

GEO DESIGN INCORPORATED		BORING LOG		Boring No.: B-2	
54 Main Street Windsor, Vermont, 05089 Telephone: 802-674-2033 Fax: 802-674-5943		Project Name		Page No.: 1 of 1	
		Brattleboro BRF 2000 (21) S		File No.: 750-03.4	
		Brattleboro, Vermont		Checked By: RSA	
Boring Company: MSW Soils Engineering		Casing: Sampler:		Groundwater Observations	
Foreman: Mike Hitchcock		Type: FJ SS	Date and Time	Depth (m)	Elevation (m)
GeoDesign Rep.: Andy Elms		I.D./O.D.: 8 cm 5 cm			
Date Started: October 28, 2001 Date Finished: Oct 27, 01		Hammer Wt.: 136.1 kg 63.5 kg	10/28/01 10:00 AM	1.31	120.67 msk (1.31)
N. Coordinate: E. Coordinate:		Hammer Fall: 76 cm 78 cm			
Ground Surface Elevation (meters): 121.98		Rig Type: Mobile Drill on tracks			
Station: 100+91.6 Offset: 0.00 m CL		Other: BX core barrel			
Sample Information		Sample Description		Strata Description	
Depth (m)	Casing Blows/0.3m	Classification System: Boremaster	Symbol	Elevation & Depth (meters)	
	Type				
	Penetration (cm)				
	Recovery (%)				
	Depth (m)				
	Blows / 0.15 m Interval				
	0- 0.15 0.15- 0.30 0.30- 0.45 0.45- 0.60				
	Coring Time (minutes)				
	PTD Result				
1	C-4 C 61 30 0.94	C-1: BOULDERS and fine to coarse SAND, some Silt and fine to coarse Gravel.			
2	S-1 SS 61 38 1.52 28 16 23 16	S-1: Dense, brown, fine to coarse SAND, some Silt and fine Gravel, wet.			
3	S-2 SS 18 10 3.05 28 60/0.03	S-2: Very dense, gray brown, fine to coarse SAND, some Silt, trace fine Gravel.		118.94	3.05 Glacial Till.
4				117.67	
5				4.11	Bottom of Borehole at 4.11 m
<p>Remarks: (0m): Ground surface elevation is based on survey by GeoDesign. Locations is on staked layout survey by VAOT. (.91m): Boulder. Borehole advanced using core barrel and diamond cutting shoe on casing. (1.31m): Groundwater depth based on wet soil conditions. (2.13m): Cobbles and boulders. Borehole advance using roller bit and casing cutting shoe. (3.14m): SS refusal on possible cobble or boulder. (4.11m): Cobbles and boulders. Roller bit and casing cutting shoe refusal.</p> <p>Notes: 1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual. 2) 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. 3) Sample Type Coding: A = Auger, C = Core, P = Piton Sampler, S = Split Barrel (split Spoon), St = Shelby Tube, V = Vane 4) Proportions Used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%</p>					
APPROX PILE TIP 107.720		Boring No.: B-2			

GEO DESIGN INCORPORATED		BORING LOG		Boring No.: B-3	
54 Main Street Windsor, Vermont, 05089 Telephone: 802-674-2033 Fax: 802-674-5943		Project Name		Page No.: 1 of 1	
		Brattleboro BRF 2000 (21) S		File No.: 750-03.4	
		Brattleboro, Vermont		Checked By: RSA	
Boring Company: MSW Soils Engineering		Casing: Sampler:		Groundwater Observations	
Foreman: Mike Hitchcock		Type: FJ SS	Date and Time	Depth (m)	Elevation (m)
GeoDesign Rep.: Andy Elms		I.D./O.D.: 8 cm 5 cm			
Date Started: October 23, 2001 Date Finished: Oct 24, 01		Hammer Wt.: 136.1 kg 63.5 kg	10/23/01 8:00 AM	1.22	120.55 msk (1.22)
N. Coordinate: E. Coordinate:		Hammer Fall: 76 cm 78 cm			
Ground Surface Elevation (meters): 121.77		Rig Type: Mobile Drill on tracks			
Station: 100+96.0 Offset: 8.00 m R		Other: BX core barrel			
Sample Information		Sample Description		Strata Description	
Depth (m)	Casing Blows/0.3m	Classification System: Boremaster	Symbol	Elevation & Depth (meters)	
	Type				
	Penetration (cm)				
	Recovery (%)				
	Depth (m)				
	Blows / 0.15 m Interval				
	0- 0.15 0.15- 0.30 0.30- 0.45 0.45- 0.60				
	Coring Time (minutes)				
	PTD Result				
1	S-1 SS 61 13 1.52 4 8 7 4	S-1: Medium dense, brown, fine to medium SAND and SILT, trace fine Gravel.			
2					
3	S-2 SS 41 41 3.05 21 23 60/0.1	S-2: Very dense, grayish brown, fine SAND, some Silt, little fine Gravel.		118.72	3.05 Glacial Till.
4					
5					
6	S-3 Refusal	S-3: Refusal.			
7	C-1 C 81 51 5.27	C-1: Boulders.			
8	S-4 SS 64 20 6.10 16 13 14 25	S-4: Medium dense, gray, fine to medium SAND, some Silt.		113.66	8.11 Bottom of Borehole at 8.11 m
<p>Remarks: (0m): Ground surface elevation is based on survey by GeoDesign. Location is based on staked layout survey by VAOT. (1.22m): Groundwater depth is based on wet soil conditions. (3.41m): SS refusal on possible cobble or boulder. (4.57m): SS refusal on possible cobble or boulder. (4.66-5.27m): High drilling resistance with roller bit. Roller bit refusal at 5.27m. (5.27m): Borehole advanced using core barrel and spinning diamond cutting shoe on casing. (8.11m): Roller bit refusal on possible boulder or bedrock. Bottom 1.52-meter section of casing and cutting shoe spun off during casing removal. Casing section left in place, top of casing at 4.57m.</p> <p>Notes: 1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual. 2) 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. 3) Sample Type Coding: A = Auger, C = Core, P = Piton Sampler, S = Split Barrel (split Spoon), St = Shelby Tube, V = Vane 4) Proportions Used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%</p>					
APPROX PILE TIP 107.720		Boring No.: B-3			

GEO DESIGN INCORPORATED		BORING LOG		Boring No.: B-4A	
54 Main Street Windsor, Vermont, 05089 Telephone: 802-674-2033 Fax: 802-674-5943		Project Name		Page No.: 1 of 1	
		Brattleboro BRF 2000 (21) S		File No.: 750-03.4	
		Brattleboro, Vermont		Checked By: RSA	
Boring Company: MSW Soils Engineering		Casing: Sampler:		Groundwater Observations	
Foreman: Mike Hitchcock		Type: H.S.A. SS	Date and Time	Depth (m)	Elevation (m)
GeoDesign Rep.: Andy Elms		I.D./O.D.: 11 cm 5 cm			
Date Started: October 29, 2001 Date Finished: Oct 30, 01		Hammer Wt.: NA 63.5 kg	10/30/01 12:00 PM		dry
N. Coordinate: E. Coordinate:		Hammer Fall: NA 78 cm			
Ground Surface Elevation (meters): 129.97		Rig Type: Mobile Drill on tracks			
Station: 101+25.0 Offset: 6.00 m L		Other: BX core barrel			
Sample Information		Sample Description		Strata Description	
Depth (m)	Casing Blows/0.3m	Classification System: Boremaster	Symbol	Elevation & Depth (meters)	
	Type				
	Penetration (cm)				
	Recovery (%)				
	Depth (m)				
	Blows / 0.15 m Interval				
	0- 0.15 0.15- 0.30 0.30- 0.45 0.45- 0.60				
	Coring Time (minutes)				
	PTD Result				
1	S-1 SS 61 13 1.52 2 2 4 7	S-1: Loose, brown, fine to coarse SAND, some Silt, trace fine Gravel.			
2					
3	S-2 SS 61 3 3.05 11 0 10 10	S-2: Same as above, except medium dense.			
4					
5	C-1 C 152 127 4.57	C-1: Interbedded phyllite, phyllitic quartzite and biotite schist. The rock is very poor quality with numerous soft, highly weathered schist laminations. The rock is thinly laminated with close joint spacing. The dip of the foliation and weathering characteristics of this rock suggest it may be a boulder resting on bedrock (RQD=0%).		123.01	3.96 Increased auger resistance.
6				122.40	4.57 Boulder.
7	C-2 C 152 152 8.10	C-2: Interbedded phyllite and phyllitic quartzite. The rock is fair quality and hard to moderately hard. Fractures are fresh to slightly weathered zone at 7.24 meters. The rock is thinly laminated and joints exhibit close to moderate spacing (RQD=62%).		120.88	6.10 Bedrock.
8				119.35	7.62 Bottom of Borehole at 7.62 m
<p>Remarks: (0m): Ground surface elevation is based on survey by GeoDesign. Location is based on staked layout survey by VAOT. (3.98m): Drilling resistance increased, possible glacial till or weathered bedrock. (4.57m): Roller bit refusal, on bedrock. (4.57-7.62m): Cored possible boulder. (6.1-7.62m): Cored bedrock</p> <p>Notes: 1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual. 2) 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. 3) Sample Type Coding: A = Auger, C = Core, P = Piton Sampler, S = Split Barrel (split Spoon), St = Shelby Tube, V = Vane 4) Proportions Used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%</p>					
APPROX PILE TIP 120.600		Boring No.: B-4A			

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: /96J228/Structures/sj228bo PLOT DATE: 29-APR-2009
PROJECT LEADER: R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: C. CARLSON CHECKED BY: M. LOZIER
BORING LOG INFORMATION SHEET #2 SHEET 30 OF 77