



STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

CHELSEA
BHF 0169(9)
VT-110 BR-9

Boring No.: **B-101**
Page No.: **1 of 1**
Pin No.: **12C150**
Checked By: **MLM**

Boring Crew: JUDKINS, HOOK, NIETO
Date Started: 4/17/15 Date Finished: 4/27/15
VTSPG NAD83: N 541594.15 ft E 1654056.56 ft
Station: 145+37.5 Offset: -7.00
Ground Elevation: 811.5 ft

Casing Type: WB Sampler Type: SS
I.D.: 5 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
04/27/15	9.3	Before 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 %
		Asphalt Pavement, 0.0 ft - 1.67 ft								
		A-1-b, GrSa, brn, Moist, Rec. = 0.8 ft, Cleaned out with Roller cone.				10-11-8 (19)	11.2	25.4	58.0	16.6
		A-1-b, GrSa, brn, Moist, Rec. = 0.4 ft, Lab Note: Broken Rock was within sample. Cleaned out with Roller cone.				6-5-4-6 (9)	13.1	31.1	54.9	14.0
5		A-2-4, SiGrSa, brn, Moist, Rec. = 1.0 ft, Cleaned out with Roller cone.				8-16-32-24 (48)	20.5	26.7	50.5	22.8
		A-2-4, SiSa, brn, MTW, Rec. = 1.6 ft, Cleaned out with Roller cone.				17-22-8-12 (30)	26.7	12.6	63.7	23.7
10		Field Note:, No Recovery				5-3-3-3 (6)				
		A-2-4, Sa, Dk/brn, MTW, Rec. = 0.1 ft, Cleaned out with Roller cone.				3-3-2-3 (5)	36.7	6.1	79.6	14.3
		A-1-b, GrSa, Dk/gry, Moist, Rec. = 0.6 ft				8-R@5.0" (R)	15.0	39.9	48.9	11.2
15		Field Note:, Drilled a 4 inch diameter Concrete Core, Rec. = 2.8 ft								
		Visual Description:, Broken Rock 17 ft. - 17.1 ft., gry-blk, Moist	1 (55)	98 (63)	6					
20		17.1 ft - 22.1 ft, Gray, Meta-limestone and dark gray phyllitic mica-schist with some Quartz veins. Hard, Very slightly weathered, Good rock, NXMDC, RMR = 62, Notes: Some brown discoloration along joints.			6					
					6					
					6					
					6					
		22.1 ft - 27.1 ft, Gray, Meta-limestone and dark gray phyllitic mica-schist with some Quartz veins. Hard, Very slightly weathered, Good rock, NXMDC, RMR = 69, Notes: 22.1'-22.5' Quartz vein, 22.5' -22.7' Meta-Limestone, 22.7'-25.4' Mica Schist. Then Meta-Limestone to end of run. Some brown discoloration on joint surfaces.	2 (55)	100 (94)	5					
25					5					
					5					
					5					
					5					
		Hole stopped @ 27.1 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 CHELSEA BHF 0169(9).GPJ VERMONT AOT.GDT 6/18/15



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BORING LOG

CHELSEA
BHF 0169(9)
VT-110 BR-9

Boring No.: B-102
Page No.: 1 of 1
Pin No.: 12C150
Checked By: MLM

Boring Crew: JUDKINS, NIETO, HOOK
Date Started: 4/30/15 Date Finished: 5/05/15
VTSPG NAD83: N 541578.30 ft E 1654069.48 ft
Station: 145+23.0 Offset: 7.40
Ground Elevation: 811.5 ft

Type: WB SS
I.D.: 5 in 1.5 in
Hammer Wt: N.A. 140 lb.
Hammer Fall: N.A. 30 in.
Hammer/Rod Type: Auto/AWJ
Rig: CME 45C SKID C = 1.33

Groundwater Observations

Date	Depth (ft)	Notes
		Not 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 %
		Asphalt Pavement, 0.0 ft - 1.23 ft								
5		A-1-b, GrSa, brn, Moist, Rec. = 1.2 ft, Lab Note: Broken Rock was within sample.				13-11-9-10 (20)	6.4	40.2	47.7	12.1
		A-1-b, GrSa, brn, Moist, Rec. = 0.9 ft, Lab Note: Broken Rock was within sample. Cleaned out with roller cone.				6-13-13-5 (26)	10.4	43.6	46.3	10.1
		Visual Description:, Broken Rock pieces (Granite) with sand, gry-Lt/brn, Moist, Rec. = 0.2 ft				9-8-8-6 (16)	9.9			
10		Field Note:, Continued drilling to locate Concrete & Bedrock. No samples were taken. This area was a mixture of gravel and sand.								
15		Field Note:, NXMDC, Concrete core, Rec. = 2.1 ft								
20		17.3 ft - 22.3 ft, Gray, Meta-Limestone, with few Quartz veins. Hard, Slightly weathered, Fair rock, NXMDC, RMR = 49, Notes: Vertical joint in Meta-limestone at 21.0'-22.1', Yellow-orange staining and rust staining along joints.	1 (55)	82 (26)	3					
25		22.3 ft - 27.3 ft, Gray, Meta-Limestone, and dark gray Phyllitic Mica-Schist with some Quartz veins. Hard, Very slightly weathered, Good rock, NXMDC, RMR = 63, Notes: Yellow-orange staining along joints.			5					
					3					
					4					
					5					
Hole stopped @ 27.3 ft										

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BORING LOG 2 CHELSEA BHF 0169(9), GPJ VERMONT AOT.GDT 6/18/15



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BORING LOG

CHELSEA
BHF 0169(9)
VT-110 BR-9

Boring No.: **B-103**

Page No.: **1 of 1**

Pin No.: **12C150**

Checked By: **MLM**

Boring Crew: JUDKINS, NIETO, DIAGNAULT
Date Started: 4/27/15 Date Finished: 4/28/15
VTSPG NAD83: N 541675.72 ft E 1654067.21 ft
Station: 146+20.0 Offset: -4.10
Ground Elevation: 812.5 ft

Casing Type: WB Sampler: SS
I.D.: 5 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
04/28/15	10.2	Before 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 %
0.0 - 1.4		Asphalt Pavement, 0.0 ft - 1.4 ft								
5		A-1-b, GrSa, brn-Lt/brn, Moist, Rec. = 0.7 ft, Cleaned out with Roller cone.				9-8-9 (17)	13.0	29.4	54.6	16.0
		A-1-a, SaGr, brn, Moist, Rec. = 0.2 ft, Lab Note: Broken Rock was within sample. Cleaned out with Roller cone.				7-7-6-6 (13)	11.2	67.8	25.9	6.3
		A-1-b, GrSa, brn, Moist, Rec. = 0.4 ft, Cleaned out with Roller cone.				5-5-5-6 (10)	13.1	36.4	49.4	14.2
		A-1-a, SaGr, brn, Moist, Rec. = 0.4 ft, Lab Note: Broken Rock was within sample. Cleaned out with Roller cone.				11-7-15-14 (22)	9.8	61.0	32.7	6.3
10		A-1-b, GrSa, Dk/brn, Moist, Rec. = 0.3 ft, NXDC, Cleaned out casing.				10-8-10-13 (18)	14.9	36.0	46.7	17.3
		A-1-a, SaGr, brn-white, Moist, Rec. = 0.6 ft, Lab Note: Broken Rock was within sample. NXDC, Cleaned out casing.				9-15-22-33 (37)	14.1	55.6	35.6	8.8
15		Field Note:, No Recovery				28-14-10-9 (24)				
		A-1-a, SaGr, brn, Moist, Rec. = 0.3 ft, Lab Note: Broken Rock was within sample. NXDC, Cleaned out casing.				R@3.5" (R)	8.7	58.3	31.0	10.7
		Field Note:, Drilled a 4 inch diameter Concrete Core, Rec. = 1.6 ft								
		Field Note:, NXDC, Appears to be Boulder & Cobbles				18-R@5.0" (R)	7.8	60.9	26.2	12.9
20		A-1-a, SaGr, Dk/gry, Moist, Rec. = 0.4 ft, Lab Note: Broken & some Weathered Rock pieces were within sample.	1 (55)	100 (62)	4					
		18.4 ft - 23.4 ft, Gray, Meta-limestone and dark gray phyllitic mica-schist with some Quartz veins. Hard, Very slightly weathered, Good rock, NXMDC, RMR = 62, Notes: 18.4'-19.5' Meta-Limestone, 19.5'-23.4' Schist with Quartz veins. Some brown discoloration along joints.			4					
					4					
					5					
					5					
25		23.4 ft - 26.0 ft, Gray, Meta-limestone and gray phyllitic mica-schist with some Quartz veins. Hard, Slightly weathered, Poor rock, NXMDC, RMR = 39, Notes: Brown and yellow staining along Quartz joint at 24.0'-24.75'.	2 (60)	52 (0)	4					
					11					
					16					
		26.0 ft - 28.4 ft, Alternating gray meta-limestone and dark gray phyllitic mica-schist Hard, Slightly weathered, Fair rock, NXMDC, RMR = 54, Notes: Yellow/brown discoloration along joints.	3 (45-55)	48 (60)	5					
					4					
Hole stopped @ 28.4 ft										

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CHELSEA
BHF 0169(9)
VT-110 BR-9

Boring No.: **B-104**

Page No.: 1 of 1

Pin No.: 12C150

Checked By: MLM

Boring Crew: JUDKINS, HOOK, NIETO
Date Started: 4/29/15 Date Finished: 4/30/15
VTSPG NAD83: N 541667.68 ft E 1654074.11 ft
Station: 146+12.5 Offset: 3.50
Ground Elevation: 812.5 ft

Type: WB SS
I.D.: 5 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
04/30/15	10.1	Before drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RGD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Asphalt Pavement, 0.0 ft - 1.0 ft								
		A-1-b, GrSa, blk-brn, Moist, Rec. = 1.1 ft				9-10-9-8 (19)	7.3	27.5	58.0	14.5
		A-1-b, GrSa, blk-brn, Moist, Rec. = 0.5 ft				6-6-3-3 (9)	15.3	32.8	54.9	12.3
5		A-1-b, SaGr, brn, Moist, Rec. = 0.5 ft, Lab Note: Broken Rock was within sample.				2-1-3-8 (4)	8.4	49.2	40.8	10.0
		A-1-b, SaGr, brn, Moist, Rec. = 0.2 ft, Lab Note: Broken Rock was within sample. NXDC, Cleaned out casing.				6-9-28-10 (37)	11.3	46.3	42.5	11.2
10		A-2-4, GrSa, brn, MTW, Rec. = 0.5 ft, Lab Note: Broken Rock was within sample. Pieces of Wood were within sample. NXDC, Cleaned out casing.				9-7-5-5 (12)	27.9	22.0	58.0	20.0
		Field Note: No Recovery, Stone in sampler. NXDC, Cleaned out casing.				30-R@3.5" (R)				
		Field Note: No Recovery, NXDC, Cleaned out casing.				R@2.5" (R)				
15		Field Note: No Recovery				R@3.5" (R)				
		Field Note: Drilled a 4 inch diameter Concrete Core, Rec. = 3.6 ft, NXDC concrete core on the last 0.5 feet.								
20		18.9 ft - 23.9 ft, Gray, Meta-Limestone, and dark gray Phyllitic Biotite and Muscovite Mica-Schist with Quartz veins. Hard, Slightly weathered, Fair rock, NXMDC, RMR = 54, Notes: Yellow-orange staining and rust staining present on joints.	1 (50)	94 (61)	2					
					5					
					3					
					3					
					3					
25		23.9 ft - 28.9 ft, Gray, Meta-Limestone, and gray Phyllitic Mica-Schist with Quartz veins. Hard, Very slightly weathered, Fair rock, NXMDC, RMR = 58, Notes: Prominent Quartz vein at 26.8'-27.3', Yellow-brown staining present on joints.	2 (50)	100 (75)	4					
					4					
					4					
					4					
					4					
		Hole stopped @ 28.9 ft								

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