



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

BORING NUMBER: B-201
 SHEET 1 of 1
 DATE STARTED: 3/24/10
 DATE COMPLETED: 3/25/10

PROJECT NAME: MORRISTOWN
 SITE NAME: VT-100
 STATION: 7+780
 OFFSET: 12.79
 VTSPG NAD83: N 228831.57 m E 491418.62 m

PROJECT NUMBER: STP F 029-1(2)
 SITE NUMBER: BYPASS
 GROUND ELEVATION: 200.70 m
 GROUNDWATER DEPTH: NO WATER TO DEPTH
 PROJECT PIN NUMBER: 78D082

BORING CREW
 CREW CHIEF: PORTER
 DRILLER: PORTER
 LOGGER: WERNER

BORING RIG: CME 55 TRACK AUTO
 BORING TYPE: HOLLOW STEM AUGER
 SAMPLE TYPE: SPLIT BARREL
 CHECKED BY: NSM

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-3, Sa, brn, Moist, Rec. = 0.45 m	10	7.5	17.9	75.4	6.7
2		A-3, Sa, brn, Moist, Rec. = 0.44 m	4	13.4	2.5	90.5	7.0
4		A-2-4, Sa, brn, Moist, Rec. = 0.54 m	16	12.3	3.4	83.8	12.8
		A-4, SaSi, brn, Moist, Rec. = 0.41 m	12	24.9	0.1	20.6	79.3
6		A-1-a, SaGr, brn, Moist, Rec. = 0.34 m	56	6.6	52.3	35.6	12.1
8		A-1-b, GrSa, brn, Moist, Rec. = 0.33 m	18	4.1	38.6	54.0	7.4
10		A-1-a, SaGr, brn, Moist, Rec. = 0.34 m	36	3.0	49.9	42.5	7.6
		A-1-b, GrSa, brn, Moist, Rec. = 0.51 m	31	3.2	42.3	50.2	7.5
12		A-1-a, SaGr, brn, Moist, Rec. = 0.34 m	43	3.2	62.0	30.1	7.9
14		A-1-b, GrSa, brn, Moist, Rec. = 0.56 m	30	5.2	42.1	43.9	14.0
		Hole stopped @ 14.10 m					
16		DRILLER'S NOTES: 1. No Ledge to Depth. 2. The hammer energy correction factor, C for the CME 55 Track Rig used in this investigation is 1.46. The N values provided on the boring logs are raw values and have not been corrected.					
18							

LOG OF BORING MORRISTOWN STP F 029-1(2).GPJ VT AOT.GDT 5/26/10



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

BORING NUMBER: B-202
 SHEET 1 of 1
 DATE STARTED: 3/25/10
 DATE COMPLETED: 3/25/10

PROJECT NAME: MORRISTOWN
 SITE NAME: VT-100
 STATION: 7+794
 OFFSET: 12.79
 VTSPG NAD83: N 228842.97 m E 491427.48 m

PROJECT NUMBER: STP F 029-1(2)
 SITE NUMBER: BYPASS
 GROUND ELEVATION: 200.30 m
 GROUNDWATER DEPTH: NO WATER TO DEPTH
 PROJECT PIN NUMBER: 78D082

BORING CREW
 CREW CHIEF: PORTER
 DRILLER: PORTER
 LOGGER: WERNER

BORING RIG: CME 55 TRACK AUTO
 BORING TYPE: HOLLOW STEM AUGER
 SAMPLE TYPE: SPLIT BARREL
 CHECKED BY: NSM

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-2-4, Sa, brn, Moist, Rec. = 0.39 m	11	11.0	8.3	80.2	11.5
2		A-3, Sa, brn, Moist, Rec. = 0.51 m	11	10.2	1.2	89.8	9.0
4		A-2-4, SiSa, brn, Moist, Rec. = 0.48 m	11	11.4	1.7	75.2	23.1
		A-4, SiSa, brn, Moist, Rec. = 0.33 m	10	18.7	0.4	51.2	48.4
6		A-4, Si, brn, Moist, Rec. = 0.49 m	14	23.6	0.0	19.3	80.7
8		A-1-a, SaGr, brn, Moist, Rec. = 0.42 m	42	2.3	53.7	36.1	10.2
10		A-1-a, SaGr, brn, Moist, Rec. = 0.31 m	27	2.0	61.5	31.9	6.6
		A-1-b, GrSa, brn, Moist, Rec. = 0.48 m	9	1.8	27.8	64.9	7.3
12		A-1-a, SaGr, brn, Moist, Rec. = 0.21 m	23	1.3	52.0	38.7	9.3
14		A-1-a, SaGr, brn, Moist, Rec. = 0.36 m	40	1.0	65.0	26.7	8.3
		Hole stopped @ 14.10 m					
16		DRILLER'S NOTES: 1. No Ledge to Depth. 2. The hammer energy correction factor, C_c for the CME 55 Track Rig used in this investigation is 1.46. The N values provided on the boring logs are raw values and have not been corrected.					
18							

LOG OF BORING MORRISTOWN STP F 029-1(2).GPJ VT AOT.GDT 5/26/10



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

BORING LOG

MORRISTOWN
 STP F029-1(2)
 VT-100 BYPASS

Boring No.: **B-301**

Page No.: 1 of 1

Pin No.: 78D082

Checked By: CCB

Boring Crew: DAIGNEAULT, JUDKINS, HALL
 Date Started: 7/01/13 Date Finished: 7/03/13
 VTSPG NAD83: N 230021.50 m E 491956.48 m
 Station: 9+138.167 Offset: -2.56
 Ground Elevation: 193.42 m

Type: WB SS
 I.D.: 3.00 cm 1.50 cm
 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 (m)	Notes
07/03/13	3.40	While drilling.
07/03/13	3.30	While drilling.

Depth (m)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (ROD %)	Drill Rate minutes/0.3m	Blows/15cm (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	
		A-1-b, SaGr, brn, Moist, Rec. = 0.30 m, Very little Broken Rock.				1-2-11-9 (13)	9.7	42.8	38.8	18.4	
2		Field Note:, No Recovery				4-4-3-3 (7)					
4		A-4, Si, brn, Moist, Rec. = 0.15 m				5-4-5-3 (9)	37.3	2.3	2.7	95.0	
6		Field Note:, No Recovery				9-11-11-10 (22)					
8		A-4, SaSi, brn, Moist, Rec. = 0.27 m				2-4-8-9 (12)	23.2	0.9	47.1	52.0	
10		A-4, SaSi, gry, Moist, Rec. = 0.34 m				4-3-5-6 (8)	27.7	0.9	26.4	72.7	
12		A-2-4, SiSaGr, gry, Moist, Rec. = 0.26 m				4-9-14-11 (23)	10.7	38.5	33.6	27.9	
14		A-2-4, GrSiSa, gry, MTW, Rec. = 0.15 m				8-6-6-7 (12)	13.0	23.2	41.4	35.4	
14		A-4, SaSi, gry, MTW, Rec. = 0.24 m				4-2-6-7 (8)	15.5	12.3	41.4	46.3	
14		12.80 m - 14.30 m, Gray, Phyllitic Metawacke, Moderately hard, Unweathered, Fair rock, BXGDC, RMR = 57	1 (85)	97 (55)	3 6 5 5 4	Top of Bedrock @ 12.80 m					
16		Hole stopped @ 14.30 m									
16		Remarks: Hole collapsed near top of hole.									

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 MORRISTOWN STP F029-1(2).GPJ VERMONT AOT.GDT 7/16/13



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

BORING LOG

MORRISTOWN
 STP F029-1(2)
 VT-100 BYPASS

Boring No.: B-302

Page No.: 1 of 1

Pin No.: 78D082

Checked By: CCB

Boring Crew: DAIGNEAULT, HALL
 Date Started: 7/08/13 Date Finished: 7/08/13
 VTSPG NAD83: N 230013.64 m E 491980.25 m
 Station: 9+152.887 Offset: 17.69
 Ground Elevation: 191.10 m

Type: WB SS
 I.D.: 3.00 cm 1.50 cm
 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 (m)	Notes
07/08/13	1.10	While drilling.

Depth (m)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/0.3m	Groundwater Observations				
						Blows/15cm (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-1-b, SiGrSa, brn, Moist, Rec. = 0.20 m				WH-3-3-3 (6)	16.9	36.0	43.0	21.0
2		Visual Description: Broken Rock with Fine Sand, brn, Moist, Rec. = 0.06 m				8-10-10-12 (20)				
4		A-4, Si, gry, Moist, Rec. = 0.35 m				4-8-8-9 (16)	27.0	1.3	14.2	84.5
6		A-4, Si, gry, Moist, Rec. = 0.43 m				11-11-13-13 (24)	26.5	2.4	14.4	83.2
8		A-4, SaSi with little Broken Rock, gry, Moist, Rec. = 0.12 m				8-21-R (R)	16.3	14.3	31.8	53.9
		A-4, GrSaSi, gry, Moist, Rec. = 0.03 m, Some Broken Rock pieces were within sample.					9.8	31.2	32.8	36.0
10		A-2-4, SiSa, gry, Moist, Rec. = 0.22 m				4-3-3-10 (6)	18.4	11.4	58.9	29.7
		A-2-4, SiSa, gry, Moist, Rec. = 0.10 m				(R)	16.0	17.9	53.3	28.8
12		10.75 m - 11.25 m, Gray, Phyllitic Metawacke, Moderately hard, Unweathered, Fair rock, BXDC, RMR = 47 11.25 m - 12.80 m, Gray, Phyllitic Metawacke, and dark gray Phyllite. Moderately hard, Unweathered, Fair rock, BXGDC, RMR = 47	1 (?) 2 (85)	24 (0) 53 (0)	8 6 7 8	Top of Bedrock @ 10.75 m				
		Hole stopped @ 12.80 m								
14		Remarks: Hole collapsed at 1.1m								
16										

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 MORRISTOWN STP F029-1(2).GPJ VERMONT AOT.GDT 7/16/13



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

BORING LOG

MORRISTOWN
STP F029-1(2)
VT-100 BYPASS

Boring No.: **B-303**

Page No.: 1 of 1

Pin No.: 78D082

Checked By: CCB

Boring Crew: DAIGNEAULT, HALL

Date Started: 7/09/13 Date Finished: 7/09/13

VTSPG NAD83: N 230029.70 m E 491933.17 m

Station: 9+124.014 Offset: -22.82

Ground Elevation: 191.45 m

Casing Type: WB I.D.: 3.00 cm
 Sampler Type: SS I.D.: 1.50 cm
 Hammer Wt: N.A. Hammer Fall: N.A.
 Hammer/Rod Type: Auto/AWJ
 Rig: CME 55 TRACK C = 1.46

Groundwater Observations

Date	Depth (m)	Notes
07/09/13	1.70	Casing removed.

Depth (m)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/0.3m	Blows/15cm (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note:, Stone Fill, Roller coned ahead.				R@0.0m				
2		A-4, SiSa, brn, Moist, Rec. = 0.26 m				4-5-7-7 (12)	24.9	9.8	49.4	40.8
4		A-4, Si, brn, Moist, Rec. = 0.36 m				1-3-3-4 (6)	31.3	1.5	4.3	94.2
6		A-4, SiSa, brn, Moist, Rec. = 0.18 m				3-4-5-5 (9)	20.2	10.4	53.3	36.3
8		A-4, SaSi, brn-gry, MTW, Rec. = 0.39 m				3-3-3-4 (6)	26.8	0.7	37.4	61.9
10		Field Note:, No Recovery				1-1-2-3 (3)	29.9	0.5	6.9	92.6
10.20		10.20 m - 10.60 m, Tan to gray, Phyllitic Metawacke, Moderately hard, Unweathered, Fair rock, BXDC, RMR = 47	1 (?)	38 (0)	10	Top of Bedrock @ 10.20 m				
10.60		10.60 m - 12.00 m, Tan to gray, Phyllitic Metawacke, Moderately hard, Unweathered, Good rock, BXGDC, RMR = 61	2 (85)	98 (88)	5					
12		Hole stopped @ 12.00 m			7					
14		Remarks: Hole collapsed at 6.1m			9					
16					7					

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 MORRISTOWN STP F029-1(2).GPJ VERMONT AOT.GDT 7/16/13