VTrans — Working to Get You There — Vermont Agency of Transportation

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
BUREAU CENTRAL LABORATORY

BORING LOG

Springfield
STP CULV(47)
US-5

Boring No.: B-101
Page No.: 1 of 2
File No.: 13C346
Checked By: JFW

Boring Crew: T. Ferrell (S.M), B. Howey (GeoDesign)
Date Started: 2/12/15 Date Finished: 2/12/15
VTSPC NAD83: N 304582.00 ft E 1684195.00 ft
Station: 472+00 Offset: 9' L
Ground Elevation: 345 ft

	Casing	Sampler
Type:	AUGER	SS
I.D.:	4.25 in	1.38 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto
Rig:	CME 550X ATV	CE = 1.35

Groundwater Observations (3)

Date	Depth (ft)	Notes
02/12/15	40.0	Wet sample.
02/12/15	40.0	In augers.

Depth (ft)	Sketch	CLASSIFICATION OF MATERIALS (Description)	Blows/6" or Pen/Rec (in)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		0.4" Asphalt							
		S1 (0.5' – 0.7'): Refusal, brown fine to coarse SAND and fine GRAVEL, little Silt, frozen. Rec. = 0.2 ft (AASHTO M145 Classification: A-1-b.)	50/1" (4)	6.3 4.2	48.6 50.0	35.9 25.3	15.5 15.7	NP NP	NP NP
		S2 (1' – 2' auger cuttings): Light brown fine to coarse SAND and fine to coarse GRAVEL, little Silt, moist. Rec. = 1.0 ft (AASHTO M145 Classification: A-1-b.)							
5		S3 (5' – 7'): Dense, gray-brown SILT and fine to coarse SAND, little fine to coarse Gravel, moist. Rec. = 1.2 ft (AASHTO M145 Classification: A-2-4.)	13-19-22-15 (36)	10.8	35.2	35.6	29.2	NP	NP
10		S4 (10' – 12'): Medium dense, gray-brown SILT and fine to coarse SAND, little fine to coarse Gravel, moist. Rec. = 1.1 ft (AASHTO M145 Classification: A-2-4.)	9-8-8-10 (16)	10.9	25.4	39.3	35.3	NP	NP
15		S5 (15' – 17'): Dense, gray-brown fine to coarse SAND, some Silt, little fine to coarse Gravel, moist. Rec. = 1.3 ft (AASHTO M145 Classification: A-1-b.)	11-19-20-14 (39)	8.2	37.5	42.5	20.4	NP	NP
20		S6 (20' – 22'): Refusal, brown fine to coarse SAND and SILT, little fine to coarse Gravel, moist. Rec. = 0.4 ft (AASHTO M145 Classification: A-1-b.)	14-50/5" (?)	10.8	28.5	46.8	24.7	NP	NP
25		S7 (25' – 27'): Medium dense, brown fine to coarse SAND, some Silt, little fine to coarse Gravel, moist. Rec. = 0.7 ft (AASHTO M145 Classification: A-1-b.)	15-11-11-13 (22)	8.6	37.9	40.0	22.1	NP	NP
30		S8 (30' – 32'): Medium dense, gray-brown SILT and fine to coarse SAND, little fine to coarse Gravel, moist. Rec. = 1.0 ft (AASHTO M145 Classification: A-4.)	10-10-8-8 (18)	12.6	15.3	45.5	39.2	NP	NP
		S9 (32' – 34'): Medium dense, gray-brown SILT and fine to coarse SAND, trace fine to coarse Gravel, trace Wood/Organics, moist. Rec. = 0.8 ft (AASHTO M145 Classification: A-4.)	13-9-8-50/1" (17)	13.8	16.8	45.1	38.1	NP	NP
35		S10 (35' – 35.8'): Refusal, gray-brown SILT and fine to coarse SAND, little fine to coarse Gravel, moist. Rec. = 0.7 ft (AASHTO M145 Classification: A-2-4.)	10-50/4" (?)	10.8	32.4	39.2	28.4	NP	NP
		S11 (38' – 40'): Medium dense, brown/gray SILT and fine to coarse SAND, trace fine to coarse Gravel, trace Organics, moist. Rec. = 1.8 ft (AASHTO M145 Classification: A-4.)	5-7-7-5 (14)	22.8	11.8	39.4	37.8	NP	NP
40		S12 (40' – 42'): Medium dense, brown fine to coarse SAND, trace (+) Silt (pockets), trace fine Gravel, wet. Rec. = 1.2 ft (AASHTO M145 Classification: A-1-b.)	8-10-8-8 (18)	16.2	28.5	50.8	13.7	NP	NP
		S13 (43' – 45'): Very dense, brown SILT, little fine Sand, wet. Bottom 3" of sample wood pieces, inferred by blow counts that sampler was driven through timber. Rec. = 0.5 ft	22-39-22-14 (61)	53.5				NP	NP
45		S14 (45' – 47'): Medium dense, no recovery. Rec. = 0.0 ft	8-7-11-12 (18)						
		S15 (47' – 49'): Medium dense, gray layered SILT, trace Clayey Silt, trace fine Sand, wet. Rec. = 1.3 ft (AASHTO M145 Classification: A-4.)	4-5-7-5 (12)	27.4		11.1	88.9	NP	NP

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. 0 blows have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. 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.

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Depth (ft)	Sketch	CLASSIFICATION OF MATERIALS (Description)	Blows/6" or Pen/Rec (in)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		S16 (50' – 52'): Medium dense, gray layered SILT to Clayey SILT, trace fine Sand (occasional seams less than 1/16" thick), moist. Rec. = 1.0 ft (AASHTO M145 Classification: A-4.)	3-3-5-7 (?)	26.8	1.7	15.8	82.7	NP	NP
		S17 (53' – 55'): Loose, gray SILT to Clayey SILT, trace fine Sand, wet. Rec. = 1.2 ft (AASHTO M145 Classification: A-4.)	1-1-5-8 (?)	29.5	2.5	10.5	87.0	NP	NP
55		Hole stopped @ 55.0 ft							

Remarks:
1) U.S. Route 5 stationing, ground elevation, and coordinates shown are estimated from electronic files provided by VTrans via email on 2/25/15 and tape measurements to existing features by GeoDesign personnel. All measurements are rounded to the nearest foot.
2) Auger cuttings changed from light brown to darker brown at approximately 2 feet deep.
3) Grinding intermittently from 10 to 15 feet deep with wood pieces noted in cuttings at 15 feet deep.
4) Grinding noted from approximately 33 to 40 feet deep on inferred cobbles and/or boulders.
5) Borehole was backfilled with grout/cuttings and cold patched upon completion.
6) Hammer energy correction factor is assumed based on hammer type.
7) Visual sample descriptions are per Burmister classification system. Laboratory testing results shown are based on testing performed by VTrans with the Gravel/Sand/Silt breakdown shown per AASHTO M145.

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2. 0 blows have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. 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.