RECORD OF BOREHOLE B-8

PROJECT: VHB/LIMEKILN BRIDGE/VT
PROJECT LOCATION: S.Burlington/Colchester VT
PROJECT NUMBER: 993-6856
BORING LOCATION: See Figure
BORING TIME: 1000/ 6-30-99 to 1035/ 6-30-99
DATUM: Local Datum

Golder Associates Manchester, New Hampshire

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE	USCS	GRAPHIC LOG	ELEV. / DEPTH	SAMPLES NUMBER	TYPE	BLOWS / 6 INCHES	N	REC.\ATT.	SAMPLE DESCRIPTIONS AND BORING NOTES
					Elev.						
0		0.0 – 0.5 TOPSOIL			0.00						0.0–0.5 TOPSOIL – brown SILT with organic matter.
		0.5–2.8 Compact C–M–F SAND AND GRAVEL. (crushed limestone) moist (Fill)				1	D.O.	4–11–11–14	22	1.5/2.0	0.5–2.8 Compact C–M–F SAND AND FINE GRAVEL, little silt moist.
					2.00						2.0–2.8 Compact C–M–F SAND AND GRAVEL. (crushed limestone fill) moist.
		2.8'–9.0' Firm to stiff brown SILT, little to some sand and gravel. (ML) moist				2	D.O.	17–8–7–7	15	1.5'/2.0'	2.8–3.5' Firm brown SILT little to some gravel
5											3.5–4.0 No Recovery
					4.00	3	D.O.	6–6–10–6	16	2.0/2.0	4.0–6.0 Stiff brown SILT, little sand, little Gravel.
					6.00	4	D.O.	14–12–18–19	30	1.0/2.0	6.0–7.0 Stiff brown sandy SILT, little gravel.
											7.0–8.0' No Recovery
					8.00	5	D.O.	36–36–50/0	N/A	0.1/2.0	8.0'–9.0' Hard brown SILT with rock frags.
10	2" Split Spoon	9.0' Bedrock			9.00						9.0' Bedrock
		End boring @ 9'bgs (refusal)									End boring @ 9' bgs.
15											

DRILL RIG: MOBILE B-47
DRILLING CONTRACTOR: Con – Tec INC.
DRILLER: B. McGlashan
WEIGHT OF HAMMER: 140 lbs
DROP: 30 inches
SHEET 1 OF 1
LOGGED: M. Zarenski
CHECKED: MZ
DATE: 08/11/99

RECORD OF BOREHOLE B-12

PROJECT: VHB/LIMEKILN BRIDGE/VT
PROJECT LOCATION: S.Burlington/Colchester VT
PROJECT NUMBER: 993-6856
BORING LOCATION: See Figure
BORING TIME: 0950/06-28-99 to 1525/06-28-99
DATUM: Local Datum

Golder Associates Manchester, New Hampshire

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE	USCS	GRAPHIC LOG	ELEV. / DEPTH	SAMPLES NUMBER	TYPE	BLOWS / 6 INCHES	N	REC.\ATT.	SAMPLE DESCRIPTIONS AND BORING NOTES
					Elev.						
0		0.0–3.0 Stiff brown SILT, little to some fine sand, trace little med–coarse sand, trace gravel organic matter in upper 3". moist			0.00						0.0–1.0 Stiff brown SILT little to some fine sand, trace to little med–coarse sand, trace gravel. Dry. (Root and organic matter in upper 3".)
					2.00	0	D.O.	4–7–5–5	12	1.0/2.0	SAND @ 3 bgs.
		3.0–8.0 Compact gray fine–medium SAND little coarse sand. little gravel. moist			4.00						4.0–5.1 Grayish Fine–Medium SAND little gravel. Dry.
5						2	D.O.	NA	~20	1.1/2.0	5.1–6.0 No Recovery
					6.00						Formation change to silt @ 8' bgs
		8.0–13.5 Stiff brown SILT, little very fine sand.									
10	3" Drive & Wash				10.0	3	D.O.	11–11–12–15	23	1.4/2.0	10.0–11.4 Stiff brown SILT, little very fine sand.
					12.0						13.5 Formation change to gray silt.
		13.5–22.0 Stiff to firm gray SILT, trace fine sand, trace clay, Micaceous. moist to wet.									
15					15.0	4	D.O.	5–6–7–8	13	1.1/2.0	15.0–16.1 Stiff gray SILT little fine sand trace clay. micaceous
					17.0						16.1–17.0 No Recovery.
					20.0	5	D.O.	9–12–11–9	23	1.6/2.0	20–21.6 Firm gray SILT very uniform no other particle sizes micaceous
20					22.0						21.6–22 No Recovery
		22.0–34.5 Very soft to firm gray SILTY CLAY becoming more dense with depth, trace sand, trace fine gravel. moist to wet.									
25					25.0	6	D.O.	WOH–WOH–WOH–WOH	WOH	2.0–2.0	25–27 Very soft gray clay– uniform No intermediate particle sizes.
					27.0						
30					30.0	7	D.O.	5–4–2–3	6	1.3/2.0	30.0–31.3 Firm gray CLAY– very uniform No intermediate particle sizes.
					32.0						31.3–32.0 No Recovery.
		34.5 Bedrock see corehole log for continuation of borehole.									
35					34.5						Bedrock encountered @ 34.5 bgs.
											NOTE: WOH–Weight of hammer
40											

DRILL RIG: MOBILE B-47
DRILLING CONTRACTOR: Con – Tec INC.
DRILLER: B. McGlashan
WEIGHT OF HAMMER: 140 lbs
DROP: 30 inches
SHEET 1 OF 1
LOGGED: M. Zarenski
CHECKED: MZ
DATE: 08/11/99

RECORD OF ROCK COREHOLE B-12

PROJECT: VHB/LIMEKILN BRIDGE/VT
PROJECT LOCATION: S.Burlington/Colchester VT
PROJECT NUMBER: 993-6856
BORING TIME: 06-28-99/1458 to 06-28-99/1525
INCLINATION: 90° AZIMUTH: N/A
BORING LOCATION: See Figure
DATUM: Local Datum

Golder Associates Manchester, New Hampshire

CORE DESCRIPTION

ABBREVIATIONS:
B – BEDDING; FO – FOLIATION; CA – CALCITE; CO – CORE LOSS; CT – CONTACT; FA – FAULT; J – JOINT; P – POLISHED
S – SLICKENSIDED; SM – SMOOTH; R – ROUGH / RIDGED; ST – STEPPED; PL – PLANAR; PL – PLANAR; FL – FLEXURED; UE – UNEVEN
W – WAVEY; C – CURVED; LI – LINNITE; CA – CALCITE; CO – CLAY; FR – CLAY; MEC – MECH FRACTURE; CL – CORE LOSS

DEPTH SCALE FEET	BORING METHOD	CORE DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	RUN	Penetration Rate MIN/FT	RUN TIME START / STOP	WATER USAGE	% FLUSH RET.	FRACTURE INDEX (PER FT)	RUN INFORMATION / DISCONTINUITIES
				Elev.							RUN 1
34.5				34.5							FROM 34.5
		34.5'–39.1 Fresh to faintly weathered closely jointed very light gray with yellow and reddish marbling, crystalline MARBLE. Very little sign of staining or weathering on fractures occur throughout.			Run No. 1	4			100%	2	TO 39.5
						4.5			100%	2	TCR 92%
37.0						4			100%	1	SCR 92%
						3.75			100%	2	REC. 68%
39.5		39.1–39.5 No Recovery		39.1		4			100%	1	DISCONTINUITIES
	3"Drive & Wash to 35.1'bgs then NX coreing to 39.5' bgs	End coring @ 39.5' bgs.		39.5							75° J 80° J or M 90° MF 70° J ~90° MF, VE ~80° MF 50° J 80° J
42.0											
44.5											
47.0											
49.5											
53.0											
55.5									54%		

DRILL RIG: MOBILE B-47
DRILLING CONTRACTOR: Con-Tec Inc.
DRILLER: R. McGlashan
TOTAL LENGTH CORED: 5'
BITS USED: 1
SHEET 1 OF 1
LOGGED: M. Zarenski
CHECKED: PCI
DATE: 04/28/05

RECORD OF BOREHOLE B-9

PROJECT: VHB./LIMEKILN BRIDGE/VT
PROJECT LOCATION: S.Borlington/Colchester VT
PROJECT NUMBER: 993-6856
BORING LOCATION: See Figure
BORING TIME: 1055/ 06-30-99 to 1105/ 06-30-99
DATUM: Local Datum

Golder Associates Manchester, New Hampshire

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE	USCS	GRAPHIC LOG	ELEV. / DEPTH	SAMPLES NUMBER	TYPE	BLOWS / 6 INCHES	N	REC.\ATT.	SAMPLE DESCRIPTIONS AND BORING NOTES
					Elev.						
0		0.0 – 0.5 TOPSOIL			0.00						0.0–0.5 Topsoil– lighht brown SILT. little sand, little organics.
		0.5–2.7 Stiff, light brown SILT, little C–M–F sand moist.				1	D.O.	2–6–11–4	17	1.5/2.0	.5–1.0 Stiff, light brown SILT, little fine–med sand, compact, moist.
					2.00						2.0–2.7 Light brown SILT, little C–M–F SAND, compact, moist.
		2.7' Bedrock			2.70	2	D.O.	6–.2/50	NA	.3/2.0	2.7' Bedrock.
5		End boring @ 2.7' bgs (refusal)									
10	2" Split Spoon										
15											

DRILL RIG: MOBILE B-47
DRILLING CONTRACTOR: Con – Tec INC.
DRILLER: B. McGlashan
WEIGHT OF HAMMER: 140 lbs
DROP: 30 inches
SHEET 1 OF 1
LOGGED: M. Zarenski
CHECKED: MZ
DATE: 08/11/99

NOTE:
THE SUBSURFACE EXPLORATIONS SHOWN ON THIS SHEET ARE IN ENGLISH UNITS AS RECORDED BY GOLDER ASSOCIATES IN 1999.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

VHB *Vanasse Hangen Brustlin, Inc.*

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of COLCHESTER-SOUTH BURLINGTON	Bridge No. 6
Highway No. TH 4/3	Log Sta. / Surv. Sta.
TH 4/3 OVER WINOOSKI RIVER & N.E.C.R.	
BORING LOGS (4 OF 9)	
Designed By GOLDER	Drawn By M.M. LANDREY
Checked By M.A. COLGAN Date 4/05	Bridge Design Supervisor S.M. GUNN Date 4/05
PROJECT COLCHESTER-SOUTH BURLINGTON	PROJECT NO. BRM 5600(6)S C/2
I.G.C. Info.	
Bridge Sheet No. ZD139LG4	Sheet 40 of 124

VHB NO. 50735
plot date: 4/28/2005