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

BORING NUMBER: B-1
SHEET 1 of 4
DATE STARTED: 3/12/14
DATE COMPLETED: 3/17/14

PROJECT NAME: Middlesex IM 089-2(49)
SITE NAME: Middlesex NECR Culvert
STATION: -
OFFSET: -
VTSPG: N 661129.99 ft E 1588175.50 ft

PROJECT NUMBER: GAI 130-3003
SITE NUMBER: -
GROUND ELEVATION: 505.79 ft
GROUNDWATER DEPTH: 46.5 ft 3/13/14
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 IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		Top of Well Elevation: 506.3 ft						
		S1: 0.0 ft - 2.0 ft, A-1-b, Medium brown, moist, very dense (frozen), fine to coarse SAND and GRAVEL, some silt, trace organics and pieces of rock fill, (GM), (FILL), Rec. = 1.3 ft		32-51-30-9 (81)				
		S2: 2.0 ft - 4.0 ft, A-1-b, Gray and red brown, dry, medium dense, fine to coarse SAND and GRAVEL, (GM), (FILL), Rec. = 0.5 ft		7-17-11-8 (28)				
		S3: 4.0 ft - 6.0 ft, Loose, no recovery - broken gravel in spoon tip, Rec. = 0.0 ft		1-2-4-1 (6)				
		S4: 6.0 ft - 8.0 ft, Very loose, no recovery - broken gravel in spoon tip, Rec. = 0.0 ft		2-1-1-1 (2)				
		S5: 8.0 ft - 10.0 ft, A-2-4, Olive brown, moist, very loose, fine to coarse SAND, some silt, little gravel, trace clay, (SM), (FILL), Rec. = 0.6 ft		3-2-2-2 (4)	16.5	23.2	49.4	27.4
		S6: 10.0 ft - 12.0 ft, Loose, no recovery - gravel in spoon tip, Rec. = 0.0 ft		4-3-2-3 (5)				
		S7: 12.0 ft - 14.0 ft, A-2-4, Olive brown, moist, loose, fine to medium SAND, some silt, little coarse sand, little gravel, (SM), (FILL), Rec. = 0.3 ft		4-3-2-2 (5)				
		S8: 14.0 ft - 16.0 ft, A-2-4, Olive brown, moist, loose, fine to medium SAND, some silt, little coarse sand, little gravel, (SM), (FILL), Rec. = 0.5 ft		5-3-2-3 (5)				
		S9: 16.0 ft - 18.0 ft, Loose, no recovery, Rec. = 0.0 ft		5-3-4-3 (7)				
		S10: 18.0 ft - 20.0 ft, Loose, no recovery, redrove spoon with new catcher, no recovery, Rec. = 0.0 ft		7-4-3-4 (7)				

LOG OF BORINGS & WELL - VHB NECR CULVERT.GPJ - VT ACT.GDT 8/13/14

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BORING NUMBER: B-1
SHEET 2 of 4
DATE STARTED: 3/12/14
DATE COMPLETED: 3/17/14

PROJECT NAME: Middlesex IM 089-2(49)
SITE NAME: Middlesex NECR Culvert
STATION: -
OFFSET: -
VTSPG: N 661129.99 ft E 1588175.50 ft

PROJECT NUMBER: GAI 130-3003
SITE NUMBER: -
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GROUNDWATER DEPTH: 46.5 ft 3/13/14
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 IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		S11: 20.0 ft - 22.0 ft, A-2-4, Olive brown, moist, medium dense, fine to medium SAND, some silt, little coarse sand, little gravel, (SM), (FILL), no recovery, redrove spoon, Rec. = 0.9 ft		7-6-5-5 (11)	14.2	31.9	39.8	28.3
		S12: 22.0 ft - 24.0 ft, A-2-4, Olive brown, moist, loose, fine to medium SAND, some silt, little coarse sand, little gravel, (SM), Rec. = 0.5 ft		5-3-4-3 (7)				
		S13: 24.0 ft - 26.0 ft, A-2-4, Olive brown, moist, loose, fine to medium SAND, some silt, little coarse sand, little gravel, (SM), (FILL), Rec. = 0.7 ft		8-4-3-3 (7)				
		S14: 26.0 ft - 28.0 ft, A-2-4, Olive brown, moist, loose, fine to medium SAND, some silt, little coarse sand, little gravel, (SM), (FILL), Rec. = 0.8 ft		7-4-5-6 (9)	13.5	32.6	37.8	29.6
		S15: 28.0 ft - 30.0 ft, A-2-4, Olive brown, moist, loose, fine to medium SAND, some silt, little coarse sand, little gravel, (SM), (FILL), Rec. = 0.3 ft		6-4-4-5 (8)				
		S16: 30.0 ft - 32.0 ft, A-2-4, Olive brown, moist, medium dense, silty fine to medium SAND, trace coarse sand, trace gravel, (SM), (FILL), Rec. = 0.6 ft		8-5-6-7 (11)				
		S17: 32.0 ft - 34.0 ft, A-2-4, Olive brown, moist, medium dense, silty fine to medium SAND, trace coarse sand, trace gravel, (SM), (FILL), Rec. = 0.2 ft		7-5-6-8 (11)				
		S18: 34.0 ft - 36.0 ft, A-2-4, Olive brown, moist, medium dense, fine to medium SAND, some silt, little gravel, trace coarse sand, trace clay, (SM), (FILL), Rec. = 0.6 ft		9-5-5-6 (10)	15.4	21.5	45.7	32.8
		S19: 36.0 ft - 38.0 ft, A-2-4, Olive brown, moist, medium dense, fine to medium SAND, some silt, little gravel, trace coarse sand, trace clay, (SM), (FILL), Rec. = 0.8 ft		9-6-6-9 (12)				
		S20: 38.0 ft - 40.0 ft, A-2-4, Olive brown, moist, medium dense, fine to medium SAND, some silt, little gravel, trace clay, trace coarse sand, (SM), (FILL), Rec. = 1.0 ft		6-6-6-6 (12)				

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SHEET 3 of 4
DATE STARTED: 3/12/14
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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 IN VALUE / RUN	M.C. (%) / REC (%)	AASHTO GRAVEL (%) / RQD (%)	AASHTO SAND (%) / Drill Rate (min/ft)	AASHTO FINES (%) / UCS (psi)
		S21: 40.0 ft - 42.0 ft, A-2-4, Olive brown, moist, medium dense, fine to medium SAND, some silt, little gravel, little coarse sand, trace clay, (SM), (FILL), Rec. = 0.9 ft		10-7-8-10 (15)				
		S22: 42.0 ft - 44.0 ft, A-2-4, Olive brown, moist, medium dense, fine to medium SAND, some silt, little gravel, little coarse sand, trace clay, (SM), (FILL), Rec. = 0.5 ft		8-6-5-5 (11)				
		S23: 44.0 ft - 46.0 ft, A-1-b, Olive brown, moist, very loose, mixed chunks of medium plastic clay and gravel - suspected wash, (GM), (FILL), Rec. = 0.2 ft		5-1-2-4 (3)				
		S24: 46.0 ft - 47.2 ft, A-1-b, Top 0.6: Olive brown and gray brown, moist, mixed medium plastic clay, fine to medium sand, and gravel, (GM), (FILL), Bottom 0.4: Weathered bedrock, Rec. = 1.0 ft		6-10-50/0.2 (R)	Top of Bedrock @ 46.6 ft 14.4	55.7	19.3	25.0
		47.2 ft - 58.0 ft, Medium dark gray (N4), medium gray (N5), dark greenish gray (5GY 4/1 and 5G 4/1), white (N9), and light brown (5YR 5/6) to dark yellowish orange (10YR 6/6) (weathered), very fine to fine grained, fresh to slightly weathered, weak (R2) to medium weak (R3), strongly foliated, non-calcareous to slightly calcareous, quartz-sericite-chlorite PHYLLITE, with abundant quartz veins 0.1 to 3 cm wide, parallel to foliation. [STOWE FORMATION] R1: NX, Rec. = 4.5 ft		R1	90	78		
		R2: NX, Rec. = 5.0 ft		R2	100	74		
		Hole stopped @ 58.0 ft						

Notes:
- A temporary observation well was installed to a depth of 48.0 feet.

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BORING NUMBER: B-1
SHEET 4 of 4
DATE STARTED: 3/12/14
DATE COMPLETED: 3/17/14

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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	RUN	REC (%)	RQD (%)	Drill Rate (min/ft)	UCS (psi)
		- Reported groundwater depth measured the day after well installation.						

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