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

BORING LOG

Bridge 9, VT Route 9
23770.1000.32000
Bridge 9, VT Route 9

Boring No.: **B-3**
Page No.: 2 of 3
Pin No.: ER BHF 010-1(45)
Checked By: C. Symmes

Boring Crew: J. Leonhardt, K. Owens
Date Started: 1/23/12 Date Finished: 1/24/12
VTSPG NAD83: N 140396.05 ft E 1463762.64 ft
Station: 2+11.60 Offset: 25.6 LT
Ground Elevation: 904.6 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.25 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig:	CME 75 TRACK	C_E = 1.4

Groundwater Observations

Date	Depth (ft)	Notes
01/23/12	2.0	At river level

863.7+/-

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
45		(SM), **Similar Soil**, Rec. = 2.0 ft, Lenses of clayey silt	40-55 (66)						
			28-53-61-88 (114)						
50		(SM), **f. SAND**, Some clayey Silt, very compact, orange/brown, MTW, Rec. = 1.7 ft, Stratified by color	31-45-66-81/4" (111)						
		(CL), **Silty CLAY.**							
55		(CL), **Silty CLAY.** Some f.m. Sand, trace c. sand, hard, orange/brown, Moist, Rec. = 1.5 ft. Stratified by color	27-45-45-52 (90)		1.1	38.7	60.2		
60		(CL), **Silty CLAY.**, Rec. = 1.3 ft	17-22-43-100 (65)	19.6				33	11
65		(CL), **Silty CLAY.** Some f.m.c. Sand, little f. gravel, hard, orange/white, Moist, Rec. = 0.4 ft	100/5" (R)						
		(SM)							
70		(SM), **f.m.c. SAND,** little clayey silt, little crushed gravel, very compact, orange/white, Moist, Rec. = 0.3 ft	150/3" (R)						
		(SP)							
75		(SP), grades to trace clayey silt, Rec. = 0.1 ft	150/2" (R)						
		(SM)							
		(SM), grades to little clayey silt, Rec. = 0.4 ft	102						

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_E is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

2010 CSPV 23770 ERBHF010145, BENNINGTON.GPJ, VERMONT AOT.GDT 3/7/12

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Bridge 9, VT Route 9
23770.1000.32000
Bridge 9, VT Route 9

Boring No.: **B-3**
Page No.: 3 of 3
Pin No.: ER BHF 010-1(45)
Checked By: C. Symmes

Boring Crew: J. Leonhardt, K. Owens
Date Started: 1/23/12 Date Finished: 1/24/12
VTSPG NAD83: N 140396.05 ft E 1463762.64 ft
Station: 2+11.60 Offset: 25.6 LT
Ground Elevation: 904.6 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.25 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig:	CME 75 TRACK	C_E = 1.4

Groundwater Observations

Date	Depth (ft)	Notes
01/23/12	2.0	At river level

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
			(R)						
85		(ML)							
		(ML), **Clayey SILT,** little f.m.c. sand, trace f. gravel, hard, orange/white, Moist, Rec. = 0.8 ft	41-100/4" (R)						
90		(SM)							
		(SM), **f.m.c. SAND,** Some f.c. Crushed Gravel, little clayey silt, very compact, orange/white, Moist, Rec. = 0.3 ft	150/3" (R)						
95		(SM), **f.m.c. SAND,** Some clayey Silt, little crushed gravel, very compact, orange/white, Moist, Rec. = 0.4 ft	150/5" (R)						
		Hole stopped @ 94.4 ft							

Remarks:
The description of the classification of the materials is based on USCS criteria that gravel is defined as material retained on a #4 sieve or larger. Laboratory data provided follows AASHTO classification guidelines that gravel is defined as material retained on a #10 sieve or larger.

Very difficult drilling from ground surface to 8.0'.

Drilling mud added at 21.0'.

Rollerbit grinding and harder drilling 27.0' - 54.0'.

Very high drilling resistance at 54.0'

Easier drilling 76.0' - 79.0'.

Very high drilling resistance resumed at 79.0'.

Notes:
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2010 CSPV 23770 ERBHF010145, BENNINGTON.GPJ, VERMONT AOT.GDT 3/7/12

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BORING LOG

Bridge 9, VT Route 9
23770.1000.32000
Bridge 9, VT Route 9

Boring No.: **B-4**
Page No.: 1 of 1
Pin No.: ER BHF 010-1(45)
Checked By: C. Symmes

Boring Crew: J. Leonhardt, K. Owens
Date Started: 1/24/12 Date Finished: 1/25/12
VTSPG NAD83: N 140343.77 ft E 1463783.29 ft
Station: 2+33.70 Offset: 26.1 RT
Ground Elevation: 906.59 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.25 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/NWJ	
Rig:	CME 75 TRACK	C_E = 1.4

Groundwater Observations

Date	Depth (ft)	Notes
01/25/12	2.0	At river level

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		(Granular FILL), **f.c. GRAVEL,** Some f.m.c. Sand, trace silt very compact, gray/brown, Wet, Rec. = 0.4 ft	15-100/4" (R)				
		No recovery, Rec. = 0.0 ft	14-21-18 (39)				
5		(ML), **Clayey SILT,** Some f.m.c. Sand, trace f. gravel, hard, brown, Moist, Rec. = 0.1 ft	13-27-20-15 (47)				
		(ML), **Clayey SILT,** AND f.m.c. SAND, trace f.c. gravel, hard, brown, Moist, Rec. = 1.6 ft	8-15-23-26 (38)	19.4	10.6	39.0	50.4
10		(ML), **Clayey SILT,** AND f.m.c. SAND, trace f. gravel, hard, brown/gray, Moist, Rec. = 1.0 ft Lenses of gray f.m.c. sand	32-24-35-28 (59)				
15		(ML), **Similar Soil**, Rec. = 1.2 ft	15-24-31-31 (55)				
20		(ML), **Similar Soil**, Rec. = 1.1 ft	44-41-28-48 (67)	17.8	10.7	29.3	60.0
		Hole stopped @ 21.0 ft					

Remarks:
The description of the classification of the materials is based on USCS criteria that gravel is defined as material retained on a #4 sieve or larger. Laboratory data provided follows AASHTO classification guidelines that gravel is defined as material retained on a #10 sieve or larger.

Cobbles & boulders visible at ground surface.

Rollerbit through boulder 1.0-2.5'.

Easier drilling at 5.0'.

Notes:
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BOTTOM OF FOOTING

EST. BOTTOM OF CASING

BORING LOGS SHEET #2

PROJECT NAME: BENNINGTON
PROJECT NUMBER: ER BHF 010-1(45)

FILE NAME: z11b326_bor_log_02.dgn
PROJECT LEADER: D.E.G.
DESIGNED BY: K.J.K.
DWG. NO.: z11b326borlog2.1

PLOT DATE: 8/21/2012
DRAWN BY: M.E.D.
CHECKED BY: D.E.G.
SHEET 18 OF 40

FILE NAME = V:\Projects\VHY\K2\23770\CADD_MSTN\z11b326_bor_log_02.dgn
DATE/TIME = 8/21/2012
USER = medb