
25		Remarks: 1. Hole collapsed at 4.0 ft. 2. Moved hole due to utilities.					

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_r 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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-112
 Page No.: 1 of 1
 Pin No.: 96B032
 Checked By: CEE

Boring Crew: GARROW, DAIGNEAULT, NIETO
 Date Started: 3/03/14 Date Finished: 3/03/14
 VTSPG NAD83: N 897593.50 ft E 1466966.92 ft
 Station: 1223+25 Offset: 27.50
 Ground Elevation: 98.0 ft

Casing H.S.A. Sampler SS & TUBE
 Type: H.S.A. SS & TUBE
 I.D.: 3.25 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 C_c = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/03/14	10.4	

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-4, SaSi, gry, MTW, Rec. = 1.0 ft, Lab Note: Roots & sticks were within sample. A very small section of clay was noticeable.	WH-1-WH-1 (1)	48.2	0.1	20.0	79.9
		Field Note:; Cisi Shelby Tube, gry-brn, MTW, Rec. = 1.4 ft					
5		A-4, SaSi, rust-brn, MTW, Rec. = 0.9 ft	1-2-1-2 (3)	28.2	3.1	26.2	70.7
		A-4, SaSi, Lt/gry, MTW, Rec. = 0.5 ft		29.6		23.2	76.8
		A-4, SaSi, gry, MTW, Rec. = 1.4 ft	WH-1-2-2 (3)	34.2		40.0	60.0
		A-4, SaSi, gry, MTW, Rec. = 1.4 ft	WH-1-WH-1 (1)	35.5		43.1	56.9
10		A-4, SaSi, gry, MTW, Rec. = 1.4 ft	WH-WH-3-3 (3)	34.1	7.0	23.7	69.3
15		A-4, GrSaSi, Dk/gry, Moist, Rec. = 0.7 ft	17-25-R@0.0" (R)	12.3	25.7	37.0	37.3
		Hole stopped @ 16.0 ft TLOB					
20		Remarks: 1. Could not penetrate past 16.0 ft.					
25							

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_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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-113

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, HOOK, NIETO
 Date Started: 2/28/14 Date Finished: 2/28/14
 VTSPG NAD83: N 897025.44 ft E 1467573.86 ft
 Station: 1231+50 Offset: 36.00
 Ground Elevation: 98.5 ft

Casing H.S.A. Sampler SS & TUBE
 I.D.: 3.25 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 C_r = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
02/28/14	14.5	While drilling.
02/28/14	3.6	Auger removed.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5	[Diagonal Hatching]	A-4, SaSi, brn, MTW, Rec. = 0.6 ft, Lab Note: Roots, sticks, & leaves were within sample.	1-3-2-1 (5)	52.1	5.6	37.8	56.6
		A-4, SaSi, brn, MTW, Rec. = 0.7 ft	WH-1-2-4 (3)	41.2	0.7	27.6	71.7
10	[Diagonal Hatching]	A-4, Si, brn, MTW, Rec. = 1.8 ft		23.0		14.2	85.8
		A-4, SaSi, Lt/brn, Wet, Rec. = 1.3 ft	2-2-3-4 (5)	29.8	0.2	42.4	57.4
		A-2-4, SiSa, gry, MTW, Rec. = 0.8 ft	2-1-2-2 (3)	29.8	0.2	67.9	31.9
15	[Diagonal Hatching]	A-2-4, SiSa, gry, Wet, Rec. = 0.7 ft	WH-1-1-1 (2)	42.6	0.2	66.3	33.5
		A-4, SaSi, gry, Wet, Rec. = 1.2 ft, Lab Note: No Organics were noticed.	WH-WH-2-2 (2)	32.6	0.2	23.9	75.9
20	[Diagonal Hatching]	A-4, SiSa, gry, Wet, Rec. = 2.0 ft, Sample tested: Trace of Organics (6.8%).	WR-WH-WH-2 (WH)	54.0	0.5	50.4	49.1
Hole stopped @ 22.0 ft							
25							

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_r 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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-114

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, NIETO
 Date Started: 2/27/14 Date Finished: 2/27/14
 VTSPG NAD83: N 896619.48 ft E 1467909.52 ft
 Station: 1236+85 Offset: 38.50
 Ground Elevation: 101.3 ft

Casing H.S.A. Sampler SS & TUBE
 I.D.: 3.25 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 C_s = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
02/27/14		No water to depth.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
5	[Diagonal Hatching]	A-4, SiSa, brn, MTW, Rec. = 0.6 ft, Lab Note: Roots & sticks were within sample.	4-3-3-3 (6)	55.7	0.2	50.7	49.1		
		A-4, SaSi, brn, MTW, Rec. = 1.0 ft, Lab Note: No Organics were noticed.	1-1-1-2 (2)	28.4		31.1	68.9		
		Field Note:, Attempted Shelby Tube sample, No Recovery.							
10	[Diagonal Hatching]	A-4, Si, Lt/brn, MTW, Rec. = 1.5 ft	2-2-2-3 (4)	29.2		10.1	89.9	27	1
		Field Note:, Shelby Tube, Rec. = 1.0 ft							
15	[Diagonal Hatching]	A-4, Si, gry-Lt/brn, MTW, Rec. = 1.0 ft	WH-2-3-3 (5)	28.0		19.7	80.3		
20	[Diagonal Hatching]	A-4, Si, gry, MTW, Rec. = 1.0 ft	WH-3-3-4 (6)	32.3		12.7	87.3		
25	[Diagonal Hatching]	A-4, Si, gry, MTW, Rec. = 1.3 ft	WH-WH-WH-WH (WH)	34.7		7.4	92.6		
		Hole stopped @ 22.0 ft							
		Remarks: 1. Moved hole due to under ground utilities.							

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_s 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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: **B-115**

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, NIETO
 Date Started: 2/27/14 Date Finished: 2/27/14
 VTSPG NAD83: N 895695.50 ft E 1468230.87 ft
 Station: 1246+60 Offset: 39.00
 Ground Elevation: 100.7 ft

Type: H.S.A. SS
 I.D.: 3.25 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 C_r = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
02/27/14		No water to depth.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5	[Hatched]	A-4, SaSi, brn, MTW, Rec. = 1.5 ft, Lab Note: Roots & sticks were within sample.	4-3-2-3 (5)	35.8		41.0	59.0
		A-5, SaSi, gry-Lt/brn, MTW, Rec. = 2.0 ft, Lab Note: No Organics were noticed.	1-1-1-1 (2)	33.0	20.5	79.5	
10	[Hatched]	Field Note: Attempted Shelby Tube sample, No Recovery.					
		A-4, Si, gry-Lt/brn, MTW, Rec. = 1.2 ft	1-4-4-7 (8)	28.1	4.7	95.3	
		A-4, Si, gry-Lt/brn, Wet, Rec. = 1.3 ft	1-5-6-5 (11)	29.7	6.0	94.0	
15	[Hatched]	A-4, Si, gry-Lt/brn, MTW, Rec. = 1.1 ft, Lab Note: No Organics were noticed.	3-5-4-3 (9)	29.8	4.4	95.6	
20	[Hatched]	A-4, SaSi, gry-Lt/brn, MTW, Rec. = 1.1 ft	1-3-3-3 (6)	28.1	33.4	66.6	
25	[Hatched]	A-4, Si, gry, MTW, Rec. = 1.1 ft	WH-1-2-3 (3)	30.9	12.0	88.0	
		Hole stopped @ 22.0 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.



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: **B-116**

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, NIETO
 Date Started: 2/26/14 Date Finished: 2/26/14
 VTSPG NAD83: N 894321.58 ft E 1468882.05 ft
 Station: 1261+85 Offset: 32.00
 Ground Elevation: 101.5 ft

Type: H.S.A. SS
 I.D.: 3.25 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 C_s = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
02/26/14		No water to depth.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5	[Hatched]	A-4, SiSa, brn, MTW, Rec. = 1.6 ft	3-2-3-2 (5)	27.3	0.1	56.9	43.0
		A-4, SaSi, brn, MTW, Rec. = 1.8 ft	3-2-1-1 (3)	33.5	0.1	40.7	59.2
		A-4, SaSi, brn-gry, MTW, Rec. = 1.6 ft	1-1-1-1 (2)	27.6		43.7	56.3
		A-4, SaSi, brn-gry, MTW, Rec. = 1.4 ft	2-3-3-3 (6)	24.3		46.0	54.0
10	[Hatched]	A-4, SaSi, brn, MTW, Rec. = 2.0 ft	1-2-3-3 (5)	24.7		33.4	66.6
		A-4, SaSi, brn-gry, MTW, Rec. = 1.9 ft	2-2-2-2 (4)	27.3		30.7	69.3
		Field Note: Attempted Shelby Tube sample, No Recovery.					
15	[Hatched]	A-4, Si, gry, MTW, Rec. = 1.4 ft	3-3-3-3 (6)	32.1		6.2	93.8
20	[Hatched]	A-4, Si, gry, MTW, Rec. = 2.0 ft	WH-2-2-2 (4)	30.2		12.4	87.6
Hole stopped @ 22.0 ft							
25							

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_s 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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: **B-117**

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, HOOK, NIETO
 Date Started: 4/01/14 Date Finished: 4/01/14
 VTSPG NAD83: N 897146.70 ft E 1467483.49 ft
 Station: 1230+00 Offset: 21.00
 Ground Elevation: 98.8 ft

Casing H.S.A. Sampler SS
 I.D.: 3.25 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 $C_r = 1.34$

Groundwater Observations

Date	Depth (ft)	Notes
04/01/14	14.0	After drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-4, SaSi with roots & sticks, brn, Moist, Rec. = 0.8 ft, Lab Note: A very small layer of clay was noticeable.	1-1-1-1 (2)	32.1	18.3	35.7	46.0
		A-4, Si, brn, MTW, Rec. = 1.7 ft	WH-WH-WH-WH (WH)	39.1	0.1	14.8	85.1
		A-4, Si, gry-Lt/brn, Wet, Rec. = 1.3 ft, Lab Note: A small layer of clay was noticeable.	2-3-4-5 (7)	24.6		11.4	88.6
		A-4, SaSi, gry, Wet, Rec. = 1.8 ft, Lab Note: Wood & sticks were within sample.	2-3-4-3 (7)	40.5		43.9	56.1
		A-4, SiSa, gry, Wet, Rec. = 1.4 ft, Lab Note: Wood pieces were within sample.	2-2-2-2 (4)	35.5	0.1	54.3	45.6
10		A-3, Sa, gry, Wet, Rec. = 1.8 ft	WH-3-4-2 (7)	24.7		93.5	6.5
15		A-4, Si, gry, Wet, Rec. = 1.3 ft, Lab Note: A very small layer of clay was noticeable.	WH-WH-WH-2 (WH)	34.6		11.9	88.1
20		A-2-4, SiSa, gry, Wet, Rec. = 1.3 ft	WH-WH-WH-WH (WH)	38.3	0.4	75.4	24.2
Hole stopped @ 22.0 ft							
25		Remarks: 1. Hole collapsed at 2.0 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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: **B-118**

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: JUDKINS, GARROW, HOOK
 Date Started: 3/31/14 Date Finished: 3/31/14
 VTSPG NAD83: N 897256.36 ft E 1467381.56 ft
 Station: 1228+50 Offset: 28.00
 Ground Elevation: 97.9 ft

Casing H.S.A. Sampler SS
 I.D.: 3.25 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 C_r = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/31/14	0.0	After drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-4, SaSi, brn, MTW, Rec. = 0.7 ft, Sample tested: Trace of Organics (6.4%)	1-1-1-1 (2)	59.8	16.9	32.4	50.7
		A-4, Si, gry-Lt/brn, MTW, Rec. = 1.2 ft, Lab Note: A small layer of clay was noticeable.	WH-WH-4-4 (4)	29.0	1.0	7.7	91.3
5		Field Note: Attempted Shelby Tube sample, No Recovery					
		A-4, SaSi, gry, MTW, Rec. = 1.5 ft	1-1-1-2 (2)	38.4	0.1	49.1	50.8
		A-2-4, Sa, gry, Wet, Rec. = 1.1 ft	WH-WH-2-2 (2)	27.9	0.4	82.3	17.3
10		A-3, Sa, gry, Wet, Rec. = 1.5 ft	1-2-3-4 (5)	23.5	1.1	94.0	4.9
15		Hole stopped @ 12.0 ft Due to flowing sand.					
		Remarks: Driller's set over because of flowing sand and started boring B-118A					
20							
25							

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_r 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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-118A
 Page No.: 1 of 1
 Pin No.: 96B032
 Checked By: CEE

Boring Crew: HOOK, GARROW, NIETO
 Date Started: 3/31/14 Date Finished: 3/31/14
 VTSPG NAD83: N 897251.97 ft E 1467379.13 ft
 Station: 1228+50 Offset: 33.00
 Ground Elevation: 97.5 ft

Type: H.S.A. SS & TUBE
 I.D.: 3.25 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 C_r = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/31/14	2.0	After drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5							
10							
15		Field Note:, SiSa with Broken Rock, gry-brn, Wet, Rec. = 1.6 ft					
20		A-1-b, SiSaGr, gry, Wet, Rec. = 0.4 ft, Lab Note: Lots of Broken Rock was within sample. Hole stopped @ 20.4 ft CNPf-TLOB	R@5.0"	11.1	37.7	36.8	25.5
25							

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 SWANTON NH 036-1(9),GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-119

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, HOOK, NIETO
 Date Started: 3/31/14 Date Finished: 3/31/14
 VTSPG NAD83: N 897370.11 ft E 1467256.82 ft
 Station: 1226+75 Offset: 28.00
 Ground Elevation: 97.5 ft

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

Casing H.S.A. Sampler SS
3.25 in 1.5 in
N.A. 140 lb.
N.A. 30 in.
Auto/AWJ
CME 45C TRACK C_c = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/31/14	0.0	After drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
5		A-4, Si, gry, Wet, Rec. = 0.6 ft, Lab Note: Pieces of wood were within sample.	2-2-2-3 (4)	34.7	0.1	5.4	94.5	28	1
		Field Note:, Attempted Shelby Tube sample, No Recovery							
		A-4, SiSa, gry, MTW, Rec. = 1.1 ft	WH-2-3-2 (5)	32.9		53.1	46.9		
		A-4, SiSa, gry, Wet, Rec. = 1.0 ft, Lab Note: Removed a large piece of wood before testing. Sample tested: Trace of Organics (2.0%)	1-1-1-3 (2)	36.2	0.3	55.8	43.9		
10		Hole stopped @ 8.0 ft Due to flowing sand.							
15		Remarks: Driller's set over because of flowing sand and started boring B-119A							
20									
25									

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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-119A

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, HOOK, NIETO

Date Started: 3/31/14 Date Finished: 3/31/14

VTSPG NAD83: N 897367.65 ft E 1467249.25 ft

Station: 1226+75 Offset: 33.00

Ground Elevation: 96.8 ft

Type: H.S.A. SS & TUBE
 I.D.: 3.25 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 C_r = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/31/14	0.0	After drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
5									
10		A-2-4, SiSa, gry, Wet, Rec. = 1.1 ft	1-1-1-1 (2)	32.0		65.7	34.3		
10		A-2-4, SiSa, gry, Wet, Rec. = 0.7 ft	WH-WH-2-1 (2)	29.2	1.5	76.4	22.1		
15		A-4, Cisi, gry, MTW, Rec. = 1.4 ft	1-2-3-3 (5)	29.4	1.5	11.4	87.1	28	10
20		Field Note: SaGr Shelby Tube, gry, Wet, Rec. = 2.0 ft							
20		A-1-b, SiSaGr, gry, Wet, Rec. = 0.9 ft, Lab Note: Lots of Broken Rock was within sample.	27-19-10-9 (29)	9.3	47.4	30.1	22.5		
Hole stopped @ 22.0 ft									
25									

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 may occur due to other factors than those present at the time measurements were made.

BORING LOG 2 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: **B-120**

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, HOOK
 Date Started: 3/28/14 Date Finished: 3/28/14
 VTSPG NAD83: N 897446.47 ft E 1467158.41 ft
 Station: 1225+50 Offset: 28.00
 Ground Elevation: 97.9 ft

Casing Sampler
 Type: H.S.A. SS & TUBE
 I.D.: 3.25 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 C_r = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/28/14	4.2	While drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Field Note:, No Recovery	1-1-WH-WH (1)						
5		A-4, Si, brn-gry, Moist, Rec. = 1.4 ft	1-1-3-3 (4)	26.3	1.1	7.6	91.3	27	1
		A-4, SaSi, gry, Moist, Rec. = 1.2 ft	1-1-1-1 (2)	29.5		29.0	71.0		
		A-4, SaSi, gry, MTW, Rec. = 1.4 ft	WH-1-1-WH (2)	35.0	1.0	27.1	71.9		
10		A-4, SaSi, gry, MTW, Rec. = 1.1 ft	WH-WH-WH-1 (WH)	38.4	0.1	43.2	56.7		
		A-3, Sa, brn, Wet, Rec. = 0.9 ft	WH-WH-WH-1 (WH)	27.0	0.6	93.0	6.4		
15		A-2-4, SiSa, gry, MTW, Rec. = 0.9 ft	1-4-4-3 (8)	23.0	0.6	67.9	31.5		
		A-4, CISi, gry, Moist, Rec. = 1.0 ft		29.9		1.6	98.4	30	10
20		Field Note:, Shelby Tube. Silty sand with weathered rock, gry, Moist, Rec. = 1.5 ft							
		A-1-b, GrSa, gry, Moist, Rec. = 1.5 ft, Lab Note: Broken Rock was within sample.	10-13-14-12 (27)	13.1	33.1	50.4	16.5		
		Hole stopped @ 22.0 ft							
25		Remarks: 1. Hole collapsed at 1.6 ft.							

Notes:
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 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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-121

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, HOOK

Date Started: 3/28/14 Date Finished: 3/28/14

VTSPG NAD83: N 897537.63 ft E 1467038.45 ft

Station: 1224+00 Offset: 26.00

Ground Elevation: 97.3 ft

Type: H.S.A. SS
 I.D.: 3.25 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 C_c = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/28/14	2.5	While drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note:, No Recovery	2-WH-WH-WH (WH)				
		A-8, Organic silt with sand, brn, MTW, Rec. = 0.8 ft, Sample tested: Little Organics (14.3%), (A-8 because of moisture content of 120%)	1-2-2-1 (4)	120.3	3.4	22.3	74.3
		A-4, SaSi, gry, Moist, Rec. = 1.0 ft		28.5		38.2	61.8
5		A-4, SaSi, gry, MTW, Rec. = 1.4 ft, Sample tested: Trace of Organics (2.2%)	1-1-1-2 (2)	35.2		29.8	70.2
		A-4, SaSi, gry, MTW, Rec. = 1.7 ft, Sample tested: Trace of Organics (3.0%)	WH-WH-WH-WH (WH)	42.3	0.5	29.4	70.1
		A-4, SaSi, gry, MTW, Rec. = 1.6 ft, Sample tested: Trace of Organics (2.1%)	WH-1-1-2 (2)	35.3		27.9	72.1
10		A-1-a, SaGr, gry, Moist, Rec. = 1.4 ft, Lab Note: Broken Rock was within sample. Augers could not penetrate past 11.6 ft.	10-30-27-R@1.0" (57)	10.5	55.2	30.2	14.6
		Hole stopped @ 11.6 ft CNPf-TLOB					
15		Remarks: 1. Hole collapsed at 2.5 ft.					
20							
25							

Notes:
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 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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-122
 Page No.: 1 of 1
 Pin No.: 96B032
 Checked By: CEE

Boring Crew: GARROW, HOOK
 Date Started: 3/27/14 Date Finished: 3/27/14
 VTSPG NAD83: N 897629.56 ft E 1466917.73 ft
 Station: 1222+50 Offset: 26.00
 Ground Elevation: 98.5 ft

Casing H.S.A. Sampler SS & TUBE
 I.D.: 3.25 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 C. = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/27/14	0.6	While drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
5		A-4, SaSi, brn-gry, Moist, Rec. = 0.5 ft, Lab Note: A very small layer of clay was noticeable.	1-1-1-1 (2)	28.5	10.3	21.6	68.1		
		A-4, SaSi, Lt/brn-gry, MTW, Rec. = 0.9 ft	WH-WH-1-1 (1)	29.8	3.1	30.7	66.2		
		A-4, SaSi, brn-gry, MTW, Rec. = 1.3 ft	WH-2-2-2 (4)	27.7	0.1	42.6	57.3		
		A-4, SaSi, brn, MTW, Rec. = 1.2 ft	WH-1-2-1 (3)	29.8		46.5	53.5		
		A-4, SaSi, brn, MTW, Rec. = 1.8 ft, Sample tested: Trace of Organics (4.1%)	WH-WH-WH-WH (WH)	43.7		25.9	74.1		
10		A-8, Organic Soil, gry, MTW, Rec. = 0.9 ft, Sample tested: Organic Soil (21.7%)	WH-1-2-2 (3)	91.5	5.7	30.4	63.9		
		A-4, ClSi, gry, MTW, Rec. = 1.0 ft		27.7	0.8	8.2	91.0	26	9
15		Field Note:, Shelby Tube, gry, Moist, Rec. = 1.6 ft, Si Cl Weathered Rock							
		A-1-b, SiSaGr, gry, Moist, Rec. = 1.3 ft, Broken & weather Rock was within sample. Augers would not penetrate past 15.8 ft.	4-10-38-R@3.5" (48)	10.2	39.1	36.2	24.7		
Hole stopped @ 15.8 ft CNPf-TLOB									
20		Remarks: 1. Hole collapsed at 2.0 ft.							
25									

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 SWANTON NH 036-1(9),GPJ VERMONT AOT.GDT 8/4/14



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BORING LOG

SWANTON
 NH 036-1(9)
 VT-78 ROADWAY

Boring No.: B-123

Page No.: 1 of 1

Pin No.: 96B032

Checked By: CEE

Boring Crew: GARROW, HOOK

Date Started: 3/27/14 Date Finished: 3/27/14

VTSPG NAD83: N 897737.97 ft E 1466777.57 ft

Station: 1220+77 Offset: 36.00

Ground Elevation: 96.6 ft

Type: H.S.A. SS & TUBE
 I.D.: 3.25 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 C_r = 1.34

Groundwater Observations

Date	Depth (ft)	Notes
03/27/14	5.8	While drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
5		A-1-b, SiGrSa, brn, Moist, Rec. = 0.5 ft	1-5-3-10 (8)	31.3	25.3	52.0	22.7		
		Visual Description:, GrSiSa, brn, Wet, Rec. = 0.2 ft, Insufficient sample for testing.	5-6-2-2 (8)	28.9					
		A-4, SaSi, brn, MTW, Rec. = 1.6 ft	WH-1-1-1 (2)	30.4	0.1	45.6	54.3		
		A-4, SaSi, brn, MTW, Rec. = 0.6 ft, Sample tested: Trace of Organics (2.9%)	WH-1-1-1 (2)	33.9	0.1	44.2	55.7		
		A-4, SaSi, brn, MTW, Rec. = 0.5 ft	WH-WH-2 (WH)	41.0	0.2	20.1	79.7		
		A-4, CISi, brn, MTW, Rec. = 0.7 ft, Sample tested: Trace of Organics (3.2%)	WH-WH-2 (WH)	37.4	1.8	33.4	64.8	32	9
10		Field Note:, SaSi Shelby Tube, brn, Moist, Rec. = 1.5 ft							
		A-2-4, GrSiSa, gry, Moist, Rec. = 1.5 ft	4-13-14-18 (27)	12.3	24.8	47.6	27.6		
15		Field Note:, Augers could not penetrate past 14.5 ft.							
		Hole stopped @ 14.5 ft CNPFF-TLOB							
20		Remarks: 1. Hole collapsed at 6.2 ft. 2. Two feet of ice above the hole.							
25									

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 SWANTON NH 036-1(9).GPJ VERMONT AOT.GDT 8/4/14