

Boring Crew: Drilex/Jason, MJR  
 Date Started: 3/31/14 Date Finished: 4/01/14  
 VTSPG NAD83: N 417499.15 ft E 1683209.44 ft  
 Station: 150+08.07 Offset: -28.75  
 Ground Elevation: 552.05 ft

Casing Sampler  
 Type: Auger/WB SS  
 I.D.: 4.5 in 2 in  
 Hammer Wt: 300 lb. 140 lb.  
 Hammer Fall: N.A. 30 in.  
 Hammer/Rod Type: Auto  
 Rig: CME 50 CE = 1.33

Groundwater Observations  
 Date Depth (ft) Notes  
 04/01/14 0.0 Due to water used during drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Cone Rec. % (ROD %)	Drill Rate minutes/ft	Blows/ft (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
2.5		A-2-4, SaSiGr, Auger sample (FILL)					19.1	19.6	54.2	26.2
5.0		A-2-4, SaSiGr, Rec. = 1.83 ft			8-17-19-20 (36)	13.5	14.4	51.6	34.0	
10.0		A-2-4, SaSiGr, Rec. = 1.5 ft			8-10-13-19 (23)	14.4	19.7	48.8	31.5	
15.0		A-2-4, GrSaSi, Rec. = 0.33 ft			17-30/2 (30+)	12.1	35.3	33.9	30.8	
20.0		A-4, SiSaGr, Rec. = 1.42 ft			10-24-32-46 (56)	11.8	26.9	35.2	37.9	

Notes:  
 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.  
 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. CE is an estimated value.  
 3. Water level readings have been made at times and under conditions stated.  
 4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VDOT.

**Terracon**

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27.5		A-2-4, SaSiGr, Rec. = 1.33 ft								
		Split spoon refusal, Weathered bedrock								
30.0		29.5 ft - 35.5 ft, Gray-green ANDESITE, hard, fresh 45° and 30° joint sets, smooth, open, moderately close. Upper 7 inches and lower 6 inches highly fractured and weathered	1	28 (11)	2					
35.0		35.5 ft - 39.5 ft, Gray-green ANDESITE, hard, slight weathering in top 9 inches, 45° and 75° joint sets, very close. Bottom 31 inches, fresh weathering, 80° and 45° joint sets, moderately close, tight. Thinly foliated.	3	67 (56)	3					
		Open hole coring changed to spin 4-inch casing to 39 feet.								
40.0		39.0 ft - 44.0 ft, Gray-green ANDESITE, very hard, slight to moderate weathering, 85°, 0°, 45° joint sets, very close to moderately close, quartz infilling.	5	87 (70)	2					
45.0		Hole stopped @ 44.0 ft			3.5					

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PROJECT NAME: HARTFORD  
 PROJECT NUMBER: IM 091-2(79)

FILE NAME: s12a132bor\_new.dgn PLOT DATE: 15-DEC-2014  
 PROJECT LEADER: K. HIGGINS DRAWN BY: W. LAMMER  
 DESIGNED BY: W. LAMMER CHECKED BY: J. SALVATORI  
 BORING LOGS I SHEET 73 OF 166