

PROJECT NAME: Middlesex IM 089-2(49)
SITE NAME: Middlesex NECR Culvert
STATION: -
OFFSET: -
VTSPG: N 661122.22 ft E 1588249.71 ft

PROJECT NUMBER: GAI 130-3003
SITE NUMBER: -
GROUND ELEVATION: 506.16 ft
GROUNDWATER DEPTH: 39.6 ft 3/19/14
PROJECT PIN NUMBER: -

BORING CREW: Atlantic Testing Laboratories
DRILLER: Mark Childs
LOGGER: Noah Chlnburg
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)	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
1-3		S1: 0.0 ft - 2.0 ft, A-1-5, Medium dense, low recovery - snow and gravel blocking spoon tip, (FILL), Rec. = 0.1 ft	1-3-12-10 (15)				
3-5		S2: 2.0 ft - 4.0 ft, A-1-5, Brown and gray, moist, medium dense, fine to coarse SAND and GRAVEL, (GM), (FILL), Rec. = 0.5 ft	11-5-5-4 (11)				
5-6		S3: 4.0 ft - 6.0 ft, A-4, Olive brown, moist, medium dense, fine to medium SAND, little silt, some gravel, (SM), (FILL), Rec. = 0.7 ft	9-6-6-6 (12)				
6-7		S4: 6.0 ft - 8.0 ft, A-4, Top 0.9: Olive brown, moist, medium dense, fine to medium SAND, little silt, some gravel, (SM), (FILL) Bottom 0.1: Olive brown, moist, medium dense, SILT, some sand, trace organics (root), (ML), (FILL), Rec. = 1.0 ft	9-5-6-7 (13)				
7-8		S5: 8.0 ft - 10.0 ft, A-4, Olive brown, moist, medium dense, silty fine sand mixed with clean gravel, suspected wash, (ML), (FILL), Rec. = 0.1 ft	9-7-6-6 (13)				
8-9		S6: 10.0 ft - 12.0 ft, A-4, Olive brown, moist, loose, SILT, some sand, little gravel, (ML), (FILL), Rec. = 0.9 ft	9-5-3-4 (8)	13.0	17.6	27.1	55.3
9-10		S7: 12.0 ft - 14.0 ft, A-4, Olive brown, moist, loose, SILT, some sand, trace gravel, (ML), (FILL), Rec. = 0.3 ft	10-5-4-5 (9)				
10-11		S8: 14.0 ft - 16.0 ft, A-4, Olive brown, moist, loose, SILT, some sand, trace gravel, (ML), (FILL), Rec. = 0.7 ft	4-3-4-3 (7)				
11-12		S9: 16.0 ft - 18.0 ft, Loose, no recovery, Rec. = 0.0 ft	7-4-3-4 (7)				
12-13		S10: 18.0 ft - 20.0 ft, Loose, no recovery, gravel stuck in spoon tip, Rec. = 0.0 ft	3-4-1-3 (8)				

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5-6		S11: 20.0 ft - 22.0 ft, A-4, Olive brown, moist, medium dense, SILT, little sand, trace gravel, (ML), (FILL), Rec. = 0.9 ft	5-5-7-6 (12)				
6-7		S12: 22.0 ft - 24.0 ft, A-4, Olive brown, moist, loose, SILT, little sand, (ML), (FILL), Rec. = 1.1 ft	4-3-2-4 (5)	29.8	2.9	11.2	85.9
7-8		S13: 24.0 ft - 26.0 ft, A-4, Olive brown, moist, loose, sandy SILT, trace gravel, (ML), (FILL), Rec. = 1.0 ft	3-4-4-3 (8)				
8-9		S14: 26.0 ft - 28.0 ft, A-4, Olive brown, moist, medium dense, sandy SILT, trace gravel, (ML), (FILL), Rec. = 1.1 ft	5-6-5-7 (11)	18.1	2.0	41.0	57.0
9-10		S15: 28.0 ft - 30.0 ft, A-4, Olive brown, moist, loose, SILT, little sand, bottom 0.1' frozen, (ML), (FILL), Rec. = 0.9 ft	2-3-6-16 (7)				
10-11		S16: 30.0 ft - 32.0 ft, A-4, Olive brown, moist, SILT, little sand, entire sample frozen, (ML), (FILL), Rec. = 2.0 ft	22-26-31-30 (59)				
11-12		S17: 32.0 ft - 34.0 ft, A-4, Olive brown, moist, SILT, little sand, entire sample frozen, (ML), (FILL), Rec. = 2.0 ft	22-34-39-26 (73)	34.0	3.3	14.0	82.7
12-13		S18: 34.0 ft - 36.0 ft, A-4, Olive brown, moist, medium dense, SILT, little sand, trace gravel, top 0.3' frozen, (ML), (FILL), Rec. = 1.1 ft	16-5-6-4 (11)				
13-14		S19: 36.0 ft - 38.0 ft, A-4, Olive brown, moist, medium dense, silty fine SAND, trace medium to coarse sand, trace gravel, (ML), (FILL), Rec. = 0.5 ft	7-5-5-6 (11)				
14-15		S20: 38.0 ft - 40.0 ft, A-4, Olive brown, moist, loose, silty fine SAND, trace medium to coarse sand, trace gravel, (ML), (FILL), Rec. = 0.7 ft	4-3-3-4 (6)				

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								RUN	REC (%)	RQD (%)	DH Rate (in/hr)	UCS (psi)
6-7		S21: 40.0 ft - 42.0 ft, A-4, Olive brown, moist, loose, silty fine SAND, trace medium to coarse sand, trace gravel, (ML), (FILL), Rec. = 0.9 ft	6-3-3-5 (6)	20.1	10.7	37.5	51.8					
7-8		S22: 42.0 ft - 44.0 ft, A-4, Olive brown, wet, very loose, silty fine SAND, trace medium to coarse sand, trace gravel, (ML), (FILL), Rec. = 0.5 ft	2-1-WOR-WOR (0)									
8-9		S23: 44.0 ft - 46.0 ft, A-4, Olive brown, wet, loose, silty fine SAND, some medium to coarse sand, little gravel, (ML), (FILL), Rec. = 0.4 ft	2-4-4-5 (8)									
9-10		S24: 46.0 ft - 47.1 ft, A-4, Olive brown with rust staining in bottom 0.4', moist, compact, fine to coarse SAND and GRAVEL, some silt, broken rock in spoon tip, suspected cobble, (ML), (FILL), Rec. = 1.1 ft	11-11-50/0.1 (R)									
10-11		47.1 ft - 48.0 ft, Cobble										
11-12		S25: 48.0 ft - 50.0 ft, A-2-4, Gray, wet, silty fine to medium SAND, trace coarse sand, trace gravel, (SM), (ALLUVIUM), Rec. = 0.4 ft	8-3-5-6 (8)									
12-13		S26: 50.0 ft - 50.9 ft, A-2-4, Top 0.8: Gray, wet, silty fine to medium SAND, Bottom 0.3: Light gray, moist, cemented silty fine to medium SAND, possible weathered cobble, Rec. = 0.9 ft	8-50/0.5 (R)									
13-14		S27: 52.0 ft - 52.4 ft, A-2-4, Light gray silty sand mixed with broken rock, (SM), (ALLUVIUM), Rec. = 0.3 ft	50/0.4 (R)									
14-15		S24 ft - 63.0 ft, Medium gray (N6), medium light gray (N6), and white (N6), very fine grained, fresh to highly weathered, extremely weak (R0) to medium weak (R3), strongly foliated, non-calcareous, quartz-sericite-chlorite PHYLLITE, discontinuities extremely closely spaced to moderately spaced, dipping 75-90 degrees, with abundant quartz veins up to 1 cm wide parallel with foliation, [STOWE FORMATION] R1: NX, Rec. = 1.4 ft	R1	28	16							
15-16		R2: NX, Rec. = 4.8 ft	R2	96	90							

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63.0		Hole stopped @ 63.0 ft					

Notes:
- Borehole backfilled with cement-bentonite grout.
- Reported groundwater depth measured after rock coring with casing set into bedrock.