



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

BORING LOG

SOUTH BURLINGTON
STP SCRP(8)
VT-116 MM 3.48

Boring No.: **B-101**
 Page No.: **1 of 1**
 Pin No.: **11B220**
 Checked By: **CEE**

Boring Crew: GARROW, SALISBURY, DAIGNEAULT
 Date Started: 3/06/13 Date Finished: 3/07/13
 VTSPG NAD83: N 713686.29 ft E 1465845.09 ft
 Station: 183+49 Offset: -87.20
 Ground Elevation: 280.13 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 55 TRACK C = 1.46

Groundwater Observations

Date	Depth (ft)	Notes
03/07/13	2.5	AM

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 %
		Field Note:, Leaves and debris								
2.5		Visual Description:, Washed Broken Rock with Roots, brn, MTW, Rec. 0.3 ft, Insufficient sample for testing.				1-14-R@0.0 (R)				
		2.7 ft - 4.0 ft, NXDC, Top of Weathered Bedrock.								
5.0		4.0 ft - 9.0 ft, White, Calcite Marble, Hard, Unweathered, Very good rock, NXMDC, RMR = 84	1 (10)	100 (100)	6					
7.5					4					
					4					
					4					
					5					
10.0		Hole stopped @ 9.0 ft								
12.5										
15.0										
17.5										

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 SOUTH BURLINGTON STP SCRP(8).GPJ VERMONT AOT.GDT 6/19/13



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**SOUTH BURLINGTON
 STP SCRP(8)
 VT-116 MM 3.48**

Boring No.: **B-102**

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Pin No.: 11B220

Checked By: CEE

Boring Crew: GARROW, SALISBURY, DAIGNEAULT
 Date Started: 3/07/13 Date Finished: 3/07/13
 VTSPG NAD83: N 713701.80 ft E 1465850.64 ft
 Station: 183+68 Offset: -76.20
 Ground Elevation: 278.55 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 55 TRACK C = 1.46

Groundwater Observations

Date	Depth (ft)	Notes
		None Taken.

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 %
		A-4, SiSa, brn, MTW, Rec. = 1.2 ft				2-1-1-1 (2)	40.1	3.0	59.1	37.9
2.5		A-2-4, GrSiSa, brn, MTW, Rec. = 1.0 ft				1-1-3-3 (4)	30.8	20.5	46.3	33.2
5.0		Visual Description: Mostly Broken Rock with silty sand, brn, MTW, Rec. = 0.5 ft				3-R@2.5" (R)	21.5			
5.0		4.7 ft - 5.5 ft, NXDC, Top of Weathered Bedrock.								Top of Bedrock @ 4.7 ft
7.5		5.5 ft - 10.5 ft, Buff, Dolomitic Marble, Hard, Unweathered, Very good rock, NXMDC, RMR = 84	1 (10)	90 (90)	5					
10.0					6					
					6					
					4					
					5					
		Hole stopped @ 10.5 ft								
12.5										
15.0										
17.5										

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.

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SOUTH BURLINGTON
 STP SCRPF(8)
 VT-116 MM 3.48

Boring No.: B-103
 Page No.: 1 of 1
 Pin No.: 11B220
 Checked By: CEE

Boring Crew: GARROW, SALISBURY, DAIGNEAULT
 Date Started: 3/06/13 Date Finished: 3/06/13
 VTSPG NAD83: N 713701.00 ft E 1465828.24 ft
 Station: 183+86 Offset: -90.20
 Ground Elevation: 280.75 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 = 1.46

Groundwater Observations		
Date	Depth (ft)	Notes
03/06/13	4.7	While drilling.

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 %
		Field Note:, NXDC, Cobbles								
5		Visual Description:, Mostly Broken white Rock, white, Moist, Rec. = 0.5 ft				1-6-7-6 (13)	8.3			
		Visual Description:, Mostly Broken Rock with sandy silt, brn, Moist, Rec. = 0.6 ft				4-8-7-4 (15)	11.6			
		Visual Description:, Mostly Broken Rock, Dk/brn, Moist, Rec. = 0.8 ft				2-3-3-2 (6)	27.6			
		Visual Description:, Mostly Broken Rock with sandy silt, brn, Moist, Rec. = 0.3 ft				5-R@5.0" (R)	10.7			
10		9.0 ft - 10.5 ft, NXDC, Top of Weathered Bedrock.								Top of Bedrock @ 9.0 ft
15		10.5 ft - 15.5 ft, White, Calcite Marble, Hard, Unweathered, Very good rock, NXMDC, RMR = 84	1 (10)	100 (100)	6 5 4 4 4					
20		15.5 ft - 20.5 ft, White, Calcite Marble, Hard, Unweathered, Very good rock, NXMDC, RMR = 84	2 (10)	100 (100)	4 5 5 6 5					
		Hole stopped @ 20.5 ft								
25		Remarks: 03/07/13, Hole caved in at 4.0 ft.								

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BORING LOG 2 SOUTH BURLINGTON STP SCRPF(8).GPJ VERMONT AOT.GDT 6/19/13



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SOUTH BURLINGTON
STP SCR(P)8
VT-116 MM 3.48

Boring No.: **B-105**
 Page No.: **1 of 1**
 Pin No.: **11B220**
 Checked By: **CEE**

Boring Crew: GARROW, DAIGNEAULT
 Date Started: 3/10/13 Date Finished: 3/10/13
 VTSPG NAD83: N 713778.10 ft E 1465949.96 ft
 Station: 183+34 Offset: 44.30
 Ground Elevation: 286.04 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
		None Taken.

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 %
5		A-2-4, SiSa, brn, Moist, Rec. = 0.6 ft				3-3-1-2 (4)	42.3	0.3	71.5	28.2
		A-4, SiSa, brn, Moist, Rec. = 0.9 ft				WH-2-1-1 (3)	18.8	11.7	46.8	41.5
		A-2-4, GrSiSa, brn, Moist, Rec. = 1.1 ft				WH-WH-6-16 (6)	14.1	28.1	42.3	29.6
		A-2-4, SiGrSa, brn, Moist, Rec. = 1.4 ft				14-21-24-50 (45)	10.7	32.6	35.9	31.5
10		Field Note:, NXMDC, Cobbles with sandy silty gravel								
		A-4, GrSaSi, gry, Moist, Rec. = 0.3 ft, Broken Rock was within sample.				R@3.5"	8.7	29.8	33.1	37.1
15		14.0 ft - 15.0 ft, NXDC, Top of Weathered Bedrock.				Top of Bedrock @ 14.0 ft				
20		15.0 ft - 18.5 ft, White, Calcite Marble, Hard, Unweathered, Good rock, NXMDC, RMR = 67	1 (40)	91 (31)	5					
		18.5 ft - 20.0 ft, White, Calcite Marble, Hard, Unweathered, Good rock, NXMDC, RMR = 79	2 (40)	93 (93)	4					
Hole stopped @ 20.0 ft										

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BORING LOG 2 SOUTH BURLINGTON STP_SCR(P)8)_GPJ_VERMONT_AOT.GDT_6/19/13



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SOUTH BURLINGTON
 STP SCRP(8)
 VT-116 MM 3.48

Boring No.: **B-106**
 Page No.: 1 of 1
 Pin No.: 11B220
 Checked By: CEE

Boring Crew: GARROW, SALISBURY, DAIGNEAULT
 Date Started: 3/08/13 Date Finished: 3/08/13
 VTSPG NAD83: N 713782.42 ft E 1465984.15 ft
 Station: 183+09 Offset: 68.10
 Ground Elevation: 278.46 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_r = 1.46

Groundwater Observations

Date	Depth (ft)	Notes
03/08/13	2.5	Casing removed.

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 %
2.5		A-4, SiSa, brn, MTW, Rec. = 0.5 ft, Leaves and grass were within sample.				1-1-1-1 (2)	88.1	2.5	50.0	47.5
		A-4, GrSaSi, brn, MTW, Rec. = 0.8 ft, Some Broken Rock was within sample.				1-4-R (R)	28.9	25.1	35.5	39.4
		3.0 ft - 4.0 ft, NXDC, Top of Weathered Bedrock.				Top of Bedrock @ 3.0 ft				
5.0		4.0 ft - 9.0 ft, White, Calcite Marble, Hard, Unweathered, Very good rock, NXMDC, RMR = 81	1 (40)	100 (88)	6					
					8					
7.5					5					
					5					
10.0		9.0 ft - 14.0 ft, White, Calcite Marble, Hard, NXMDC, Void from 11.2'-12.0'. Remainder of run unweathered. Very poor rock due to void at 11.2 feet. RMR = N/A	2 (40)	80 (56)	4					
					4					
12.5					0					
					4					
					5					
15.0	Hole stopped @ 14.0 ft									
17.5										

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BORING LOG 2 SOUTH BURLINGTON STP SCRP(8)_GPI VERMONT AOT.GDT 6/19/13



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BORING LOG
SOUTH BURLINGTON
STP SCR(8)
VT-116 MM 3.48

Boring No.: **B-107**
 Page No.: 1 of 1
 Pin No.: 11B220
 Checked By: CEE

Boring Crew: GARROW, DAIGNEAULT
 Date Started: 3/12/13 Date Finished: 3/12/13
 VTSPG NAD83: N 713744.33 ft E 1465907.34 ft
 Station: 183+48 Offset: -8.20
 Ground Elevation: 295.12 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 = 1.46

Groundwater Observations		
Date	Depth (ft)	Notes
		Collapsed at 12.9'
03/12/13	8.8	Casing removed.

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 - 0.75 ft								
		A-2-4, SiGrSa, brn, Moist, Rec. = 0.9 ft				15-15-13-8 (28)	9.9	23.1	55.6	21.3
		Field Note:, No Recovery				4-5-5-4 (10)				
5		A-4, SaSi, brn, Moist, Rec. = 0.4 ft				WH-WH-2-2 (2)	22.7	5.4	46.9	47.7
		A-1-b, SiSaGr, brn-white, Moist, Rec. = 0.8 ft, Lots of Broken Rock was within sample.				22-9-6-6 (15)	14.9	47.0	27.7	25.3
10		Field Note:, NXDC, Boulder								
		A-4, SaSi, brn, Moist, Rec. = 1.0 ft				3-6-6-15 (12)	16.2	13.7	33.2	53.1
15		A-2-4, SiSaGr with Broken Rock, brn-white, Moist, Rec. = 0.1 ft				R@1.0"	9.3	34.6	33.2	32.2
		16.0 ft - 18.0 ft, NXDC, Top of Weathered Bedrock.								Top of Bedrock @ 16.0 ft
		18.0 ft - 23.0 ft, White, Calcite Marble, Hard, Unweathered, Good rock, NXMDC, Slight weathering along joint surface at 20.6 feet. RMR = 72	1 (20)	100 (56)	5					
20					5					
					5					
					5					
					5					
25		Hole stopped @ 23.0 ft								

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BORING LOG 2 SOUTH BURLINGTON STP SCR(8).GPJ VERMONT AOT.GDT 6/19/13



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BORING LOG

SOUTH BURLINGTON
 STP SCR(8)
 VT-116 MM 3.48

Boring No.: B-108
 Page No.: 1 of 1
 Pin No.: 11B220
 Checked By: CEE

Boring Crew: GARROW, DAIGNEAULT
 Date Started: 3/11/13 Date Finished: 3/11/13
 VTSPG NAD83: N 713754.12 ft E 1465922.02 ft
 Station: 183+42 Offset: 8.40
 Ground Elevation: 294.87 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 C₁ = 1.46

Groundwater Observations		
Date	Depth (ft)	Notes
03/11/13	7.6	Casing removed.

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 %	LL %	PI %
0.0 - 0.8		Asphalt Pavement, 0.0 ft - 0.8 ft										
0.8 - 1.0		A-2-4, GrSa, brn, Moist, Rec. = 1.0 ft				10-11-11-8 (22)	13.1	21.9	58.8	19.3		
1.0 - 1.2		A-4, GrSiSa, brn, Moist, Rec. = 1.0 ft				3-6-4-4 (10)	15.2	21.8	41.3	36.9		
1.2 - 1.5		A-4, SaSi, brn, Moist, Rec. = 1.0 ft, Lab Note: A small layer of clay was noticeable.				1-3-4-4 (7)	22.3	5.9	31.3	62.8		
1.5 - 2.7		A-4, ClSi, brn, Moist, Rec. = 1.2 ft				5-4-5-5 (9)	21.3	18.5	27.7	53.8	29	8
2.7 - 3.7		A-2-4, SiSaGr, brn, Moist, Rec. = 1.0 ft, Lab Note: A small layer of clay was noticeable.				WH-3-6-17 (9)	13.2	38.7	33.7	27.6		
3.7 - 5.2		A-2-4, GrSiSa, brn, Moist, Rec. = 1.5 ft				17-31-36-30 (67)	11.6	29.8	37.4	32.8		
5.2 - 6.7		A-2-4, SaSiGr, brn-white, Moist, Rec. = 1.5 ft, Lots of Broken Rock was within sample.				31-35-R@6.0" (R)	10.6	39.1	29.4	31.5		
6.7 - 16.0		A-4, GrSaSi, brn-white, Moist, Rec. = 0.5 ft, Lots of Broken Rock was within sample.				R@6.0"	10.3	29.0	33.5	37.5		
16.0 - 17.0		16.0 ft - 17.0 ft, NXDC, Top of Weathered Bedrock.										
17.0 - 22.0		17.0 ft - 22.0 ft, White, Calcite Marble, Hard, Good rock, NXMDC, Slightly weathered from 18.7'-19.5'. Remainder of run unweathered. RMR = 67	1 (40)	80 (46)	6							
20.0 - 22.0					5							
20.0 - 22.0					3							
20.0 - 22.0					10							
20.0 - 22.0					6							
22.0 - 25.0		Hole stopped @ 22.0 ft										

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