GEODESIGN INCORPORATED
Geotechnical Engineers and Environmental Consultants
P.O. Box 699 1233 Shelburne Rd., Suite E-1
Windsor, VT 05089 South Burlington, VT 05403
Tel:802-674-2033 Tel:802-652-5140
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BORING LOG

Project Name

VAOT BHO 1442 (29)

Weathersfield, Vermont

Boring No.: B-3
Page No.: 1 of 3
File No.: 750-04.2
Checked By: JEL

Boring Company: VAOT
Foreman: Reg Holt/Randy Tallman
GeoDesign Rep.: Jason Gaudette/Aaron Humphrey
Date Started: January 29, 2004 Date Finished: May 11, 2004
N. Coordinate: E. Coordinate:
Ground Surface Elevation (feet): 598
Station: Offset: ft

	Casing:	Sampler:
Type:	FJ	SS
I.D.:	3.0 in.	1.38 in.
Hammer Wt.:	300 lbs	140 lbs
Hammer Fall:	30 in.	30 in.
Rig Type:	CME 45C	
Hammer Type:	Trailer Mount	

Groundwater Observations

Date	Depth (ft)	Elev. (ft)	Notes
▼ 2/4/04	29.0	570.4	Wet Soil

Depth (ft)	Casing Blows/ft	Sample Info: Number	Type	Penetration (inches)	Recovery (inches)	Depth (ft)	Blows / 6 inch Interval: 0 - 6	6 - 12	12 - 18	18 - 24	Coring Time (min./ft)	Moisture Content (%)	Strata Description: Depth & Elevation(feet)	Strata Description	Symbol	Sample Description: Classification System: Burmister
											7			Gravelly Sand		
											5/6"					
											5					
											6					
5											10/6"					
		S-1	SS	5	3	5	65/5"						5.4			S1) Very Dense / Spoon Refusal. Gray to brown, fine to coarse SAND, trace Silt. Piece of coarse Gravel stuck in spoon tip. Wet.
														Concrete 592.9		
													6.4	Gravelly Sand 591.9		
10													9.9	Cobbles & Boulders 588.6		
		S-2	SS	2	2	13	100/2"									S2) Very dense / spoon refusal. Brown fine to medium SAND and fine to coarse Gravel, little Silt.
15																
		S-3	SS	5	5	15.5	75/5"									S3) Very dense / spoon refusal. Similar to S1 except with some fine Gravel and weathered rock fragments. Sample partially frozen.
20																
		S-4	SS	2	2	20	100/2"									S4) Very dense / spoon refusal. Similar to S3 except Bottom 1" light brown and micaceous.
													22.5	Stone Wall Abutment 576.6		
		C-1	C	54	48	22.5					6					C1) Dark gray, moderately hard, pieces of schistose boulders recovered between 6 and 10 inches long. Brown, partially frozen SILT, some fine to medium Sand, little to trace gravel
											7					
25																

Remarks

1) Ground surface elevation estimated from topographic base plan received from Vermont Agency of Transportation.
2) Borehole advanced using 3.5-inch O.D. carbide cutting shoe and rotary wash unless otherwise noted.
3) Concrete core recovered between 5.4 and 6.4 feet deep, possibly from sill observed above stone abutment.
4) Boulders estimated between 6 and 20 inches nominal diameter between 10 and 22 feet deep based on core recoveries and drilling resistances.
5) Back of stone wall abutment estimated to begin at 22.5 feet deep based on drill core recoveries below this depth.

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. A.C. = After coring; N.R. = Not Recorded.
3) Sample Type Coding: A=Auger; C=Core; D=Driven; G=Grab; PS=Piston Sampler; SS=Split Barrel (Split Spoon); ST=Shelby Tube; V=Vane; WOR/H=Weight of Rod/Hammer
4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

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														Stone Wall Abutment (Continued)		recovered between boulders (seams approximately 3 to 5 inches thick).
		C-2	C	30	15	27					5		29	▼		C2) Top 9": Similar to C1. Bottom 6": Wood (charred on the outside surface, due possibly from core barrel rotation).
30		C-3	C	11	11	29.5								Wood (Possible Pile Or Cribbing) 570.4		C3) Dark gray to black, schistose rock fragments.
		S-5	SS	24	20	30.5	4	6	21	51			32			S5) Medium dense. Top 14": Dark brown to black SILT, little fine Gravel, trace fine to coarse Sand and wood splinters, wet. Bottom 6": Light brown to gray, micaceous fine to coarse SAND, little fine Gravel, little Silt, drier.
		S-6	SS	7	7	32.5	94	50/1"					32.5	Glacial Till 567.6		
		C-4	C	48	13.5	33.1					12.5		33.5	Weathered Bedrock 567.1		S6) Very dense / spoon refusal. Dark green to gray, micaceous SILT and fine to coarse Sand (possibly decomposed Bedrock), damp. Schistose foliation measured to be approximately 75 degrees from the horizontal.
35											7		34.6	Cobble/ Boulder 566.1		
											6			Weathered Bedrock		
											7					C-4) Poor quality. Top 11": Moderately hard, slightly weathered, gray, SCHIST with micaceous flakes, nearly vertical fractures at 4.5" from top. Bottom 2.5": Hard, white, slightly weathered QUARTZITE, no apparent fracturing.
		C-5	C	48	1	37.1					3					C-5) Rock Fragments
											6					
40											5					
											8					
		C-6	C	15	8	42.5					-					C-6) Very poor quality. Top 4": Hard, slightly weathered, white to light gray, GRANITE, no apparent fracturing. Next 3": Red-black, fine to coarse SAND and fine to coarse GRAVEL, little Silt. Bottom 1": Hard, slightly weathered, mica SCHIST, no apparent fracturing.
45		S-7	SS	9	9	43.9	46	100/3"			-					S-7) Very dense, brown, fine to coarse SAND, little Silt, little (-) fine Gravel.
		C-7	C	60	21	44.8					-		47.3			C-7) Poor quality. Top 4": Red micaceous rock fragments. Bottom 19": Moderately hard, slightly weathered, gray SCHIST, fractured approximately 0 to 15 degrees from horizontal.
											-			Bedrock (Schist) 553.0		
50											-					

Remarks

6) Pieces of charred wood (up to 6 inches long) recovered in core barrel between 29 and 30.5 feet deep. Possible timber pile or cribbing below stone abutment.
7) Driller notes complete return of washwater during casing advance between 30.5 and 32.5 feet.
8) Spun casing to 33.1'.
9) Started losing water at 34.5', bit needed to be replaced. Used 150 gallons of water since sample S-6. River silted up, but no seepage observed through abutment. Lost 25 gallons in 15 minutes spun casing to 37.1'.

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		C-8	C	60	33	49.8					6			Bedrock (Schist) (Continued)		C-8) Fair quality, moderately hard, slightly weathered along fractures, gray SCHIST. Fractures at approximately 15 to 30 degrees from horizontal @ 3.5" - 9" spacing.
											4					
											9					
											8					
55											7					
		C-9	C	5	5	54.8					6/5"					C-9) Excellent quality, moderately hard, slightly weathered along ends, gray SCHIST.
		C-10	C	49	48	55.2					10					C-10) Poor quality, moderately hard, slightly weathered along fractures and gray SCHIST, fractures @ approximately 15 to 30 degrees from horizontal.
											7					
											11					
60											10					
													59.3	Bottom of Exploration at 59.3 ft 541.6		
65																
70																
75																

Remarks

10) Core barrel "dropped" from 39.3' - 39.8'. Siltation of river started during C-5. Lost 25 gallons of water in 15 minutes.
11) Spun casing to 42.5', after C-6, spun casing to 43.5'
12) First 2.5' of C-5 was very soft, driller inferred weathered rock due to drilling resistance and change in color of return water. No coring times recorded.
13) At 55.2' core barrel stopped turning and no water returned. Lost 25 gallons in 6 minutes.
14) During C-10 wash water changed color from brown to clear/white at 55.7'. Lost 100 gallons in 20 minutes.

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VT BORING LOG MC 9/1/04 FOR CONVERSION TO DFX 750-04.2 LOGS 7-29-04.GPJ GEODESIGN STANDARD .GDT 2/10/05