STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-5
SHEET 1 of 2
DATE STARTED: 3/20/14
DATE COMPLETED: 3/20/14

PROJECT NAME: Middlesex IM 089-2(49)
SITE NAME: Middlesex NECR Culvert
STATION: -
OFFSET: -
VTSPG: N 660999.04 ft E 1588121.54 ft

PROJECT NUMBER: GAI 130-3003
SITE NUMBER: -
GROUND ELEVATION: 434.57 ft
GROUNDWATER DEPTH: 7.4 ft 3/21/14
PROJECT PIN NUMBER: -

BORING CREW: Atlantic Testing Laboratories
DRILLER: Mark Childs
LOGGER: Noah Chinburg
BORING RIG: CME-850 X

BORING TYPE: WASH BORE
SAMPLE TYPE: Split Spoon
HAMMER TYPE: Automatic
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		Top of Well Elevation: 438.25 ft						
		S1: 0.0 ft - 2.0 ft, A-1-b, Gray brown, moist, medium dense (frozen), silty fine to medium SAND, (SM), (ALLUVIUM), Rec. = 0.4 ft		1-11-9-2 (20)				
		S2: 2.0 ft - 4.0 ft, A-1-a, Medium brown, moist, loose, fine to medium SAND, some silt, trace coarse sand, trace gravel, trace organics (roots), (SM), (ALLUVIUM), Rec. = 0.7 ft		2-2-2-3 (4)				
		S3: 4.0 ft - 6.0 ft, A-1-b, Medium brown, wet, medium dense, fine to medium SAND, little silt, some coarse sand, some gravel, trace organics (wood), (SM), (ALLUVIUM), Rec. = 0.7 ft		7-5-5-3 (10)	16.7	43.7	41.2	15.1
		S4: 6.0 ft - 8.0 ft, A-1-b, Medium brown, wet, loose, fine to coarse SAND, little silt, some gravel, trace organics (wood), (SM), (ALLUVIUM), Rec. = 0.8 ft		5-5-5-3 (10)				
		S5: 8.0 ft - 10.0 ft, A-1-b, Medium brown and gray, medium dense, wet, fine to coarse SAND and GRAVEL, little silt, (SP-SM), (ALLUVIUM), Rec. = 0.6 ft		7-11-18-15 (29)				
		S6: 10.0 ft - 12.0 ft, A-1-b, Medium brown and gray, medium dense, wet, fine to coarse SAND and GRAVEL, little silt, (SP-SM), (ALLUVIUM), Rec. = 1.1 ft		15-10-10-11 (20)	11.0	55.7	32.7	11.6
		S7: 12.0 ft - 14.0 ft, A-1-b, Brown gray with rust staining, wet, medium dense, fine to coarse SAND, some gravel, little silt, (SP-SM), (ALLUVIUM), Rec. = 1.0 ft		22-11-10-10 (21)				
		S8: 14.0 ft - 16.0 ft, A-1-b, Brown gray, wet, medium dense, fine to coarse SAND, little silt, some gravel, (SP-SM), (ALLUVIUM), Rec. = 0.8 ft		11-8-6-5 (14)				
		S9: 16.0 ft - 18.0 ft, A-1-b, Brown gray, wet, loose, fine to medium SAND, trace silt, trace coarse sand, (SM), (ALLUVIUM), Rec. = 1.0 ft		4-3-3-5 (6)				
		S10: 18.0 ft - 20.0 ft, A-1-b, Brown gray with rust staining, wet, loose, fine to medium SAND, little silt, trace coarse sand, trace gravel, (SM), (ALLUVIUM), Rec. = 0.9 ft		8-4-4-6 (8)				

LOG OF BORING & WELL VHB NECR CULVERT.GPJ VT AOT.GDT 8/13/14

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SHEET 2 of 2
DATE STARTED: 3/20/14
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HAMMER TYPE: Automatic
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE) RUN	M.C. (%) REC (%)	AASHTO GRAVEL (%) RQD (%)	AASHTO SAND (%) Drill Rate (min/ft)	AASHTO FINES (%) UCS (psi)
		S11: 20.0 ft - 22.0 ft, A-1-b, Top 0.6': Brown gray with rust staining, wet, medium dense, fine to medium SAND, little silt, trace coarse sand, trace gravel, (SM), (ALLUVIUM). Bottom 0.7': Layered rust, brown, and gray, moist, medium dense, fine to coarse SAND and GRAVEL, some silt, (SP-SM), (ALLUVIUM), Rec. = 1.3 ft		12-18-13-10 (31)	19.2	14.7	75.0	10.3
		S12: 22.0 ft - 24.0 ft, A-1-b, Brown gray, wet, loose, layered sandy GRAVEL, clean fine to coarse SAND, and sandy CLAY, (SP-SM), (ALLUVIUM), Rec. = 0.8 ft		14-4-2-5 (6)				
		S13: 24.0 ft - 26.0 ft, A-1-b, Brown gray with rust staining, wet, medium dense, fine to medium SAND, little silt, trace coarse sand, trace gravel, (SM), (ALLUVIUM), Rec. = 0.7 ft		7-7-6-6 (13)				
		S14: 26.0 ft - 27.5 ft, A-1-b, Brown gray with rust staining, wet, medium dense, fine to medium SAND, little silt, trace coarse sand, bedrock in spoon tip, (SM), (ALLUVIUM), Rec. = 1.7 ft		5-7-7-50/0.4 (14)				
		Top of Bedrock @ 27.5 ft						
		27.5 ft - 36.5 ft, Dark greenish gray (5GY 4/1), greenish black (5GY 2/1), medium gray (N5), and white (N9), very fine to fine grained, weak (R2) to medium weak (R3), fresh to slightly weathered, strongly foliated, non-calcareous to very slightly calcareous, quartz-sericite-chlorite PHYLLITE, discontinuities parallel with foliation, dipping 75-90 degrees, moderately to widely spaced, with abundant quartz veins 1-2 cm wide parallel with foliation. [STOWE FORMATION] R1: NX, Rec. = 4.7 ft		R1	94	100		
		R2: NX, Rec. = 2.8 ft		R2	112	100		
		Hole stopped @ 36.5 ft						

Notes:
- A temporary observation well was installed to a depth of 28.0 feet.
- Reported groundwater depth measured with casing set into bedrock after stabilizing overnight.

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