Metric

PARTIAL BORING LOG 99-8

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Bennington Bypass North
Bennington, Vermont

Boring No.: 8+670, 7m R
Page: 1 of 5
File No.: 15634
Check: TAD

Contractor: New Hampshire Boring
Foreman: J. Michaud
Logged by: S. Raymond
Date Start/Finish: 8-31-99 / 8-31-99
Boring Location: See Exploration Location Plan
GS Elev.: 245.54m **Datum:** NGVD

	Auger/ Casing	Sampler
Type:	PW/HW	SS
I.D. (mm):	127/102	35
Hammer Wt.:	136.1kg	63.5 kg
Hammer Fall:	0.61m	0.76 m
Rig Type:	CME 750 ATV	

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
9-2-99	1705	4.82m	None	10 min

1.540 m
BOTTOM OF ABUT. 2 FOOTING EL 244.000 METERS

Depth (feet)	Depth (meters)	Sample Info: No.	Rec. (m)	Depth (m)	Blows/ 0.15m	N Value	Sample Description & Classification	Stratum Desc.	Rmks.
		S-1	0.36	0-0.61	8-10	22	FOREST MAT	FOREST MAT 0.09m	
					12-15		Medium dense, light brown, fine SAND, some Silt, trace Gravel, trace Organics. (A-2-4)		
5'	1.5	S-2	0.05	1.52-	7-22	42	Dense, gray and brown, GRAVEL, some fine to coarse Sand, little Silt. (A-1-b)	ABLATION TILL	
				2.13	20-11				
10'	3.0	S-3	0.05	3.05-	100/	100	Very dense, gray and brown, GRAVEL, fine to coarse SAND, trace Silt and trace white Clay. (A-1-b)		
				3.11	51mm		Advanced roller bit through cobble from 3.11 to 3.35 meters.		
15'	4.6	S-4	0.30	4.57-	6-12	23	Medium dense, grayish brown, fine to medium SAND, some Gravel, little Silt. (A-1-b)		
				5.18	11-18		Encountered nested cobbles and boulders from 4.88 to 5.79 meters.	6.10m	
20'	6.1	S-5	0.20	6.10-	14-10	23	Very stiff, brown, Clayey SILT, some Gravel, little fine to coarse Sand. (A-2-4)	LODGEMENT TILL	
				6.71	13-13				
25'	7.6	S-6	0.41	7.62-	6-8	24	Very stiff, brown, Clayey SILT, some Gravel, trace fine to coarse Sand. (A-2-4)		
				8.23	16-20				

Equipment Installed: PROTECTIVE CASING; CONCRETE SEAL .030m; FILTER SAND; 19mm SCH. 40 PVC CASING; 3.0m; BENTONITE SEAL; 4.6m; FILTER SAND; 6.10m; 19mm ID SCH. 40 PVC SCREEN (0.01" SLOT)

REMARKS

Stratification lines represent approximate boundaries between soil types, transitions may be gradual. 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.

Boring No.: 8+670, 7m R

BORING LOG 99-9

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

Bennington Bypass North
Bennington, Vermont

Boring No.: 8+695, CL
Page: 1 of 1
File No.: 15634
Check: TAD

Contractor: New Hampshire Boring
Foreman: J. Michaud
Logged by: S. Raymond
Date Start/Finish: 9-8-99 / 9-9-99
Boring Location: See Exploration Location Plan
GS Elev.: 249.29m **Datum:** NGVD

	Auger/ Casing	Sampler
Type:	HW	SS
I.D. (mm):	102	35
Hammer Wt.:	136.2kg	63.5kg
Hammer Fall:	0.61m	0.76m
Rig Type:	Diedrich D-50 Bomb.	

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
9-9-99	1215	6.55m	None	30 min.

5.290 m
BOTTOM OF ABUT. 2 FOOTING EL 244.000 METERS

Depth (feet)	Depth (meters)	Sample Info: No.	Rec. (m)	Depth (m)	Blows/ 0.15m	N Value	Sample Description & Classification	Stratum Desc.	Rmks.
		S-1	0.41	0-0.61	5-6	14	Forest Mat	FOREST MAT 0.21m	
					8-9		Medium dense, light brown, fine SAND and Silt, trace Gravel, trace Organics. (A-4) Nested cobbles located from 0.76 to 1.22 meters.		
5'	1.5	S-2	0.13	1.52-	34-	100	Very dense, light brown, SILT, some Gravel, little fine Sand. (A-2-4)		1
				1.74	100/				
					51mm		Advanced borehole through boulder from 2.44 to 2.74 meters using roller bit.		
10'	3.0						Advanced borehole through boulder from 3.05 to 3.51 meters using roller bit.	ABLATION TILL	
							Advanced borehole through boulder from 4.27 to 4.57 meters using roller bit.		
15'	4.6	S-3	0	4.57-	15-11	22	No recovery.		
				5.18	11-14			6.10m	
20'	6.1	S-4	0.08	6.10-	20-18	38	Dense, brown, SILT and Gravel, little fine to coarse Sand with light brown Silt lenses. (A-2-4)	LODGEMENT TILL	
				6.71	20-28				
25'	7.6	S-5	0.46	7.62-	20-18	35	Dense, brown, fine SAND and Silt, trace Gravel. (A-4)		
				8.23	17-15				
							Bottom of boring at 8.94 meters below ground surface. Roller bit refusal.	8.94m	

Equipment Installed: PROTECTIVE CASING; CONCRETE SEAL 0.30m; 19mm ID SCH. 40 PVC WELL CASING; FILTER SAND; 3.96m; BENTONITE SEAL; 5.18m; 19mm ID SCH. 40 PVC SCREEN (0.01" SLOT); FILTER SAND; 8.94m

REMARKS

1. Laboratory AASHTO classifications performed on S-2 and S-5.

Stratification lines represent approximate boundaries between soil types, transitions may be gradual. 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.

Boring No.: 8+695, CL

TVGA CONSULTANTS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BENNINGTON	Bridge No. BI2
Highway No. VT RTE 279	Log Sta. / Surv. Sta.
VT ROUTE 279 OVER FURNACE BROOK	
BORING LOGS (4 OF 4)	
Designed By J.J. MANUSE	Drawn By D.J. HENDERSON
Checked By B.J. CARLSON Date 04/07	Bridge Design Supervisor K.M. WOJTKOWSKI Date 04/07
PROJECT BENNINGTON	PROJECT NO. AC NH F019-1(53)
TVGA CAD Drawing No. FBBL04.dgn	Date 04/10/2007
Bridge Sheet No. BR509	Sheet 201 of 577