

APPENDIX A

Test Boring Logs and Rock Core Photographs


UNIFIED SOIL CLASSIFICATION SYSTEM				
MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE-GRAINED SOILS (more than half of material is larger than No. 200 sieve size)	GRAVELS (more than half of coarse fraction is larger than No. 4 sieve size)	CLEAN GRAVELS	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
		(little or no fines)	GP	Poorly-graded gravels, gravel sand mixtures, little or no fines.
		GRAVEL WITH FINES (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures.
	SANDS (more than half of coarse fraction is smaller than No. 4 sieve size)	CLEAN SANDS	SW	Well-graded sands, Gravelly sands, little or no fines
		(little or no fines)	SP	Poorly-graded sands, Gravelly sand, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures
FINE-GRAINED SOILS (more than half of material is smaller than No. 200 sieve size)	SILTS AND CLAYS (liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, Silty or Clayey fine sands, or Clayey silts with slight plasticity.	
		CL	Inorganic clays of low to medium plasticity, Gravelly clays, Sandy clays, Silty clays, lean clays.	
		OL	Organic silts and organic Silty clays of low plasticity.	
	SILTS AND CLAYS (liquid limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine Sandy or Silty soils, elastic silts.	
		CH	Inorganic clays of high plasticity, fat clays.	
		OH	Organic clays of medium to high plasticity, organic silts.	
HIGHLY ORGANIC SOILS	Pt	Peat and other highly organic soils.		

MODIFIED BURMISTER SYSTEM				
<u>Descriptive Term</u>		<u>Portion of Total (%)</u>		
trace		0 - 10		
little		11 - 20		
some		21 - 35		
adjective (e.g. Sandy, Clayey)		36 - 50		
TERMS DESCRIBING DENSITY/CONSISTENCY				
<u>Coarse-grained soils</u> (more than half of material is larger than No. 200 sieve): Includes (1) clean gravels; (2) Silty or Clayey gravels; and (3) Silty, Clayey or Gravelly sands. Density is rated according to standard penetration resistance (N-value).				
<u>Density of Cohesionless Soils</u>		<u>Standard Penetration Resistance N-Value (blows per foot)</u>		
Very loose		0 - 4		
Loose		5 - 10		
Medium Dense		11 - 30		
Dense		31 - 50		
Very Dense		> 50		
<u>Fine-grained soils</u> (more than half of material is smaller than No. 200 sieve): Includes (1) inorganic and organic silts and clays; (2) Gravelly, Sandy or Silty clays; and (3) Clayey silts. Consistency is rated according to undrained shear strength as indicated.				
<u>Consistency of Cohesive soils</u>	<u>SPT N-Value (blows per foot)</u>	<u>Approximate Undrained Shear Strength (psf)</u>	<u>Field Guidelines</u>	
Very Soft	WOH, WOR, WOP, <2	0 - 250	Fist easily penetrates	
Soft	2 - 4	250 - 500	Thumb easily penetrates	
Medium Stiff	5 - 8	500 - 1000	Thumb penetrates with moderate effort	
Stiff	9 - 15	1000 - 2000	Indented by thumb with great effort	
Very Stiff	16 - 30	2000 - 4000	Indented by thumbnail	
Hard	>30	over 4000	Indented by thumbnail with difficulty	
<u>Rock Quality Designation (RQD):</u>				
RQD (%) = $\frac{\text{sum of the lengths of intact pieces of core}^*}{\text{length of core advance}}$				
*Minimum NQ rock core (1.88 in. OD of core)				
<u>Rock Quality Based on RQD</u>				
<u>Rock Quality</u>	<u>RQD (%)</u>			
Very Poor	≤25			
Poor	26 - 50			
Fair	51 - 75			
Good	76 - 90			
Excellent	91 - 100			
<u>Desired Rock Observations (in this order, if applicable):</u>				
Color (Munsell color chart)				
Texture (aphanitic, fine-grained, etc.)				
Rock Type (granite, schist, sandstone, etc.)				
Hardness (very hard, hard, mod. hard, etc.)				
Weathering (fresh, very slight, slight, moderate, mod. severe, severe, etc.)				
Geologic discontinuities/jointing:				
-dip (horiz - 0-5 deg., low angle - 5-35 deg., mod. dipping - 35-55 deg., steep - 55-85 deg., vertical - 85-90 deg.)				
-spacing (very close - <2 inch, close - 2-12 inch, mod. close - 1-3 feet, wide - 3-10 feet, very wide >10 feet)				
-tightness (tight, open, or healed)				
-infilling (grain size, color, etc.)				
Formation (Waterville, Ellsworth, Cape Elizabeth, etc.)				
RQD and correlation to rock quality (very poor, poor, etc.)				
ref: ASTM D6032 and FHWA NHI-16-072 GEC 5 - Geotechnical Site Characterization, Table 4-12				
Recovery (inch/inch and percentage)				
Rock Core Rate (X.X ft - Y.Y ft (min:sec))				
<u>Sample Container Labeling Requirements:</u>				
WIN		Blow Counts		
Bridge Name / Town		Sample Recovery		
Boring Number		Date		
Sample Number		Personnel Initials		
Sample Depth				

Maine Department of Transportation Geotechnical Section Key to Soil and Rock Descriptions and Terms Field Identification Information				
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Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: BB-BEA-101							
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00							
Driller: Northern Test Borings, Inc.		Elevation (ft.): 139.5		Auger ID/OD: --									
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID									
Logged By: M. Snow		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20									
Date Start/Finish: 08-1-18/08-2-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID									
Boring Location: Sta. 107+93.1, 38.9 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 14.0 ft									
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plasticity Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>													
Sample Information													
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.		
0	1D	24/14	0.5 - 2.5	14/25/18/11	43	65	SSA	139.1		-BITUMINOUS CONCRETE-	G#474412 A-4(0), SM WC=7.6		
										Brown, dry, very dense, Gravelly fine to coarse SAND, trace silt -FILL-(SW)(ROADWAY BASE/SUBBASE MATERIAL)			
	2D	24/14	2.5 - 4.5	15/9/4/5	13	20		136.5		Brown, moist, very stiff, SILT, little fine sand, trace medium to coarse sand, trace gravel -FILL-(ML)			
5	3D	24/12	5.0 - 7.0	10/24/34/49	58	88	HW	134.5		Brown to rust-brown, moist to dry, very dense, Silty fine to coarse SAND, some fine to coarse gravel, well bonded -GLACIAL TILL-(SM)		G#474413 A-2-4(0), SM WC=8.5	
10	4D	17/12	10.0 - 11.4	19/38/50(5")								Olive-brown, wet, very dense, fine to coarse SAND, some silt and fine to coarse gravel, well bonded -GLACIAL TILL-(SM) Note: Washed ahead of casing from 10.0 to 15.0 ft.	G#474414 A-4(0), ML WC=11.3
15	5D	24/16	15.0 - 17.0	17/18/19/42	37	56				Olive-brown, wet, hard, SILT, some fine to coarse sand and fine to coarse gravel, well bonded -GLACIAL TILL-(ML) Note: Washed ahead of casing from 15.0 to 20.0 ft.	G#474414 A-4(0), ML WC=11.3		
20	6D	24/2	20.0 - 22.0	14/16/15/15	31	47				Brown, wet, dense, fine to coarse SAND, little silt, little gravel, well bonded -GLACIAL TILL-(SM)	G#474414 A-4(0), ML WC=11.3		
	7D	16/8	23.0 - 24.3	25/43/50(4")						Brown, wet, very dense, fine to coarse SAND, some silt, little gravel, well bonded -GLACIAL TILL-(SM)			
25													
Remarks:													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.													

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation						Project: Route 9/I-395 Connector				Boring No.: BB-BEA-101																																													
Soil/Rock Exploration Log US CUSTOMARY UNITS						Location: Brewer and Eddington, Maine				WIN: 18915.00																																													
Driller: Northern Test Borings, Inc.			Elevation (ft.) 139.5			Auger ID/OD: --																																																	
Operator: M. Nadeau			Datum: NAVD 88			Sampler: Split-Spoon 1.375 in. ID																																																	
Logged By: M. Snow			Rig Type: Diedrich D50 Track (Rig #377)			Hammer Wt./Fall: SS-140#/30; HW-140#/ 																																																	
Date Start/Finish: 08-1-18/08-2-18			Drilling Method: SSA/HW Drive			Core Barrel: NQ-2.0 in. ID																																																	
Boring Location: Sta. 107+93.1, 38.9 LT			Casing ID/OD: HW-4.0 in. ID			Water Level*: 14.0 ft																																																	
Hammer Efficiency Factor: 0.907						Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																																	
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt						R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person						Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected						Tv = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test																																					
														Sample Information																																									
Depth (ft.)		Sample No.		Pen./Rec. (in.)		Sample Depth (ft.)		Blows ((/6 in.) Shear Strength (psf) or RQD (%)		N-uncorrected		N60		Casing Blows		Elevation (ft.)		Graphic Log		Visual Description and Remarks														Laboratory Testing Results/ AASHTO and Unified Class.																					
25		R1		60/50		25.0 - 30.0		RQD = 53%						NQ CORE		104.5				Top of Bedrock at El. 115.0 R1: Grey, aphanitic SILTSTONE, hard, fresh to slightly weathered. Joints dipping at moderate to steep angles, very close to close, tight to open, planar to undulating, rough. Frequent veins 0.25 to 0.5-in. thick, frequent calcite stringers. Rock Quality=Fair Recovery=83% -BREWER FORMATION- R1 Core Times (min:sec): 25.0-26.0' (3:37); 26.0-27.0' (3:22); 27.0-28.0' (4:07); 28.0-29.0' (3:46); 29.0-30.0' (4:48)														qp=3,818 psi (28.7-29.6')																					
30		R2		26/26		30.0 - 32.2		RQD = 62%												R2: Similar to R1, except fresh to highly weathered, occasional 2 to 4-in. thick moderate to highly weathered zones with moderately weathered joint surfaces, few calcite veins. Rock Quality=Fair Recovery=100% -BREWER FORMATION- R2 Core Times (min:sec): 30.0-31.0' (4:37); 31.0-32.0' (3:22); 32.0-32.2' (1:11) R3: Similar to R1, except fresh, one 0.25-in. thick band of pyrite mineralization at approximately 34.8 ft. Rock Quality=Fair Recovery=94% -BREWER FORMATION- R3 Core Times (min:sec): 32.2-33.3' (3:30); 33.3-34.3' (3:18); 34.3-35.0' (2:44)														qp=6,520 psi (31.6-32.2')																					
35																				Bottom of Exploration at 35.0 feet below ground surface.																																			
40																																																							
45																																																							
50																																																							
Remarks:																																																							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																				Page 2 of 2																																			
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Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: BB-BEA-102	
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00	
Driller: Northern Test Borings, Inc.		Elevation (ft.): 139.3		Auger ID/OD: --			
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20			
Date Start/Finish: 08-2-18/08-2-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 107+81.2, 38.4 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 14.0 ft			
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
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Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/13	0.4 - 2.4	12/16/14/14	30	45	SSA
	2D	24/8	2.5 - 4.5	10/6/6/7	12	18	
5	3D	22/20	5.0 - 6.8	18/17/22/50(4")	39	59	16
							25
							129
							90
							68
10	4D	24/20	10.0 - 12.0	12/18/19/22	37	56	78
							73
							71
							67
							64
15	5D	24/20	15.0 - 17.0	14/19/19/20	38	57	69
							71
							63
							68
							65
20	6D	13/8	20.0 - 21.1	12/41/50(1")			57
							25/1" RC
	R1	60/58	22.0 - 27.0	RQD = 92%			NQ CORE
25							
				Graphic Log			
				Visual Description and Remarks		Laboratory Testing Results/AASHTO and Unified Class.	
				-BITUMINOUS CONCRETE-		-0.5-	
				Brown, dry, dense, fine to coarse SAND, little gravel, trace silt		-FILL-(SW)(ROADWAY BASE/SUBBASE MATERIAL)	
				-2.5-		Brown to rust-brown, dry, medium dense, fine Sandy SILT, little medium to fine sand, little gravel, reworked naturally-deposited soils	
				-FILL-(ML)		-5.0-	
				Brown to rust-brown, dry, very dense, fine to coarse SAND, some silt, little gravel, reworked naturally-deposited soil		-FILL-(SM)	
				-6.5-		Olive-brown, moist, very hard, SILT, some fine to coarse sand, little fine gravel, well bonded	
				-GLACIAL TILL-(ML)		Note: Washed ahead of casing from 10.0 to 15.0 ft.	
				Olive-brown, moist to wet, hard, SILT, some fine to coarse gravel, little fine to coarse sand, well bonded		-GLACIAL TILL-(ML)	
				-20.0-		Olive-brown, wet, very dense, fine to coarse SAND, some silt, little gravel, well bonded	
				-GLACIAL TILL-(SM)		-21.1-	
				Top of Bedrock at El. 118.2		qp=7,261 psi (22.8-23.2')	
				R1: Grey, aphanitic, SILTSTONE. Hard, fresh, joints dipping at low to moderate angles, very close to moderately close, tight, quartz veins approximately 0.1 to 2-in. thick throughout core run. Frequent calcite veins. Rock Quality=Excellent			

Remarks:
 1. Observaton well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.


 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: BB-BEA-102

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEA-102 WIN: 18915.00			
Driller: Northern Test Borings, Inc.				Elevation (ft.): 139.3				Auger ID/OD: --			
Operator: M. Nadeau				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)				Hammer Wt./Fall: SS-140#/30; HW-140#/#			
Date Start/Finish: 08-2-18/08-2-18				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 107+81.2, 38.4 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 14.0 ft			
Hammer Efficiency Factor: 0.907				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div>Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div> <div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div> <div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div> <div>T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
25							NO CORE		Recovery=97% -BREWER FORMATION- R1 Core Times (min:sec): 22.0-23.0' (4:39); 23.0-24.0' (5:47); 24.0-25.0' (7:08); 25.0-26.0' (7:16); 26.0-27.0' (6:50) R2: Similar to R1, except slight to moderate weathering from 27.5 to 27.9 ft, and from 31.0 to 31.5 ft, tight to open. Rock Quality=Fair Recovery=87% -BREWER FORMATION- R2 Core Times (min:sec): 27.0-28.0' (2:45); 28.0-29.0' (3:22); 29.0-30.0' (4:26); 30.0-31.0' (1:56); 31.0-32.0' (2:19) Note: Lost approximately 250 gallons of water at approximately 30.0 ft depth.	qp=20,635 psi (29.3-30.0')	
	R2	60/52	27.0 - 32.0	RQD = 55%							
30											
35											
45											
50											
Remarks: 1. Observaton well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BEA-102	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEA-201 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 136.5		Auger ID/OD: HSA-3.25 in. ID							
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: C. Toscano		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-10-2020/11-10-2020		Drilling Method: HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 107+43.4, 67.1 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Not Measured							
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/10	0.0 - 2.0	6/8/11/11	19	27	HSA	134.5		Brown, moist, medium dense, Silty fine SAND, little medium sand, trace coarse sand, trace fine to coarse gravel -FILL-(SM) Grey-brown, dry, very dense, fine SAND, some silt, little medium sand, trace gravel, cobbles likely present -GLACIAL TILL-(SM) Note: Advanced HSA to 10.0 ft prior to use of casing. Frequent cobbles from 6.5 to 10.0 ft. Similar to 2D -GLACIAL TILL-(SM) Note: Used 140-lb auto-hammer to drive HW casing from 5.0 to 15.0 ft. Washed ahead of casing from 10.0 to 15.0 ft. Olive-brown, wet, hard, SILT, little fine to medium sand, trace gravel, well bonded -GLACIAL TILL-(ML) Note: Washed ahead of casing from 15.0 to 20.0 ft. Frequent cobbles from 15.0 to 20.0 ft. No Recovery Note: Drove HW casing to 20.0 ft. Washed ahead of casing from 20.0 to 25.0 ft. Very few cobbles. Borehole stayed open to 25.0 ft.	
5	2D	19/15	5.0 - 6.6	27/35/31/50(1")	66	95	6				
							6				
							7				
							25				
							97				
10	3D	24/18	10.0 - 12.0	30/29/38/37	67	97	98				
							130				
							80				
							75				
							132				
15	4D	24/16	15.0 - 17.0	12/15/17/17	32	46	110	121.5			
							72				
							60				
							75				
							67				
20	MD	24/0	20.0 - 22.0	20/27/30/30	57	82	HW				
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BEA-201	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEA-201 WIN: 18915.00																						
Driller: New England Boring Contractors				Elevation (ft.): 136.5				Auger ID/OD: HSA-3.25 in. ID																						
Operator: J. Layfield				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID																						
Logged By: C. Toscano				Rig Type: Mobile B-53 Truck				Hammer Wt./Fall: SS-140#/30; HW-300#/#																						
Date Start/Finish: 11-10-2020/11-10-2020				Drilling Method: HW Drive				Core Barrel: NQ-2.0 in. ID																						
Boring Location: Sta. 107+43.4, 67.1 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Not Measured																						
Hammer Efficiency Factor: 0.867				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																										
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected																						
				T _y = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test																										
<table><tr><th rowspan="2">Depth (ft.)</th><th colspan="7">Sample Information</th><th rowspan="2">Elevation (ft.)</th><th rowspan="2">Graphic Log</th><th rowspan="2">Visual Description and Remarks</th><th rowspan="2">Laboratory Testing Results/ AASHTO and Unified Class.</th></tr><tr><th>Sample No.</th><th>Pen./Rec. (in.)</th><th>Sample Depth (ft.)</th><th>Blows (/6 in.) Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th></tr></table>												Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.																			
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows																							
25	5D	12/10	25.0 - 26.0	10/89/50(0")			HW	111.5		Top of Weathered Bedrock El. 111.5 Grey to grey-brown, moist, very dense, Silty GRAVEL, some coarse sand, little medium sand, consisting of highly decomposed bedrock fragments exhibiting distinct rock fabric. -WEATHERED BEDROCK-(GM) Note: Washed ahead with rollerbit through severely decomposed bedrock. Drill action and cuttings indicate decomposed bedrock from 25.0 to 30.0 ft.	qp=16,538 psi (33'-33.7')																			
30	6D	12/12	30.0 - 31.0	13/50/50(0")			RC	105.5		Similar to 5D, except no little medium sand -WEATHERED BEDROCK-(GM) Top of Bedrock El. 105.5																				
	R1	36/32	32.0 - 35.0	RQD = 25%			NQ CORE	101.5		R1: Grey, aphanitic, METASILTSTONE, hard, slightly weathered. Joints low angle to moderately dipping, very close, planar, rough, open. Note: Core jam at 35.0 ft. Rock Quality=Very Poor Recovery=89% -BREWER FORMATION- R1 Core Times (min:sec): 32.0-33.0' (2:56); 33.0-34.0' (1:48); 34.0-35.0' (1:57)																				
35																														
40																														
50																														

Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

Page 2 of 2

Boring No.: BB-BEA-201

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEA-202 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 137.1		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-5-2020/11-6-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 108+28.1, 70.1 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 7.1 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/14	0.0 - 2.0	WOH/1/1/4	2	3	SSA			Brown to rust-brown mottled, moist, soft, SILT -MARINE DEPOSIT-(ML)	
5								132.9		Note: Boulder from 4.2 to 6.0 ft.	
								131.1		Brown, moist, hard, SILT, little fine sand, trace gravel -GLACIAL TILL-(ML) Note: Cobble layer from 6.7 to 6.9 ft.	
	2D	24/21	6.0 - 8.0	23/42/49/69	91	129	41				
							175				
10											
							248				
15											
							223				
20	3D	24/15	10.0 - 12.0	60/52/42/38	94	133	29			Brown, wet, very dense, fine to medium SAND, some silt, little gravel, moderately bonded -GLACIAL TILL-(SM)	
							29				
							22				
							22				
25							24				
	4D	24/14	15.0 - 17.0	13/18/15/15	33	47	56			Brown, wet, hard, SILT, some fine to medium sand, trace gravel, moderately bonded -GLACIAL TILL-(ML)	
							30				
							107				
25							69				
							92				
	5D	2/1	20.0 - 20.2	70			NQ				
	R1	60/46	20.2 - 25.2	RQD = 48%			CORE			Grey, wet, very dense, GRAVEL, little medium to coarse sand, loosely bonded -GLACIAL TILL-(GP)	
								117.1		Top of Bedrock El. 116.9	
								116.9		R1: Grey, aphanitic, SILTSTONE, moderately hard to hard, fresh to slightly weathered, silt seam at beginning of rock core. Joints dipping at low to moderate angles, very close to close spacing, tight, rough, planar, frequent calcite stringers/veins (up to 0.25 in. thickness). Secondary steeply dipping joint, planar, rough, tight.	qp=20,742 psi (22.2'-22.9')
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BEA-202	

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-BEA-203					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 135.7		Auger ID/OD: HSA-3.25 in. ID							
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: C. Toscano		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-9-2020/11-10-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 107+47.9, 57.4 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 14.6 ft							
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/4	0.0 - 2.0	3/4/4/4	8	12	HSA	133.7			
5	2D	24/20	5.0 - 7.0	17/17/33/20	50	72					
10	3D	24/20	10.0 - 12.0	61/10/14/16	24	35		125.7			
15	4D	24/16	15.0 - 17.0	23/46/31/22	77	111					
								118.2			
20	R1	60/60	20.0 - 25.0	RQD = 37%			NQ CORE			<p>R1: Grey, aphanitic, METASILTSTONE, hard, fresh. Joints dipping steep to low angles, very close to moderately close, planar to undulating, rough, tight to open. Frequent calcite veins, occasional oxidation on joint surfaces.</p> <p>Rock Quality=Poor</p> <p>Recovery=100%</p> <p>-BREWER FORMATION-</p> <p>R1 Core Times (min:sec): 20.0-21.0' (4:10); 21.0-22.0' (5:25); 22.0-23.0' (5:51); 23.0-24.0' (4:19); 24.0-25.0' (3:12)</p>	qp=8,733 psi (20.6'-21.7')
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Page 1 of 2	
										Boring No.: BB-BEA-203	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEA-203 WIN: 18915.00							
Driller: New England Boring Contractors				Elevation (ft.) 135.7				Auger ID/OD: HSA-3.25 in. ID							
Operator: J. Layfield				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID							
Logged By: C. Toscano				Rig Type: Mobile B-53 Truck				Hammer Wt./Fall: SS-140#/30; HW-300#/#							
Date Start/Finish: 11-9-2020/11-10-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 107+47.9, 57.4 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 14.6 ft							
Hammer Efficiency Factor: 0.867				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected							
				Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Sample Information												Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log						
25	R2	60/50	25.0 - 30.0	RQD = 0%			NQ CORE				R2: Similar to R1, except common extremely fractured zones up to 10-in. thick with occasional silt infillings up to 2-in. thick between joints. Rock Quality=Very Poor Recovery=83% -BREWER FORMATION- R2 Core Times (min:sec): 25.0-26.0' (2:10); 26.0-27.0' (3:18); 27.0-28.0' (3:42); 28.0-29.0' (4:14); 29.0-30.0' (1:52)				
30									105.7		Bottom of Exploration at 30.0 feet below ground surface.				
35															
40															
45															
50															
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 2 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: BB-BEA-203			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEA-204 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 138.7		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-5-2020/11-5-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 108+23.8, 63.5 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 13.6 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="font-size: small;"> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/11	0.0 - 2.0	WOH/1/2/3	3	4	SSA	138.5		Brown, moist, soft, SILT, little fine sand, organics -TOPSOIL-(OL)	
							1	0.2		Brown, moist, soft, fine Sandy SILT, little medium to coarse sand, trace gravel, trace organics -GLACIAL TILL-(ML)	
							2				
							14	3.0			
							21				
5	2D	13.2/12	5.0 - 6.1	22/34/50(1")			43			Brown, moist, very dense, Silty fine SAND, trace coarse sand, trace gravel -GLACIAL TILL-(SM)	
							35				
							28				
							31				
							38				
10	3D	24/20	10.0 - 12.0	19/19/23/20	42	60	19	128.7		Brown, wet, hard, SILT, little coarse sand, little gravel -GLACIAL TILL-(ML)	
							23				
							23				
							18				
							10				
15	4D	24/13	15.0 - 17.0	14/15/23/23	38	54	HW			Brown, wet, hard, fine Sandy SILT, some coarse sand, little gravel, moderately bonded -GLACIAL TILL-(ML)	
20	5D	21.6/13	20.0 - 21.8	26/28/27/50(3")	55	78	RC	118.7		Brown, wet, very dense, fine to medium SAND, some silt, some coarse sand, little gravel, moderately bonded -GLACIAL TILL-(SM)	
	R1	60/53	21.9 - 26.9	RQD = 87%			NQ	116.9			
										Top of Bedrock El. 116.9 R1: Grey, aphanitic, SILTSTONE, hard, fresh to slight weathering. Joints dipping at moderate to steep angle, close to moderate spacing, tight, rough, planar, few quartz veins 0.5 to 1 in. thickness. Rock Quality=Good	
25											
Remarks: 											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2 Boring No.: BB-BEA-204	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS						Project: Route 9/I-395 Connector				Boring No.: BB-BEA-204													
						Location: Brewer and Eddington, Maine				WIN: 18915.00													
Driller:			New England Boring Contractors			Elevation (ft.)			138.7			Auger ID/OD:			--								
Operator:			M. Porter			Datum:			NAVD 88			Sampler:			Split Spoon 1.375 in. ID								
Logged By:			J. Fletcher			Rig Type:			Mobile B-53 Track			Hammer Wt./Fall:			SS-140#/30; HW-300#/#								
Date Start/Finish:			11-5-2020/11-5-2020			Drilling Method:			SSA/HW Drive			Core Barrel:			NQ-2.0 in. ID								
Boring Location:			Sta. 108+23.8, 63.5 RT			Casing ID/OD:			HW-4.0 in. ID			Water Level*:			13.6 ft								
Hammer Efficiency Factor: 0.852						Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																	
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected Tv = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test																							
Sample Information																							
Depth (ft.)		Sample No.		Pen./Rec. (in.)		Sample Depth (ft.)		Blows (/6 in.) Shear Strength (psf) or RQD (%)		N-uncorrected		N60		Casing Blows		Elevation (ft.)		Graphic Log		Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
25		R2		50.4/53		26.9 - 31.1		RQD = 74%						NQ CORE		107.6				Recovery=88% -BREWER FORMATION- R1 Core Times (min:sec): 21.9-22.9' (3:06); 22.9-23.9' (3:12); 23.9-24.9' (2:39); 24.9-25.9' (3:32); 25.9-26.9' (4:46) R2: Grey, aphanitic, SILTSTONE, hard, fresh to slight weathering. Joints dipping at moderate to steep angles, close to moderate spacing, tight rough, planar. Frequent calcite/quartz veins (up to 0.5 in. thickness). Secondary low angle joints, very close to moderately close, planar rough, tight to open. Rock Quality=Fair Recovery=105% Note: R2 recovery and RQD includes portion of R1 that was not initially recovered. -BREWER FORMATION- R2 Core Times (min:sec): 26.9-27.9' (4:26); 27.9-28.9' (4:27); 28.9-29.9' (2:17); 29.9-31.1' (2:19)		qp=4,162 psi (26.9'-27.4')	
30																							
35																							
40																							
45																							
50																							
Remarks:																							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																							
Page 2 of 2																							
Boring No.: BB-BEA-204																							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-BEB-101				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 74.3		Auger ID/OD: --						
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-140#/24						
Date Start/Finish: 11/1/18-11/5/18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 140+42.9; 0.6 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: +5.0 ft (Artesian)						
Hammer Efficiency Factor: 0.9057		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/12	0.0 - 2.0	WOH/1/1/2	2	3	HW PUSH		Grey with brown mottling, wet, soft, Silty CLAY, trace organics (roots) -MARINE DEPOSITS-(CL)	
	2D/A	24/24	2.0 - 4.0	2/2/2/2	4	6				
								71.3	Grey-brown, wet, medium stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(ML)	
5	1U	24/23	5.0 - 7.0					69.3	Grey, wet, Silty CLAY -MARINE DEPOSIT-(CL)	C#IP-17 CU#12-1 Su=549 psf LL=35 PL=19 PI=16 WC=31 CL
	V1		7.6 - 8.0	Su=885/95 psf					55x110 mm vane raw torque readings: V1: 19.0/2.0 ft-lbs V2: 12.0/1.5 ft-lbs	
	V2		8.6 - 9.0	Su=560/70 psf						
10	3D	24/24	10.0 - 12.0	WOR/WOR/WOR/ WOR					Grey with black streaks, wet, very soft, Silty CLAY -MARINE DEPOSIT-(CL)	
15	2U	24/22	15.0 - 17.0						Grey, wet, Silty CLAY -MARINE DEPOSIT-(CL)	
	4D	24/22	17.0 - 19.0	WOR/2/10/18	12	18				
	MV		17.0 - 17.0						Note: Attempted field vane shear test at 17.0 ft, no penetration.	
							88	56.4	Grey, wet, very stiff, Clayey SILT, trace fine sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)	
20	5D	24/15	20.0 - 22.0	3/4/7/6	11	17	33		Grey, wet, very stiff, Clayey SILT, little fine to coarse sand, trace fine gravel, moderately bonded -GLACIAL TILL-(ML)	
							45			
							46			
							64		Note: Drill action and wash water indicate granular material.	
25							111			
Remarks:										

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: BB-BEB-101

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEB-101 WIN: 18915.00				
Driller: New England Boring Contractors			Elevation (ft.): 74.3		Auger ID/OD: --					
Operator: B. Enos			Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID					
Logged By: N. Klausmeyer			Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-140#/#					
Date Start/Finish: 11/1/18-11/5/18			Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID					
Boring Location: Sta. 140+42.9; 0.6 RT			Casing ID/OD: HW-4.0 in. ID		Water Level*: +5.0 ft (Artesian)					
Hammer Efficiency Factor: 0.9057			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
25	6D	24/11	25.0 - 27.0	15/15/13/15	28	42	64	49.3		<p>Grey, wet, dense, fine to coarse SAND, some silt, well graded, loosely bonded -GLACIAL TILL-(SW) Note: Drill action and wash water indicate granular material.</p> <p>Note: Boulder encountered from 29.4 to 30.4 ft.</p> <p>Note: Drill action and wash water continues to indicate granular material from 30.4 to 35 ft.</p> <p>Grey-brown, wet, very dense, fine to coarse SAND, some fine to coarse gravel, little silt, well graded, well bonded -GLACIAL TILL-(SW) Note: Drill action and wash water continues to indicate granular material from 35.7 to 37 ft. Advanced rollerbit to 37 ft, begin NQ rock core at 37 ft.</p> <p>Top of Bedrock at El. 37.3</p> <p>R1: Brown-grey, aphanitic PHYLLITE, hard, fresh to moderate weathering. Joints dipping at low to vertical angles, very close to close, tight to open, occasional light brown silt infilling. Rock Quality=Poor Recovery=34% R1 Core Times (min:sec): 37.0-38.0' (3:14); 38.0-39.0' (5:14); 39.0-40.0' (3:01); 40.0-41.0' (2:44); 41.0-42.0' (3:11); 42.0-42.8' (2:14) Note: Noticeable water loss while coring.</p> <p>R2: Brown-grey, aphanitic PHYLLITE, hard, fresh to moderate weathering. Joints dipping at low to vertical angles, very close to close, tight to open, some light brown/red-brown fine-grained silt coatings/calcite coatings on some joint surfaces, calcite/quartzite flakes. Rock Quality=Very Poor Recovery=38% R2 Core Times (min:sec): 42.8-43.8' (2:41); 43.8-44.8' (2:37)</p> <p>R3: Brown-grey, aphanitic PHYLLITE, hard, fresh to moderate weathering, occasional pitting. Joints dipping at low to vertical angles, very close to close, tight to open, occasional light brown silt coatings on joint surfaces. Rock Quality=Very Poor Recovery=45% R3 Core Times (min:sec): 45.4-46.0 (0.56); 46.0-47.0' (2:41);</p>
							55			
							52			
							47			
							50/4"			
30							-			
							-			
							26			
							31			
							141			
35	7D	8/6	35.0 - 35.7	13/100(2")			200/8			
							RC			
	R1	69.6/24	37.0 - 42.8	RQD = 0%			NQ CORE			
40										
	R2	31.2/12	42.8 - 45.4	RQD = 0%						
45										
	R3	31.2/14	45.4 - 48.0	RQD = 0%						
	R4	24/22	48.0 - 50.0	RQD = 38%						
50										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: BB-BEB-101

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-101 WIN: 18915.00																																																																																																																																																																		
Driller: New England Boring Contractors				Elevation (ft.): 74.3				Auger ID/OD: --																																																																																																																																																																		
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Boring No.: BB-BEB-101

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-BEB-102				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 75.3		Auger ID/OD: --						
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-140#/24						
Date Start/Finish: 11/6/18-11/7/18		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 140+38.9; 101.9 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --						
Hammer Efficiency Factor: 0.9057		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="font-size: small;"> Definitions: R = Rock Core Sample S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) T_v = Pocket Torvane Shear Strength (psf) D = Split Spoon Sample SSA = Solid Stem Auger S_u(lab) = Lab Vane Undrained Shear Strength (psf) WC = Water Content, percent MD = Unsuccessful Split Spoon Sample Attempt HSA = Hollow Stem Auger q_p = Unconfined Compressive Strength (ksf) LL = Liquid Limit U = Thin Wall Tube Sample RC = Roller Cone N-uncorrected = Raw Field SPT N-value PL = Plastic Limit MU = Unsuccessful Thin Wall Tube Sample Attempt WOH = Weight of 140lb. Hammer Hammer Efficiency Factor = Rig Specific Annual Calibration Value PI = Plasticity Index V = Field Vane Shear Test, PP = Pocket Penetrometer N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency G = Grain Size Analysis MV = Unsuccessful Field Vane Shear Test Attempt WO1P = Weight of One Person N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected C = Consolidation Test </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	18/9	0.0 - 1.5	WOH/WOH/2	2	3	HW PUSH	60.5	Brown grading to grey-brown, wet, soft, Silty CLAY, little organics -MARINE DEPOSIT-(CL)	
	1U	24/20	2.0 - 4.0						Grey-brown, wet, Silty CLAY	
	2D	24/24	4.0 - 6.0	WOH/2/1/2	3	5			Grey with light brown mottling, wet, medium stiff, Silty CLAY, trace organics -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test at 4.0 ft, no penetration.	
5	MV		4.0 - 4.0							
10	2U	24/23	10.0 - 12.0							
	V1		12.6 - 13.0	Su=650/95 psf					55x110 mm vane raw torque readings: V1: 14.0/2.0 ft-lbs V2: 13.0/2.5 ft-lbs	
	V2		13.6 - 14.0	Su=605/117 psf						
15	3D	24/14	15.0 - 17.0	8/3/3/4	6	9		14.8	Grey, wet, stiff, fine Sandy SILT, little clay, trace medium to coarse sand, trace fine gravel -GLACIAL TILL-(ML)	
									Note: Drill action and wash water indicate granular material.	
							9			
							26			
							51			
20	4D	24/12	20.0 - 22.0	11/11/24/20	35	53	RC		Grey, wet, hard, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)	
									Note: Drill action and wash water indicate granular material.	
25										
Remarks: 1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2	
<small>* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.</small>									Boring No.: BB-BEB-102	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS						Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-102 WIN: 18915.00													
Driller: New England Boring Contractors				Elevation (ft.): 75.3				Auger ID/OD: --															
Operator: B. Enos				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID															
Logged By: N. Klausmeyer				Rig Type: Mobile B-53 Rubber Track				Hammer Wt./Fall: SS-140#/30; HW-140#/#															
Date Start/Finish: 11/6/18-11/7/18				Drilling Method: SSA/HW Drive				Core Barrel: --															
Boring Location: Sta. 140+38.9; 101.9 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: --															
Hammer Efficiency Factor: 0.9057						Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																	
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt						R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person						Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected						Tv = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test					
Sample Information																							
Depth (ft.)		Sample No.		Pen./Rec. (in.)		Sample Depth (ft.)		Blows (/6 in.) Shear Strength (psf) or RQD (%)		N-uncorrected		N60		Casing Blows		Elevation (ft.)		Graphic Log		Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
25		5D		24/14		25.0 - 27.0		11/15/19/20		34		51		OPEN		48.3				Grey, wet, hard, SILT, little fine to coarse sand and gravel, well bonded -GLACIAL TILL-(ML)			
																				Bottom of Exploration at 27.0 feet below ground surface.			
30																							
35																							
40																							
45																							
50																							
Remarks:																							
1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details.																							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																				Page 2 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.																				Boring No.: BB-BEB-102			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEB-103 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 74.1		Auger ID/OD: --			
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-140#/24			
Date Start/Finish: 11/5/18-11/6/18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 140+38.1; 97.9 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --			
Hammer Efficiency Factor: 0.9057		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/10	0.0 - 2.0	WOH/WOH/1/3	1	2	HW WOR
5	2D	24/20	5.0 - 7.0	WOH/WOH/WOH/1			10
							11
							28
							35
							37
10	1U	24/24	10.0 - 12.0				38
							24
	V1		12.6 - 13.0	Su=325/23 psf			24
	V2		13.6 - 14.0	Su=280/23 psf			20
							19
15	3D	24/24	15.0 - 17.0	WOR/WOR/WOR/WOR			22
							28
							17
							14
							18
20	2U	24/24	20.0 - 22.0				51
							52
	V3		22.6 - 23.0	Su=375/45 psf			41
	MW		23.0 - 23.1				42
25							55
				Elevation (ft.): 74.0 51.0 23.1			
				Graphic Log 			
				Visual Description and Remarks -ORGANIC DEPOSIT- Grey-brown, wet, very soft, Silty CLAY, trace organics (roots) -MARINE DEPOSIT-(CL) Grey with occasional brown pockets, wet, very soft, Silty CLAY, little organics (roots) -MARINE DEPOSIT-(CL) Grey, wet, Silty CLAY 55x110 mm vane raw torque readings: V1: 7.0/0.5 ft-lbs V2: 6.0/0.5 ft-lbs Grey with black streaks, wet, very soft, Silty CLAY -MARINE DEPOSIT-(CL) Grey, wet, Silty CLAY 55x110mm vane raw torque readings: V3: 8.0/1.0 ft-lbs Note: Attempted field vane shear test at 23.0 ft, 1-in. penetration.			
				Laboratory Testing Results/ AASHTO and Unified Class. C#IP-14 CU#15-1 Su=392 psf LL=38 PL=19 PI=19 WC=36 CL			
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: BB-BEB-103					
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 74.1		Auger ID/OD: --							
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-140#							
Date Start/Finish: 11/5/18-11/6/18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 140+38.1; 97.9 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --							
Hammer Efficiency Factor: 0.9057		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.		
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
25	4D	24/10	25.0 - 27.0	8/12/32/33	44	66	59				
							61			47.1	Grey, wet, very dense, fine SAND, some silty clay -MARINE DEPOSIT-(SC)
							129				Note: Drill action indicates granular material.
							143				Note: Casing Refusal at 29.8 ft.
							171				Note: Begin NQ rock core at 31.1 ft.
30							RC			43.0	
	R1	60/0	31.1 - 36.1	RQD = 0%			NQ			41.9	R1: Boulder from 31.1 to 32.2 ft, glacial till from 32.2 to 32.6, boulder from 33.6 to 36.1 ft.
							CORE			40.5	R1 Core Times (min:sec): 31.1-32.1' (2:26); 32.1-33.1' (1:30); 33.1-34.1' (1:41); 34.1-35.1' (1:33); 35.1-36.1' (0:33) -GLACIAL TILL/BOULDERS-
										38.0	Note: Continue split-spoon sampling at 36.1 ft.
35											
	5D	24/11	36.1 - 38.1	12/15/14/19	29	44	RC		Grey, wet, hard, SILT, trace fine to medium sand, trace clay, well bonded -GLACIAL TILL-(ML)		
40											
	6D	24/20	40.0 - 42.0	6/9/14/33	23	35			Grey, wet, hard, SILT, little fine sand, trace fine gravel, trace clay, well bonded -GLACIAL TILL-(ML)		
45											
	7D	24/20	45.0 - 47.0	12/13/19/18	32	48			Yellow-brown, wet, dense, Silty fine GRAVEL, little fine to coarse sand, poorly-graded, moderately bonded, with weathered rock zones -GLACIAL TILL-(GM) Note: Artesian zone from approximately 46 to 48 ft. Note: Drill action and wash water continue to indicate granular material.		
50											
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-103 WIN: 18915.00							
Driller: New England Boring Contractors				Elevation (ft.) 74.1				Auger ID/OD: --							
Operator: B. Enos				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer				Rig Type: Mobile B-53 Rubber Track				Hammer Wt./Fall: SS-140#/30; HW-140#							
Date Start/Finish: 11/5/18-11/6/18				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 140+38.1; 97.9 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: --							
Hammer Efficiency Factor: 0.9057				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected							
T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test															
Sample Information												Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log						
50	8D	4/5	50.0 - 50.3	97(4")					23.8		Yellow-brown, wet, very dense, Silty fine GRAVEL, little fine to coarse sand, poorly-graded, moderately bonded, with weathered rock zones -GLACIAL TILL-(GM) 50.3- Bottom of Exploration at 50.3 feet below ground surface.				
55															
60															
65															
70															
75															
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 3 of 3			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: BB-BEB-103			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-BEB-104				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 75.9		Auger ID/OD: --						
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-140#/24						
Date Start/Finish: 11/7/18-11/8/18		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 141+44.8; 15.7 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian						
Hammer Efficiency Factor: 0.9057		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D/A	24/15	0.0 - 2.0	WOH/WOH/1/3	1	2	HW PUSH	75.3	Dark brown grading to grey-brown, wet, very soft, SILT, little organics (roots, wood chips) -TOPSOIL-(OL)	C#IP-15 CU#13-1 Su=442 psf LL=35 PL=20 PI=15 WC=34 CL
									Grey-brown with red-brown mottling, moist, soft, Clayey SILT, trace organics -MARINE DEPOSIT-(ML)	
5	1U	12/10	5.0 - 6.0				49	70.9	Grey-brown mottled, wet, Silty CLAY	
	2D	24/22	6.0 - 8.0	4/5/6/8	11	17	45		Grey with light brown mottling, wet, very stiff, Silty CLAY, trace organics -MARINE DEPOSIT-(CL)	
							40			
							24			
							14			
10	2U	24/21	10.0 - 12.0				26		Grey-brown, wet, Silty CLAY	
							16			
	V1		12.6 - 13.0	Su=490/45 psf			23		55x110mm vane raw torque readings: V1: 10.5/1.0 ft-lbs V2: 10.0/1.0 ft-lbs	
	V2		13.6 - 14.0	Su=465/45 psf			17			
							18			
15	3U	24/24	15.0 - 17.0				19		Grey, wet, Silty CLAY	
							24			
	V3		17.6 - 18.0	Su=375/45 psf			27		55x110mm vane raw torque readings: V3: 8.0/1.0 ft-lbs V4: 14.0/3.0 ft-lbs	
	V4		18.6 - 19.0	Su=650/140 psf			25			
							61			
20	3D	24/1	20.0 - 22.0	17/7/10/7	17	26	39	56.5	Grey, wet, very stiff, SILT, little fine to coarse sand, little fine gravel, loosely bonded -GLACIAL TILL-(ML) Note: Pushed gravel, low recovery. Note: Drill action and wash water indicate granular material.	
							63			
							52			
							60			
25							71			
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 3		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Boring No.: BB-BEB-104		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-104 WIN: 18915.00				
Driller: New England Boring Contractors				Elevation (ft.): 75.9				Auger ID/OD: --				
Operator: B. Enos				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID				
Logged By: N. Klausmeyer				Rig Type: Mobile B-53 Rubber Track				Hammer Wt./Fall: SS-140#/30; HW-140#				
Date Start/Finish: 11/7/18-11/8/18				Drilling Method: SSA/HW Drive				Core Barrel: --				
Boring Location: Sta. 141+44.8; 15.7 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Artesian				
Hammer Efficiency Factor: 0.9057 <small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </small>				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/> <small> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </small>				<small> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>				
Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows					
25	4D	24/9	25.0 - 27.0	3/7/10/11	17	26	51			Grey, wet, very stiff, SILT, little coarse to fine sand, little coarse to fine gravel, well bonded -GLACIAL TILL-(ML) Grey, wet, hard, SILT, some fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML) Note: Drill action and wash water continue to indicate granular material. Grey, wet, hard, SILT, trace fine to medium sand, well bonded -GLACIAL TILL-(ML) Note: Encountered cobbles/boulders from 36.3 to 38.5 ft. Grey, wet, very dense, fine GRAVEL, little silt, little fine to coarse sand, poorly-graded, well bonded, with weathered rock zones -GLACIAL TILL-(GM) Note: Drill action and was water continue to indicate granular material. Yellow-brown with some grey, wet, very dense, fine to coarse GRAVEL, fine to coarse sand, little silt, well graded, well bonded, with weathered rock zones -GLACIAL TILL-(GM) Note: Drill action and was water continue to indicate granular material.		
							89					
							116					
							216					
							109					
30	5D	24/24	30.0 - 32.0	10/14/14/15	28	42	130					
							106					
							117					
							105					
							149					
35	6D	16/14	35.0 - 36.3	9/10/50(4")			245					
							150/4					
							RC					
40	7D	9/6	40.0 - 40.8	44/100(3")								
45	8D	5/5	45.0 - 45.4	144(5")								
50												
Remarks: 												
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 3 Boring No.: BB-BEB-104		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEB-104 WIN: 18915.00				
Driller: New England Boring Contractors			Elevation (ft.): 75.9		Auger ID/OD: --					
Operator: B. Enos			Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID					
Logged By: N. Klausmeyer			Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-140#/#					
Date Start/Finish: 11/7/18-11/8/18			Drilling Method: SSA/HW Drive		Core Barrel: --					
Boring Location: Sta. 141+44.8; 15.7 LT			Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian					
Hammer Efficiency Factor: 0.9057			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
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Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
50	9D	2/2	50.0 - 50.2	150(2")			RC			
55								15.9	<p>Note: Drill action and wash water continue to indicate granular material.</p> <p>Top of Bedrock at El. 15.9</p> <p>R1: Grey, aphanitic PHYLLITE, hard, fresh to moderately weathered. Primary joints dipping at steep angles. Secondary joints dipping at moderate angles, very close to close, tight to open, occasional silt coatings on joint surfaces, occasional pitting, frequent calcite/quartz stringers up to 1/8 in. thickness. Rock Quality=Very Poor Recovery=83% R1 Core Times (min:sec): 60.0-60.7' (2:52) Note: Noticeable water loss during coring.</p> <p>R2: Grey, aphanitic PHYLLITE, hard, fresh to moderate weathering with severe weathering from 61.2 to 61.6 ft. Joints dipping at horizontal, low and steep angles, very close to close, tight to open, occasional silt coatings on joint surfaces, occasional pitting, frequent calcite/quartz stringers. Rock Quality=Very Poor Recovery=78% R2 Core Times (min:sec): 60.7-61.0' (0:41); 61.0-62.0' (4:56); 62.0-63.0' (5:17); 63.0-64.0' (2:34); 64.0-65.0' (5:08); 65.0-65.6' (3:06) Note: Noticeable water loss during coring.</p> <p>R3: Grey, aphanitic PHYLLITE, hard, fresh to slightly weathered. Primary joints dipping at steep angles. Secondary joints dipping at low to moderate angles, very close to close, tight to open, slight silt infilling on some joint surfaces, occasional oxidized joints, frequent calcite/quartz stringers up to 0.25 in. thickness. Rock Quality=Fair Recovery=100% R3 Core Times (min:sec): 65.6-66.6' (2:39); 66.6-67.6' (2:26); 67.6-68.6' (3:02); 68.6-69.6' (1:58); 69.6-70.6' (2:09)</p>	
60	R1 R2	8.4/7 58.8/46	60.0 - 60.7 60.7 - 65.6	RQD = 0% RQD = 0%			NQ CORE			
65	R3	60/60	65.6 - 70.6	RQD = 62%						
70								5.3		
75										
Bottom of Exploration at 70.6 feet below ground surface.										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										

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Date Start/Finish: 10-27-2020/10-27-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID																																																																																																																																																																																																																																																	
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine			Boring No.: BB-BEB-201 WIN: 18915.00						
Driller: New England Boring Contractors				Elevation (ft.): 74.8		Auger ID/OD: --								
Operator: M. Porter				Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID								
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#								
Date Start/Finish: 10-27-2020/10-27-2020				Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID								
Boring Location: Sta. 140+09.4, 29.9 LT				Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian								
Hammer Efficiency Factor: 0.852 <small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </small>					Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/> <small> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </small>					<small> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>				
Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.		
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing	Blows						
25	3D	24/9	25.0 - 27.0	7/8/11/19	19	27	HW				Grey, wet, medium dense, fine to medium SAND, some silt, trace coarse sand and gravel, moderately bonded -GLACIAL TILL-(SM)			
30	4D	24/13	30.0 - 32.0	31/37/40/48	77	109				44.8	Grey, wet, very dense, fine to coarse SANDY GRAVEL, little silt, well bonded -GLACIAL TILL-(GP-GM)			
35	5D	5/1	35.0 - 35.4	105(5")						39.8	Grey, wet, very dense, GRAVEL, little fine to coarse sand, trace silt -GLACIAL TILL-(GP) Note: Artesian pressure.			
40	6D	19.2/11	40.0 - 41.6	42/44/57/50(1")	101	143				34.8	Brown, wet, very dense, fine to coarse SAND, some gravel, trace silt, well bonded -GLACIAL TILL-(SP)			
45	7D	1/1	45.0 - 45.1	50(1")							Similar to 6D -GLACIAL TILL-(SP)			
50														
Remarks:														
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.														
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-201 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 74.8				Auger ID/OD: --			
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#			
Date Start/Finish: 10-27-2020/10-27-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 140+09.4, 29.9 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Artesian			
Hammer Efficiency Factor: 0.852 <small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </small>				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/> <small> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </small>							
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
50	8D	2/1	50.0 - 50.2	156(2")			HW			Note: Brown, wet, very dense, weathered rock fragments recovered in split spoon.	
55	MD	1/0	55.0 - 55.1	50(1")							
60	MD	2/0	60.0 - 60.2	115(2")							
65	9D	2/2	65.0 - 65.2	91(2")							
70	MD	1/1	70.0 - 70.1	102(1")							
75											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 3 of 4 Boring No.: BB-BEB-201	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-201 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 74.8				Auger ID/OD: --			
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#			
Date Start/Finish: 10-27-2020/10-27-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 140+09.4, 29.9 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Artesian			
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
75	R1	30/26	75.0 - 77.5	RQD = 53%			NQ CORE			R1: Grey, aphanitic, SILTSTONE, hard, slightly to moderately weathered. Joints dipping at moderate to steep angles, very close to moderate, tight to open, few calcite veins. Highly fractured, oxidized from approximately 77.0-77.5 ft. Rock Quality=Fair Recovery=87% -BREWER FORMATION- R1 Core Times (min:sec): 75.0-76.0' (2:17); 76.0-77.5' (2:22) R2: Grey to brown, aphanitic, SILTSTONE, hard, slight to moderately weathered. Joints dipping at moderate to steep angles, very close to close spacing, tight to open, calcite veins.Secondary low angle joints. Rock Quality=Fair Recovery=106% Note: R2 recovery and RQD includes portion of R1 that was not initially recovered. -BREWER FORMATION- R2 Core Times (min:sec): 77.5-78.5' (2:11); 78.5-79.5' (2:23); 79.5-80.5' (2:41); 80.5-81.5' (1:57) R3: Grey, aphanitic, SILTSTONE, hard, slightly weathered. Joints dipping at moderate to steep angles, moderate spacing, tight, calcite veins. Rock Quality=Good Recovery=98% -BREWER FORMATION- R3 Core Times (min:sec): 81.5-82.5' (1:51); 82.5-83.5' (2:38); 83.5-84.5' (2:28); 84.5-85.5' (2:25); 85.5-86.1' (2:41) 86.1- Bottom of Exploration at 86.1 feet below ground surface.	
	R2	48/51	77.5 - 81.5	RQD = 61%							
80											
	R3	55.2/54	81.5 - 86.1	RQD = 82%							
85											
90											
95											
100											
Remarks:											
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEB-202 WIN: 18915.00		
Driller: New England Boring Contractors		Elevation (ft.): 74.5		Auger ID/OD: --				
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID				
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16				
Date Start/Finish: 10-27-2020/10-27-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID				
Boring Location: Sta. 140+27.6, 19.5 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian				
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>						
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N = uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test								
Depth (ft.)	Sample Information							Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	
0	1D/A	24/10	0.0 - 2.0	WOH/WOH/1/1			SSA	Brown, wet, very soft, SILT, trace fine sand, organics/roots -TOPSOIL/ROOTMAT-(OL) Grey, wet, very soft, Silty CLAY, high plasticity -MARINE DEPOSIT-(CL)
5	1U	24/24	5.0 - 7.0				3	
	V1		7.6 - 8.0	Su=815/155 psf			4	55x110 mm vane raw torque readings: V1: 210/40 in-lbs V2: 140/20 in-lbs
	V2		8.6 - 9.0	Su=545/80 psf			5	
10	2D	24/24	10.0 - 12.0	Su=425/60 psf			WOH	Grey, wet, soft to medium stiff, Silty CLAY, medium plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V3: 110/15 in-lbs V4: 90/15 in-lbs
	V3		10.6 - 11.0				1	
	V4		11.6 - 12.0	Su=350/60 psf			WOH	
							6	
15	2U	24/24	15.0 - 17.0				5	Similar to 2D -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V5: 110/20 in-lbs
							3	
	3D/A	24/17	17.0 - 19.0	WOR/WOR/3/10	3	4	15	Grey, wet, loose to medium dense, fine to medium SAND, little silt, trace coarse sand, trace gravel, loosely bonded -GLACIAL TILL-(SP) Note: Attempted field vane shear test at 18.6 ft, no penetration.
	V5		17.6 - 18.0	Su=425/80 psf			29	
20	MV		18.6 - 19.0				23	Grey, wet, medium stiff, Clayey SILT, little fine to medium sand, little gravel, trace coarse sand, moderately bonded -GLACIAL TILL-(CL-ML)
	4D	24/14	20.0 - 22.0	2/3/2/7	5	7	30	
							37	
							49	
							50	
25							54	
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEB-202 WIN: 18915.00					
Driller: New England Boring Contractors			Elevation (ft.): 74.5		Auger ID/OD: --						
Operator: M. Porter			Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#						
Date Start/Finish: 10-27-2020/10-27-2020			Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 140+27.6, 19.5 RT			Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian						
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
25	5D	8/3	25.0 - 25.7	36/50(2")			207	49.5		Grey, wet, very dense, Silty fine to medium SAND, little gravel, moderately bonded -GLACIAL TILL-(SM)	
							109				
							154				
							168				
							184				
30	6D	24/14	30.0 - 32.0	8/6/6/6	12	17	HW	44.5		Grey-brown, wet, stiff, SILT, trace fine to coarse sand, trace gravel, well bonded -GLACIAL TILL-(ML)	
							131				
							195				
							235				
							90				
35	R1	48/-	35.0 - 39.0				NQ CORE	39.9		Note: Boulder and cobbles encountered from 34.6 to 39.0 ft. Boulder from 35.0 to 35.7; cobbles from 35.7 to 39.0 ft, largest cobble approximately 0.3 ft. R1 Core Times (min:sec): 35.0-36.0' (3:13); 36.0-37.0' (4:21); 37.0-38.0' (3:29); 38.0-39.0' (4:31) -COBBLES/BOULDERS-	
							168				
							149				
							158				
							183				
40	7D	2/2	40.0 - 40.2	50(2")				34.5		Grey, wet, very dense, Gravelly fine to coarse SAND, little silt, loosely bonded -GLACIAL TILL-(SW)	
							188				
							201				
							276				
							275				
45	8D	1/1	45.0 - 45.1	103(1")				201		Grey, wet, very dense, medium to coarse SAND, little fine sand and gravel, loosely bonded -GLACIAL TILL-(SW)	
							321				
							407				
50											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEB-202 WIN: 18915.00			
Driller: New England Boring Contractors			Elevation (ft.): 74.5		Auger ID/OD: --				
Operator: M. Porter			Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID				
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#				
Date Start/Finish: 10-27-2020/10-27-2020			Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID				
Boring Location: Sta. 140+27.6, 19.5 RT			Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian				
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>						
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%) * N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test									
Depth (ft.)	Sample Information							Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
50	9D	2/2	50.0 - 50.2	108(2")			439	24.4 	Visual Description and Remarks Similar to 8D, weathered rock at 50.1 ft Dark grey, wet, very dense, GRAVEL, well bonded -WEATHERED BEDROCK-(GP) Top of Bedrock El. 19.5 R2: Grey, aphanitic, SILTSTONE, moderately hard, fresh to slightly weathered. Joints dipping at steep and low angles, close to moderate spacing, tight to open, rough, planar. Rock Quality=Very Poor Recovery=63% -BREWER FORMATION- R2 Core Times (min:sec): 55.0-56.0' (2:00); 56.0-57.0' (2:16); 57.0-58.0' (2:37); 58.0-58.6' (1:26) R3: Grey, aphanitic, SILTSTONE, moderately hard, fresh to slightly weathered, highly fractured throughout. Rock Quality=Very Poor Recovery=58% -BREWER FORMATION- R3 Core Times (min:sec): 58.6-59.9' (1:41) R4: Similar to R3. Rock Quality=Very Poor Recovery=75% -BREWER FORMATION- R4 Core Times (min:sec): 59.9-60.9' (2:03); 60.9-61.9' (3:46) R5: Grey, aphanitic, SILTSTONE, moderately hard, slightly to moderately weathered. Joints steep angle, moderate spacing, smooth, rough, planar, tight to open, calcite veins. Secondary horizontal to low angle joints, close, tight to open. Rock Quality=Fair Recovery=92% -BREWER FORMATION- R5 Core Times (min:sec): 61.9-62.9' (2:42); 62.9-63.9' (3:24) R6: Similar to R5. Rock Quality=Fair Recovery=114% Note: R6 recovery and RQD includes portions of previous core runs not initially recovered. -BREWER FORMATION- R6 Core Times (min:sec): 63.9-64.9' (2:07); 64.9-65.9' (2:44); 65.9-66.7 (2:52) R7: Similar to R6, 1-in. diameter quartz intrusion. Rock Quality=Fair Recovery=116% Note: R7 recovery and RQD includes portions of previous core runs not initially recovered. -BREWER FORMATION-
							RC		
55	10D	1/1	55.0 - 55.1	100(1")			✓		
	R2	43.2/27	55.0 - 58.6	RQD = 16%			NQ CORE		
	R3	15.6/9	58.6 - 59.9	RQD = 0%					
	R4	24/18	59.9 - 61.9	RQD = 0%					
60									
	R5	24/22	61.9 - 63.9	RQD = 58%					
	R6	33.6/38	63.9 - 66.7	RQD = 62%					
65									
	R7	24/28	66.7 - 68.7	RQD = 54%			✓		
70									
75									
Remarks:									
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS										Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-202 WIN: 18915.00			
Driller: New England Boring Contractors					Elevation (ft.): 74.5					Auger ID/OD: --							
Operator: M. Porter					Datum: NAVD 88					Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher					Rig Type: Mobile B-53 Track					Hammer Wt./Fall: SS-140#/30; HW-300#							
Date Start/Finish: 10-27-2020/10-27-2020					Drilling Method: SSA/HW Drive					Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 140+27.6, 19.5 RT					Casing ID/OD: HW-4.0 in. ID					Water Level*: Artesian							
Hammer Efficiency Factor: 0.852					Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>												
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test																	
Sample Information																	
Visual Description and Remarks																	
Laboratory Testing Results/ AASHTO and Unified Class.																	
R7 Core Times (min:sec): 66.7-67.7' (2:26); 67.7-68.7' (2:17) Bottom of Exploration at 68.7 feet below ground surface.																	
Remarks:																	
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																	
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Page 4 of 4 Boring No.: BB-BEB-202																	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-BEB-203								
				Location: Brewer and Eddington, Maine		WIN: 18915.00								
Driller: New England Boring Contractors		Elevation (ft.): 76.0		Auger ID/OD: --										
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID										
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16										
Date Start/Finish: 01-14-2021/01-14-2021		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID										
Boring Location: Sta. 141+52.6, 52.1 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian										
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>												
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Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.				
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)			
0	1D	24/1	0.0 - 2.0	WOR/WOR/WOR/ WOR			SSA			Grey, wet, very soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)				
5	2D	24/17	5.0 - 7.0	3/4/5/5	9	13	12						Grey-brown mottled, wet, stiff, Silty CLAY, trace sand, trace organics, low plasticity -MARINE DEPOSIT-(CL)	
							19							
							28							
							27							
							25							
10	3D MV	24/24	10.0 - 12.0 10.6 - 11.0	WOH/WOH/WOH/ WOH			34							
							24							
							22							
							16							
							10							
15	4D V1	24/24	15.0 - 17.0 15.6 - 16.0	push thru vane Su=375/45 psf			2							
	V2		16.6 - 17.0	Su=375/45 psf			1							
							WOR							
							1							
							2							
20	5D/A V3	24/24	20.0 - 22.0 20.6 - 21.0	WOR/WOR/WOR/3 Su=280/45 psf			6							
	MV		21.6 - 22.0				9							
							25							
							18							
25							10							
Remarks:														
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 3				
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BEB-203				

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-203 WIN: 18915.00					
Driller: New England Boring Contractors				Elevation (ft.): 76.0				Auger ID/OD: --					
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#					
Date Start/Finish: 01-14-2021/01-14-2021				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID					
Boring Location: Sta. 141+52.6, 52.1 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Artesian					
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
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Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.		
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows						
25	6D	24/6	25.0 - 27.0	14/7/9/12	16	23	24	51.0		Grey, wet, medium dense, fine SAND, little gravel, little silt, trace medium to coarse sand, moderately bonded -GLACIAL TILL-(SP)			
							31						
							33						
							30						
							30						
30							29						
							51						
							26						
							30						
							68						
35	7D	24/15	35.0 - 37.0	34/42/22/32	64	91	32					Grey, wet, very dense, fine SAND, some gravel, trace medium to coarse sand, trace silt, moderately bonded -GLACIAL TILL-(SP)	
							32						
							26						
							29						
							30						
40							83						
							161						
							129						
							201						
							225						
45	8D	2/1	45.0 - 45.2	52(2")			RC	31.0	Grey, wet, very dense, GRAVEL, some fine to medium sand, trace silt, well graded, loosely bonded -GLACIAL TILL-(GP)				
50													
Remarks:													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 3			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BEB-203			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-203 WIN: 18915.00																										
Driller: New England Boring Contractors				Elevation (ft.): 76.0				Auger ID/OD: --																										
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID																										
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#																										
Date Start/Finish: 01-14-2021/01-14-2021				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID																										
Boring Location: Sta. 141+52.6, 52.1 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Artesian																										
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Sample Information										Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.																					
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows ((6 in.) Shear Strength (psf) or RQD (%))	N-uncorrected	N ₆₀	Casing	Blows																										
50								RC		21.8		Note: Probable top of bedrock at 54.2 ft based on drill action and rock chips in wash water return. Top of Probable Bedrock El. 21.8 -PROBABLE BEDROCK-																						
55																																		
60										16.0		Bottom of Exploration at 60.0 feet below ground surface.																						
65																																		
70																																		
75																																		
Remarks:																																		
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEB-204A WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 76.6		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 01-07-2021/01-07-2021		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 141+47.7, 23.3 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.4 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
0							SSA				
5											
10	1U	24/12	10.0 - 12.0								
15											
							23				
							53				
	R	60/8	18.5 - 23.5				NQ CORE	58.1			
20											
25							66				
Remarks: 											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 4	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BEB-204A	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-204A WIN: 18915.00																																																																																																																																																																																																																																																																						
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Boring No.: BB-BEB-204A

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-204A WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 76.6				Auger ID/OD: --			
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Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#			
Date Start/Finish: 01-07-2021/01-07-2021				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 141+47.7, 23.3 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 0.4 ft			
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
75	10D	4/3	75.0 - 75.3	50(4")			NW			Grey-brown, wet, very dense, GRAVEL, trace fine to medium sand, trace silt, moderately well bonded -WEATHERED BEDROCK-(GP)	
80	R1	60/60	80.1 - 85.1	RQD = 72%			NQ CORE	-3.2		Top of Bedrock El. -3.2 R1: Grey, fine-grained, SILTSTONE with calcite intrusions, moderately hard to soft, slightly to moderately weathered. Joints moderate to steeply dipping, close spacing, tight to open, rough. Highly fractured zone from approximately 81.0 to 82.3 ft. Rock Quality=Fair Recovery=100% -BREWER FORMATION- R1 Core Times (min:sec): 80.1-81.1' (3:27); 81.1-82.1' (2:41); 82.1-83.1' (1:42); 83.1-84.1' (1:38); 84.1-85.1' (1:54)	
85	R2	60/60	85.1 - 90.1	RQD = 78%				-8.5		Similar to above, except aphanitic, moderately hard to hard, fresh to slightly weathered. Joints moderately spaced, tight, rough, calcite veins (0.5 to 0.75-in. thick). R2: Grey, aphanitic SILTSTONE with calcite veins and banding, moderately hard to hard, fresh. Joints steeply dipping, moderate spacing, tight, rough. Rock Quality=Good Recovery=100% -BREWER FORMATION- R2 Core Times (min:sec): 85.1-86.1' (1:30); 86.1-87.1' (1:56); 87.1-88.1' (1:52); 88.1-89.1' (1:49); 89.1-90.1' (2:07)	
90								-13.5		Bottom of Exploration at 90.1 feet below ground surface.	
95											
100											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEB-204 WIN: 18915.00			
Driller: New England Boring Contractors			Elevation (ft.): 76.7		Auger ID/OD: --					
Operator: M. Porter			Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16					
Date Start/Finish: 01-06-2021/01-06-2021			Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID					
Boring Location: Sta. 141+47.7, 25.6 RT			Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian					
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/7	0.0 - 2.0	WOR/4/4/2	8	11	SSA		Grey-brown mottled, moist, medium stiff, Silty CLAY, low plasticity (0.5 in. frost) -MARINE DEPOSIT-(CL)	LL=34 PL=18 PI=16 WC=29.3 CL
5	1U	24/21.6	5.0 - 7.0				V	9	Grey-brown mottled, wet, very soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)	
	2D MV	24/24	7.0 - 9.0 7.6 - 8.0	WOR/WOR/WOR/2				19	Grey-brown mottled, wet, very soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.	
								21		
10	2U	24/12	10.0 - 12.0					34		
								HW		
	3D V1	24/24	12.0 - 14.0 12.6 - 13.0	push thru vane Su=465/45 psf				13	Grey, wet, soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 10/1 ft-lbs V2: 9/1 ft-lbs	
	V2		13.6 - 14.0	Su=420/45 psf				12		
								5		
15	4D/A	24/17	15.0 - 17.0	WOR/3/4/3	7	10		10	Similar to 3D, except stiff -MARINE DEPOSIT-(CL)	
								39		
								35		
								34	Grey, wet, medium stiff, Silty CLAY, little gravel, little fine sand, loosely bonded -GLACIAL TILL-(CL)	
								93		
20								162	Bottom of Exploration at 20.0 feet below ground surface. Note: Terminate boring, casing broke off in borehole. Move boring location and drill BB-BEB-204A.	
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: BB-BEB-204

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-BEB-205					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 77.4		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 01-12-2021/01-13-2021		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 141+57.2, 46.6 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_u(lab) = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/8	0.0 - 2.0	WOR/1/2/4	3	4	SSA	76.9		Brown, moist, very soft, SILT, trace fine sand (1 in. frost) -TOPSOIL-(OL) Grey-brown, moist, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) Grey, trace brown, wet, medium stiff, Silty CLAY, high plasticity -MARINE DEPOSIT-(CL) Grey, wet, soft to medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 9/1 ft-lbs V2: 11/2 ft-lbs Grey, wet, medium dense, GRAVEL, some medium to coarse sand, trace fine sand and silt, moderately bonded -GLACIAL TILL-(GW) Grey, wet, hard, SILT, some gravel, some fine to medium sand, trace coarse sand, well bonded -GLACIAL TILL-(ML)	C#IP-1 CU#1 Su=426psf LL=34 PL=18 PI=16 WC=36.8 CL
5	2D	24/24	5.0 - 7.0	1/3/2/3	5	7	16				
							17				
							18				
							19				
							17				
10	1U	24/22.5	10.0 - 12.0				28				
							22				
	3D V1	24/24	12.0 - 14.0	push thru vane Su=420/45 psf			17				
	V2		13.6 - 14.0	Su=515/95 psf			29				
							38				
15	4D	24/5	15.0 - 17.0	11/9/10/6	19	27	38				
							45				
							56				
							43				
							96				
20	5D	24/6	20.0 - 22.0	24/14/14/13	28	40	63	57.4			
							65				
							89				
							65				
25							90				
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 4	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BEB-205	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-205 WIN: 18915.00					
Driller: New England Boring Contractors				Elevation (ft.): 77.4				Auger ID/OD: --					
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#					
Date Start/Finish: 01-12-2021/01-13-2021				Drilling Method: SSA/HW Drive				Core Barrel: --					
Boring Location: Sta. 141+57.2, 46.6 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Artesian					
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _y = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test													
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.		
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)					
25							147		Note: Advanced roller bit ahead of casing from 28.0 to 30.0 ft due to difficult penetration through dense material. Grey, wet, hard, SILT, some fine sand, trace coarse sand and gravel, well bonded -GLACIAL TILL-(ML)				
							186						
							272						
							76						
							64						
30	6D	21.6/13	30.0 - 31.8	12/21/15/50(4")	36	51	NW						
40	7D	13.2/12	40.0 - 41.1	46/85/50(1")				37.4		Grey, wet, very dense, Silty GRAVEL, trace fine to medium sand, well bonded -GLACIAL TILL-(GM)			
50													
Remarks:													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.													
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.													

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEB-205 WIN: 18915.00							
Driller: New England Boring Contractors				Elevation (ft.) 77.4				Auger ID/OD: --							
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#							
Date Start/Finish: 01-12-2021/01-13-2021				Drilling Method: SSA/HW Drive				Core Barrel: --							
Boring Location: Sta. 141+57.2, 46.6 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Artesian							
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected							
				Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Sample Information												Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log						
75									2.4		Bottom of Exploration at 75.0 feet below ground surface.				
80															
85															
90															
95															
100															
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 4 of 4			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: BB-BEB-205			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEBT1-101 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 95.3		Auger ID/OD: --						
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140#/30						
Date Start/Finish: 10-31-18/11-01-18		Drilling Method: SSA/HW Drive/NW Drive		Core Barrel: --						
Boring Location: Sta. 133+74.1; 0.4 RT		Casing ID/OD: HW-4.0 in. ID/NW-3.0 in. ID		Water Level*: --						
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information						Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀				
0	1D	24/24	0.0 - 2.0	WOH/WOH/1/4	1	1	HW PUSH	92.1	Light brown with grey mottling, wet, very soft, Clayey SILT, trace organics -MARINE DEPOSIT-(ML)	
	2D	24/24	2.0 - 4.0	5/5/6/6	11	12				
5	3D	24/24	5.0 - 7.0	WOH/WOH/2/11	2	2	49	88.3	Light brown with grey mottling grading to grey-brown, wet, stiff, Silty CLAY, trace organics -MARINE DEPOSIT-(CL)	
							83			
10	4D	24/19	10.0 - 12.0	3/8/7/19	15	17	OPEN		Note: Drill action and wash water contents indicate granular material at 7.0 ft. Grey, wet, very stiff, SILT, trace fine to coarse sand, trace fine to coarse gravel, moderately bonded -GLACIAL TILL-(ML)	
							106			
15	5D	19/11	14.0 - 15.6	11/12/15/50(1")	27	30			Grey, wet, hard, fine to coarse Sandy SILT, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	
							124			
20	6D	24/19	19.0 - 21.0	24/19/15/42	34	38			Grey, wet, hard, SILT, little fine to coarse sand, little fine gravel, well bonded -GLACIAL TILL-(ML)	
							HW			
25	7D	24/22	24.0 - 26.0	18/23/29/29	52	59			Grey, wet, hard, SILT, little fine to coarse sand, little fine to coarse gravel, well bonded	
Remarks:										

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

Page 1 of 2
 Boring No.: BB-BEBT1-101

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEBT1-101 WIN: 18915.00					
Driller: New England Boring Contractors				Elevation (ft.) 95.3				Auger ID/OD: --					
Operator: B. Enos				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID					
Logged By: N. Klausmeyer				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-140#/#					
Date Start/Finish: 10-31-18/11-01-18				Drilling Method: SSA/HW Drive/NW Drive				Core Barrel: --					
Boring Location: Sta. 133+74.1; 0.4 RT				Casing ID/OD: HW-4.0 in. ID/NW-3.0 in. ID				Water Level*: --					
Hammer Efficiency Factor: 0.677				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected					
								Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test					
Sample Information													
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.		
25							OPEN			-GLACIAL TILL-(ML)			
								67.8		Note: Drill action and wash water contents indicate granular material becomes more coarse.			
	8D	6/3	29.6 - 30.1	50/50(0")			NW	65.2		Grey, wet, very dense, fine to coarse GRAVEL, trace fine to coarse sand, trace silt, poorly graded			
30								64.3		-GLACIAL TILL-(GP-GM)			
	R1	60/56	31.0 - 36.0	RQD = 53%			CORE			Note: Split-spoon refusal at 30.1 ft, top of weathered bedrock.			
										-WEATHERED BEDROCK-			
										Top of Bedrock at El. 64.3			
										R1: Grey, fine to medium-grained ARENITE grading to fine-grained PHYLLITE grading to olive-green, fine to medium-grained ARENITE from 34.7 to 36.0 ft, hard to moderately hard, fresh to slightly weathered from 35.0 to 36.0 ft. Primary joints dipping at moderate to steep angles. Secondary joints dipping at horizontal to low angles, very close to close, tight to open, few calcite/quartz stringers up to 0.5 in. thickness.			
35										Rock Quality=Fair Recovery=93%			
	R2	60/60	36.0 - 41.0	RQD = 65%						R1 Core Times (min:sec): 31.0-32.0' (6:45); 32.0-33.0' (3:01); 33.0-34.0' (5:33); 34.0-35.0' (2:44); 35.0-36.0' (2:39)			
										R2: Olive-green, fine to medium-grained ARENITE from 36.0 to 38.0 ft grading to grey, fine-grained to aphanitic PHYLLITE, hard to moderately hard, fresh to slightly weathered. Primary joints dipping at moderate to steep angles. Secondary joints dipping at horizontal to low angles, very close to close, tight to open, few calcite veins up to 0.25 in. thickness throughout run.			
										Rock Quality=Fair Recovery=100%			
40								54.3		R2 Core Times (min:sec): 36.0-37.0' (1:52); 37.0-38.0' (2:42); 38.0-39.0' (1:52); 39.0-40.0' (2:16); 40.0-41.0' (2:10)			
										Bottom of Exploration at 41.0 feet below ground surface.			
45													
50													
Remarks:													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BEBT1-101			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-BEBT1-201						
				Location: Brewer and Eddington, Maine		WIN: 18915.00						
Driller: New England Boring Contractors		Elevation (ft.): 99.7		Auger ID/OD: --								
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID								
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16								
Date Start/Finish: 11-2-2020/11-3-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID								
Boring Location: Sta. 133+27.2, 48.9 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.5 ft								
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>										
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>												
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows					
0	1D	24/14	0.0 - 2.0	WOH/2/3/4	5	7	SSA	99.5		Brown, moist, very soft, SILT, trace fine sand, organics -ROOTMAT/TOPSOIL-(OL)		
								98.1		Grey-brown mottled, moist, medium stiff, Clayey SILT, transitions to grey Clayey SILT -MARINE DEPOSIT-(ML)		
5	MU 2D	24/20	5.0 - 7.0	WOH/2/2/4	4	6	11					Note: Attempted tube sample, no recovery. Grey, wet, medium stiff, Silty CLAY, trace fine sand, high plasticity -MARINE DEPOSIT-(CL)
	MV		5.6 - 6.0									Note: Attempted field vane shear test, no penetration.
								92.4				Note: Drill action indicates strata change at 7.3 ft.
10	3D	24/12	10.0 - 12.0	13/12/12/12	24	34	57					Grey, wet, dense, fine to coarse SAND, little silt, little gravel, loosely bonded -GLACIAL TILL-(SW)
15	4D	24/14	15.0 - 17.0	18/16/17/16	33	47	101			Dark grey, wet, dense, fine to medium SAND, some silt, little gravel, moderately bonded -GLACIAL TILL-(SM)		
20	5D	24/16	20.0 - 22.0	18/15/18/19	33	47	60			Grey, wet, dense, Silty fine SAND, little medium to coarse sand, little gravel, moderately bonded -GLACIAL TILL-(SM)		
25												
Remarks: 												
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 3		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BEBT1-201		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEBT1-201 WIN: 18915.00				
Driller: New England Boring Contractors				Elevation (ft.): 99.7				Auger ID/OD: --				
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID				
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#				
Date Start/Finish: 11-2-2020/11-3-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID				
Boring Location: Sta. 133+27.2, 48.9 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 3.5 ft				
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test												
Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows					
25	6D	21/20	25.0 - 26.8	21/24/32/37	56	80	68			Grey, wet, very dense, Silty fine SAND, some medium to coarse sand, little gravel, moderately bonded -GLACIAL TILL-(SM)		
							71					
							57					
							24					
							65					
30	7D	24/15	30.0 - 32.0	10/14/21/34	35	50	43			Grey, wet, dense, Silty fine SAND, some gravel, little medium to coarse sand, well bonded -GLACIAL TILL-(SM)		
							35					
							46					
							45					
							80					
35	8D	24/17	35.0 - 37.0	24/36/47/55	83	118	28			Grey-brown, wet, very dense, Gravelly SAND, some silt, loosely bonded -GLACIAL TILL-(SM)		
							34					
							61					
							RC					
								61.7		Top of Bedrock El. 61.7	38.0	
40	R1	27.6/15	40.6 - 42.9	RQD = 0%			NQ			R1: Grey, aphanitic, SILTSTONE. hard, moderately weathered. Joints vertical, close, open to tight. Rock Quality=Very Poor Recovery=54% -BREWER FORMATION-		
							CORE			R1 Core Times (min:sec): 40.6-41.6' (2:23); 41.6-42.9' (2:27)		
	R2	25.2/16	42.9 - 45.0	RQD = 0%						R2: Grey, aphanitic, SILTSTONE, hard, moderately to highly weathered. Joints vertical, very close, open to tight. Highly fractured throughout. Rock Quality=Very Poor Recovery=63% -BREWER FORMATION-		
										R2 Core Times (min:sec): 42.9-43.9' (1:27); 43.9-45.0' (2:27)		
45	R3	19.2/25	45.0 - 46.6	RQD = 0%						R3: Grey, aphanitic, SILTSTONE, moderately hard, moderately to highly weathered. Discernible joints vertical, close, open. Highly fractured throughout, occasional pitting. Rock Quality=Very Poor Recovery=130% Note: R3 recovery and RQD included portion of R2 not initially recovered.		
50												
Remarks:												
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BEBT1-202 WIN: 18915.00																																																																																																																																																																																																																																																																																																																																	
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Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th></tr><tr><td>0</td><td>1D/A</td><td>24/16</td><td>0.0 - 2.0</td><td>WOH/1/3/3</td><td>4</td><td>6</td><td>SSA</td><td>98.5</td><td rowspan="3"></td><td>Brown, moist, very soft, SILT, trace fine sand, organics, roots -ROOTMAT/TOPSOIL-(OL)</td><td rowspan="3">0-1</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Grey-brown mottled, moist, medium stiff, Silty CLAY, trace organics, low plasticity -MARINE DEPOSIT-(CL)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td>2D/A MV</td><td>24/23</td><td>5.0 - 7.0 5.6 - 6.0</td><td>3/2/4/12</td><td>6</td><td>9</td><td>12</td><td>91.8</td><td rowspan="3"></td><td>Grey-brown, moist, stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.</td><td rowspan="3">6-8</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>121</td><td rowspan="3"></td><td>Brown, moist, stiff, fine Sandy SILT, trace gravel, moderately bonded -GLACIAL TILL-(ML)</td><td rowspan="3">8-10</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>70</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>47</td><td></td><td></td></tr><tr><td>10</td><td>3D</td><td>24/6</td><td>10.0 - 12.0</td><td>6/10/9/11</td><td>19</td><td>27</td><td>30</td><td>88.6</td><td rowspan="3"></td><td>Grey, wet, medium dense, fine SAND, some silt, little medium to coarse sand, little gravel, well bonded -GLACIAL TILL-(SM)</td><td rowspan="3">10-12</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>35</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>41</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>71</td><td rowspan="3"></td><td></td><td rowspan="3"></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>76</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>15</td><td>4D</td><td>24/8</td><td>15.0 - 17.0</td><td>13/37/48/31</td><td>85</td><td>121</td><td>83</td><td></td><td rowspan="3"></td><td>Grey, wet, very dense, fine SAND, some silt, little medium to coarse sand, little gravel, well bonded -GLACIAL TILL-(SM) Note: 2-in. cobble from 16.6 to 16.8 ft.</td><td rowspan="3">12-14</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>111</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>84</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>101</td><td rowspan="3"></td><td></td><td rowspan="3"></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>154</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>20</td><td>5D</td><td>24/14</td><td>20.0 - 22.0</td><td>16/16/19/20</td><td>35</td><td>50</td><td>99</td><td></td><td rowspan="3"></td><td>Grey, wet, dense, fine SAND, some silt, some gravel, little medium to coarse sand, well bonded -GLACIAL TILL-(SM)</td><td rowspan="3">14-16</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>134</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>195</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>158</td><td rowspan="3"></td><td></td><td rowspan="3"></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>311</td><td></td></tr></table>												Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	0	1D/A	24/16	0.0 - 2.0	WOH/1/3/3	4	6	SSA	98.5		Brown, moist, very soft, SILT, trace fine sand, organics, roots -ROOTMAT/TOPSOIL-(OL)	0-1										Grey-brown mottled, moist, medium stiff, Silty CLAY, trace organics, low plasticity -MARINE DEPOSIT-(CL)											5	2D/A MV	24/23	5.0 - 7.0 5.6 - 6.0	3/2/4/12	6	9	12	91.8		Grey-brown, moist, stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.	6-8																															121		Brown, moist, stiff, fine Sandy SILT, trace gravel, moderately bonded -GLACIAL TILL-(ML)	8-10									70											47			10	3D	24/6	10.0 - 12.0	6/10/9/11	19	27	30	88.6		Grey, wet, medium dense, fine SAND, some silt, little medium to coarse sand, little gravel, well bonded -GLACIAL TILL-(SM)	10-12									35											41											71												76												15	4D	24/8	15.0 - 17.0	13/37/48/31	85	121	83			Grey, wet, very dense, fine SAND, some silt, little medium to coarse sand, little gravel, well bonded -GLACIAL TILL-(SM) Note: 2-in. cobble from 16.6 to 16.8 ft.	12-14									111											84											101												154												20	5D	24/14	20.0 - 22.0	16/16/19/20	35	50	99			Grey, wet, dense, fine SAND, some silt, some gravel, little medium to coarse sand, well bonded -GLACIAL TILL-(SM)	14-16									134											195											158																						311	
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BEBT1-202 WIN: 18915.00				
Driller: New England Boring Contractors			Elevation (ft.): 98.6		Auger ID/OD: --					
Operator: M. Porter			Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#					
Date Start/Finish: 10-30-2020/11-2-2020			Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID					
Boring Location: Sta. 133+94.4, 48.4 RT			Casing ID/OD: HW-4.0 in. ID		Water Level*: 7.7 ft					
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
25	6D	13.2/2	25.0 - 26.1	19/25/50(1")			70		Grey, wet, very dense, fine to coarse SAND, some silt, some gravel, loosely bonded -GLACIAL TILL-(SM) Grey, wet, medium dense, fine to coarse SAND, some silt, some gravel, loosely bonded -GLACIAL TILL-(SM)	
							63			
							68			
							71			
							78			
30	7D	24/9	30.0 - 32.0	4/5/13/19	18	26	73			
							104			
							107			
							180			
							151			
35	8D	24/10	35.0 - 37.0	40/31/28/26	59	84	114		Grey, wet, very dense, fine to coarse SAND, some fine to coarse gravel, little silt, moderately bonded, weathered rock layers -GLACIAL TILL-(SW) Top of Bedrock El. 59.9	
							104			
							87			
							59 RC			
40	R1	60/60	40.0 - 45.0	RQD = 100%			NQ CORE			
45									R1: Grey, aphanitic, SILTSTONE, hard to very hard, fresh. Joints dipping at steep angle, moderately spaced, tight, calcite veins. Low angle secondary joint, wide, tight. Rock Quality=Excellent Recovery=100% -BREWER FORMATION- R1 Core Times (min:sec): 40.0-41.0' (3:34); 41.0-42.0' (3:14); 42.0-43.0' (2:45); 43.0-44.0' (2:18); 44.0-45.0' (2:38)	
50										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										

Maine Department of Transportation				Project: Route 9/1-395 Connector		Boring No.: BB-BFA1-101	
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00	
Driller: Northern Test Borings, Inc.		Elevation (ft.): 97.7		Auger ID/OD: --			
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20			
Date Start/Finish: 8-8-18/8-9-18		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 92+18; 9.5 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.3 ft			
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/21	0.0 - 2.0	3/4/4/5	8	12	SSA
	2D	24/17	2.0 - 4.0	3/4/5/6	9	14	
5	3D	24/24	5.0 - 7.0	2/3/3/3	6	9	
10	4D	24/24	9.0 - 11.0	Push thru vane			
	V1		9.6 - 10.0	Su=1,550/235 psf			
	V2		10.6 - 11.0	Su=1,280/235 psf			
	5D/A	24/24	12.0 - 14.0	Push thru vane			
	V3		12.6 - 13.0	Su=1,205/155 psf			
	MV		13.6 - 14.0				
							HW
15	6D	24/8	15.0 - 17.0	9/9/8/9	17	26	
20	7D	10/8	20.0 - 20.8	17/50(4")			RC
	R1	45.6/41	22.5 - 26.3	RQD = 9%			NQ
							CORE
25							

Visual Description and Remarks

Light brown to brown, dry, stiff, SILT, trace fine sand, organics -TOPSOIL-(OL/OH)

Grey to light brown mottled, damp to moist, stiff, SILT, trace clay, trace fine sand, trace organics (roots) -MARINE DEPOSIT-(ML)

Grey to brown mottled, moist, stiff, SILT, trace clay, trace organics (roots) -MARINE DEPOSIT-(ML)

Grey to brown mottled, wet, stiff, SILT, trace clay, trace organics -MARINE DEPOSIT-(ML)

Grey, wet, stiff, Silty CLAY, high plasticity -MARINE DEPOSIT-(CL)

55x110 mm vane raw torque readings:
V1: 400/60 in-lbs
V2: 330/60 in-lbs

Grey, wet, stiff, CLAY, highly plastic -MARINE DEPOSIT-(CL)

55x110 mm vane raw torque readings:
V3: 310/40 in-lbs

Grey, wet, very stiff, fine Sandy CLAY -MARINE DEPOSIT-(CL)

Note: Attempted vane shear test at 13.6 ft, no penetration; drill action indicates granular material at approximately 14 ft.

Grey, wet, medium dense, fine to coarse SAND, some fine to coarse gravel, little silt, well graded, loosely bonded -GLACIAL TILL-(SW-SM)

Grey grading to dark grey, wet, very dense, fine to coarse Sandy GRAVEL, trace silt, moderately to well bonded, well graded -GLACIAL TILL-(GW-GM)

Note: Drill action and wash indicate top of weathered bedrock at 20.8 ft.

-WEATHERED BEDROCK-

Top of Bedrock at El. 75.2

R1: Grey, aphanitic PHYLLITE, hard, fresh to slightly

Laboratory Testing Results/ AASHTO and Unified Class.

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 2

Boring No.: BB-BFA1-101

[illegible]

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: BB-BFB1-101			
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00			
Driller: New England Boring Contractors		Elevation (ft.): 80.8		Auger ID/OD: --					
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID					
Logged By: H. Hollauer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/24					
Date Start/Finish: 10-31-18/11-01-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID					
Boring Location: Sta. 67+60.1; 6.4 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.8 ft					
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>									
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
0							HW		Note: Tree cutting mulch, numerous fallen tree limbs and saplings present at ground surface; unable to sample 0 to 2.0 ft. 2.0 Grey and brown mottled, moist, stiff, Silty CLAY, trace roots -MARINE DEPOSIT-(CL) Grey and brown mottled, moist, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) Grey, wet, very soft, Silty CLAY -MARINE DEPOSIT-(CL) Note: Failed tube sample from 12.0 to 14.0 ft, no recovery. Grey, wet, Silty CLAY, trace medium sand -MARINE DEPOSIT-(CL) 16.4 Grey, wet, very hard, Lean CLAY, little silt, trace medium to coarse sand, trace gravel -GLACIAL TILL-(CL) 20.0 Note: Possibly pushed a cobble. Grey, wet, dense, SAND, little silt, trace gravel, trace fine to medium sand -GLACIAL TILL-(SM)
	1D	24/24	2.0 - 4.0	2/5/5/5	10	15		78.8	
5	2D	24/24	5.0 - 7.0	2/2/2/4	4	6			
10	3D	24/24	10.0 - 12.0	WOH/WOH/WOH/ WOH					
	MU	24/0	12.0 - 14.0						
15	1U	16.8/16.8	15.0 - 16.4						
	4D	24/4	16.4 - 18.4	2/22/11/4	33	51		64.4	
20	5D	24/5	20.0 - 22.0	36/20/12/11	32	49		60.8	
25									
Remarks: <div style="border: 1px solid black; height: 100px; width: 100%;"></div>									
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 3 Boring No.: BB-BFB1-101	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BFB1-101 WIN: 18915.00				
Driller: New England Boring Contractors				Elevation (ft.): 80.8				Auger ID/OD: --				
Operator: M. Porter				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID				
Logged By: H. Hollauer				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#				
Date Start/Finish: 10-31-18/11-01-18				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID				
Boring Location: Sta. 67+60.1; 6.4 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 0.8 ft				
Hammer Efficiency Factor: 0.925				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test												
Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows					
25	6D	24/2	25.0 - 27.0	7/10/4/4	14	22	HW			Grey, wet, medium dense, fine SAND, little silt, trace medium to coarse sand, trace gravel -GLACIAL TILL-(SM)		
30	7D	24/12	30.0 - 32.0	20/21/31/30	52	80				Grey, wet, very dense, fine SAND, little silt, trace medium to coarse sand, trace gravel -GLACIAL TILL-(SM)		
35	8D	24/10	35.0 - 37.0	21/35/38/41	73	113				Grey, moist, very dense, fine SAND, little silt, little gravel, trace medium to coarse sand -GLACIAL TILL-(SM)		
	R1	54/51	38.0 - 42.5	RQD = 53%			NQ CORE	42.9		Top of Bedrock at El. 42.9 R1: Grey grading to grey-brown, aphanitic, SILTSTONE, very hard to hard, fresh to moderately weathered. Primary joints dipping at moderate to steep angles, very close to close, tight to open. Secondary joints horizontal. Occasional calcite veins. Rock Quality=Fair Recovery=94% -BREWER FORMATION- R1 Core Times (min:sec): 38.0-39.0' (2:16); 39.0-40.0' (2:11); 40.0-41.0' (2:22); 41.0-42.0' (2:11); 42.0-42.5' (1:32) R2: Grey, aphanitic, SILTSTONE, very hard to hard, fresh. Primary joints dipping at low angles, close to moderately close, tight to open. Secondary joints moderately dipping. Occasional calcite veins present parallel to foliation. Occasional 0.5 in. quartz intrusion. Rock Quality=Fair Recovery=98% -BREWER FORMATION- R2 Core Times (min:sec): 42.5-43.5' (2:01); 43.5-44.5' (2:29); 44.5-45.5' (1:58); 45.5-46.0' (1:18) R3: Grey, aphanitic, SILTSTONE, very hard to hard, fresh. Primary joints dipping at moderate to steep angles, close, tight to open. Occasional calcite veins present parallel to foliation. Occasional 0.25 to 0.5 in. quartz intrusions. Rock Quality=Fair		
40	R2	42/41	42.5 - 46.0	RQD = 64%								
45	R3	48/48	46.0 - 50.0	RQD = 56%								
50												
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Page 2 of 3 Boring No.: BB-BFB1-101		

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BFB1-201 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 80.7		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 11-18-2020/11-19-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 63+88.2, 63.2 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/12	0.0 - 2.0	WOH/WOH/2/2	2	3	SSA
5	2D MU	24/24	5.0 - 7.0 5.0 - 7.0	WOH/WOH/WOH/ WOH			17 23 31 26 33
10	3D MV	24/24	10.0 - 12.0 10.6 - 11.0	WOH/WOH/WOH/ WOH			35 28 31 26 23
15	4D/A MV	24/15	15.0 - 17.0 15.6 - 16.0	WOH/6/9/12	15	21	41 32 48 47 42
20	5D	24/7	20.0 - 22.0	8/8/12/18	20	28	HW RC
25							
				Elevation (ft.)		Graphic Log	
				Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
				Brown, moist, very soft, SILT, organics -TOPSOIL-(OL)		0.1-	
				Grey-brown mottled, moist, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)			
				Grey-brown mottled, moist, very soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) Note: Attempted tube sample, no recovery.			
				Grey-brown mottled, wet, very soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.			
				Grey, wet, very soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.		15.8-	
				Grey, wet, very stiff, fine Sandy SILT, some gravel, trace medium to coarse sand, loosely bonded -GLACIAL TILL-(ML)			
				Grey, wet, medium dense, fine to coarse SAND, some silt, some gravel, loosely bonded -GLACIAL TILL-(SM)		20.0-	
				Top of Bedrock El. 57.9		22.8-	
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BFB1-202 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 80.8		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 10-12-2020/10-13-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 64+27.6, 63.1 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.2 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/16	0.0 - 2.0	WOH/WOH/1/2			SSA			<p>Brown-grey, wet, very soft, Silty CLAY, highly plastic, with organics, grass and roots -MARINE DEPOSIT-(CL)</p> <p>Note: Attempted tube sample, no recovery. Brown-grey, wet, stiff, Silty CLAY, trace fine sand, trace organics, low plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.</p> <p>55x110 mm vane raw torque readings: V1: 190/15 in-lbs V2: 190/10 in-lbs</p> <p>C#IP-2 CU#5-1A Su=486psf DSS-7 Su=443psf LL=36 PL=20 PI=16 WC=35.2 CL</p>
5	MU		4.9 - 6.9				✓			
	2D	24/20	5.0 - 7.0	2/2/4/4	6	9	20			
	MV		5.6 - 6.0				28			
							30			
							33			
							24			
10	1U	24/24	10.0 - 12.0				34			
							28			
	V1		12.6 - 13.0	Su=735/60 psf			29			
	V2		13.6 - 14.0	Su=735/40 psf			30			
							28			
15	2U	24/24	15.0 - 17.0				52			
							52			
	V3		17.6 - 18.0	Su=545/80 psf			40			
	V4		18.6 - 19.0	Su=465/80 psf			33			
							32			
20	3D	24/24	20.0 - 22.0	WOR/WOR/WOR/ WOR			48			
							29			
							29			
							24			
25							18			

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 2

Boring No.: BB-BFB1-202

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BFB1-202 WIN: 18915.00				
Driller: New England Boring Contractors			Elevation (ft.): 80.8		Auger ID/OD: --					
Operator: M. Porter			Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/#					
Date Start/Finish: 10-12-2020/10-13-2020			Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID					
Boring Location: Sta. 64+27.6, 63.1 RT			Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.2 ft					
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
25	4D V5 MV	24/21	25.0 - 27.0 25.6 - 26.0 26.6 - 27.0	push thru vane Su=505/115 psf			24 23 48 41 24	50.3	Grey, wet, medium stiff, Silty CLAY, medium plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V5: 130/30 in-lbs Note: Attempted field vane shear test, no penetration.	
30	5D	13.2/9	30.0 - 31.1	11/34/50(1")			HW	50.3	Similar to 4D, except very stiff Grey, wet, very dense, fine to coarse GRAVEL, little fine to coarse sand, trace silt, loosely bonded -GLACIAL TILL-(GW)	
35	R1	60/58	35.0 - 40.0	RQD = 90%			NQ CORE	46.7	Top of Bedrock El. 46.7 R1: Grey, aphanitic, SILTSTONE, hard to very hard. Joints dipping at low to moderate angles, joints rough, planar, moderate spacing, tight to open, calcite veins, quartz intrusion at approximately 39.4 ft. Rock Quality=Good Recovery=97% -BREWER FORMATION- R1 Core Times (min:sec): 35.0-36.0' (1:53); 36.0-37.0' (2:57); 37.0-38.0' (2:29); 38.0-39.0' (2:19); 39.0-40.0' (2:36)	
40	R2	60/58	40.0 - 45.0	RQD = 83%				35.8	R2: Grey, aphanitic, SILTSTONE, hard to very hard, fresh. Primary joints dipping at steep angle, secondary joints dipping at low angles, joints rough, planar, moderate spacing, tight frequent calcite veins. Rock Quality=Good Recovery=97% -BREWER FORMATION- R2 Core Times (min:sec): 40.0-41.0' (2:18); 41.0-42.0' (2:26); 42.0-43.0' (2:25); 43.0-44.0' (2:13); 44.0-45.0' (2:39)	
45								35.8	Bottom of Exploration at 45.0 feet below ground surface.	
50										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										




* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 2 of 2

Boring No.: BB-BFB1-202

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BFB1-203 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 80.6		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 10-13-2020/10-14-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 64+16.2, 0.6 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.5 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
0	1D	24/14	0.0 - 2.0	WOH/WOH/3/3	3	4	SSA	80.3		Dark brown, very soft, SILT with organics -TOPSOIL-(ML) Brown-grey, wet, soft, SILT, little clay, trace organics, slight plasticity -MARINE DEPOSIT (ML) Brown-grey, wet, stiff, Silty CLAY, trace organics, slight plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration. Grey, wet, very soft, Silty CLAY, high plasticity -MARINE DEPOSITS-(CL) Note: Attempted field vane shear test, no penetration. Grey, wet, soft to medium stiff, Silty CLAY, silt seam -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 150/10 in-lbs V2: 120/10 in-lbs 55x110 mm vane raw torque readings: V3: 110/40 in-lbs V4: 110/30 in-lbs Similar to 4D, except hard Grey, wet, dense, fine to coarse GRAVEL, little silt, trace fine to coarse sand, trace clay, poorly graded, layering, loosely to	
5	2D MV	24/24	5.0 - 7.0 5.6 - 6.0	3/3/4/5	7	10	18	75.6			
							18				
							26				
							35				
							33				
10	3D MV	24/24	10.0 - 12.0 10.6 - 11.0	WOH/WOH/WOH/ WOH			26				
							26				
							43				
							24				
							22				
15	4D V1	24/24	15.0 - 17.0 15.6 - 16.0	push thru vane Su=580/40 psf			37				
	V2		16.6 - 17.0	Su=465/40 psf			31				
							28				
							26				
							23				
20	V3		20.6 - 21.0	Su=425/155 psf			HW				
	V4		21.6 - 22.0	Su=425/115 psf							
	5D/A	24/16	22.0 - 24.0	6/7/22/7	29	41					
25	R1	60/40	24.8 - 29.8	RQD = 50%			RC	56.9 56.5			
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2 Boring No.: BB-BFB1-203	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BFB1-203 WIN: 18915.00							
Driller: New England Boring Contractors				Elevation (ft.) 80.6				Auger ID/OD: --							
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#							
Date Start/Finish: 10-13-2020/10-14-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 64+16.2, 0.6 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 0.5 ft							
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected				Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test			
Sample Information												Graphic Log		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)							
25							NQ CORE					moderately bonded -GLACIAL TILL-(GW)			
												Top of Bedrock El. 56.5 R1: Grey, aphanitic, SILTSTONE, hard to very hard, fresh. Joints dipping at horizontal to low angles, joints very close to close spacing, rough, planar, tight to open, some calcite veins. Secondary moderately dipping joints, very closed, tight. Rock Quality=Poor Recovery=67% -BREWER FORMATION-			
30	R2	38.4/25	29.8 - 33.0	RQD = 24%								R1 Core Times (min:sec): 24.8-25.8' (2:24); 25.8-26.8' (1:33); 26.8-27.8' (2:17); 27.8-28.8' (2:45); 28.8-29.8' (3:06) R2: Grey, aphanitic, SILTSTONE, hard to very hard, fresh. Joints dipping at low to moderate angles, joints close spacing, rough, planar, slight weathering to joints, tight to open, some quartz veins. Highly fractured zone from approximately 29.8 to 31.5 ft. Rock Quality=Very Poor Recovery=65% -BREWER FORMATION-			
												R2 Core Times (min:sec): 29.8-30.8' (1:11); 30.8-31.8' (1:29); 31.8-33.0' (1:00) R3: Similar to R2 Rock Quality=Fair Recovery=83% -BREWER FORMATION-			
35	R3	21.6/18	33.0 - 34.8	RQD = 70%								R3 Core Times (min:sec): 33.0-34.0' (1:22); 34.0-34.8' (2:07)			
												Bottom of Exploration at 34.8 feet below ground surface.			
40															
45															
50															
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 2 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: BB-BFB1-203			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BFB1-204 WIN: 18915.00																																																																																																																																																																																																																																																																																					
Driller: New England Boring Contractors				Elevation (ft.) 81.0				Auger ID/OD: --																																																																																																																																																																																																																																																																																					
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Date Start/Finish: 10-15-2020/10-15-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID																																																																																																																																																																																																																																																																																					
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<table><thead><tr><th rowspan="2">Depth (ft.)</th><th colspan="7">Sample Information</th><th rowspan="2">Graphic Log</th><th rowspan="2">Visual Description and Remarks</th><th rowspan="2">Laboratory Testing Results/AASHTO and Unified Class.</th></tr><tr><th>Sample No.</th><th>Pen./Rec. (in.)</th><th>Sample Depth (ft.)</th><th>Blows (6 in.) Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th><th>Elevation (ft.)</th></tr></thead><tbody><tr><td>0</td><td>1D/A</td><td>24/10</td><td>0.0 - 2.0</td><td>WOH/1/1/2</td><td>2</td><td>3</td><td>SSA</td><td>80.7</td><td rowspan="20"></td><td rowspan="20">Dark brown, very soft ORGANICS -TOPSOIL (ROOT MAT)-(OL) Grey-brown, moist, soft, SILT (ML), trace clay, organics -MARINE DEPOSIT-(ML) Grey-brown mottled, moist, soft, silty CLAY (CL) -MARINE DEPOSIT-(CL) Grey-brown mottled, wet, stiff, silty CLAY, medium plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 160/20 in-lbs V2: 140/20 in-lbs Grey, wet, medium stiff, silty CLAY, no plasticity -MARINE DEPOSIT-(CL) Similar to 3D, except soft to medium stiff 55x110 mm vane raw torque readings: V3: 140/20 in-lbs V4: 110/20 in-lbs</td><td rowspan="20">C#IP-6 LL=38 PL=20 PI=18 WC=35.3 CL</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>80.0</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td>2D</td><td>24/24</td><td>5.0 - 7.0</td><td>2/3/3/5</td><td>6</td><td>9</td><td>22</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>37</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>42</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>39</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>44</td></tr><tr><td>10</td><td>U1</td><td>24/23</td><td>10.0 - 12.0</td><td></td><td></td><td></td><td>50</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>41</td></tr><tr><td></td><td>V1</td><td></td><td>12.6 - 13.0</td><td>Su=620/80 psf</td><td></td><td></td><td>47</td><td></td></tr><tr><td></td><td>V2</td><td></td><td>13.6 - 14.0</td><td>Su=545/80 psf</td><td></td><td></td><td>48</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>46</td></tr><tr><td>15</td><td>3D</td><td>24/24</td><td>15.0 - 17.0</td><td>WOR/WOR/WOR/ WOR</td><td></td><td></td><td>46</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>37</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>43</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>42</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>40</td></tr><tr><td>20</td><td>4D</td><td>24/24</td><td>20.0 - 22.0</td><td>push thru vane</td><td></td><td></td><td>38</td><td></td></tr><tr><td></td><td>V3</td><td></td><td>20.6 - 21.0</td><td>Su=545/80 psf</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>V4</td><td></td><td>21.6 - 22.0</td><td>Su=425/80 psf</td><td></td><td></td><td>29</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>27</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>26</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>26</td></tr><tr><td>25</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>												Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	0	1D/A	24/10	0.0 - 2.0	WOH/1/1/2	2	3	SSA	80.7		Dark brown, very soft ORGANICS -TOPSOIL (ROOT MAT)-(OL) Grey-brown, moist, soft, SILT (ML), trace clay, organics -MARINE DEPOSIT-(ML) Grey-brown mottled, moist, soft, silty CLAY (CL) -MARINE DEPOSIT-(CL) Grey-brown mottled, wet, stiff, silty CLAY, medium plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 160/20 in-lbs V2: 140/20 in-lbs Grey, wet, medium stiff, silty CLAY, no plasticity -MARINE DEPOSIT-(CL) Similar to 3D, except soft to medium stiff 55x110 mm vane raw torque readings: V3: 140/20 in-lbs V4: 110/20 in-lbs	C#IP-6 LL=38 PL=20 PI=18 WC=35.3 CL									80.0																																					5	2D	24/24	5.0 - 7.0	2/3/3/5	6	9	22										37									42									39									44	10	U1	24/23	10.0 - 12.0				50										41		V1		12.6 - 13.0	Su=620/80 psf			47			V2		13.6 - 14.0	Su=545/80 psf			48										46	15	3D	24/24	15.0 - 17.0	WOR/WOR/WOR/ WOR			46										37									43									42									40	20	4D	24/24	20.0 - 22.0	push thru vane			38			V3		20.6 - 21.0	Su=545/80 psf						V4		21.6 - 22.0	Su=425/80 psf			29										27									26									26	25								
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	V1		12.6 - 13.0	Su=620/80 psf			47																																																																																																																																																																																																																																																																																						
	V2		13.6 - 14.0	Su=545/80 psf			48																																																																																																																																																																																																																																																																																						
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15	3D	24/24	15.0 - 17.0	WOR/WOR/WOR/ WOR			46																																																																																																																																																																																																																																																																																						
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	V3		20.6 - 21.0	Su=545/80 psf																																																																																																																																																																																																																																																																																									
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Boring No.: BB-BFB1-204																																																																																																																																																																																																																																																																																													

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: BB-BFB1-204			
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00			
Driller: New England Boring Contractors		Elevation (ft.): 81.0		Auger ID/OD: --					
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#					
Date Start/Finish: 10-15-2020/10-15-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID					
Boring Location: Sta. 66+81.1, 3.1 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.8 ft					
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_y = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>									
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
25	5D/A V5	24/16	25.0 - 27.0 25.2 - 25.6	WOR/1/8/5 Su=735/235 psf	9	13	34		<p>Similar to 4D, except medium stiff 55x110 mm vane raw torque readings: V5: 190/60 in-lbs Note: Would not push all the way, too stiff.</p> <p>Grey, wet, medium dense, fine to medium SAND, little silt, little gravel, trace coarse sand, loosely bonded -GLACIAL TILL-(SP)</p> <p>Grey, wet, medium dense, fine to medium SAND, little silt, trace fine sand and gravel, loosely bonded -GLACIAL TILL-(SP)</p> <p>Grey, wet, dense, fine to medium SAND, little silt, little gravel, trace coarse sand, poorly graded, moderately bonded -GLACIAL TILL-(SP)</p> <p>Top of Bedrock El. 42.7 R1: Grey, aphanitic, SILTSTONE, hard, calcite intrusions, highly fractured. Discernible joints steeply dipping, very close, open. Rock Quality=Very Poor Recovery=65% -BREWER FORMATION- R1 Core Times (min:sec): 38.8-39.8' (2:27); 39.8-40.8' (2:03) R2: Grey, aphanitic, SILTSTONE, hard. Moderately dipping joints, close to moderately close, tight to open, planar, rough, calcite veins. Rock Quality=Very Poor Recovery=83% -BREWER FORMATION- R2 Core Times (min:sec): 40.8-41.8' (2:29); 41.8-42.8' (2:37); 42.8-43.8' (2:11); 43.8-44.8' (2:43) R3: Grey, aphanitic, SILTSTONE, hard. Joints dipping at low to moderate angles, moderately close, tight to open, planar, rough. Rock Quality=Poor Recovery=90% -BREWER FORMATION- R3 Core Times (min:sec): 44.8-45.8' (1:43); 45.8-46.8' (2:39)</p> <p>Bottom of Exploration at 47.4 feet below ground surface.</p>
							40		
							38		
							44		
							63		
30	6D	24/11	30.0 - 32.0	7/8/10/16	18	26	49		
							47		
							64		
							75		
							111		
35	7D	24/11	35.0 - 37.0	10/13/18/21	31	44	HW		
	R1	24/15.6	38.8 - 40.8	RQD = 0%			RC NQ CORE		
40	R2	48/40	40.8 - 44.8	RQD = 25%					
45	R3	31.2/28	44.8 - 47.4	RQD = 33%					
50									
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									
Page 2 of 2 Boring No.: BB-BFB1-204									

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-BFB2-101					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: Northern Test Borings, Inc.		Elevation (ft.): 89.1		Auger ID/OD: --							
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20							
Date Start/Finish: 8-10-18/8-10-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ 2.0 in. ID							
Boring Location: Sta. 84+68.5, 17.9 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.3 ft							
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/8	0.0 - 2.0	3/4/4/6	8	12	SSA	87.1			
	2D	24/24	2.0 - 4.0	5/6/7/6	13	20					
5	3D	24/24	5.0 - 7.0	3/4/5/4	9	14	HW	84.1			
10	1U	24/18	10.0 - 12.0								
	4D V1	24/24	12.0 - 14.0	WOR/WOR/WOR/ WOR							
	V2		12.6 - 13.0	Su=930/155 psf							
			13.6 - 14.0	Su=775/115 psf							
15	5DA/B V3	24/24	16.0 - 18.0	WOH/WOH/8/11	8	12		72.3			
			16.6 - 17.0	Su=1,165/195 psf							
20	6D	24/9	20.0 - 22.0	7/8/8/9	16	24		69.1			
25											
Remarks: 											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BFB2-101	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BFB2-101 WIN: 18915.00							
Driller: Northern Test Borings, Inc.				Elevation (ft.): 89.1				Auger ID/OD: --							
Operator: M. Nadeau				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)				Hammer Wt./Fall: SS-140#/30; HW-140#/#							
Date Start/Finish: 8-10-18/8-10-18				Drilling Method: SSA/HW Drive				Core Barrel: NQ 2.0 in. ID							
Boring Location: Sta. 84+68.5, 17.9 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 3.3 ft							
Hammer Efficiency Factor: 0.907				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _y = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test															
Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.			
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows								
25	7D	24/12	25.0 - 27.0	9/9/11/12	20	30	15	58.3		Grey, wet, medium dense, fine to coarse SAND, little fine to coarse gravel, trace silt, well graded, moderately bonded -GLACIAL TILL-(SW)					
							19								
							23								
							39								
							71								
30	8D	10/5	30.0 - 30.8	37/50(4")			37					58.3		Grey, wet, very dense, fine to coarse SAND, little fine to coarse gravel, well graded, moderately bonded -GLACIAL TILL-(SW)	
	R1	48/36	31.5 - 35.5	RQD = 40%			NQ								
							CORE								
35	R2	9.6/10	35.5 - 36.3	RQD = 0%				58.3		Top of Bedrock at El. 58.3 R1: Grey, aphanitic SILTSTONE, hard, fresh to slightly weathered. Joints dipping from low to steep angles, very close to close, tight to open, slight silt/pyrite and oxidation observed on joint surfaces, 0.08 to 2-in. thick calcite veins observed throughout core run. Note: Core action indicates potential weathered rock zone from approximately 34.2 to 34.4 ft. Rock Quality=Poor Recovery=75% -BREWER FORMATION- R1 Core Times (min:sec): 31.5-32.5' (1:30); 32.5-33.5' (2:21); 33.5-34.5' (2:03); 34.5-35.5' (4:12) R2: Grey, aphanitic SILTSTONE, hard, slight to moderate weathering. Joints dipping at low to steep angles, very close to close, tight to open, silt observed on some joint surfaces, 0.08 to 0.5-in. thick calcite veins observed throughout core run. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION- R2 Core Times (min:sec): 35.5-36.3' (3:25) R3: Grey, aphanitic SILTSTONE, hard, fresh to slightly weathered. Joints dipping at low to near vertical angles, very close to moderately close, tight to open, silt observed on some joint surfaces, 0.08 to 3-in. thick calcite veins observed throughout core run. Rock Quality=Poor Recovery=96% -BREWER FORMATION- R3 Core Times (min:sec): 36.3-37.3' (2:08); 37.3-38.3' (2:35); 38.3-39.3' (2:45); 39.3-40.3' (3:23); 40.3-40.5' (0:32) R4: Grey, aphanitic SILTSTONE, hard, fresh. Joints dipping at low angles, close, tight. Rock Quality=Excellent Recovery=100% -BREWER FORMATION- R4 Core Times (min:sec): 40.5-41.5' (3:03)					
	R3	50.4/48	36.3 - 40.5	RQD = 40%											
40	R4	12/12	40.5 - 41.5	RQD = 92%				47.6		Bottom of Exploration at 41.5 feet below ground surface.					
45								47.6							
50								47.6							
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.															
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.															

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-BFB2-201				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 87.4		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 10-21-2020/10-22-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 83+87.2, 38.6 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.3 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/10	0.0 - 2.0	WOH/WOH/WOH/2			SSA			LL=36 PL=22 PI=14 WC=33.6 CL
5	1U	24/24	5.0 - 7.0				8			
							10			
	MV		7.6 - 8.0				14			
							15			
							13			
10	2D	24/24	10.0 - 12.0	push thru vane			17			
	V1		10.6 - 11.0	Su=545/95 psf			13			
	V2		11.6 - 12.0	Su=505/95 psf			14			
							10			
							12			
15	3D/A	24/16	15.0 - 17.0	WOH/7/14/15	21	30	19			
	V3		15.3 - 15.7	Su=735/155 psf			48			
	MV		16.3 - 16.7				60			
							53			
							36			
20	4D	24/10	20.0 - 22.0	5/15/6/9	21	30	41			
							23			
							36			
							51			
25							38			
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2 Boring No.: BB-BFB2-201	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BFB2-201 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 87.4				Auger ID/OD: --			
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#			
Date Start/Finish: 10-21-2020/10-22-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 83+87.2, 38.6 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 3.3 ft			
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
25							20	60.4		Note: Washed ahead of casing 25.0 to 30.0 ft.	
						17					
	5D	24/11	27.0 - 29.0	25/24/19/17	43	61	31	57.4		Grey, wet, very dense, fine to coarse SAND, little gravel, trace silt, well graded, moderately bonded -GLACIAL TILL-(SW)	
							38				
							41	53.6		Grey, wet, very dense, fine to medium SAND, some gravel, little coarse sand, trace silt, poorly graded, moderately bonded -GLACIAL TILL-(SP)	
30	6D	24/8	30.0 - 32.0	21/31/28/13	59	84	12				
							66	43.1		Top of Bedrock El. 53.6 R1: Grey, aphanitic SILTSTONE, hard, fresh. Joints dipping at steep angles, moderate spacing, planar, smooth to rough, tight to open. Rock Quality=Good Recovery=90% -BREWER FORMATION- R1 Core Times (min:sec): 34.0-35.0' (2:43); 35.0-36.4' (3:32) R2: Grey, aphanitic, SILTSTONE, hard, fresh. Joints dipping at steep angles, moderate spacing, planar, rough, tight, slight weathering on joints, calcite veins. Rock Quality=Excellent Recovery=106% Note: R2 recovery and RQD included portion of R1 not initially recovered. -BREWER FORMATION- R2 Core Times (min:sec): 36.4-37.4' (2:10); 37.4-38.2' (3:03) R3: Similar to R2. Rock Quality=Fair Recovery=77% -BREWER FORMATION- R3 Core Times (min:sec): 38.2-39.5' (2:12) R4: Grey, aphanitic, SILTSTONE, moderately hard, slightly weathered. Joints dipping at low to moderate angles, close to moderate spacing, planar, rough, tight to open, slight weathering on joints, calcite veins, highly fractured. Rock Quality=Fair Recovery=94% -BREWER FORMATION- R4 Core Times (min:sec): 39.5-40.5' (3:21); 40.5-41.5' (2:42); 41.5-42.5' (2:47); 42.5-43.5' (2:13); 43.5-44.3' (2:50)	
							100				
							62/8 RC	44.3		Bottom of Exploration at 44.3 feet below ground surface.	
	R1	28.8/26	34.0 - 36.4	RQD = 81%			NQ CORE				
35								44.3			
	R2	21.6/23	36.4 - 38.2	RQD = 100%				44.3			
	R3	15.6/12	38.2 - 39.5	RQD = 33%				44.3			
	R4	57.6/54	39.5 - 44.3	RQD = 63%				44.3			
40								44.3			
								44.3			
								44.3			
								44.3			
								44.3			
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Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: BB-BFB2-202				
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 89.4		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 10-20-2020/10-21-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 85+19.1, 35.2 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.5 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="font-size: small;"> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_u(lab) = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/8	0.0 - 2.0	WOH/WOH/WOH/3			SSA			Brown-grey, moist, very soft, Silty CLAY -MARINE DEPOSIT-(CL)
5	2D	24/24	5.0 - 7.0	WOH/WOH/1/2	1	1	22		Grey-brown mottled, very soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)	
							20			
							23			
							24			
							22			
10	1U	24/23	10.0 - 12.0				50		55x110 mm vane raw torque readings: V1: 110/20 in-lbs V2: 110/15 in-lbs Note: Strata change at 14.7 ft based on drill action.	
							27			
	V1		12.6 - 13.0	Su=425/80 psf			28			
	V2		13.6 - 14.0	Su=425/60 psf			26			
							41			
15	3D	24/13	15.0 - 17.0	10/9/8/7	17	24	33		Grey, wet, medium dense, fine to coarse SAND, trace silt, trace gravel, moderately bonded -GLACIAL TILL-(SW)	
							35			
							33			
							25			
							29			
20	4D	24/8	20.0 - 22.0	20/12/9/7	21	30	47		Grey, wet, medium dense, fine to coarse SAND, trace gravel, trace silt, moderately bonded -GLACIAL TILL-(SW)	
							35			
							81			
							101			
25							92			
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector		Boring No.: BB-BFB3-101	
				Location: Brewer and Eddington, Maine		WIN: 18915.00	
Driller: Northern Test Borings, Inc.		Elevation (ft.): 102.9		Auger ID/OD: --			
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20			
Date Start/Finish: 8-7-18/8-8-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ 2.0 in. ID			
Boring Location: Sta. 95+63.1; 2.6 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 4.4 ft			
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/21	0.0 - 2.0	4/6/6/3	12	18	SSA
	2D	24/20	2.0 - 4.0	4/6/6/8	12	18	
5	3D	24/20	5.0 - 7.0	4/5/6/4	11	17	HW
10	4D	24/24	10.0 - 12.0	1/1/1/1	2	3	
	5D	24/24	12.0 - 14.0	Push thru vane			
	MV		12.6 - 13.0				
	V1		13.6 - 14.0	Su=1,010/175 psf			
	V2		14.6 - 15.0	Su=1,085/155 psf			
15	6D	24/6	15.0 - 17.0	49/38/12/15	50	76	17
							19
							21
							49
							88
20	7D	24/8	20.0 - 22.0	17/15/13/12	28	42	21
							19
							33
							36
25							89

Visual Description and Remarks

Light brown with occasional grey mottling, damp grading to moist, very stiff, SILT, trace clay, trace fine sand, trace organics -TOPSOIL-(ML)

Grey-brown with light brown mottling, moist, very stiff, SILT, trace clay, trace organics -MARINE DEPOSIT-(ML)

Grey-brown with light brown mottling, moist, very stiff, SILT, trace clay, trace organics -MARINE DEPOSIT-(ML)

Drill action indicates gravel layer from approximately 9.8 to 10.0 ft.

Grey-brown mottled, wet, soft, Silty CLAY, trace silt, grading to gray at 10.3 ft, high plasticity -MARINE DEPOSIT-(CL)

Grey, wet, stiff, Silty CLAY, high plasticity -MARINE DEPOSIT-(CL)

Note: Attempted vane shear test at 12.6 ft, no penetration. 55x110 mm vane raw torque readings:
V1: 260/50 in-lbs
V2: 280/40 in-lbs

Grey, wet, very dense, clayey fine to coarse GRAVEL, trace fine to medium sand, poorly-graded, loosely bonded -GLACIAL TILL-(GM)

Grey, wet, dense, fine to coarse SAND, little fine to coarse gravel, little silt, loosely bonded -GLACIAL TILL-(SW-SM)

1.5

9.8

10.0

15.0

20.0

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.


Page 1 of 2

Boring No.: BB-BFB3-101

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine			Boring No.: BB-BFB3-101 WIN: 18915.00		
Driller: Northern Test Borings, Inc.				Elevation (ft.): 102.9			Auger ID/OD: --			
Operator: M. Nadeau				Datum: NAVD 88			Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)			Hammer Wt./Fall: SS-140#/30; HW-140#/#			
Date Start/Finish: 8-7-18/8-8-18				Drilling Method: SSA/HW Drive			Core Barrel: NQ 2.0 in. ID			
Boring Location: Sta. 95+63.1; 2.6 LT				Casing ID/OD: HW-4.0 in. ID			Water Level*: 4.4 ft			
Hammer Efficiency Factor: 0.907				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>						
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person					S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected	
T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
25	8D	24/10	25.0 - 27.0	17/27/39/51	66	100	63		Grey, wet, very dense, Gravelly fine to coarse SAND, trace silt, moderately bonded, well graded -GLACIAL TILL-(SW)	27.1-
							82			
							RC			
	R1	60/60	28.0 - 33.0	RQD = 88%			NQ CORE			
30										
	R2	42/33	33.0 - 36.5	RQD = 0%						
35										
	R3	18/13	36.5 - 38.0	RQD = 50%						
40										
45										
50										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 2 of 2		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Boring No.: BB-BFB3-101		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BFB-101 WIN: 18915.00							
Driller: Northern Test Borings, Inc.		Elevation (ft.): 79.4		Auger ID/OD: --									
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID									
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20									
Date Start/Finish: 07-17-18/07-18-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID									
Boring Location: Sta. 54+61.2; 2.8 Lt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: Not Measured									
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>													
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.			
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)		
0	1D	24/19	0.0 - 2.0	1/1/1/1	2	3	HW	78.9		Brown, wet, soft, SILT, contains organics -TOPSOIL-(OL)			
	2D	24/24	2.0 - 4.0	2/2/2/1	4	6							
5	1U	24/24	5.0 - 7.0					74.4					
	V1		7.3 - 7.7	Su=1,745/40 psf									
10	3D	24/24	10.0 - 12.0	WOH/WOH/WOH/ WOH									
	2U	24/20	12.0 - 14.0										
15	4D	24/20	14.0 - 16.0	push thru vane									
	V2		14.6 - 15.0	Su=425/40 psf									
	V3		15.6 - 16.0	Su=525/40 psf									
	MU	24/24	16.0 - 18.0										
	3U	24/24	18.0 - 20.0										
20	5D	24/24	20.0 - 22.0	push thru vane									
	V4		20.6 - 21.0	Su=465/20 psf									
	V5		21.6 - 22.0	Su=485/20 psf									
25													
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals from ground surface. Casing driven (advanced) after washing ahead, casing blows not recorded.													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 3				
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: BB-BFB-101				

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: BB-BFB-101						
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00						
Driller: Northern Test Borings, Inc.		Elevation (ft.): 79.4		Auger ID/OD: --								
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID								
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#								
Date Start/Finish: 07-17-18/07-18-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID								
Boring Location: Sta. 54+61.2; 2.8 Lt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: Not Measured								
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>										
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt		R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person		S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _u (lab) = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected		T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test						
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.			
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows					
25	6D V6 V7	24/24	25.0 - 27.0 25.6 - 26.0 26.6 - 27.0	push thru vane Su=350/20 psf Su=390/20 psf			HW		Grey, wet, soft, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V6: 90/5 in-lbs V7: 100/5 in-lbs	C#IP-5 CU#5-1 Su=897 psf LL=34 PL=20 PI=14 WC=35.4		
30	4U 7D V8 V9	24/23 24/2	30.0 - 32.0 32.0 - 34.0 32.6 - 33.0 33.6 - 34.0	push thru vane Su=310/80 psf Su=465/80 psf							Grey, wet, Silty CLAY Grey, wet, soft, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V8: 80/20 in-lbs V9: 120/20 in-lbs	
35	8D	24/11	35.0 - 37.0	6/9/9/12	18	27					Note: Drill action and wash water contents indicate granular material at approximately 34.5 ft. Grey, wet, medium dense, fine SAND, some fine to coarse gravel, little silt, trace medium to coarse sand, loosely bonded -GLACIAL TILL-(SM)	
40	9D R1	4/4 36/28	40.0 - 40.3 42.0 - 45.0	50(4") RQD = 22%			RC NQ CORE				Grey to olive-grey, wet, very dense, fine to coarse GRAVEL, some fine to coarse sand, little silt, moderately bonded -GLACIAL TILL-(GP) Top of Bedrock at El. 39.1 ft R1: Grey, aphanitic SILTSTONE. Hard, fresh, joints dipping at moderate to steep angles, very close to close spacing, tight to open, few calcite veins. Rock Quality=Very Poor Recovery=78% -BREWER FORMATION- R1 Core Times (min:sec): 42.0-43.0' (3:25); 43.0-44.0' (4:00); 44.0-45.0' (2:23) Note: Water loss while coring at 44.0 ft depth.	
45	R2	60/55	45.0 - 50.0	RQD = 78%							R2: Grey, aphanitic SILTSTONE. Hard, fresh, joints dipping at low to moderate angles, foliation dipping at moderate angles, close to moderately close, tight, calcite veins, highly weathered, fractured zone from approximately 43.5 to 45.0 ft. Rock Quality=Good Recovery=92% -BREWER FORMATION-	
50												
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals from ground surface. Casing driven (advanced) after washing ahead, casing blows not recorded.												
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											Page 2 of 3	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											Boring No.: BB-BFB-101	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BFB-101 WIN: 18915.00			
Driller: Northern Test Borings, Inc.				Elevation (ft.): 79.4				Auger ID/OD: --			
Operator: M. Nadeau				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)				Hammer Wt./Fall: SS-140#/30; HW-140#/#			
Date Start/Finish: 07-17-18/07-18-18				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 54+61.2; 2.8 Lt.				Casing ID/OD: HW-4.0 in. ID				Water Level*: Not Measured			
Hammer Efficiency Factor: 0.907				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div>Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div> <div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div> <div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_u(lab) = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div> <div>T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
50	R3	24/21	50.0 - 52.0	RQD = 88%			NO CORE	27.4	 R2 Core Times (min:sec): 45.0-46.0' (3:40); 46.0-47.0' (3:10); 47.0-48.0' (2:43); 48.0-49.0' (2:12); 49.0-50.0' (3:51) R3: Grey, aphanitic SILTSTONE. Hard, fresh, joints dipping at moderate angles, close, tight. Rock Quality=Good Recovery=88% -BREWER FORMATION- R3 Core Times (min:sec): 50.0-51.0' (3:16); 51.0-52.0' (4:27) Bottom of Exploration at 52.0 feet below ground surface.		
75											
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals from ground surface. Casing driven (advanced) after washing ahead, casing blows not recorded.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 3 of 3	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BFB-101	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BFB-201 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 80.9		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 11-16-2020/11-16-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 903+99.8, 47.8 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.0 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/7	0.0 - 2.0	WOH/WOH/1/3	1	1	SSA		Grey, wet, very soft, Silty CLAY, moderately plastic, organics -MARINE DEPOSIT-(CL)	
5										
	2D	24/22	5.0 - 7.0	3/2/2/2	4	6	20		Grey-brown mottled, wet, medium stiff, Silty CLAY, moderately plastic -MARINE DEPOSIT-(CL)	
10										
	1U	24/7	10.0 - 12.0				26			
15										
	3D	24/24	12.0 - 14.0	push thru vane			21		Grey, wet, soft, Silty CLAY, moderately to highly plastic -MARINE DEPOSIT-(CL)	
	V1		12.6 - 13.0	Su=270/40 psf					55x110 mm vane raw torque readings: V1: 70/10 in-lbs Note: Attempted field vane shear test, no penetration.	
20										
	4D	24/24	15.0 - 17.0	push thru vane			PUSH		Grey, wet, medium stiff, Silty CLAY, moderately plastic -MARINE DEPOSIT-(CL)	
25										
	V2		15.6 - 16.0	Su=580/60 psf					55x110 mm vane raw torque readings: V2: 150/15 in-lbs V3: 140/10 in-lbs	
25										
	V3		16.6 - 17.0	Su=545/40 psf						
25										
	5D	24/24	20.0 - 22.0	push thru vane					Grey, wet, soft, Silty CLAY, moderate to low plasticity -MARINE DEPOSIT-(CL)	
25										
	V4		20.6 - 21.0	Su=425/60 psf					55x110 mm vane raw torque readings: V4: 110/15 in-lbs V5: 110/20 in-lbs	
25										
	V5		21.6 - 22.0	Su=425/80 psf						
25										
	2U	24/16.8	23.0 - 25.0							LL=32 PL=16 PI=16 WC=33.7 CL
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BFB-201 WIN: 18915.00				
Driller: New England Boring Contractors			Elevation (ft.): 80.9		Auger ID/OD: --					
Operator: M. Porter			Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/#					
Date Start/Finish: 11-16-2020/11-16-2020			Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID					
Boring Location: Sta. 903+99.8, 47.8 RT			Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.0 ft					
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
25	6D	24/24	25.0 - 27.0	push thru vane			11		Grey, wet, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V6: 110/20 in-lbs V7: 100/20 in-lbs Note: Drill action indicates change at 29.0 ft. Grey, wet, very dense, fine to coarse SAND, some gravel, trace silt, loosely bonded -GLACIAL TILL-(SP) Top of Bedrock El. 50.2 R1: Grey, aphanitic, SILTSTONE, hard, fresh to slightly weathered. Joints dipping at low to moderate angles, very close to close spacing, tight to open, rough, planar joints. Secondary steeply dipping joints, moderately close, tight to open. Calcite veins. Moderately to highly fractured throughout. Rock Quality=Poor Recovery=100% -BREWER FORMATION- R1 Core Times (min:sec): 31.0-32.0' (3:43); 32.0-33.0' (3:06); 33.0-34.0' (2:58); 34.0-35.0' (2:33); 35.0-35.6' (0:29) Bottom of Exploration at 35.6 feet below ground surface.	
	V6		25.6 - 26.0	Su=425/80 psf			12			
	V7		26.6 - 27.0	Su=390/80 psf			19			
							79			
							103			
30	7D	8.4/4	30.0 - 30.7	17/50(2")			RC			
	R1	55/55	31.0 - 35.6	RQD = 45%			NQ CORE			
35							45.3			
40										
45										
50										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										


* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BFB-202 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 80.5		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 11-9-2020/11-10-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 702+28.8, 28.0 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.1 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plasticity Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/7	0.0 - 2.0	WOR/WOR/WH/WH			SSA		Brown, wet, very soft, Silty CLAY, low plasticity, organics -MARINE DEPOSIT-(CL)	C#IP-17 CU#17-1 Su=414psf DSS-1 Su=254psf LL=38 PL=19 PI=19 WC=42.9 CL
5	2D	24/24	5.0 - 7.0	WOH/WH/WH/WH			13		Grey, wet, very soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)	
							11			
							15			
							22			
							23			
10	3D MV	24/24	10.0 - 12.0 10.6 - 11.0	WOH/WH/WH/WH			17		Grey to dark grey, wet, very soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.	
							22			
							21			
							19			
							18			
15	4D V1	24/24	15.0 - 17.0 15.6 - 16.0	push thru vane Su=545/80 psf			33		Dark grey to grey, wet, medium stiff, Silty CLAY, low to moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 140/20 in-lbs V2: 150/20 in-lbs	
	V2		16.6 - 17.0	Su=580/80 psf			27			
							29			
	1U	24/16	18.0 - 20.0				21			
							19			
20	5D V3	24/24	20.0 - 22.0 20.6 - 21.0	push thru vane Su=425/60 psf			29		Grey to dark grey, wet, soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V3: 110/15 in-lbs V4: 120/20 in-lbs	
	V4		21.6 - 22.0	Su=465/80 psf			23			
							24			
							22			
25							22			
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BFB-202 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 80.5				Auger ID/OD: --			
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#			
Date Start/Finish: 11-9-2020/11-10-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 702+28.8, 28.0 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 0.1 ft			
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency $N_{60} = (\text{Hammer Efficiency Factor}/60\%) \cdot N\text{-uncorrected}$ T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
25	2U	24/24	25.0 - 27.0				29		Grey to dark grey, wet, soft to medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V5: 130/15 in-lbs V6: 110/15 in-lbs	LL=35 PL=20 PI=15 WC=36.0 CL	
							25				
	6D	24/24	27.0 - 29.0	WOH/WOH/WOH			25				
	V5		27.6 - 28.0	Su=505/60 psf			28				
	V6		28.6 - 29.0	Su=425/60 psf			27				
30							28				
	7D	24/24	30.0 - 32.0	push thru vane			23				
	V7		30.6 - 31.0	Su=425/60 psf			22				
	V8		31.6 - 32.0	Su=425/60 psf			23				
							19				
35							26				
	8D	24/24	35.0 - 37.0	push thru vane			36				
	V9		35.6 - 36.0	Su=390/60 psf			28				
	V10		36.6 - 37.0	Su=425/80 psf			21				
40							13				
	9D	24/24	40.0 - 42.0	push thru vane			19				
	V11		40.6 - 41.0	Su=545/115 psf			19				
	MV		41.6 - 42.0				40				
							44				
							31				
45	10D	24/7	45.0 - 47.0	9/5/7/37	12	17	37				
							95				
							278				
	R1	60/56	48.5 - 53.5	RQD = 52%			RC NQ				
50							CORE				
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BFB-202 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 80.5				Auger ID/OD: --			
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/#			
Date Start/Finish: 11-9-2020/11-10-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 702+28.8, 28.0 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 0.1 ft			
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
50							NO CORE	27.0		veins (0.25 to 0.75-in. thick). Rock Quality=Fair Recovery=93% -BREWER FORMATION- R1 Core Times (min:sec): 48.5-49.5' (2:47); 49.5-50.5' (2:27); 50.5-51.5' (2:21); 51.5-52.5' (2:11); 52.5-53.5' (3:02) 53.5' Bottom of Exploration at 53.5 feet below ground surface.	
75											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 3 of 3 Boring No.: BB-BFB-202	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BST1-101 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 86.3		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: H. Hollauer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SSA-140#/30; HW-300#/24							
Date Start/Finish: 10-30-18/10-30-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 77+48.3; 16.1 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --							
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/6	0.0 - 2.0	1/1/2/3	3	5	HW	86.2		Brown, wet, medium stiff, SILT, trace fine sand, some organics -TOPSOIL/ROOT MAT-(OL) 0.1- Grey and brown mottled, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 5- Grey and brown slightly mottled, wet, medium stiff, Silty CLAY, becomes softer and grey with depth -MARINE DEPOSIT-(CL) Note: Clay becomes softer with depth based on casing blows and drill action. 10- Grey, wet, Silty CLAY -MARINE DEPOSIT-(CL) 15- Dark grey and black, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 65x130 mm vane raw torque readings: V1: 263/38 in-lbs V2: 215/28 in-lbs 20- Dark grey and black, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 65x130 mm vane raw torque readings: V3: 235/45 in-lbs V4: 250/40 in-lbs 21.5- Grey, wet, medium dense, fine SAND, little silt, trace medium to coarse sand, trace gravel -GLACIAL TILL-(SM)	C#IP-16 CU#11-1 Su=368 psf LL=37 PL=20 PI-17 WC=34 CL
5	2D	24/24	5.0 - 7.0	WOH/1/3/3	4	6					
10	1U	24/23	10.0 - 12.0								
	3D	24/24	12.0 - 14.0	Pushed thru vane							
	V1		12.6 - 13.0	Su=624/91 psf							
	V2		13.6 - 14.0	Su=510/66 psf							
15	U2	24/23	15.0 - 17.0								
	4D	24/24	17.0 - 19.0	Pushed thru vane							
	V3		17.6 - 18.0	Su=555/105 psf							
	V4		18.6 - 19.0	Su=595/95 psf							
20	5D	24/16	20.0 - 22.0	1/2/14/18	16	25					
25								64.8			
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine			Boring No.: BB-BST1-101 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 86.3			Auger ID/OD: --				
Operator: M. Porter				Datum: NAVD 88			Sampler: Split-Spoon 1.375 in. ID				
Logged By: H. Hollauer				Rig Type: Mobile B-53 Track			Hammer Wt./Fall: SSA-140#/30; HW-				
Date Start/Finish: 10-30-18/10-30-18				Drilling Method: SSA/HW Drive			Core Barrel: NQ-2.0 in. ID				
Boring Location: Sta. 77+48.3; 16.1 LT				Casing ID/OD: HW-4.0 in. ID			Water Level*: --				
Hammer Efficiency Factor: 0.925				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
25	6D	24/4	25.0 - 27.0	5/5/5/7	10	15	HW			Grey, wet, medium dense, fine SAND, little silt, little fine to coarse gravel, trace medium to coarse sand -GLACIAL TILL-(SM)	
30	7D	24/9	30.0 - 32.0	11/11/12/13	23	35				Grey, wet, dense, fine SAND, little silt, trace medium to coarse sand, trace gravel -GLACIAL TILL-(SM)	
35	R1	27.6/27.6	35.0 - 37.3	RQD = 36%			NQ CORE	51.5		Top of Bedrock at El. 51.5 R1: Core blocked in barrel at 37.3 ft. Recovery=100% R1 Core Times (min:sec): 35.0-36.0' (2:45); 36.0-37.0' (2:06); 37.0-37.3' (0:54) R1,R2: Grey, aphanitic to fine-grained SILTSTONE, hard, fresh to very slightly weathered. Primary joints dipping at moderate to high angles parallel to foliation, very close to close, tight to open. Occasional calcite veins parallel to foliation. Secondary joints are horizontal. Occasional thin quartzite intrusions. Rock Quality=Poor Recovery=86% R2 Core Times (min:sec): 37.3-38.0' (1:02); 38.0-39.0' (2:54); 39.0-40.0' (2:14) R3: Similar to above, except joints very close, few granitic intrusions. Joint surfaces moderately hard at 40.3 to 42.6 ft. Rock Quality=Very Poor Recovery=100% R3 Core Times (min:sec): 40.6-41.6' (3:30); 41.6-42.6' (2:26) R4: Similar joints very close to close, occasional quartz veins parallel to foliation. Rock Quality=Poor Recovery=95% R4 Core Times (min:sec): 42.6-43.6' (3:02); 43.6-44.6' (2:45); 44.6-45.4' (2:35) R5: Similar to above, except numerous fractures, granitic intrusions. Joint surfaces moderately hard at 49.0 to 49.3 ft. Rock Quality=Poor Recovery=100% R5 Core Times (min:sec): 45.4-46.4' (3:10); 46.4-47.4' (3:05); 47.4-48.4' (3:00); 48.4-49.4' (3:00)	34.8
40	R3	24/24	40.6 - 42.6	RQD = 0%							
45	R5	48/48	45.4 - 49.4	RQD = 42%							
50								36.9			49.4
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 2 of 3

Boring No.: BB-BST1-101

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BST1-102 WIN: 18915.00																																																																																																																																																																																																																																																																		
Driller: New England Boring Contractors				Elevation (ft.): 86.7				Auger ID/OD: --																																																																																																																																																																																																																																																																		
Operator: M. Porter				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID																																																																																																																																																																																																																																																																		
Logged By: H. Hollauer				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/24																																																																																																																																																																																																																																																																		
Date Start/Finish: 10-26-18/10-26-18				Drilling Method: SSA/HW Drive				Core Barrel: --																																																																																																																																																																																																																																																																		
Boring Location: Sta. 77+40.7; 96.9 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*:																																																																																																																																																																																																																																																																		
Hammer Efficiency Factor: 0.925				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																																																																																																																																																																																																																																																						
<div>Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div> <div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div> <div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div> <div>T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>																																																																																																																																																																																																																																																																										
<table><tr><th rowspan="2">Depth (ft.)</th><th colspan="7">Sample Information</th><th rowspan="2">Graphic Log</th><th rowspan="2">Visual Description and Remarks</th><th rowspan="2">Laboratory Testing Results/ AASHTO and Unified Class.</th></tr><tr><th>Sample No.</th><th>Pen./Rec. (in.)</th><th>Sample Depth (ft.)</th><th>Blows (6 in.) Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th><th>Elevation (ft.)</th></tr><tr><td>0</td><td>1D</td><td>24/18</td><td>0.0 - 2.0</td><td>WOH/2/4/6</td><td>6</td><td>9</td><td>HW</td><td>86.3</td><td rowspan="19"></td><td rowspan="19">Brown, moist, stiff, SILT, trace fine sand, trace organics/roots -TOPSOIL/ROOT MAT-(OL) Grey and brown slightly mottled, dry grading to moist, stiff, Silty CLAY, slightly plastic -MARINE DEPOSIT-(CL) Grey and brown slightly mottled, dry grading to moist, stiff, Silty CLAY, slightly plastic -MARINE DEPOSIT-(CL) Pocket Penetrometer Readings (5.5 ft)=2.5 tsf Pocket Penetrometer Readings (6.8 ft) =0.5 tsf Note: Attempted vane at 10.0 ft, no penetration. Dark grey to black, wet, very soft, CLAY, some silt, highly plastic -MARINE DEPOSIT-(CL) Dark grey, wet, medium stiff, CLAY, some silt, highly plastic -MARINE DEPOSIT-(CL) 65x130 mm vane raw torque readings: V1: 250/39 in-lbs V2: 265/45 in-lbs Dark grey, wet, medium stiff, CLAY, some silt, highly plastic -MARINE DEPOSIT-(CL) 65x130 mm vane raw torque readings: V3: 299/52 in-lbs V4: Vane refusal at 18.8 ft. Note: Top of glacial till at 19.3 ft based on casing advancement. 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Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	0	1D	24/18	0.0 - 2.0	WOH/2/4/6	6	9	HW	86.3		Brown, moist, stiff, SILT, trace fine sand, trace organics/roots -TOPSOIL/ROOT MAT-(OL) Grey and brown slightly mottled, dry grading to moist, stiff, Silty CLAY, slightly plastic -MARINE DEPOSIT-(CL) Grey and brown slightly mottled, dry grading to moist, stiff, Silty CLAY, slightly plastic -MARINE DEPOSIT-(CL) Pocket Penetrometer Readings (5.5 ft)=2.5 tsf Pocket Penetrometer Readings (6.8 ft) =0.5 tsf Note: Attempted vane at 10.0 ft, no penetration. 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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BST1-103 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 87.4		Auger ID/OD: --						
Operator: M. Porter/E. Baron		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: H. Hollauer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SSA-140#/30; HW-300#/20						
Date Start/Finish: 10-29-18/10-29-18		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 77+53.7; 96.7 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 1.8 ft						
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="font-size: 0.8em;"> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div>										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/20	0.0 - 2.0	WOH/2/3/3	5	8	HW	87.1		Brown, moist, medium stiff, Clayey SILT, trace fine sand, trace organics -TOPSOIL/ROOT MAT-(OL) 0.3 Grey-brown mottled, moist, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 5 Grey-brown slightly mottled, moist, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 10 Grey and black, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 65x130 mm vane raw torque readings: V1: 285/49 in-lbs V2: 265/40 in-lbs 15 Grey, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 65x130 mm vane raw torque readings: V3: 265/58 in-lbs V4: 290/50 in-lbs 17.8 Note: Advanced rollerbit from 17.8 to 19.9 ft through boulder. -BOULDER- 19.9 Grey, wet, very dense, fine to coarse SAND, little silt, little fine to coarse gravel, well-graded -GLACIAL TILL-(SW-SM)
5	2D	24/24	5.0 - 7.0	2/2/3/3	5	8				
10	3D	24/24	10.0 - 12.0	Push thru vane						
	V1		10.6 - 11.0	Su=675/117 psf						
	V2		11.6 - 12.0	Su=630/95 psf						
15	4D	24/24	15.0 - 17.0	Push thru vane						
	V3		15.6 - 16.0	Su=630/136 psf						
	V4		16.6 - 17.0	Su=685/120 psf						
17.8										
20	5D	24/5	20.0 - 22.0	7/14/20/15	34	52				
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 2

Boring No.: BB-BST1-103

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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BST1-201 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 86.0		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 10-19-2020/10-20-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 76+98.8, 0.4 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 5.1 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D/A	24/11	0.0 - 2.0	WOH/WOH/WOH/1			SSA	85.8	Brown, moist, very soft, SILT, organics -TOPSOIL(ROOT MAT)-(OL) Grey-brown mottled, moist, very soft, Silty CLAY -MARINE DEPOSIT-(CL) Grey-brown mottled, moist, medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) Grey, wet, soft, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 120/20 in-lbs V2: 110/10 in-lbs 55x110 mm vane raw torque readings: V3: 120/20 in-lbs V4: 160/30 in-lbs Grey, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 55x110mm vane raw torque readings: V5: 160/30 in-lbs Note: Attempted field vane shear test, no penetration. Note: Strata change at 23.1 ft based on drill action.	C#IP-7A CU#2-1 Su=594psf LL=36 PL=19 PI=17 WC=38.0 CL
5	2D	24/22	5.0 - 7.0	WOH/WOH/6/3	6	9	15	76.0		
							25			
							28			
							23			
							19			
10	3D V1	24/24	10.0 - 12.0 10.6 - 11.0	push thru vane Su=465/80 psf			16			
	V2		11.6 - 12.0	Su=425/40 psf			12			
							12?			
							12			
							10			
15	1U	24/24	15.0 - 17.0				27			
							15			
	V3		17.6 - 18.0	Su=465/80 psf			13			
	V4		18.6 - 19.0	Su=620/115 psf			11			
							10			
20	4D V5	24/24	20.0 - 22.0 20.6 - 21.0	push thru vane Su=620/115 psf			11			
	MV		21.6 - 22.0				14			
							74			
							44			
25							49			
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Page 1 of 2 Boring No.: BB-BST1-201		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BST1-201 WIN: 18915.00																																																																																																																																																																																																																																																																																																																																																	
Driller: New England Boring Contractors				Elevation (ft.): 86.0				Auger ID/OD: --																																																																																																																																																																																																																																																																																																																																																	
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID																																																																																																																																																																																																																																																																																																																																																	
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/																																																																																																																																																																																																																																																																																																																																																	
Date Start/Finish: 10-19-2020/10-20-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID																																																																																																																																																																																																																																																																																																																																																	
Boring Location: Sta. 76+98.8, 0.4 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 5.1 ft																																																																																																																																																																																																																																																																																																																																																	
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																																																																																																																																																																																																																																																																																																																																					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected																																																																																																																																																																																																																																																																																																																																																	
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<table><tr><th colspan="8">Sample Information</th><th rowspan="2">Elevation (ft.)</th><th rowspan="2">Graphic Log</th><th rowspan="2">Visual Description and Remarks</th><th rowspan="2">Laboratory Testing Results/ AASHTO and Unified Class.</th></tr><tr><th>Depth (ft.)</th><th>Sample No.</th><th>Pen./Rec. (in.)</th><th>Sample Depth (ft.)</th><th>Blows (16 in.) Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N60</th><th>Casing Blows</th></tr><tr><td rowspan="5">25</td><td>5D</td><td>24/6</td><td>25.0 - 27.0</td><td>6/8/8/7</td><td>16</td><td>23</td><td>41</td><td></td><td></td><td rowspan="5">56.0</td><td rowspan="5"></td><td rowspan="5">Grey, wet, medium dense, Gravelly fine to coarse SAND, little silt, well graded, moderately bonded -GLACIAL TILL-(SW)</td><td rowspan="5"></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>27</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>29</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>35</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>53</td><td></td></tr><tr><td rowspan="3">30</td><td>6D</td><td>24/17</td><td>30.0 - 32.0</td><td>29/51/32/60</td><td>83</td><td>118</td><td>2</td><td></td><td></td><td rowspan="3">54.0</td><td rowspan="3"></td><td rowspan="3">Grey, wet, very dense, fine SAND, little medium to coarse sand, little silt, trace gravel, poorly graded, moderately bonded -GLACIAL TILL-(SP) Top of Bedrock El. 54.0 R1: Grey, aphanitic, SILTSTONE, hard, slightly to moderately weathered, highly fractured throughout (gravel-sized pieces). Rock Quality=Very Poor Recovery=61% -BREWER FORMATION- R1 Core Times (min:sec): 33.0-34.0' (2:31); 34.0-34.5' (1:59) R2: Grey, aphanitic, SILTSTONE, hard, fresh. Joints dipping at moderate to steep angles, close to moderate spacing, tight, planar, rough, calcite veins. Rock Quality=Fair Recovery=81% -BREWER FORMATION- R2 Core Times (min:sec): 34.5-35.5' (2:03); 35.5-36.5' (2:17); 36.5-37.5' (2:43); 37.5-38.5' (2:22) R3: Grey, aphanitic, SILTSTONE, hard, fresh. Joints dipping at steep angles, moderate spacing, tight, planar, rough, calcite veins. 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Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	25	5D	24/6	25.0 - 27.0	6/8/8/7	16	23	41			56.0		Grey, wet, medium dense, Gravelly fine to coarse SAND, little silt, well graded, moderately bonded -GLACIAL TILL-(SW)								27								29								35								53		30	6D	24/17	30.0 - 32.0	29/51/32/60	83	118	2			54.0		Grey, wet, very dense, fine SAND, little medium to coarse sand, little silt, trace gravel, poorly graded, moderately bonded -GLACIAL TILL-(SP) Top of Bedrock El. 54.0 R1: Grey, aphanitic, SILTSTONE, hard, slightly to moderately weathered, highly fractured throughout (gravel-sized pieces). Rock Quality=Very Poor Recovery=61% -BREWER FORMATION- R1 Core Times (min:sec): 33.0-34.0' (2:31); 34.0-34.5' (1:59) R2: Grey, aphanitic, SILTSTONE, hard, fresh. 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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-BWS-101							
				Location: Brewer and Eddington, Maine		WIN: 18915.00							
Driller: Northern Test Borings, Inc.		Elevation (ft.): 119.9		Auger ID/OD: --									
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID									
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20									
Date Start/Finish: 07-13-18/07-13-18		Drilling Method: SSA/HW Drive		Core Barrel: --									
Boring Location: Sta. 511+33.6, 48.1 Rt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: Not Measured									
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>													
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.		
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows						
0	1D	24/20	0.0 - 2.0	2/2/3/4	5	8	HSA	114.9		Grey-brown, damp, medium stiff, SILT, trace fine sand, trace organics -FILL-(ML)			
	2D	24/19	2.0 - 4.0	4/6/8/12	14	21							Grey-brown, moist, very stiff, Clayey SILT, trace organics -FILL-(ML)
5	3D	16/18	4.0 - 5.3	16/19/50(4")	69	104							Brown, moist, hard, fine to coarse Sandy SILT, trace fine to coarse gravel -FILL-(ML)
10	4D	24/12	10.0 - 12.0	44/37/17/18	54	82	HW	106.9		Brown, wet, very dense, Silty SAND, some fine to coarse gravel -FILL-(SM)			
15	5D	24/17	15.0 - 17.0	10/11/14/17	25	38				Grey, moist, hard, Clayey SILT, trace medium to coarse sand, trace fine gravel -GLACIAL TILL-(ML)			
20	6D	24/20	20.0 - 22.0	10/11/14/17	25	38				Grey, moist, hard, Clayey SILT, trace fine gravel -GLACIAL TILL-(ML)			
25													

Remarks:
1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded.
2. BB-BWS-101 Stationing in reference to the Connector Baseline is: STA 46+21 371.8 Lt.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

Page 1 of 2


* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: BB-BWS-101

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BWS-101 WIN: 18915.00							
Driller: Northern Test Borings, Inc.				Elevation (ft.): 119.9				Auger ID/OD: --							
Operator: M. Nadeau				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)				Hammer Wt./Fall: SS-140#/30; HW-140#							
Date Start/Finish: 07-13-18/07-13-18				Drilling Method: SSA/HW Drive				Core Barrel: --							
Boring Location: Sta. 511+33.6, 48.1 Rt.				Casing ID/OD: HW-4.0 in. ID				Water Level*: Not Measured							
Hammer Efficiency Factor: 0.907				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected				T _y = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test			
Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.			
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing	Blows							
25	7D	24/16	25.0 - 27.0	10/11/19/30	30	45	HW			Grey, moist, hard, Clayey SILT, trace fine to coarse sand, trace fine gravel -GLACIAL TILL-(ML)					
30	8D	24/16	30.0 - 32.0	12/15/21/31	36	54				Grey, moist, hard, Clayey SILT, trace coarse sand, trace coarse gravel -GLACIAL TILL-(ML)					
35	9D	16/10	35.0 - 36.3	17/31/50(4")						Grey, moist, hard, Clayey SILT, trace coarse sand, trace coarse gravel -GLACIAL TILL-(ML) Note: Drill action indicates coarse material at approximately 37.0 ft.					
40	10D	16.92/23	40.0 - 41.4	21/24/50(5")						Grey, moist, hard, Clayey SILT, little fine to coarse sand, little fine to coarse gravel -GLACIAL TILL-(ML) Note: Drill action indicates coarse material from approximately 42.0 to 45.0 ft.					
45	11D	10/13	45.0 - 45.8	50/50(4")					74.1	Grey, moist, hard, Sandy SILT, little fine to coarse gravel -GLACIAL TILL-(ML) Bottom of Exploration at 45.8 feet below ground surface.	45.8				
50															
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded. 2. BB-BWS-101 Stationing in reference to the Connector Baseline is: STA 46+21 371.8 Lt.															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 2					
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BWS-101					

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BWS-102(OW) WIN: 18915.00							
Driller: Northern Test Borings, Inc.				Elevation (ft.) 112.2				Auger ID/OD: --							
Operator: M. Nadeau				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)				Hammer Wt./Fall: SS-140#/30; HW-140#/20							
Date Start/Finish: 07-12-18/07-13-18				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 513+81.8, 48.7 Rt.				Casing ID/OD: HW-4.0 in. ID				Water Level*: See Remarks							
Hammer Efficiency Factor: 0.907				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected				Tv = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test			
Sample Information												Graphic Log		Laboratory Testing Results/AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)							
0	1D	24/20	0.0 - 2.0	2/2/3/3	5	8	SSA	102.2	Brown, moist, medium stiff, SILT, little fine to coarse sand, trace fine gravel, trace organics -FILL-(ML)						
									Grey-brown, moist, stiff, Clayey SILT, trace fine sand, trace organics -FILL-(ML)						
	2D	24/18	2.0 - 4.0	3/4/6/5	10	15			Grey-brown, moist, hard, Clayey SILT, trace fine to coarse sand, trace fine to coarse gravel, trace organics -FILL-(ML)						
									Brown, wet, hard, SILT, trace clay, little fine to coarse sand, trace fine to coarse gravel, trace organics -FILL-(ML)						
									Brown, moist, hard, SILT, some fine to coarse sand, trace fine to coarse gravel -FILL-(ML)						
5	3D	24/19	4.0 - 6.0	4/17/17/12	34	51			Brown, wet, dense, fine to coarse GRAVEL, some fine to coarse sand, trace silt -FILL-(GW)						
									Note: Low recovery due to probable cobble.						
	4D	24/24	6.0 - 8.0	7/11/11/9	22	33			Brown, moist, hard, SILT, trace fine sand, trace fine gravel -GLACIAL TILL-(ML)						
	5D	24/3	8.0 - 10.0	9/11/21/30	32	48									
10	6D	24/19	10.0 - 12.0	12/12/14/16	26	39	HW								
15	7D	24/23	15.0 - 17.0	20/20/34/39	54	82									
20	8D	16/18	20.0 - 21.3	20/41/50(4")											
25															
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded. 2. Observation well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 3					
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BWS-					

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BWS- WIN: 18915.00					
Driller: Northern Test Borings, Inc.		Elevation (ft.): 112.2		Auger ID/OD: --							
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#							
Date Start/Finish: 07-12-18/07-13-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 513+81.8, 48.7 Rt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: See Remarks							
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt		R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person		S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected		T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test					
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
25	9D	22/19	25.0 - 26.8	17/27/35/50(3")	62	94	HW			Grey, damp, hard, SILT, trace coarse sand, trace fine gravel -GLACIAL TILL-(ML)	
30	10D	22/21	30.0 - 31.8	14/31/27/50(4")	58	88				Grey, moist, hard, SILT, little fine to coarse sand, little fine to coarse gravel -GLACIAL TILL-(ML)	
35	11D	14/14	35.0 - 36.2	17/21/50(2")	71	107				Grey, moist, hard, SILT, little fine to coarse sand, little fine to coarse gravel -GLACIAL TILL-(ML)	
40							RC	72.4		Note: Drill action and wash indicating potential rock. Top of Bedrock at El. 72.4	
	R1	15.6/15	41.0 - 42.3	RQD = 0%			NQ CORE			R1: Grey, aphanitic SILTSTONE with occasional calcite veins. Moderately hard, fresh to slightly weathered. Few discernible joints, moderate to steeply dipping, slight staining on few joint surfaces, highly fractured Rock Quality=Very Poor Recovery=94% -BREWER FORMATION-	
	R2	38.4/38	42.3 - 45.5	RQD = 0%						R2: Grey, aphanitic SILTSTONE with occasional calcite veins. Moderately hard, fresh to slightly weathered. Joints dipping at moderate to steep angles, very close spacing, tight to open, smooth to rough, slight staining on few joint surfaces. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION-	
45	R3	51.6/42	45.5 - 49.8	RQD = 10%						R3: Grey, aphanitic SILTSTONE with occasional calcite veins. Moderately hard, fresh. Joints dipping at steep angles, very close	
50	R4	18/18	49.8 - 51.3	RQD = 0%							
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded. 2. Observation well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 3 Boring No.: BB-BWS-	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BWS- WIN: 18915.00					
Driller: Northern Test Borings, Inc.			Elevation (ft.): 112.2		Auger ID/OD: --						
Operator: M. Nadeau			Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer			Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/#						
Date Start/Finish: 07-12-18/07-13-18			Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 513+81.8, 48.7 Rt.			Casing ID/OD: HW-4.0 in. ID		Water Level*: See Remarks						
Hammer Efficiency Factor: 0.907			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
50							NO CORE	60.9	 <p>to close spacing, tight to open, smooth, slight staining on few joint surfaces. Rock Quality=Very Poor Recovery=81% -BREWER FORMATION- R3 Core Times (min:sec): 45.5-46.5' (2:15); 46.5-47.5' (2:30); 47.5-48.5' (3:45); 48.5-49.8' (2:30) R4: Grey, aphanitic SILTSTONE with occasional calcite veins. Moderately hard, fresh to slightly weathered. Joints dipping at steep angles, very close to close spacing, tight to open, smooth, slight staining on few joint surfaces. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION- R4 Core Times (min:sec): 49.8-50.8' (1:45); 50.8-51.3' (0:45) 51.3- Bottom of Exploration at 51.3 feet below ground surface.</p>		
75											
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded. 2. Observation well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 3 of 3 Boring No.: BB-BWS-		

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BWS-103 WIN: 18915.00				
Driller: Northern Test Borings, Inc.		Elevation (ft.): 107.1		Auger ID/OD: --						
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20						
Date Start/Finish: 07-9-18/07-9-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 515+26, 54.9 Rt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.8 ft						
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/11	0.0 - 2.0	1/1/6/7	7	11	HSA	103.5	Brown, moist, medium dense, fine to medium SAND, little silt, trace organics -FILL-(SM) Note: Weathered rock within spoon tip. Cobble zone from 2.2 to 2.8 ft. Dark grey, wet, medium dense, fine to coarse SAND, little silt, trace fine to coarse gravel, well graded -FILL-(SM)	G#474545 A-4(0) (CL-ML) LL=22 PL=16 PI=6 WC=13.1
	2D/2A	24/18	3.0 - 5.0	5/6/7/9	13	20				
5	3D	24/12	5.0 - 7.0	7/8/9/11	17	26	51		Olive-brown, damp to moist, very stiff, Clayey SILT, slightly mottled -MARINE DEPOSIT-(ML) Olive-brown, damp, very stiff, Silty CLAY, some sand, little coarse gravel, trace fine gravel, slightly mottled -MARINE DEPOSIT-(CL-ML)	
							73			
							75			
							81			
							68			
10	4D	24/22	10.0 - 12.0	7/7/10/12	17	26	32		Brown, damp, very stiff, Silty CLAY, little sand, trace fine gravel -MARINE DEPOSIT-(CL-ML)	
							51			
							79			
							183			
							221			
15	5D	24/21	15.0 - 17.0	12/14/14/15	28	42	86		Brown, damp, hard, Silty CLAY, little sand, trace fine gravel -MARINE DEPOSIT-(CL-ML)	G#474547 A-4(4) (CL-ML) LL=23 PL=16 PI=7 WC=15.4
							75			
							96			
							118			
							104			
20	6D	16/16	20.0 - 21.3	15/19/50(4")			HW	87.5	Note: Color change to gray at approximately 19.6 ft. Grey, damp, hard, SILT, trace fine gravel -GLACIAL TILL-(ML)	
25										
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 20 ft. Casing driven (advanced) after washing ahead, casing blows not recorded.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 3	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: BB-BWS-103	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BWS-103 WIN: 18915.00							
Driller: Northern Test Borings, Inc.				Elevation (ft.): 107.1				Auger ID/OD: --							
Operator: M. Nadeau				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)				Hammer Wt./Fall: SS-140#/30; HW-140#							
Date Start/Finish: 07-9-18/07-9-18				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 515+26, 54.9 Rt.				Casing ID/OD: HW-4.0 in. ID				Water Level*: 3.8 ft							
Hammer Efficiency Factor: 0.907				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected				T _y = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test			
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.				
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)							
25	7D	16/16	25.0 - 26.3	19/27/50(4")			HW			Grey, damp, hard, SILT, trace fine to coarse gravel -GLACIAL TILL-(ML)					
30	8D	9/10	30.0 - 30.8	22/50(3")											
35	R1	14.4/9	35.0 - 36.2	RQD = 0%			NQ CORE		Top of Bedrock at El. 72.9 R1: Grey, aphanitic SILTSTONE with occasional thin calcite veins. Hard, fresh to slightly weathered. Primary joints dipping at moderate to steep angles, spaced very close, tight to open, planar, smooth. Slight oxidation on few joint surfaces. Note: Core barrel frequently jamming due to steep angle joints. Rock Quality=Very Poor Recovery=64% -BREWER FORMATION- R2: Similar to R1 above Recovery=69% R2 Core Times (min:sec): 36.2-37.3' (1:15) R3: Similar to R1 above Recovery=75% R3 Core Times (min:sec): 36.8-38.0' (2:45) R4: Similar to R1 above Recovery=100% R4 Core Times (min:sec): 38.0-39.0' (2:00) R5: Similar to R1 above Recovery=85% R5 Core Times (min:sec): 39.0-40.0' (3:00); 40.0-40.1' (0:45) R6: Similar to R1 above Recovery 89% R6 Core Times (min:sec): 40.1-41.0' (2:00) R7: Similar to R1 above, except slightly to moderately weathered Recovery=50% R7 Core Times (min:sec): 41.0-42.0' (2:75); 42.0-42.1' (0:45) R8: Similar to R1 above Recovery=15% R8 Core Times (min:sec): 42.2-43.2' (3:00); 43.2'-43.3' (0:15) R9: Similar to R1 above Recovery=85% R9 Core Times (min:sec): 43.3-44.3' (2:45); 44.3-44.4' (0:15) R10: Similar to R1 above						
	R2	13.2/9	36.2 - 37.3	RQD = 0%											
	R3	8.4/6	37.3 - 38.0	RQD = 0%											
	R4	12/12	38.0 - 39.0	RQD = 0%											
	R5	13.2/11	39.0 - 40.1	RQD = 0%											
	R6	10.8/7	40.1 - 41.0	RQD = 0%											
	R7	14.4/7	41.0 - 42.2	RQD = 0%											
	R8	13.2/2	42.2 - 43.3	RQD = 0%											
	R9	13.2/11	43.3 - 44.4	RQD = 0%											
	R10	7.2/5	44.4 - 45.0	RQD = 0%											
45															
50															
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 20 ft. Casing driven (advanced) after washing ahead, casing blows not recorded.															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 3					
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BWS-103					

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS										Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BWS-103 WIN: 18915.00			
Driller: Northern Test Borings, Inc.					Elevation (ft.): 107.1					Auger ID/OD: --							
Operator: M. Nadeau					Datum: NAVD 88					Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer					Rig Type: Diedrich D50 Track (Rig #377)					Hammer Wt./Fall: SS-140#/30; HW-140#							
Date Start/Finish: 07-9-18/07-9-18					Drilling Method: SSA/HW Drive					Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 515+26, 54.9 Rt.					Casing ID/OD: HW-4.0 in. ID					Water Level*: 3.8 ft							
Hammer Efficiency Factor: 0.907					Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>												
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test																	
Sample Information																	
Visual Description and Remarks																	
Laboratory Testing Results/ AASHTO and Unified Class.																	
Recovery=71% R10 Core Times (min:sec): 44.5-45.0' (2:45) Bottom of Exploration at 45.0 feet below ground surface.																	
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 20 ft. Casing driven (advanced) after washing ahead, casing blows not recorded.																	
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.																	
Page 3 of 3 Boring No.: BB-BWS-103																	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BWS-104(OW) WIN: 18915.00					
Driller: Northern Test Borings, Inc.		Elevation (ft.): 100.9		Auger ID/OD: --							
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20							
Date Start/Finish: 07-10-18/07-10-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 516+58.8, 62.9 Rt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: See Remarks							
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/21	0.0 - 2.0	1/1/2/3	3	5	SSA			Grey grading to brown, moist, medium stiff, Clayey SILT, trace fine sand, trace organics, slightly mottled, naturally-deposited reworked soil -FILL-(ML)	
	2D	24/15	2.0 - 4.0	3/4/7/9	11	17				Grey-brown, moist, very stiff, Clayey SILT -FILL-(ML)	
5	3D	24/13	4.0 - 6.0	12/14/14/7	28	42		96.9		Brown, wet, dense, Silty fine to coarse GRAVEL, some fine to coarse sand -FILL-(GM)	
	4D	24/17	6.0 - 8.0	7/8/10/11	18	27	30	94.9		Brown, moist, very stiff, Silty CLAY, little sand -MARINE DEPOSIT-(CL-ML)	G#474548 A-4(2) (CL-ML) LL=21 PL=16 PI=5 WC=17.4
							46				
							51			Note: Gradual color change at approximately 9.8 ft.	
10	5D	24/18	10.0 - 12.0	8/11/16/17	27	41	OPEN			Grey, moist, hard, Silty CLAY, trace sand, trace fine gravel -MARINE DEPOSIT-(CL-ML)	G#474549 A-4(4) (CL-ML) LL=24 PL=17 PI=7 WC=15.4
										Note: Drill action indicates probable cobble from approximately 14.5 to 15.0 ft.	
15	6D	24/20	15.0 - 17.0	9/11/14/16	25	38				Grey, moist, hard, Silty CLAY, little sand, trace gravel -MARINE DEPOSIT-(CL-ML)	G#474550 A-4(3) (CL-ML) LL=21 PL=14 PI=7 WC=12.2
20	7D	24/21	20.0 - 22.0	12/12/14/14	26	39				Grey, moist, hard, Silty CLAY, little sand -MARINE DEPOSIT-(CL-ML)	G#474551 A-4(2) (CL-ML) LL=21 PL=16 PI=5 WC=14.7
25											
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded. 2. Observation well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 3		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: BB-BWS-		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BWS- WIN: 18915.00					
Driller: Northern Test Borings, Inc.		Elevation (ft.): 100.9		Auger ID/OD: --							
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/#							
Date Start/Finish: 07-10-18/07-10-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 516+58.8, 62.9 Rt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: See Remarks							
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt		R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person		S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected							
				T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
25	8MD	16/0	25.0 - 26.3	16/28/50(4")	78	118	HW	75.9		No recovery, possibly pushed on cobble.	qp=2,490 psi (41.3-41.9')
	9D	10/10	27.0 - 27.8	22/50(4")						Grey, moist, hard, SILT, little fine to coarse sand, trace fine to coarse gravel -GLACIAL TILL-(ML)	
30	10D	24/20	30.0 - 32.0	10/11/31/31	42	63				Grey, dry, hard, SILT, some fine to coarse sand, trace fine to coarse gravel -GLACIAL TILL-(ML)	
35	11D	9.96/11	35.0 - 35.8	30/50(4")						Grey, dry, hard, SILT, some fine to coarse sand, trace fine to coarse gravel -GLACIAL TILL-(ML)	
								64.1	Top of Bedrock at El. 64.1		
	R1	60/60	38.0 - 43.0	RQD = 70%			NQ CORE			R1: Grey, fine-grained to aphanitic SILTSTONE with frequent thin calcite or quartz veins, hard, fresh. Primary joints dipping at steep angles, spaced very close to close, tight to open, planar to undulating, smooth. Secondary joints dipping at low to moderate angles, spaced moderately close, tight to open, planar to undulating, smooth. Few joint faces healed with calcite. Fracturing frequency decreases with depth. Slight pitting observed. Rock Quality=Fair Recovery=100% -BREWER FORMATION- R1 Core Times (min:sec): 38.0-39.0' (10:60); 39.0-40.0' (8:00); 40.0-41.0' (7:15); 41.0-42.0' (3:30); 42.0-43.0' (4:15) R2: Core barrel became plugged at 45.9 ft. Similar to R1 with 1 to 2-in. thick quartz intrusions. Highly fractured due to drilling process. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION- R2 Core Times (min:sec): 45.0-45.9' (1:00) R3: White aphanitic to medium grained quartz intrusion. Hard, fresh. Moderate angle contact with parent rock. Rock Quality=Very Good Recovery=76% -BREWER FORMATION R3 Core Times (min:sec): 45.9-46.9' (4:00); 46.9-47.9' (7:00);	
40											
	R2	35/35	43.0 - 45.9	RQD = 0%							
45	R3	25/25	45.9 - 48.0	RQD = 76%							
50								52.9			
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded. 2. Observation well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 3	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BWS-	

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-BWS-105 WIN: 18915.00				
Driller: Northern Test Borings, Inc.		Elevation (ft.): 106.9		Auger ID/OD: --						
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20						
Date Start/Finish: 07-11-18/07-11-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 518+14, 52.4 Rt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: Not Measured						
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/16	0.0 - 2.0	1/1/2/4	3	5	SSA		Grey-brown, moist, medium stiff, Silty CLAY, trace organics, trace fine gravel -FILL-(CL)	
	2D	24/13	2.0 - 4.0	2/2/3/4	5	8			Grey, moist, medium stiff, Silty CLAY, 1-in. peat layer -FILL-(CL)	
5	3D	24/22	4.0 - 6.0	2/2/2/2	4	6			Grey, moist, medium stiff, Silty CLAY -FILL-(CL)	
	4D	24/19	6.0 - 8.0	3/3/4/3	7	11			Grey, moist, stiff, Silty CLAY -FILL-(CL)	
	5D	24/13	8.0 - 10.0	3/3/4/3	7	11		99.4 98.9	Grey-brown, moist, stiff, Clayey SILT, trace fine to coarse sand, trace fine to coarse gravel -FILL-(ML)	7.5
10	6D	24/19	10.0 - 12.0	8/17/23/29	40	60	HW	97.4	Grey, moist, stiff, Silty CLAY -FILL-(CL)	8.0
									Grey-brown, moist, hard, Clayey SILT, trace fine to coarse gravel -FILL-(ML) Brown, moist, hard, SILT, trace fine to coarse gravel, trace fine to coarse sand -FILL-(ML)	9.5
15	7D	24/20	15.0 - 17.0	7/13/9/19	22	33		91.9 90.9	Grey, moist, dense, fine to coarse SAND, little fine to coarse gravel, little silt, top 10 in. of sample -FILL-(SP) Brown, moist, hard, SILT, trace organics FILL-(ML)	15.0 16.0
20	8D	24/24	20.0 - 22.0	7/7/8/9	15	23		87.4	Olive-brown, moist, very stiff, Silty CLAY, mottled -MARINE DEPOSIT-(CL)	19.5
25										
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: BB-BWS-105	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-BWS-105 WIN: 18915.00																																																																																																										
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement Location: Brewer, Maine		Boring No.: BB-BWS-201 WIN: 18915.00					
Driller: New England Boring Contractors			Elevation (ft.): 118.3			Auger ID/OD: --					
Operator: B. Enos			Datum: NAVD 88			Sampler: Split-Spoon 1.375 in. ID					
Logged By: J. Fletcher			Rig Type: Mobile B53			Hammer Wt./Fall: HW-140#/30 in.; SS-140#/30					
Date Start/Finish: 12-11-19/12-12-19			Drilling Method: HW Drive to 30.0'			Core Barrel: --					
Boring Location: Sta. 512+34, 81 RT			Casing ID/OD: HW-4.0 in. ID			Water Level*: 11.0 ft					
Hammer Efficiency Factor: 0.842			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
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Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/15	0.0 - 2.0	1/2/3/2	5	7	HW PUSH			Brown mottled, wet, medium stiff, Silty CLAY, organics -FILL-(CL)	
										Similar to 1D, except very stiff -FILL-(CL)	
	2D	24/22	2.0 - 4.0	3/7/10/15	17	24				Similar to 1D, except very stiff -FILL-(CL)	
5											
	3D	24/24	4.0 - 6.0	3/6/6/9	12	17				Similar to 1D, except very stiff, trace gravel -FILL-(CL)	
							44	110.7	Note: Gravel layer. Brown, dry, hard, SILT, little medium sand, little gravel -FILL-(ML)		
	5D	24/19	8.0 - 10.0	13/18/17/17	35	49	122				
							130				
10											
	6D	24/19	10.0 - 12.0	24/20/14/12	34	48	HW	108.1		Brown, moist, dense, fine to medium SAND, some silt, little gravel -GLACIAL TILL-(SM)	
15											
	7D	24/5	15.0 - 17.0	10/13/15/18	28	39		103.3		Brown, moist, hard, Silty CLAY, trace medium sand -GLACIAL TILL-(CL)	
20											
	8D	24/20	20.0 - 22.0	14/31/21/37	52	73				Brown, moist, hard, Silty CLAY, trace coarse sand, trace fine gravel -GLACIAL TILL-(CL)	
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Wilson Street Bridge Replacement Location: Brewer, Maine			Boring No.: BB-BWS-201 WIN: 18915.00						
Driller: New England Boring Contractors				Elevation (ft.): 118.3			Auger ID/OD: --							
Operator: B. Enos				Datum: NAVD 88			Sampler: Split-Spoon 1.375 in. ID							
Logged By: J. Fletcher				Rig Type: Mobile B53			Hammer Wt./Fall: HW-140#/30 in.; SS-							
Date Start/Finish: 12-11-19/12-12-19				Drilling Method: HW Drive to 30.0'			Core Barrel: --							
Boring Location: Sta. 512+34, 81 RT				Casing ID/OD: HW-4.0 in. ID			Water Level*: 11.0 ft							
Hammer Efficiency Factor: 0.842				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>										
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.			
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows							
25	9D	24/13	25.0 - 27.0	22/27/24/18	51	72	HW	92.2		Grey, moist, very dense, fine to medium SAND, some silt, trace gravel -GLACIAL TILL-(SM)				
30	10D	24/24	30.0 - 32.0	27/37/24/89	61	86	OPEN	88.3				Grey, wet, hard, fine Sandy SILT, trace gravel -GLACIAL TILL-(ML)		
35	11D	24/24	35.0 - 37.0	22/33/41/63	74	104						Grey, moist, hard, fine Sandy SILT -GLACIAL TILL-(ML)		
40	12D	24/24	40.0 - 42.0	63/85/92/100	177	248		78.3				Grey, moist, very dense, fine to medium SAND, some silt, trace gravel -GLACIAL TILL-(SM)		
								76.3				Bottom of Exploration at 42.0 feet below ground surface.		
45														
50														
Remarks:														
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 2				
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BWS-201				

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement Location: Brewer, Maine		Boring No.: BB-BWS-202 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 143.8		Auger ID/OD: --						
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B53; NEBC #23 hammer		Hammer Wt./Fall: HW-140#/30 in.; SS-140#/30						
Date Start/Finish: 12-02-19/12-05-19		Drilling Method: SSA 0-10'; NW/HW Drive to 72.5'		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 513+64, 45 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 35.8 ft						
Hammer Efficiency Factor: 0.842		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0							SSA	143.1	-BITUMINOUS CONCRETE-	
	1D	24/18	1.0 - 3.0	22/18/22/32	40	56			Brown, dry, very dense, fine to medium SAND, some silt, little fine to coarse gravel -FILL-(SP)	
	2D	24/18	3.0 - 5.0	18/19/19/50(4")	38	53			Brown, dry, very dense, fine to medium SAND, some fine to coarse gravel, little silt -FILL-(SP)	
5	3D	24/15	5.0 - 7.0	10/30/40/26	70	98		138.8	Brown-grey, dry, very dense, fine to coarse SAND, some fine to coarse gravel, little silt -FILL-(SW)	
	4D	24/15	7.0 - 9.0	19/37/33/40	70	98			Brown to tan, dry, very dense, fine to coarse SAND, little silt, little fine to coarse gravel -FILL-(SW)	
10	5D	24/12	10.0 - 12.0	33/41/62/52	103	145	HW		Brown to grey, moist to wet, very dense, fine to coarse SAND, some gravel, trace silt -FILL-(SW)	
15	6D	24/15	15.0 - 17.0	25/24/19/59	43	60	45	128.8	Brown, moist, very dense, fine to medium SAND, little gravel, trace silt, trace coarse sand -FILL-(SP)	
							28			
							65			
							150			
							94			
20	7D	24/13	20.0 - 22.0	28/39/41/54	80	112	60	123.8	Brown, moist, very dense, fine to coarse SAND, trace fine gravel -FILL-(SW)	
							62			
							225			
							172			
25							203			
Remarks: 1. BWS-202 Stationing in reference to the Connector Baseline is: STA 48+08.9 208.9 Lt.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 4	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: BB-BWS-202	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement Location: Brewer, Maine		Boring No.: BB-BWS-202 WIN: 18915.00					
Driller: New England Boring Contractors				Elevation (ft.): 143.8		Auger ID/OD: --					
Operator: B. Enos				Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID					
Logged By: J. Fletcher				Rig Type: Mobile B53; NEBC #23 hammer		Hammer Wt./Fall: HW-140#/30 in.; SS-					
Date Start/Finish: 12-02-19/12-05-19				Drilling Method: SSA 0-10'; NW/HW Drive to 72.5'		Core Barrel: NQ-2.0 in. ID					
Boring Location: Sta. 513+64, 45 LT				Casing ID/OD: HW-4.0 in. ID		Water Level*: 35.8 ft					
Hammer Efficiency Factor: 0.842				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
25	8D	24/15	25.0 - 27.0	21/26/28/32	54	76	51	118.8		Brown, moist, very dense, fine to coarse SAND, some gravel -FILL-(SW)	
							47				
							52				
							90				
							137				
30	9D	24/6	30.0 - 32.0	6/8/7/12	15	21	67	113.8		Grey, moist, medium dense, fine to coarse GRAVEL, some clay, some fine to coarse sand -FILL-(GM)	
							82				
							77				
							139				
							121				
35	10D 10A	0/0 24/15	35.0 - 35.0 35.5 - 37.5	50/0" 63/43/41/23	84	118	71	108.8		Note: Split-spoon refusal at 35.0 ft; advanced roller bit to 35.5 ft and re-sample. Grey to dark gray, moist, very dense, fine to coarse SAND, some gravel, trace silt -FILL-(SW)	
							87				
							75				
							120	106.6			
							135				
40	11D	24/3	40.0 - 42.0	25/22/14/24	36	51	83		Grey, moist, very dense, coarse SAND, some fine gravel, trace fine to medium sand -FILL-(SP)		
							114				
							62				
							81				
							132				
45	12D	24/17	45.0 - 47.0	9/24/27/24	51	72	HW	99.8	Grey, moist, hard, Clayey SILT, trace coarse sand, trace fine gravel -MARINE DEPOSIT-(ML)		
50											
Remarks: 1. BWS-202 Stationing in reference to the Connector Baseline is: STA 48+08.9 208.9 Lt.											
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement Location: Brewer, Maine				Boring No.: BB-BWS-202 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 143.8				Auger ID/OD: --			
Operator: B. Enos				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B53; NEBC #23 hammer				Hammer Wt./Fall: HW-140#/30 in.; SS-			
Date Start/Finish: 12-02-19/12-05-19				Drilling Method: SSA 0-10'; NW/HW Drive to 72.5'				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 513+64, 45 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 35.8 ft			
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing	Blows			
50	13D	24/23	50.0 - 52.0	18/19/26/27	45	63	HW		Grey, moist, hard, Silty CLAY to Clayey SILT, little medium sand, trace gravel -MARINE DEPOSIT-(CL/ML)		
55	14D	24/24	55.0 - 57.0	33/33/35/42	68	95			Grey, wet, hard, Silty CLAY to Clayey SILT, trace medium sand -MARINE DEPOSIT-(CL/ML)		
60	15D	24/24	60.0 - 62.0	22/37/55/68	92	129	27		Grey, wet, hard, fine Sandy SILT to Clayey SILT, little fine sand, trace coarse sand -MARINE DEPOSIT-(ML/CL)		
65	16D	24/21	65.0 - 67.0	25/37/43/50(1")	80	112	84		Dark grey, wet, hard, SILT, little fine to medium sand, trace fine gravel -GLACIAL TILL-(ML)		
	R1	60/52	66.7 - 71.7				NQ		Grey, very dense, wet, fine to coarse SAND, little silt, little gravel -GLACIAL TILL-(SW-SM) R1: Recovered cobble. R1 Core Times (min:sec): 66.7-67.7' (1:58); 67.7-68.7' (1:11); 68.7-69.7' (1:24); 69.7-70.7' (1:09); 70.7-71.7' (1:54)		
70	17D	10/4	71.7 - 72.5	9/135(4.0")			100		Grey, very dense, wet, fine to coarse SAND, some gravel, trace silt, weathered rock fragments -GLACIAL TILL-(SW)		
	R2	49/51	72.5 - 76.6	RQD = 88%			NQ CORE		Top of Bedrock at El. 71.3 Hard, fresh, light grey, aphanitic to fine-grained SCHIST. Joints dipping moderate to high angles, moderately spaced, planar,		
75											
Remarks: 1. BWS-202 Stationing in reference to the Connector Baseline is: STA 48+08.9 208.9 Lt.											
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Page 3 of 4 Boring No.: BB-BWS-202											

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Boring No.: BB-BWS-202																																																																																																																																																																																																																																																																																																	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement		Boring No.: BB-BWS-203					
				Location: Brewer, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 111.2		Auger ID/OD: --							
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B53		Hammer Wt./Fall: HW-140#/30 in.; SS-140#/30							
Date Start/Finish: 12-11-2019; 12-11-2019		Drilling Method: HW to 20.0'; NW to 44.5'		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 515+19, 14 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*:							
Hammer Efficiency Factor: 0.842		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
0	1D	24/8	0.0 - 2.0	3/4/8/12	12	17	HW PUSH			Grey to brown, moist, medium dense, fine to coarse GRAVEL, some fine sand, trace silt, well graded -FILL-(GW)	
	2D	24/17	2.0 - 4.0	26/30/31/38	61	86				Similar to 1D, except very dense -FILL-(GW) Note: Granite gravel layer at 3.5 ft.	
5	3D	24/23	4.0 - 6.0	12/12/15/17	27	38				Brown, dry, hard, SILT, some gravel -FILL-(ML) Similar to above -FILL-(ML)	
	4D	24/20	6.0 - 8.0	11/11/11/10	22	31				Brown, dry, hard, SILT -FILL-(ML)	
	5D	24/24	8.0 - 10.0	7/8/9/9	17	24				Grey, moist, very stiff, Silty CLAY, organics (roots) -FILL-(CL)	
10										Grey, moist, very stiff, Silty CLAY -MARINE DEPOSIT-(CL)	
15	6D	24/19	15.0 - 17.0	14/17/21/26	38	53				Brown, wet, hard, Clayey SILT, trace medium to coarse sand, trace gravel -MARINE DEPOSIT-(ML)	
20	7D	24/16	20.0 - 22.0	7/16/18/18	34	48				Brown-grey, wet, hard, SILT, trace fine sand -MARINE DEPOSIT-(ML)	
25											
Remarks: 1. BWS-203 Stationing in reference to the Connector Baseline is: STA 48+34 45.1 Lt.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 3	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BWS-203	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement Location: Brewer, Maine				Boring No.: BB-BWS-203 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 111.2				Auger ID/OD: --			
Operator: B. Enos				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B53				Hammer Wt./Fall: HW-140#/30 in.; SS-			
Date Start/Finish: 12-11-2019; 12-11-2019				Drilling Method: HW to 20.0'; NW to 44.5'				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 515+19, 14 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*:			
Hammer Efficiency Factor: 0.842				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
25	8D	24/15	25.0 - 27.0	8/21/27/28	48	67	HW			Grey, wet, hard, Clayey SILT, trace fine sand -MARINE DEPOSIT-(ML)	
30	9D	24/24	30.0 - 32.0	23/31/32/50	63	88				Grey, wet, hard, SILT, trace fine sand -MARINE DEPOSIT-(ML)	
35	10D	24/8	35.0 - 37.0	8/4/52/73	56	79				Grey, wet, hard, SILT, trace fine sand, trace gravel -MARINE DEPOSIT-(ML)	
40	11D	24/12	40.0 - 42.0	22/100(4")						Similar to 10D, except trace fine to coarse sand -GLACIAL TILL-(GM)	
45	R1	60/60	45.0 - 50.0	RQD = 92%			CORE			Top of Bedrock at El. 66.7 Hard, fresh, grey, aphanitic to fine-grained SCHIST. Joints dipping at moderate to high angles, very close to moderately close, planar to undulating, rough, open. Rock Quality=Excellent Recovery=100% -BREWER FORMATION- R1 Core Times (min:sec): 45.0-46.0' (2:52); 46.0-47.0' (3:54); 47.0-48.0' (3:36); 48.0-49.0' (2:30); 49.0-50.0' (4:30)	qp=4448 psi (45.3-45.9')
50											
Remarks: 1. BWS-203 Stationing in reference to the Connector Baseline is: STA 48+34 45.1 Lt.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 3 Boring No.: BB-BWS-203	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement Location: Brewer, Maine				Boring No.: BB-BWS-203 WIN: 18915.00																																																																																																																																																																																			
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement		Boring No.: BB-BWS-204				
				Location: Brewer, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 136.3		Auger ID/OD: --						
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B53		Hammer Wt./Fall: HW-140#/30 in.; SS-140#/30						
Date Start/Finish: 12-5-2019; 12-6-2019		Drilling Method: SSA to 10.0'; HW to 35.0'		Core Barrel: --						
Boring Location: Sta. 516+07, 39 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 8.0 ft						
Hammer Efficiency Factor: 0.842		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
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Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0							SSA	135.9	-BITUMINOUS CONCRETE-	
	1D	24/17	1.0 - 3.0	13/27/40/36	67	94			Brown to grey, dry, very dense, fine to medium SAND, some gravel, trace silt, trace coarse sand -FILL-(SP)	
	2D	24/24	3.0 - 5.0	49/65/47/38	112	157			Brown to grey, dry, very dense, fine to medium Silty SAND, trace coarse sand, trace fine gravel -FILL-(SM)	
5	3D	24/18	5.0 - 7.0	28/27/28/21	55	77			Brown to grey, dry, very dense, SAND, little silt and gravel, well graded -FILL-(SW-SM)	G#545433 A-1-a(0) SW-SM
	4D	24/13	7.0 - 9.0	39/22/25/32	47	66			Brown to grey, dry, very dense, fine to medium SAND, little gravel, trace silt, trace coarse sand -FILL-(SP)	
10	5D	24/18	9.0 - 11.0	21/25/18/19	43	60			Brown to grey, dry, very dense, fine to medium Silty SAND, trace coarse sand, trace gravel -FILL-(SM)	
	6D	24/13	11.0 - 13.0	18/31/25/23	56	79			Brown to grey, dry, very dense, fine to medium SAND, some gravel, trace silt, trace coarse sand -FILL-(SP)	
	7D	24/19	13.0 - 15.0	50/34/31/49	65	91			Brown, dry, very dense, SAND, little silt and gravel, well graded -FILL-(SW-SM)	G#545437 A-1-b(0) SW-SM
15	8D	24/8	15.0 - 17.0	27/32/27/25	59	83	25		Brown to dark grey, wet, very dense, fine to coarse SAND, some fine to coarse gravel, trace silt -FILL-(SW)	G#545438 A-1-b(0)
							38			
	9D	24/14	17.0 - 19.0	19/15/38/39	53	74	63		Brown to grey, moist, very dense, fine to medium Silty SAND, little coarse sand, little gravel -FILL-(SM)	
							67			
20	10D	24/7	19.0 - 21.0	15/23/21/11	44	62	48		Brown to dark grey, wet, very dense, Gravelly fine to coarse SAND, trace silt -FILL-(SW)	G#545440 A-1-a(1) SW
							73			
	11D	24/12	21.0 - 23.0	13/11/11/10	22	31	62		Brown to brown-grey, moist, dense, Sandy SILT, little gravel -FILL-(ML)	G#545441 A-4(0) ML
							83			
	12D	24/7	23.0 - 25.0	5/4/4/4	8	11	27		Brown, moist, stiff, SILT, little fine to coarse sand, trace clay -FILL-(ML)	G#545442 A-4(0) ML
25							31			
Remarks: 1. BWS-204 Stationing in reference to the Connector Baseline is: STA 49+23.6 5.2 Rt.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: BB-BWS-204	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement Location: Brewer, Maine				Boring No.: BB-BWS-204 WIN: 18915.00							
Driller: New England Boring Contractors				Elevation (ft.) 136.3				Auger ID/OD: --							
Operator: B. Enos				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID							
Logged By: J. Fletcher				Rig Type: Mobile B53				Hammer Wt./Fall: HW-140#/30 in.; SS-							
Date Start/Finish: 12-5-2019; 12-6-2019				Drilling Method: SSA to 10.0'; HW to 35.0'				Core Barrel: --							
Boring Location: Sta. 516+07, 39 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 8.0 ft							
Hammer Efficiency Factor: 0.842				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected				Tv = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test			
Sample Information															
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (1/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.				
25	13D	24/15	25.0 - 27.0	8/11/9/10	20	28	29	109.6		Brown, moist, very stiff, SILT, little fine to coarse sand, trace clay, trace gravel -FILL-(ML)	26.7				
							38			Brown, moist, very stiff, SILT, trace to some fine to coarse sand -GLACIAL TILL-(ML)					
										HW					
30	14D	24/9	30.0 - 32.0	20/73/58/31	131	184		106.3		-----30.0	30.0				
										Brown, moist, very dense, fine to coarse SAND, some gravel, little silt -GLACIAL TILL-(SW-SM)					
										104.5		31.8			
										104.3		32.0			
35	15D	24/9	35.0 - 37.0	37/41/47/43	88	123		99.3		Brown, wet, very dense, fine to coarse SAND, some gravel, little silt -GLACIAL TILL-(SW-SM)	37.0				
40															
45															
50															
Remarks: 1. BWS-204 Stationing in reference to the Connector Baseline is: STA 49+23.6 5.2 Rt.															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 2					
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BWS-204					

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement Location: Brewer, Maine		Boring No.: BB-BWS-205 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 135.7		Auger ID/OD: --						
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B53		Hammer Wt./Fall: HW-140#/30 in.; SS-140#/30						
Date Start/Finish: 12-10-2019; 12-10-2019		Drilling Method: HW to 54.0'		Core Barrel: --						
Boring Location: Sta. 516+30, 76 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --						
Hammer Efficiency Factor: 0.842		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/17	0.0 - 2.0	25/23/20/18	43	60	HW PUSH	135.2	-BITUMINOUS CONCRETE-	G#545432 A-1-a(1) GW-GM
								133.7	-FILL-(SM) Brown, dry, very dense, fine to coarse SAND, some silt, trace gravel -FILL-(GW-GM)	
	2D	24/16	2.0 - 4.0	12/10/29/28	39	55		131.7	Brown, dry, very dense, Sandy GRAVEL, trace silt, well graded -FILL-(SP-SM)	G#545434 A-1-b(0) SW-SM
								129.7	Brown, dry, medium dense, SAND, some gravel, little silt, well graded -FILL-(SW-SM)	
5	3D	24/19	4.0 - 6.0	14/16/18/17	34	48		127.7	Brown, moist, very dense, fine to medium SAND, some silt, some gravel, trace coarse sand -FILL-(SM)	G#545435 A-2-4(0) SM
								123.7	Brown, wet, medium dense, fine to coarse SAND, some silt, some fine to coarse gravel -FILL-(SM)	
10	6D	24/8	10.0 - 12.0	10/7/7/9	14	20	72	119.7	Brown, moist, very dense, fine to coarse SAND, little gravel, trace silt -FILL-(SW) No Recovery	G#545436 A-2-4(0) SM
								119.7	Brown to grey, wet, hard, fine to medium Sandy SILT -FILL-(ML)	
15	7D	24/11	12.0 - 14.0	6/14/25/14	39	55	43		Brown to grey, moist, hard, SILT, some fine to coarse sand, trace gravel -FILL-(ML)	G#545439 A-4(0) ML
									Brown to grey, wet, very stiff, SILT, some fine to medium sand, trace gravel -FILL-(ML)	
20	8D	24/0	14.0 - 16.0	4/5/3/5	8	11	34		Brown, moist to wet, hard, SILT, little fine to medium sand -FILL-(ML) No Recovery	
	9D	24/13	16.0 - 18.0	9/11/21/15	32	45	47			
	10D	24/15	18.0 - 20.0	8/14/8/4	22	31	64			
	11D	24/15	20.0 - 22.0	5/7/8/15	15	21	HW			
	12D	24/11	22.0 - 24.0	12/12/14/8	26	36				
25	13D	24/0	24.0 - 26.0	5/7/15/9	22	31	✓			
Remarks: 1. Hole caved to 14.0 ft after removing casing, dry. 2. 1. BWS-205 Stationing in reference to the Connector Baseline is: STA 49+67.0 6.7 Rt.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 3	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: BB-BWS-205	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement Location: Brewer, Maine				Boring No.: BB-BWS-205 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 135.7				Auger ID/OD: --			
Operator: B. Enos				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B53				Hammer Wt./Fall: HW-140#/30 in.; SS-			
Date Start/Finish: 12-10-2019; 12-10-2019				Drilling Method: HW to 54.0'				Core Barrel: --			
Boring Location: Sta. 516+30, 76 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: --			
Hammer Efficiency Factor: 0.842				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
25							HW				
	14D	24/24	26.0 - 28.0	12/9/25/10	34	48				Brown, wet to moist, hard, SILT, little fine to medium sand, trace gravel -FILL-(ML)	
	15D	24/21	28.0 - 30.0	11/11/22/17	33	46				Brown to rust-brown, moist, hard, SILT, little fine sand, little gravel -FILL-(ML)	
30	16D	24/12	30.0 - 32.0	14/37/18/27	55	77	31			Brown to grey, moist, hard, fine to medium Sandy SILT, trace coarse sand, trace gravel -FILL-(ML)	
							55				
	17D	24/16	32.0 - 34.0	15/25/41/22	66	93	58			Brown, moist, very dense, fine to coarse SAND, little silt, trace gravel -FILL-(SP-SM)	
							76				
	18D	24/6	34.0 - 36.0	16/23/26/16	49	69	51			Grey, wet, very dense, fine to medium SAND, some gravel, little silt -FILL-(SP)	
35							57				
	19D	24/17	36.0 - 38.0	38/23/50/50	73	102	72			Brown, moist, very dense, fine to medium Silty SAND, trace coarse sand, trace gravel -FILL-(SM)	
							59				
	20D	24/6	38.0 - 40.0	11/10/7/3	17	24	77			Grey, moist, very stiff, SILT, little fine to coarse sand, trace gravel -FILL-(ML)	
							151				
40	21D	24/0	40.0 - 42.0	5/5/9/8	14	20	101			No Recovery	
							96				
	22D	24/15	42.0 - 44.0	2/3/2/2	5	7	103			Grey, wet, medium stiff, SILT, some fine sand, little gravel -FILL-(ML)	
							52				
	23D	24/19	44.0 - 46.0	16/17/15/21	32	45	92			Grey to dark grey, moist, dense, fine to medium Silty SAND, trace gravel -FILL-(SM)	
45							132				
	24D	24/16	46.0 - 48.0	4/8/7/9	15	21	49			Note: Bricks and fine to coarse sand, trace gravel encountered from 46.0 to 46.4 ft.	
							57				
	25D/A	24/24	48.0 - 50.0	6/6/11/18	17	24	59			Grey, moist, very stiff, Silty CLAY -MARINE DEPOSIT-(CL) Grey to brown mottled, moist, very stiff, Silty CLAY to Clayey SILT -MARINE DEPOSIT-(CL/ML)	
50							72				
Remarks: 1. Hole caved to 14.0 ft after removing casing, dry. 2. 1. BWS-205 Stationing in reference to the Connector Baseline is: STA 49+67.0 6.7 Rt.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 3	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BWS-205	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement		Boring No.: BB-BWS-206				
				Location: Brewer, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 134.6		Auger ID/OD: --						
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B53		Hammer Wt./Fall: HW-140#/30 in.; SS-140#/30						
Date Start/Finish: 12-06-2019; 12-10-2019		Drilling Method: HW drive to 79.0'		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 516+96, 37 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 30.0 ft						
Hammer Efficiency Factor: 0.842		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/17	0.0 - 2.0	40/85/27/20/18	112	157	HW PUSH	133.8	-BITUMINOUS CONCRETE-	
								132.6	Brown, dry, hard, fine to medium SAND, some silt, little gravel -FILL-(SM)	
	2D	24/18	2.0 - 4.0	18/7/21/20	28	39			Grey, dry, hard, SILT, some fine to coarse sand, some gravel -FILL-(ML)	
5	3D	24/21	4.0 - 6.0	20/25/20/26	45	63			Grey, dry, hard, SILT, some gravel, little fine to coarse sand -FILL-(ML)	
							62			
							63			
							71			
10	4D	24/24	9.0 - 11.0	15/12/12/11	24	34			Brown, dry, hard, SILT, little fine to coarse sand, little gravel -FILL-(ML)	
							67			
							81			
							84			
							91			
15	5D	24/16	14.0 - 16.0	18/19/19/20	38	53	HW		Brown, moist, hard, SILT, trace fine sand -FILL-(ML)	
							58			
							62			
							63			
20	6D	24/16	19.0 - 21.0	13/19/23/38	42	59			Brown to rust-brown, wet, hard, SILT, little fine sand, trace coarse sand -FILL-(ML)	
							56			
							63			
							68			
							81			
25	7D	24/13	24.0 - 26.0	17/19/17/21	36	51			Brown, wet, hard, Clayey SILT, little fine sand -FILL-(ML)	
Remarks: 1. BWS-206 Stationing in reference to the Connector Baseline is: STA 49+66.4 83.6 Rt.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 4	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: BB-BWS-206	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement Location: Brewer, Maine				Boring No.: BB-BWS-206 WIN: 18915.00							
Driller: New England Boring Contractors				Elevation (ft.): 134.6				Auger ID/OD: --							
Operator: B. Enos				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID							
Logged By: J. Fletcher				Rig Type: Mobile B53				Hammer Wt./Fall: HW-140#/30 in.; SS-							
Date Start/Finish: 12-06-2019; 12-10-2019				Drilling Method: HW drive to 79.0'				Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 516+96, 37 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 30.0 ft							
Hammer Efficiency Factor: 0.842				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected				T _y = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test			
Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.			
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing	Blows							
25								132		Brown to dark grey, wet, very dense, Sandy GRAVEL, little silt -FILL-(GW-GM) Note: Split-spoon refusal at 30.0 ft.					
								303							
								HW							
	8D	12/5	29.0 - 30.0	63/82											
30															
										Brown, moist, very stiff, fine Sandy SILT, little coarse sand, trace fine gravel -FILL-(ML)					
								63							
	9D	24/9	34.0 - 36.0	10/9/6/7	15	21	69								
35							68								
							74								
							51								
							83								
										Brown to grey, wet, very dense, fine to coarse Sandy GRAVEL, little silt -FILL-(GW-GM)					
								63							
								88							
	10D	24/7	39.0 - 41.0	16/16/47/49	63	88	72								
40							80								
							83								
							85								
							88								
										Grey, wet, very dense, fine to coarse Sandy GRAVEL, trace fine sand, trace silt -FILL-(GW-GM)					
	11D	24/18	44.0 - 46.0	17/12/37/19	49	69	96								
45							60								
							61								
							68								
							71								
										Brown to grey, wet, very stiff, Silty CLAY, trace gravel					
50	12D	24/24	49.0 - 51.0	5/6/8/9	14	20	81								

Remarks:
 1. BWS-206 Stationing in reference to the Connector Baseline is: STA 49+66.4 83.6 Rt.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 2 of 4
Boring No.: BB-BWS-206

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement Location: Brewer, Maine				Boring No.: BB-BWS-206 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 134.6				Auger ID/OD: --			
Operator: B. Enos				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B53				Hammer Wt./Fall: HW-140#/30 in.; SS-			
Date Start/Finish: 12-06-2019; 12-10-2019				Drilling Method: HW drive to 79.0'				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 516+96, 37 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 30.0 ft			
Hammer Efficiency Factor: 0.842				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
50							HW			-MARINE DEPOSIT-(CL)	
	13D	24/18	54.0 - 56.0	29/38/37/21	75	105	65	80.6		Brown, moist, hard, fine Sandy SILT, trace gravel -GLACIAL TILL-(ML)	54.0
55											
							64				
							74				
							81				
							71				
	14D	24/18	59.0 - 61.0	9/11/16/11	27	38	70	75.6		Grey, moist, hard, Silty CLAY, trace fine sand, trace gravel, well bonded -GLACIAL TILL-(CL)	59.0
60							74				
							122				
							77				
							68				
	15D	24/10	64.0 - 66.0	18/15/18/21	33	46	71	70.6		Grey, moist, hard, SILT, little medium to coarse sand, trace fine sand, trace gravel, well bonded -GLACIAL TILL-(ML)	64.0
65							93				
							97				
							169				
							204				
	16D	24/9	69.0 - 71.0	65/34/53/25	87	122	221			Grey, wet, hard, Sandy SILT, little medium to coarse sand, little gravel, trace clay, well bonded -GLACIAL TILL-(ML)	
70							122				
							144				
							151				
							201				
75	17D	24/22	74.0 - 76.0	17/23/43/39	66	93	209			Grey to brown, wet, hard, SILT, little fine to coarse sand, little gravel, well bonded	
Remarks: 1. BWS-206 Stationing in reference to the Connector Baseline is: STA 49+66.4 83.6 Rt.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 3 of 4	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BWS-206	

[illegible]


Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Wilson Street Bridge Replacement Location: Brewer, Maine		Boring No.: BB-BWS-301 WIN: 18915.00							
Driller: S.W. Cole Engineering, Inc.		Elevation (ft.): 100.5		Auger ID/OD: --									
Operator: K. Hascom		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID									
Logged By: M. Snow		Rig Type: Diedrich D50		Hammer Wt./Fall: HW-140#/30 in.; SS-140#/30									
Date Start/Finish: 1-30-2020/1-30-2020		Drilling Method: SSA to 10'; HW 10 to 25'		Core Barrel: --									
Boring Location: Sta. 525+62.1, 84.9 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 12.0 ft									
Hammer Efficiency Factor: 0.977		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>													
Sample Information													
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.		
0	1D	24/20	0.0 - 2.0	2/3/6/4	9	15	SSA			Note: Frozen at ground surface. Brown, dry, stiff, SILT, some fine sand, trace gravel, roots -FILL-(ML)	G#545430 A-4(0) ML		
5	2D	24/18	5.0 - 7.0	6/6/6/6	12	20							
10	3D	24/14	10.0 - 12.0	1/3/5/4	8	13	32						
							55						
	4D	24/22	12.0 - 14.0	3/3/3/3	6	10	46						
							48						
15	1U	24/24	14.0 - 16.0				53						
							50						
	2U	24/19	16.0 - 18.0				66						
							57						
20	5D	24/21	19.0 - 21.0	2/3/7/10	10	16	69						
							137						
							183						
							209						
							193						
25	6D	24/24	24.0 - 26.0	2/3/4/4	7	11	OPEN						
Remarks: 1. BWS-301 Stationing in reference to the Connector Baseline is: STA 54+66.6 795.2 Rt.													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-BWS-301			

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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ECR-101 WIN: 18915.00	
Driller: Northern Test Borings, Inc.		Elevation (ft.): 201.8		Auger ID/OD: --			
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20			
Date Start/Finish: 07-31-18/07-31-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 215+25.6, 39.4 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 21.9 ft			
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/14	0.3 - 2.3	6/14/18/20	32	48	SSA
	2D	24/8	2.3 - 4.3	8/8/10/11	18	27	
5	3D	24/24	4.3 - 6.3	10/10/11/11	21	32	
							44
							57
							62
							75
10	4D	24/9	10.0 - 12.0	12/21/28/32	49	74	HW
							RC
15	R1	30/30	14.0 - 16.5	RQD = 0%			NQ CORE
	R2	40.8/30	16.5 - 19.9	RQD = 0%			
20	R3	31.2/32	19.9 - 22.5	RQD = 13%			
	R4	21.6/14	22.5 - 24.3	RQD = 18%			
25							
Visual Description and Remarks -BITUMINOUS CONCRETE- Brown, damp, dense, fine to coarse SAND, some silt, little fine to coarse gravel -FILL-(SM)(ROADWAY BASE/SUBBASE MATERIAL) Yellow-brown, moist, very stiff, SILT, trace fine to coarse sand, trace fine gravel, moderately bonded -GLACIAL TILL-(ML) Yellow-brown, moist, hard, SILT, some fine to coarse sand, trace fine gravel, moderately bonded -GLACIAL TILL-(ML) Grey-brown, moist, hard, SILT, some fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML) Top of Bedrock at El. 188.7 R1: Grey, aphanitic, PHYLLITE. Moderately hard, moderate to highly weathered, joints dipping at low to vertical angles, close, tight, slight silt infilling, pyrite observed on some joint surfaces. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION- R1 Core Times (min:sec): 14.0-15.0' (2:12); 15.0-16.0' (2:17); 16.0-16.5' (2:55) R2: Similar to R1, except no infilling. Rock Quality=Very Poor Recovery=73% -BREWER FORMATION R2 Core Times (min:sec): 16.5-17.5' (1:56); 17.5-18.5' (0:17); 18.5-19.5' (2:33); 19.5-19.9' (1:11) Note: Water loss encountered from approximately 17.5 to 18.5 ft. R3: Similar to R1, except no infilling, trace pitting. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION- R3 Core Times (min:sec): 19.9-20.9' (2:17); 20.9-21.9' (2:22); 21.9-22.5' (1:44) Note: 275-gallon water loss for core runs R1 to R3. R4: Similar to R1. Rock Quality=Very Poor							
Laboratory Testing Results/AASHTO and Unified Class.							
G#474393 A-4(0), ML WC=13.3 G#474394 A-4(0), ML WC=12.1							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ECR-102 WIN: 18915.00	
Driller: Northern Test Borings, Inc.		Elevation (ft.): 203.2		Auger ID/OD: --			
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20			
Date Start/Finish: 07-25-18/07-25-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 214+73.7, 36.6 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 5.9 ft			
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/15	0.3 - 2.3	12/10/10/8	20	30	SSA
	2D	24/17	2.3 - 4.3	8/7/5/5	12	18	
5	3D	24/17	4.3 - 6.3	7/9/12/15	21	32	
							89
							122
							198
10	4D	20/9	10.0 - 11.7	29/25/24/50(2")	49	74	HW
							RC
15	R1	33.6/30	14.0 - 16.8	RQD = 21%			NQ CORE
	R2	14.4/14	16.8 - 18.0	RQD = 0%			
	R3	9.6/10	18.0 - 18.8	RQD = 0%			
	R4	15.6/14	18.8 - 20.1	RQD = 0%			
20							
	R5	16.8/17	20.1 - 21.5	RQD = 35%			
	R6	60/53	21.5 - 26.5	RQD = 38%			
25							
<div style="display: flex;"> <div style="flex: 1;"> </div> <div style="flex: 2;"> <p>Visual Description and Remarks</p> <p>0.3- Red-brown, dry, medium dense, fine to coarse SAND, trace fine gravel, trace silt, well graded -FILL-(SW)(ROADWAY BASE/SUBBASE MATERIAL) 2.5- Red-brown grading to yellow-brown, damp, very stiff, Sandy SILT, trace fine gravel, trace organics -GLACIAL TILL-(ML) Yellow-brown, damp, hard, SILT, some fine to coarse sand, trace fine to coarse gravel, moderately bonded -GLACIAL TILL-(ML) 10.0- Grey to yellow-brown, wet, very dense, fine to coarse GRAVEL, little silt, little fine to coarse sand, moderately bonded -GLACIAL TILL-(GM) 12.6- Top of Bedrock at El. 190.6 R1: Grey, aphanitic SILTSTONE. Moderately hard, slightly to highly weathered, joints dipping at low to near-vertical angles, very close to close, tight to open, slight silt infilling, trace pyrite on joint surfaces, highly fractured zone, and moderately to highly weathered from approximately 15.0 to 16.8 ft. Rock Quality=Very Poor Recovery=88% -BREWER FORMATION- R1 Core Times (min:sec): 14.0-15.0' (2:56); 15.0-16.0' (2:21); 16.0-16.8' (3:07) R2: Grey, aphanitic SILTSTONE. Hard, highly weathered grading to slightly weathered, joints dipping at low to near-vertical angles, very close to close, open, slight silt infilling, highly fractured zone from approximately 16.8 to 17.3 ft. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION- R2 Core Times (min:sec): 16.8-17.8' (2:41); 17.8-18.0' (1:15) R3: Grey, aphanitic SILTSTONE. Moderately hard, slightly to moderately weathered, highly fractured throughout, few discernible joints dipping at moderate to steep angles, planar, open. Rock Quality=Very Poor</p> </div> <div style="flex: 0.5; text-align: center;"> <p>Laboratory Testing Results/AASHTO and Unified Class.</p> <p>G#474395 A-4(0), ML WC=13.6</p> </div> </div>							
Remarks: 1. Observaton well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-ECR-102 WIN: 18915.00			
Driller: Northern Test Borings, Inc.				Elevation (ft.): 203.2				Auger ID/OD: --			
Operator: M. Nadeau				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)				Hammer Wt./Fall: SS-140#/30; HW-140#			
Date Start/Finish: 07-25-18/07-25-18				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 214+73.7, 36.6 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 5.9 ft			
Hammer Efficiency Factor: 0.907				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
25										Recovery=100% -BREWER FORMATION- R3 Core Times (min:sec): 18.0-18.8' (1:25) R4: Similar to R3, except set of steep, planar, parallel joints observed at approximately 19.8 to 20.1 ft. Highly fractured zone from approximately 18.8 to 19.3 ft. Recovery=88% -BREWER FORMATION- R4 Core Times (min:sec): 18.8-19.8' (2:26); 19.8-20.1' (0:33) R5: Similar to R3, except highly fractured, slight to moderately weathered zones from approximately 20.1 to 20.4 ft and 21.1 to 21.5 ft. Solid core stem from approximately 20.4 to 21.1 ft, joints moderately to steeply dipping, very close to close, tight to open, pitting observed. Rock Quality=Poor Recovery=100% -BREWER FORMATION- R5 Core Times (min:sec): 20.1-21.1' (1:37); 21.1-21.5' (2:27) R6: Grey, aphanitic SLATE. Moderately hard to hard, fresh to slightly weathered. Primary joints dipping at moderate to steep angles, secondary low angle joints, close to moderately close, planar, tight to open, frequent calcite veins (0.06 to 0.25-in. thick). Highly fractured, moderately to highly weathered zones from approximately 21.5 to 22.5 ft and 23.5 to 24.0 ft. Rock Quality=Poor Recovery=88% -BREWER FORMATION- R6 Core Times (min:sec): 21.5-22.5' (1:50); 22.5-23.5' (1:05); 23.5-24.5' (1:27); 24.5-25.5' (1:22); 25.5-26.5' (2:39) R7: Similar to R6, except majority of core stem is highly fractured, moderately weathered, pitting observed, discernible joints are steeply dipping, close, planar, open. Rock Quality=Very Poor Recovery=79% -BREWER FORMATION- R7 Core Times (min:sec): 26.5-27.5' (2:30); 27.5-28.4' (3:05) -28.4- Bottom of Exploration at 28.4 feet below ground surface.	qp=6,527 psi (24.3-25.6')
	R7	22.8/18	26.5 - 28.4	RQD = 22%				174.8			
50											
Remarks: 1. Observaton well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 2 Boring No.: BB-ECR-102	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ECR-201 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 200.5		Auger ID/OD: HSA-3.25 in. ID							
Operator: M. Grass		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 12-11-2020/12-14-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 214+99.6, 76.0 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 11.5 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/2	0.0 - 2.0	WOH/WOH/WOH/2			SSA	200.3		Brown, moist, ver soft, SILT, organics -TOPSOIL-(OL) Brown, wet, hard, SILT, little clay, little fine sand, little gravel, moderately bonded -GLACIAL TILL-(ML) Brown, wet, hard, SILT, some fine to medium sand, little clay, little gravel, moderately bonded -GLACIAL TILL-(ML) Grey-brown, wet, very dense, GRAVEL, some fine to coarse sand, some silt, moderately bonded -GLACIAL TILL-(GP) Top of Bedrock El. 184.8 R1: Grey, aphanitic, SLATE, moderately hard to hard, fresh to slightly weathered. Joints dipping at steep angles, close to moderately close, tight to open, rough, planar, iron oxide staining on joint surfaces. Rock Quality=Excellent Recovery=95% -BREWER FORMATION- R1 Core Times (min:sec): 17.0-18.0' (3:13); 18.0-19.0' (2:52); 19.0-20.0' (2:30); 20.0-21.0' (2:26); 21.0-22.3 (2:41) R2: Grey, aphanitic, SLATE, hard, fresh. Joints dipping at low and steep angles, close to moderately close, tight to open, rough, planar, slight iron oxide staining on joint surfaces, calcite veins. Rock Quality=Excellent Recovery=102% Note: R2 recovery and ROD includes portion of R1 that was not	
5	2D	24/22	5.0 - 7.0	8/11/16/19	27	38	30				
							58				
							79				
							75				
							127				
10	3D	8/8	10.0 - 10.7	17/50(2")			WOC				
							WOC				
							WOC				
							7				
							11				
15	4D	5/3	15.0 - 15.4	50(5")			20	185.5			
							32	184.8			
	R1	64/61	17.0 - 22.3	RQD = 100%			NQ CORE				
20	R2	60/61	22.3 - 27.3	RQD = 100%							
25											


Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: BB-ECR-201

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ECR-201 WIN: 18915.00			
Driller: New England Boring Contractors			Elevation (ft.): 200.5		Auger ID/OD: HSA-3.25 in. ID				
Operator: M. Grass			Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID				
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#				
Date Start/Finish: 12-11-2020/12-14-2020			Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID				
Boring Location: Sta. 214+99.6, 76.0 LT			Casing ID/OD: HW-4.0 in. ID		Water Level*: 11.5 ft				
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>						
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt									
R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person									
S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected									
T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test									
Depth (ft.)	Sample Information							Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
25							NO CORE		initially recovered. -BREWER FORMATION- R2 Core Times (min:sec): 22.3-23.3' (1:01); 23.3-24.3' (2:04); 24.3-25.3' (1:38); 25.3-26.3' (1:39); 26.3-27.3' (1:41) R3: Grey, aphanitic, SLATE, hard, fresh to slightly weathered. Joints dipping at steep angles, iron oxide staining on joint surfaces, calcite veins. Rock Quality=Good Recovery=95% -BREWER FORMATION- R3 Core Times (min:sec): 27.3-28.3' (2:13); 28.3-29.3' (1:44); 29.3-30.3' (1:34); 30.3-31.3' (2:07); 31.3-32.2' (2:20) R4: Grey, aphanitic, SLATE, moderately hard to hard, slightly to moderately weathered. Joints dipping at low and steep angles, very close to close, open, iron oxide staining on joint surfaces, calcite veins. Highly fractured zone from approximately 35.7 to 37.2 ft. Rock Quality=Poor Recovery=87% -BREWER FORMATION- R4 Core Times (min:sec): 32.2-33.2' (3:02); 33.2-34.2' (2:25); 34.2-35.2' (2:30); 35.2-36.2' (2:39); 36.2-37.2' (2:20) R5: Grey, aphanitic, SILTSTONE, hard, slightly weathered. Joints low to steeply dipping, very close to close, open, iron oxide staining on joint surfaces, calcite veins. Rock Quality=Fair Recovery=69% -BREWER FORMATION- R5 Core Times (min:sec): 37.2-38.2' (2:01); 38.2-39.2' (1:39); 39.2-40.1' (1:42) R6: Grey, aphanitic, SILTSTONE, hard, slightly to moderately weathered. Joints moderately to steeply dipping, very close to close, open, iron oxide staining on joint surfaces. Rock Quality=Excellent Recovery=150% Note: R6 recovery and RQD includes portion of R5 that was not initially recovered. -BREWER FORMATION- R6 Core Times (min:sec): 40.1-41.1' (3:23); 41.1-42.1' (3:06) 42.1' Bottom of Exploration at 42.1 feet below ground surface.
	R3	58.8/56	27.3 - 32.2	RQD = 76%					
30									
	R4	60/52	32.2 - 37.2	RQD = 43%					
35									
	R5	34.8/24	37.2 - 40.1	RQD = 52%					
40									
	R6	24/36	40.1 - 42.1	RQD = 96%					
45									
50									


Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 2 of 2
 Boring No.: BB-ECR-201

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ECR-202 WIN: 18915.00						
Driller: New England Boring Contractors		Elevation (ft.): 201.7		Auger ID/OD: HSA-3.25 in. ID								
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID								
Logged By: C. Toscano		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; HW-300#/16								
Date Start/Finish: 11-17-2020/11-17-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID								
Boring Location: Sta. 215+36.5, 50.7 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: NE								
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>										
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>												
Sample Information												
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
0	1D	24/10	0.8 - 2.8	12/14/16/25	30	43	3	200.9		-BITUMINOUS CONCRETE- Brown, moist, dense, fine to medium SAND, little fine gravel, trace coarse sand, trace silt -FILL-(SP) (ROADWAY BASE/SUBBASE FILL)		
							4	198.9				
							6					
							4					
							17					
5	2D	24/18	5.0 - 7.0	7/10/20/14	30	43	HW				Olive-brown, moist, hard, SILT, little fine sand, trace gravel -GLACIAL TILL-(ML)	
10	3D	24/20	10.0 - 12.0	12/20/24/20	44	64				Olive-brown, moist, hard, SILT, some fine sand, little medium to coarse sand, trace gravel, well bonded -GLACIAL TILL-(ML) Discernible vertical bedding 0.5 to 1.5-in. thick, platy cleavage. Note: Drill action indicated strata change at 13.5 ft.		
								188.2		Top of Bedrock El. 188.2 Note: Washed ahead in fractured rock from 13.5 to 15.0 ft. Drove NW (3-in.) casing and washed out borehole to 15.0 ft. R1: Grey, aphanitic, SLATE, hard to moderately hard, slightly to moderately weathered. Joints dipping steep to vertical, very close to close, planar, smooth to rough, open. Oxidized joint surfaces, occasional silt and calcite coatings, extremely fractured. Rock Quality=Very Poor Recovery=75% -BREWER FORMATION- R1 Core Times (min:sec): 15.0-16.0' (3:15); 16.0-17.0' (2:26); 17.0-18.0' (2:10); 18.0-19.0' (1:46); 19.0-20.0' (1:22) Note: Core stem reduced to gravel-size pieces from approximately 17.5 ft to 20.0 ft. Little water return from 17.0 to 20.0 ft. R2: Similar to R1, except moderately hard. Note: Very little to no water return. Rock Quality=Very Poor Recovery=66% -BREWER FORMATION- R2 Core Times (min:sec): 20.0-21.0' (1:36); 21.0-22.0' (1:29); 22.0-23.4' (1:51) R3: Similar to R2, except joints planar to stepped, tight to open. Rock Quality=Poor		
15	R1	60/45	15.0 - 20.0	RQD = 0%			NQ CORE					
20	R2	40.8/27	20.0 - 23.4	RQD = 0%								
	R3	26.4/26	23.4 - 25.6	RQD = 38%								
25												
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Page 1 of 2 Boring No.: BB-ECR-202		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-ECR-202 WIN: 18915.00							
Driller: New England Boring Contractors				Elevation (ft.) 201.7				Auger ID/OD: HSA-3.25 in. ID							
Operator: J. Layfield				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID							
Logged By: C. Toscano				Rig Type: Mobile B-53 Truck				Hammer Wt./Fall: SS-140#/30; HW-300#/#							
Date Start/Finish: 11-17-2020/11-17-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 215+36.5, 50.7 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: NE							
Hammer Efficiency Factor: 0.867				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected				Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test			
Sample Information												Graphic Log		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows ((/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)							
25	R4	28.8/26	25.6 - 28.0	RQD = 14%			NQ CORE	171.7				Visual Description and Remarks Recovery=98% -BREWER FORMATION- R3 Core Times (min:sec): 23.4-24.4' (1:42); 24.4-25.5' (1:58); 25.5-25.6' (1:01) R4: Similar to R3, except aphanitic to fine-grained, grading to METASANDSTONE at approximately 26.0 ft. Rock Quality=Very Poor Recovery=90% -BREWER FORMATION- R4 Core Times (min:sec): 25.6-26.0' (0:30); 26.0-27.0' (1:15); 27.0-28.0' (1:29) R5: Grey-brown, aphanitic to fine-grained, METASTANDSTONE, moderately hard, slightly weathered. Joints dipping at steep to vertical angles, very close to close, planar, smooth to rough, tight to open. Secondary low angle to moderately dipping joints, oxidized joint surfaces. Highly fractured zone from approximately 29.7 to 30.0 ft. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION- R5 Core Times (min:sec): 28.0-29.0' (1:41); 29.0-30.0' (2:01) Bottom of Exploration at 30.0 feet below ground surface.			
	R5	24/24	28.0 - 30.0	RQD = 0%											
30									Bottom of Exploration at 30.0 feet below ground surface.						
35									Bottom of Exploration at 30.0 feet below ground surface.						
40									Bottom of Exploration at 30.0 feet below ground surface.						
45									Bottom of Exploration at 30.0 feet below ground surface.						
50									Bottom of Exploration at 30.0 feet below ground surface.						

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

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Boring No.: BB-ECR-202

Maine Department of Transportation						Project: Route 9/I-395 Connector		Boring No.: BB-ECR-203A			
Soil/Rock Exploration Log US CUSTOMARY UNITS						Location: Brewer and Eddington, Maine		WIN: 18915.00			
Driller: New England Boring Contractors			Elevation (ft.): 199.1			Auger ID/OD: --					
Operator: M. Porter			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track			Hammer Wt./Fall: SS-140#/30; HW-300#/16					
Date Start/Finish: 2-22-2021/2-24-2021			Drilling Method: SSA/HW Drive			Core Barrel: HQ-2.5 in. ID					
Boring Location: Sta. 215+95.6, 51.9 LT			Casing ID/OD: HW-4.0 in. ID			Water Level*: 15.2 ft					
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt						R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person					
S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected						T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test					
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Laboratory Testing Results/AASHTO and Unified Class.	
0	1D/A	24/6	0.0 - 2.0	8/5/4/3	9	13	SSA	198.8	Dark brown, moist, stiff, SILT, trace gravel, trace fine sand, trace clay, organics -TOPSOIL-(OL)	-0.3	
									Grey-brown, moist, loose, medium to fine SAND, some silt, little gravel, loosely bonded -GLACIAL TILL-(SM)		
5	2D	24/24	5.0 - 7.0	10/20/21/27	41	58	217	194.1	Grey, moist, hard, SILT, little gravel, little medium to fine sand, moderately bonded -GLACIAL TILL-(ML)	-5.0	
							122				
							133				
							155				
							173				
10	3D	24/24	10.0 - 12.0	18/23/25/31	48	68	33		Grey, wet, hard, SILT, little gravel, little fine sand, moderately bonded -GLACIAL TILL-(ML)		
							36		Note: Washed ahead of casing from 10.0 to 15.0 ft.		
							31				
							108				
							RC	185.6	Top of Bedrock El. 185.6	-13.5	
15	R1	30/30	15.4 - 17.9	RQD = 0%			HQ CORE		R1: Grey, aphanitic, SILTSTONE, hard to moderately hard, slightly to moderately weathered. Joints vertical, very close, planar to stepped, smooth to rough, tight to open. Highly oxidized and fractured throughout. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION-		
									R1 Core Times (min:sec): 15.4-16.4' (2:11); 16.4-17.4' (2:15); 17.4-17.9' (2:11)		
	R2	30/6	17.9 - 20.4	RQD = 0%					R2: Similar to R1, except discernible steeply dipping and vertical joints. Rock Quality=Very Poor Recovery=20% -BREWER FORMATION-		
									R2 Core Times (min:sec): 17.9-18.4' (0:56); 18.4-19.4' (3:07); 19.4-20.4' (2:41)		
20	R3	37.2/38	20.4 - 23.5	RQD = 41%					Note: From 17.9 to 20.4 ft, lost 45 gallons of water. R3: Similar to R1, except joints steep to vertical, very close to moderately close, few calcite veins (0.25-in. thick). Highly fractured, oxidized zone from approximately 21.7 to 22.7 ft.	qp=10,859 psi (20.9'-21.3')	
	R4	24/24	23.5 - 25.5	RQD = 38%							
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: BB-ECR-203A		

Maine Department of Transportation						Project: Route 9/1-395 Connector				Boring No.: BB-ECR-203A													
Soil/Rock Exploration Log US CUSTOMARY UNITS						Location: Brewer and Eddington, Maine				WIN: 18915.00													
Driller: New England Boring Contractors			Elevation (ft.): 199.1						Auger ID/OD: --														
Operator: M. Porter			Datum: NAVD 88						Sampler: Split Spoon 1.375 in. ID														
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track						Hammer Wt./Fall: SS-140#/30; HW-300#														
Date Start/Finish: 2-22-2021/2-24-2021			Drilling Method: SSA/HW Drive						Core Barrel: HQ-2.5 in. ID														
Boring Location: Sta. 215+95.6, 51.9 LT			Casing ID/OD: HW-4.0 in. ID						Water Level*: 15.2 ft														
Hammer Efficiency Factor: 0.852						Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																	
<div>Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div>						<div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div>						<div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div>						<div>T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>					
Sample Information																							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows ((/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks				Laboratory Testing Results/AASHTO and Unified Class.									
25	R5	60/58	25.5 - 30.5	RQD = 60%			HQ CORE			Rock Quality=Poor Recovery=103% -BREWER FORMATION- R3 Core Times (min:sec): 20.4-21.4' (3:11); 21.4-22.4' (3:11); 22.4-23.4' (2:54); 23.4-23.5' (2:39) R4: Grey, aphanitic, SILTSTONE, hard, slightly to moderately weathered. Joints steep to vertical, very close to close, highly oxidized joints, planar, smooth to rough, open. Highly fractured zone from approximately 23.5 to 24.7 ft. Calcite infilling on some joint surfaces (approximately 0.25 to 0.5-in. thick), pits and vugs within calcite. Rock Quality=Poor Recovery=100% -BREWER FORMATION- R4 Core Times (min:sec): 23.5-24.5' (2:12); 24.5-25.5' (2:10) R5: Similar to R4, except joints moderate to steeply dipping (two sets steep perpendicular joints). Frequent calcite veins (up to 0.5-in. thick), occasional pitting. Highly fractured zone from approximately 27.9 to 28.4 ft. Rock Quality=Fair Recovery=97% -BREWER FORMATION- R5 Core Times (min:sec): 25.5-26.5' (2:35); 26.5-27.5' (3:14); 27.5-28.5' (2:34); 28.5-29.5' (2:12); 29.5-30.5' (2:20) R6: Similar to R4, except joints moderate to vertical, very close to moderately close, tight to open. Highly oxidized, fractured zone from approximately 30.5 to 32.2 ft. Frequent calcite veins (0.0625 to 0.25-in. thick). Rock Quality=Fair Recovery=85% -BREWER FORMATION- R6 Core Times (min:sec): 30.5-31.5' (2:28); 31.5-32.5' (3:24); 32.5-33.5' (2:21); 33.5-34.6' (3:34) R7: Grey, aphanitic, SILTSTONE, hard, fresh to slightly weathered. Joints low angle and steeply dipping, close, planar to undulating, smooth to rough, tight to open. Frequent calcite veins (0.0625 to 0.25 in. thickness), occasional oxidized joint surfaces. Rock Quality=Fair Recovery=68% -BREWER FORMATION- R7 Core Times (min:sec): 34.6-35.6' (2:33); 35.6-36.6' (2:34); 36.6-37.6' (2:22); 37.6-38.6' (2:26); 38.6-39.6' (2:42) R8: Similar to R7, except joints steeply dipping, moderately close to close, rough, open. Joints fresh. Rock Quality=Excellent Recovery=188% Note: R8 recovery and RQD includes portion of R7 not initially recovered. -BREWER FORMATION- R8 Core Times (min:sec): 39.6-40.4' (2:27)													
30	R6	49.2/42	30.5 - 34.6	RQD = 53%																			
35	R7	60/41	34.6 - 39.6	RQD = 52%																			
40	R8	10/18	39.6 - 40.4	RQD = 188%				158.7															
45																							
50																							
Remarks:																							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.																							
Page 2 of 2																							
Boring No.: BB-ECR-203A																							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-ECR-203							
				Location: Brewer and Eddington, Maine		WIN: 18915.00							
Driller: New England Boring Contractors		Elevation (ft.): 198.7		Auger ID/OD: --									
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID									
Logged By: H. Hollauer		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; HW-300#/16									
Date Start/Finish: 11-30-2020/11-30-2020		Drilling Method: SSA/NW Drive		Core Barrel: NQ-2.0 in. ID									
Boring Location: Sta. 216+00, 45.6 LT		Casing ID/OD: NW-3.0 in. ID		Water Level*: NE									
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>													
Sample Information													
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.		
0	1D	24/6	0.0 - 2.0	WOH/2/2/2	4	6	SSA	198.5		- TOPSOIL/ROOT MAT- - Grey-brown, very slightly moist, soft, SILT, little fine to coarse sand, slightly bonded - TOPSOIL-(ML) Note: Drill action indicates strata change at 3.0 ft.			
								195.7					
5	2D	24/18	5.0 - 7.0	13/64/34/24	98	142	NW						Grey-brown, slightly moist, hard, SILT, some fine to coarse sand, trace fine gravel, moderately bonded, cobble from 5.5 to 5.8 ft. -GLACIAL TILL-(ML)
10	3D	24/22	10.0 - 12.0	11/17/22/25	39	56							Similar to D2, except no cobbles -GLACIAL TILL-(ML)
15	R1	30/24	15.0 - 17.5	RQD = 0%			NQ CORE	185.1		R1: Grey, aphanitic, SLATE, moderately hard, slightly to moderately weathered. Joints dipping at low to moderate and vertical angles, very close to moderately close, tight to open, planar, smooth, occasional calcite veins, thin bedding, platy. Joint surfaces iron stained. Highly fractured zones from approximately 15.0 to 15.5 ft and 16.5 to 17.5 ft. Rock Quality=Very Poor Recovery=80% -BREWER FORMATION- R1 Core Times (min:sec): 15.0-16.0' (2:45); 16.0-17.0' (2:45); 17.0-17.5' (1:30) R2: Similar to R1, except fresh to slightly weathered, joints steep angle to vertical, very close to moderately close. Rock Quality=Poor Recovery=100% -BREWER FORMATION- R2 Core Times (min:sec): 17.5-18.0' (2:10); 18.0-19.0' (4:00); 19.0-20.0' (4:00) Note: Down pressure very low and spin rate decreased. Zone from 17.5 to 18.7 ft, solid core stem with no joints.	qp=9,759 psi (18.0'-18.4')		
20								178.7					
25													
Remarks:													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.													
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Page 1 of 2			
										Boring No.: BB-ECR-203			

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-ECR-204A					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 202.1		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 2-17-2021/2-18-2021		Drilling Method: SSA/HW Drive		Core Barrel: HQ-2.5 in. ID							
Boring Location: Sta. 214+01.9, 44.9 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 18.0 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: small;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
0							SSA				
5							71			Note: Washed ahead of casing from 5.0 to 15.0 ft.	
							170				
							87				
							102				
							258				
10							110				
							39				
							60				
							211				
15	R1	60/14	15.0 - 20.0	RQD = 17%			128/14.5" RC HQ CORE				
20	R2	16.8/13	20.0 - 21.4	RQD = 30%						Top of Bedrock El. 187.6 R1: Grey, aphanitic, SILTSTONE, hard, slightly to moderately weathered. Joints steeply dipping to vertical, very close to close, planar to stepped, rough, open. Oxidized joint surfaces. Majority of core stem highly fractured, reduced to gravel-sized pieces, platy. Rock Quality=Very Poor Recovery=23% -BREWER FORMATION- R1 Core Times (min:sec): 15.0-16.0' (3:17); 16.0-17.0' (2:29); 17.0-18.0' (3:14); 18.0-19.0' (3:46); 19.0-20.0' (2:15) R2: Similar to R1, 0.5-in. thick platy layers, steep angle. Majority of core stem highly fractured, reduced to gravel-sized pieces. Few calcite stringers (0.0625-in. thick). Rock Quality=Poor Recovery=77% -BREWER FORMATION- R2 Core Times (min:sec): 20.0-21.0' (3:50); 21.0-21.4' (2:17) R3: Grey, aphanitic, SILTSTONE, hard to very hard, fresh to slightly weathered. Steeply dipping joints, close to moderately close, planar to stepped, rough, open, oxidized. Calcite/quartz veins (0.25-in. thick) and intrusions (1.0 to 2.0-in. thick) pitting	
	R3	43.2/42	21.4 - 25.0	RQD = 97%							
25											
Remarks: 1. SF-1 denotes sliding friction test completed at depth shown. 15.0/30.2 psi represents normal and peak shear stresses, respectively.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 3	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-ECR-204A	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ECR-204A WIN: 18915.00					
Driller: New England Boring Contractors			Elevation (ft.): 202.1			Auger ID/OD: --					
Operator: M. Porter			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track			Hammer Wt./Fall: SS-140#/30; HW-300#					
Date Start/Finish: 2-17-2021/2-18-2021			Drilling Method: SSA/HW Drive			Core Barrel: HQ-2.5 in. ID					
Boring Location: Sta. 214+01.9, 44.9 RT			Casing ID/OD: HW-4.0 in. ID			Water Level*: 18.0 ft					
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
25	R4	49.2/39	25.0 - 29.1	RQD = 39%			HQ CORE			within calcite. Rock Quality=Excellent Recovery=97% -BREWER FORMATION- R3 Core Times (min:sec): 21.4-22.4' (2:49); 22.4-23.4' (3:19); 23.4-25.0' (4:15) R4: Similar to R3, except joints close, steep to vertical. Highly fractured zones from approximately 25.0 to 25.5 ft, approximately 27.0 to 27.5 ft and approximately 28.0 to 29.0 ft. Rock Quality=Poor Recovery=79% -BREWER FORMATION- R4 Core Times (min:sec): 25.0-26.0' (3:32); 26.0-27.0' (3:27); 27.0-28.0' (3:55); 28.0-29.1' (5:17) R5: Grey, aphanitic, SILTSTONE, hard to very hard, fresh to slightly weathered. Single steeply dipping joint at approximately 33.0 ft, wide, planar, rough, open, oxidized. Frequent calcite veins (up to 0.25-in. thick). Rock Quality=Excellent Recovery=91% -BREWER FORMATION- R5 Core Times (min:sec): 29.1-30.1' (3:58); 30.1-31.1' (3:24); 31.1-32.1' (3:16); 32.1-33.5' (2:49) R6: Similar to R5, single steeply dipping joint at approximately 35.5 ft, moderately close, planar to undulating, rough, open, oxidized. Frequent very thin calcite stringers (up to 0.125-in. thick) pitting within calcite. Secondary horizontal joint, moderately close, planar, rough, tight, oxidized. Rock Quality=Good Recovery=80% R6 Core Times (min:sec): 33.5-34.0' (1:48); 34.0-35.0' (2:59); 35.0-36.0' (1:45) R7: Grey, aphanitic SILTSTONE, hard to very hard, fresh to slightly weathered. Joints steeply dipping, wide, planar, rough, open, oxidized. Secondary joints horizontal, moderately close, planar, rough, tight to open, oxidized. Frequent calcite stringers (10.0625 to 0.5-in. thick), common pitting within calcite. Rock Quality=Excellent Recovery=111% Note: R7 recovery and RQD includes portion of R6 not initially recovered. -BREWER FORMATION- R7 Core Times (min:sec): 36.0-37.0' (5:25); 37.0-38.0' (3:45); 38.0-39.0' (3:52); 39.0-40.0' (3:35); 40.0-40.5' (1:49) R8: Similar to R7, except steeply dipping to vertical joint within foliated layer (approximately 1.5-in. thick layer), moderately close to wide, planar to undulating, rough, tight to open, fresh to slightly oxidized, platy within foliated layers. Occasional calcite veins (0.25 to 0.5-in. thick). Rock Quality=Excellent Recovery=100% -BREWER FORMATION- R8 Core Times (min:sec): 40.5-41.5' (3:54); 41.5-42.5' (3:45);	
30	R5	52.8/48	29.1 - 33.5	RQD = 91%							
35	R6	30/24	33.5 - 36.0	RQD = 80%							
40	R7	54/60	36.0 - 40.5	RQD = 104%							
45	R8	60/60	40.5 - 45.5	RQD = 98%							
50											
Remarks: 1. SF-1 denotes sliding friction test completed at depth shown. 15.0/30.2 psi represents normal and peak shear stresses, respectively.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 3 Boring No.: BB-ECR-204A	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-ECR-204A WIN: 18915.00																																																																																																																																																																																																																																																																																																																																																																																																																						
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ECR-204 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 202.5		Auger ID/OD: HSA-3.25 in. ID			
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: C. Toscano		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 11-13-2020/11-13-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 214+04.2, 52.4 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: NE			
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/8	0.0 - 2.0	1/1/2/2	3	4	SSA
5	2D	6/6	5.0 - 5.5	36/50(0.0")			146 RC
	R1	60/60	7.0 - 12.0	RQD = 17%			NQ CORE
10							
15							
20							
25							
Visual Description and Remarks -TOPSOIL/ROOTMAT- Yellow-brown, moist, soft, SILT, little fine sand, trace coarse sand and gravel -GLACIAL TILL-(ML) Yellow-brown, moist, hard, SILT, little fine sand, trace coarse sand and gravel, well bonded -GLACIAL TILL-(ML) Note: Pulverized rock fragment lodged in tip of spoon. Top of Bedrock El. 197.0 R1: Grey, fine to medium-grained, METASANDSTONE, hard, slightly weathered. Joints moderate to steep, very close to close, planar to stepped, tight to open. Frequent SILT infillings and decomposed (pitted) quartz seams on joint surfaces. Moderately fractured from 7.0 to 10.0 ft. Severely fractured (highly oxidized) from 10.0 to 12.0 ft. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION- R1 Core Times (min:sec): 7.0-8.0' (1:53); 8.0-9.0' (2:31); 9.0-10.0' (2:54); 10.0-11.0' (2:25); 11.0-12.0' (2:29) Bottom of Exploration at 12.0 feet below ground surface.							
Laboratory Testing Results/ AASHTO and Unified Class.							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-ECR-205 WIN: 18915.00																																																																																																																																																																																																																																																																																																																								
Driller: New England Boring Contractors				Elevation (ft.): 203.4				Auger ID/OD: HSA-3.25 in. ID																																																																																																																																																																																																																																																																																																																								
Operator: J. Layfield				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID																																																																																																																																																																																																																																																																																																																								
Logged By: C. Toscano				Rig Type: Mobile B-53 Truck				Hammer Wt./Fall: SS-140#/30; HW-300#/16																																																																																																																																																																																																																																																																																																																								
Date Start/Finish: 11-16-2020/11-16-2020				Drilling Method: HSA/HW Drive				Core Barrel: NQ-2.0 in. ID																																																																																																																																																																																																																																																																																																																								
Boring Location: Sta. 214+44.1, 48.0 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: NE																																																																																																																																																																																																																																																																																																																								
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Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th></tr></thead><tbody><tr><td rowspan="4">0</td><td>1D</td><td>24/15</td><td>0.5 - 2.5</td><td>15/34/17/12</td><td>51</td><td>74</td><td>HSA</td><td>202.9</td><td rowspan="4"></td><td>-BITUMINOUS CONCRETE-</td><td rowspan="4">qp=12,440 psi (24.2'-24.5')</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>200.9</td><td>Brown, dry, very dense, fine to medium SAND, little fine to coarse gravel and coarse sand</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>26</td><td>-FILL-(SP) (ROADWAY BASE/SUBBASE FILL)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>20</td><td>Note: Washed ahead prior to driving HW casing from 0.0 to 5.0 ft.</td></tr><tr><td rowspan="4">5</td><td>2D</td><td>24/18</td><td>5.0 - 7.0</td><td>7/9/18/20</td><td>27</td><td>39</td><td>HW</td><td></td><td rowspan="4"></td><td>Yellow-brown, moist, hard, SILT, little fine to medium sand, trace fine gravel and coarse sand</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>25</td><td>-GLACIAL TILL-(ML)</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td rowspan="4">10</td><td>3D</td><td>24/3</td><td>10.0 - 12.0</td><td>15/35/37/45</td><td>72</td><td>104</td><td></td><td>194.4</td><td rowspan="4"></td><td>Olive-brown, wet, very dense, fine to coarse GRAVEL, some coarse sand, little silt consisting of decomposed bedrock fragments, exhibiting distinct rock fabric</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-WEATHERED BEDROCK-(GM)</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Note: Drill action and cuttings indicated bedrock at 13.0 ft.</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>190.4</td><td>Top of Bedrock at El. 190.4</td><td></td></tr><tr><td rowspan="4">15</td><td>4D</td><td>2/2</td><td>15.0 - 15.2</td><td>85(2")</td><td></td><td></td><td></td><td></td><td rowspan="4"></td><td>Grey, wet, very dense, fine to coarse gravel, pulverized bedrock fragments lodged in tip of spoon</td><td></td></tr><tr><td>R1</td><td>24/18</td><td>15.0 - 17.0</td><td>RQD = 0%</td><td></td><td></td><td>NO CORE</td><td></td><td>-BEDROCK-(GP)</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>R1: Grey, fine to medium-grained, METASANDSTONE, hard, slightly to moderately weathered. 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Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	0	1D	24/15	0.5 - 2.5	15/34/17/12	51	74	HSA	202.9		-BITUMINOUS CONCRETE-	qp=12,440 psi (24.2'-24.5')								200.9	Brown, dry, very dense, fine to medium SAND, little fine to coarse gravel and coarse sand								26	-FILL-(SP) (ROADWAY BASE/SUBBASE FILL)								20	Note: Washed ahead prior to driving HW casing from 0.0 to 5.0 ft.	5	2D	24/18	5.0 - 7.0	7/9/18/20	27	39	HW			Yellow-brown, moist, hard, SILT, little fine to medium sand, trace fine gravel and coarse sand									25	-GLACIAL TILL-(ML)																								10	3D	24/3	10.0 - 12.0	15/35/37/45	72	104		194.4		Olive-brown, wet, very dense, fine to coarse GRAVEL, some coarse sand, little silt consisting of decomposed bedrock fragments, exhibiting distinct rock fabric											-WEATHERED BEDROCK-(GM)											Note: Drill action and cuttings indicated bedrock at 13.0 ft.										190.4	Top of Bedrock at El. 190.4		15	4D	2/2	15.0 - 15.2	85(2")						Grey, wet, very dense, fine to coarse gravel, pulverized bedrock fragments lodged in tip of spoon		R1	24/18	15.0 - 17.0	RQD = 0%			NO CORE		-BEDROCK-(GP)										R1: Grey, fine to medium-grained, METASANDSTONE, hard, slightly to moderately weathered. 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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-ECR-206A		
				Location: Brewer and Eddington, Maine		WIN: 18915.00		
Driller: New England Boring Contractors		Elevation (ft.): 201.0		Auger ID/OD: --				
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID				
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16				
Date Start/Finish: 2-18-2021/2-19-2021		Drilling Method: SSA/HW Drive		Core Barrel: HQ-2.5 in. ID				
Boring Location: Sta. 214+87.4, 70.9 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.5 ft				
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>						
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Depth (ft.)	Sample Information							
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)
0							SSA	<div style="display: flex;"> <div style="flex: 1;"> <p>Note: Advanced HW casing to bedrock; no overbrdn samples taken.</p> <p>Note: Top of Weathered Bedrock at 9.4 ft based on drill action and drill water contents.</p> <p>Top of Weathered Bedrock at El. 191.6 -WEATHERED BEDROCK-</p> <p>Note: Washed ahead of casing from 0 to 25.0 ft.</p> <p>Note: Drill wash contained significant sand/silt mixture (60% sand/silt) from 17.0 to 18.0 ft.</p> </div> <div style="flex: 1; text-align: right;"> <p>9.4-</p> <p>24.5-</p> </div> </div>
5								
10							20	
							29	
							37	
							29	
							53	
							59	
15							121	
							49	
							37	
							78	
							104	
20							102	
							32	
							36	
							55	
25							62/	
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 1; text-align: right;"> <p>191.6</p> <p>176.5</p> </div> </div>								<div style="display: flex; align-items: center;"> <div style="flex: 1;">Visual Description and Remarks</div> <div style="flex: 1; text-align: right;">Laboratory Testing Results/ AASHTO and Unified Class.</div> </div>
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>Remarks:</p> </div> <div style="flex: 1; text-align: right;"> <p>24.5-</p> </div> </div>								
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 3
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Boring No.: BB-ECR-206A

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-ECR-206A WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 201.0				Auger ID/OD: --			
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#			
Date Start/Finish: 2-18-2021/2-19-2021				Drilling Method: SSA/HW Drive				Core Barrel: HQ-2.5 in. ID			
Boring Location: Sta. 214+87.4, 70.9 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 0.5 ft			
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
25	R1	60/30	25.0 - 30.0	RQD = 29%			24.5 RC HQ CORE			Top of Bedrock El. 176.5 R1: Grey, aphanitic, SLATE, hard to moderately hard, fresh to moderately weathered. Joints dipping at steep angle to vertical, very close to close, planar to undulating, smooth to rough, open. Occasional silt coatings and oxidation on joint surfaces. Secondary low angle to moderately dipping joints, very close to moderate, planar to stepped, rough, open. Frequent weathered calcite stringers. Highly fractured zones at approximately 25.7 ft and from approximately 27.5 to 30.0 ft. Rock Quality=Poor Recovery=50% -BREWER FORMATION- R1 Core Times (min:sec): 25.0-26.0' (5:13); 26.0-27.0' (5:21); 27.0-28.0' (4:22); 28.0-29.0' (3:31); 29.0-30.0' (2:18) R2: Similar to R1, except joints planar to stepped, platy along vertical joints, highly oxidized. Highly fractured zone from approximately 31.2 to 33.2 ft. Rock Quality=Poor Recovery=94% -BREWER FORMATION- R2 Core Times (min:sec): 30.0-31.0' (3:36); 31.0-32.0' (2:13); 32.0-33.0' (2:59); 33.0-33.2' (1:24) R3: Grey, aphanitic, SLATE, hard, fresh. Joints steep angle, fresh to slightly weathered, planar to stepped, smooth, moderately close to wide, tight to open. Occasional calcite veins (0.25-in. thick). Rock Quality=Excellent Recovery=100% -BREWER FORMATION- R3 Core Times (min:sec): 33.2-34.2' (3:00); 34.2-35.2' (2:55); 35.2-36.2' (2:45); 36.2-37.2' (2:45); 37.2-38.2' (2:36) R4: Similar to R3, with moderately dipping secondary joint, oxidized, planar, rough, tight. Steep angle primary joint parallel to well developed foliation. Quartz intrusion from approximately 38.5 to 38.6 ft. Rock Quality=Fair Recovery=83% -BREWER FORMATION- R4 Core Times (min:sec): 38.2-39.2' (2:45); 39.2-40.2' (3:00); 40.2-41.2' (3:16); 41.2-42.2' (2:29); 42.2-43.2' (2:31) R5: Grey, aphanitic, SLATE, hard, fresh. Joints dipping at steep angles along well developed foliation (0.75 to 1-in. thick seams), moderately close, planar to stepped, smooth to rough, tight to open, fresh. Rock Quality=Fair Recovery=41% -BREWER FORMATION- R5 Core Times (min:sec): 43.2-44.2' (3:06); 44.2-45.2' (2:59); 45.2-46.2' (4:42); 46.2-47.2' (3:12); 47.2-47.5' (2:38) R6: Grey, aphanitic, SLATE, hard, fresh to slightly weathered. Joints dipping at steep angles to vertical, very close to moderately close, planar to stepped, rough, tight to open, occasional silt coatings on joint surfaces. Few highly fractured zones associated with vertical joints.	
30	R2	38.4/36	30.0 - 33.2	RQD = 31%							
35	R3	60/60	33.2 - 38.2	RQD = 100%							
40	R4	60/50	38.2 - 43.2	RQD = 67%							
45	R5	51.6/21	43.2 - 47.5	RQD = 35%							
50	R6	33.6/52	47.5 - 50.3	RQD = 107%							
Remarks:											
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* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-ECR-206A WIN: 18915.00									
Driller: New England Boring Contractors				Elevation (ft.): 201.0				Auger ID/OD: --									
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID									
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/#									
Date Start/Finish: 2-18-2021/2-19-2021				Drilling Method: SSA/HW Drive				Core Barrel: HQ-2.5 in. ID									
Boring Location: Sta. 214+87.4, 70.9 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 0.5 ft									
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>													
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _u (lab) = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected									
				T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test													
Sample Information												Graphic Log		Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)									
50							NQ	150.7	Rock Quality=Fair Recovery=155% Note: R6 recovery and RQD includes portion of R5 not initially recovered. -BREWER FORMATION- R6 Core Times (min:sec): 47.5-48.5' (2:59); 48.5-49.5' (2:50); 49.5-50.3' (2:23) <div>50.3</div> Bottom of Exploration at 50.3 feet below ground surface.								
Remarks:																	
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 3 of 3					
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: BB-ECR-206A					

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ECR-206 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 200.7		Auger ID/OD: --							
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: H. Hollauer		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-30-2020/11-30-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 214+98.8, 78.8 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: NE							
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
0	1D	24/6	0.0 - 2.0	1/1/3/4	4	6	SSA	200.5		-TOPSOIL-ROOT MAT- -----0.2 Medium brown, dry, loose, fine to medium Silty SAND, poorly graded -TOPSOIL-(SM) -----4.0 Grey-brown, slightly moist, hard, SILT, some fine to coarse sand, trace fine gravel, moderately bonded -GLACIAL TILL-(ML) -----9.0 Grey, slightly moist, very dense, fine to coarse GRAVEL, little silt, trace fine to coarse sand -WEATHERED BEDROCK-(GM) Note: Roller bit advanced from 9.0 to 12.0 ft through weathered bedrock. -----12.0 Top of Bedrock at El. 188.7 R1: Grey, aphanitic, SLATE, moderately hard, slightly to moderately weathered. Joints dipping at moderate to vertical angles, very close to close, tight to open, planar to stepped, smooth to rough, bedding extremely thin, slight silt infilling, joint surfaces iron stained. Rock Quality=Very Poor Recovery=96% -BREWER FORMATION- R1 Core Times (min:sec): 12.0-13.0' (2:00); 13.0-14.1' (2:50) R2: Similar to R1, except highly fractured (primarily gravel-sized pieces), few discernible high angle to vertical joints, oxidized, planar, smooth to rough, open. Rock Quality=Very Poor Recovery=75% -BREWER FORMATION- R2 Core Times (min:sec): 14.1-15.1' (2:50); 15.1-16.1' (2:50) R3: No Recovery Note: Core barrel contains silt from possible infilled cavity. R3 Core Time (min:sec): 16.1-16.3' (0:50) -----16.3 Bottom of Exploration at 16.3 feet below ground surface.	
5	2D	24/22	5.0 - 7.0	17/22/23/30	45	65	HW	196.7			
10	3D		10.0 - 10.4	70(5")			RC	191.7			
15	R1	25.2/24.1	12.0 - 14.1	RQD = 0%			NQ CORE	188.7			
	R2	24/18	14.1 - 16.1	RQD = 0%							
20	R3	2/0	16.1 - 16.3	RQD = 0%				184.4			
25											

Remarks:


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 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: BB-ECR-206

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-EEBT2-101 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 179.7		Auger ID/OD: --						
Operator: E. Baron		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 12-5-18/12-5-18		Drilling Method: HW Drive		Core Barrel: NQ 2.0 in. ID						
Boring Location: Sta. 272+98.7; 8.6 LT		Casing ID/OD: HW 4.0 in. ID		Water Level*: --						
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/16	0.0 - 2.0	1/5/5/2	10	15	HW PUSH	179.5	Note: Frozen soil at ground surface. -TOPSOIL-	C#IP-10 CU#19-1 Su=369 psf LL=35 PL=18 PI=17 WC=29 CL
								177.5	Grey, wet, medium dense, Silty fine SAND, trace organics -MARINE DEPOSIT-(SM) Note: Auger action indicates clay at 2.2 ft.	
5	1U	24/22	5.0 - 7.0				3		Grey, wet, Silty CLAY (CL)	
							4			
	V1		7.6 - 8.0	S _u =1,363/235 psf			5		65 x 130mm vane raw torque readings: V1: 575/100 in-lbs Note: Attempted vane shear test at 8.0 ft, no penetration.	
	MV		8.0 - 8.0				5			
							10			
10	2D/A	24/15	10.0 - 12.0	1/10/11/12	21	32	20	169.0	Grey, wet, hard, Silty CLAY, trace fine sand -MARINE DEPOSIT-(CL)	
							41		Grey, wet, hard, SILT, little clay, trace medium to fine sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	
							75			
							73			
							93			
15	3D	24/12	15.0 - 17.0	12/15/12/14	27	42	77		Grey, wet, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	
							76			
							59			
							71			
							70			
20	4D	17/4	20.0 - 21.4	8/12/50(5")			113	159.7	Grey, wet, very dense, Silty fine to coarse SAND, trace fine to coarse gravel, loosely bonded -GLACIAL TILL-(SM)	
							121 RC	158.3	Top of Bedrock at El. 158.3 Note: Advanced roller bit to 22.0 ft. Begin NQ rock core at 22.0 ft. R1: Grey, aphanitic, PHYLLITE, hard, fresh. Joints dipping at horizontal to moderate angles, very close to close, tight, very slight fine-grained coating on joint surfaces, calcite/quartz	
	R1	60/58	22.0 - 27.0	RQD = 97%			NQ CORE			
25										
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Page 1 of 2 Boring No.: BB-EEBT2-101		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-EEBT2-101 WIN: 18915.00							
Driller: New England Boring Contractors				Elevation (ft.) 179.7				Auger ID/OD: --							
Operator: E. Baron				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/#							
Date Start/Finish: 12-5-18/12-5-18				Drilling Method: HW Drive				Core Barrel: NQ 2.0 in. ID							
Boring Location: Sta. 272+98.7; 8.6 LT				Casing ID/OD: HW 4.0 in. ID				Water Level*: --							
Hammer Efficiency Factor: 0.925				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected							
								Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information												Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log						
25							NQ CORE			stringers up to 1/5 in. thickness throughout core. Rock Quality=Excellent Recovery=97% R1 Core Times (min:sec): 22.0-23.0' (2:13); 23.0-24.0' (1:36); 24.0-25.0' (1:30); 25.0-26.0' (1:25); 26.0-27.0' (1:27) R2: Grey, aphanitic, PHYLLITE, hard, fresh. Joints dipping at low to moderate angles, very close to close, tight, very slight fine-grained coatings on some joint surfaces, some calcite/quartz stringers up to 1/3 in. thickness throughout run. Rock Quality=Fair Recovery=75% R2 Core Times (min:sec): 27.0-28.0' (1:47); 28.0-29.0' (1:29); 29.0-30.0' (1:33); 30.0-31.0' (1:30); 31.0-32.0' (1:46)					
	R2	60/45	27.0 - 32.0	RQD = 72%											
30															
35									Bottom of Exploration at 32.0 feet below ground surface.						
40															
45															
50															

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

Page 2 of 2

Boring No.: BB-EEBT2-101

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-EEBT2-102 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 181.3		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 12-3-18/12-3-18		Drilling Method: HW Drive		Core Barrel: --						
Boring Location: Sta. 273+34.1; 97.9 LT		Casing ID/OD: HW 4.0 in. ID		Water Level*: --						
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/12	0.0 - 2.0	1/4/4/8	8	12	HW PUSH	181.2	Note: Frozen soil at ground surface. -TOPSOIL- Grey-brown to yellow-brown, moist, stiff, Clayey SILT, little fine sand, trace organics -MARINE DEPOSIT-(ML) Grey-brown to yellow-brown, wet, stiff, Clayey SILT, little fine sand, trace organics -MARINE DEPOSIT-(ML) Grey, wet, very stiff, Clayey SILT, trace fine sand -MARINE DEPOSIT-(ML)	0.1- 12.3-
							4			
							5			
							4			
							4			
5	2D	24/24	5.0 - 7.0	3/4/5/5	9	14	19			
							23			
							26			
							29			
							48			
10	3D	24/18	10.0 - 12.0	1/4/9/13	13	20	35	169.0	Note: Drill action and wash water contents indicate strata change at 12.3 ft. Grey, wet, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	12.3- 17.2-
							66			
							113			
							137			
							157			
15	4D	24/10	15.0 - 17.0	7/9/18/23	27	42	RC	164.1 163.8	Top of Probable Bedrock at El. 164.1 Note: Drill action and wash water contents indicate top of probable bedrock at 17.2 ft. Advanced roller bit to 17.5 ft. -PROBABLE BEDROCK- Bottom of Exploration at 17.5 feet below ground surface.	17.2- 17.5-
25										
Remarks: 1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 1		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Boring No.: BB-EEBT2-102		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-EEBT2-103			
				Location: Brewer and Eddington, Maine		WIN: 18915.00			
Driller: New England Boring Contractors		Elevation (ft.): 179.8		Auger ID/OD: --					
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID					
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16					
Date Start/Finish: 11-30-18/11-30-18		Drilling Method: HW Drive		Core Barrel: --					
Boring Location: Sta. 273+23.1; 101.1 RT		Casing ID/OD: HW 4.0 in. ID		Water Level*: --					
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div style="font-size: small;"> Definitions: R = Rock Core Sample S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) T_v = Pocket Torvane Shear Strength (psf) D = Split Spoon Sample SSA = Solid Stem Auger S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) WC = Water Content, percent MD = Unsuccessful Split Spoon Sample Attempt HSA = Hollow Stem Auger q_p = Unconfined Compressive Strength (ksf) LL = Liquid Limit U = Thin Wall Tube Sample RC = Roller Cone N-uncorrected = Raw Field SPT N-value PL = Plastic Limit MU = Unsuccessful Thin Wall Tube Sample Attempt WOH = Weight of 140lb. Hammer Hammer Efficiency Factor = Rig Specific Annual Calibration Value PI = Plasticity Index V = Field Vane Shear Test, PP = Pocket Penetrometer N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency G = Grain Size Analysis MV = Unsuccessful Field Vane Shear Test Attempt WO1P = Weight of One Person N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected C = Consolidation Test </div>									
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
0	1D	24/11	0.0 - 2.0	WOH/2/2/4	4	6	HW PUSH		
5	1U	24/23	5.0 - 7.0				✓		
	2D	24/24	7.0 - 9.0	WOH/WOH/2/2	2	3	5/6		
	MV		7.0 - 7.0						
							10		
							16		
10	2U	6/5	10.0 - 10.5	9/11/11/15	22	34	OPEN		
	3D	24/18	10.5 - 12.5						
15	4D	24/12	15.0 - 17.0	17/21/21/24	42	65	✓		
20									
25									
Remarks:									
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Boring No.: BB-EEBT2-103	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-EEBT2-201					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 179.4		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 2-11-2021/2-11-2021		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 274+26.3, 71.0 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 4.0 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D/A	24/4	0.0 - 2.0	2/1/1/3	2	3	SSA	179.0		Dark brown, moist, soft, SILT, trace fine sand, trace clay, organics - TOPSOIL-(OL) 0.4 Grey-brown mottled, moist, soft, Silty CLAY, low plasticity - MARINE DEPOSIT-(CL) 5 Grey, wet, stiff, Clayey SILT, trace gravel - MARINE DEPOSIT-(ML) 5.6 171.7 7.7 Grey, wet, very dense, GRAVEL, little silt, trace fine to medium sand, moderately bonded - GLACIAL TILL-(GM) 10 15 164.4 15.0 Grey, wet, hard, Gravelly SILT, trace fine to medium sand, moderately bonded - GLACIAL TILL-(ML) 162.4 17.0 Bottom of Exploration at 17.0 feet below ground surface. No Refusal	
5	2D	24/24	5.0 - 7.0	3/4/5/15	9	13	14	173.8			
							27				
							73	171.7			
							70				
							132				
10	3D	24/8	10.0 - 12.0	28/74/34/19	108	153	OPEN				
15	4D	24/16	15.0 - 17.0	22/20/20/21	40	57		164.4			
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1

Boring No.: BB-EEBT2-201

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-EEBT2-202 WIN: 18915.00																																																																																																																																																																																																																																																																																							
Driller: New England Boring Contractors				Elevation (ft.): 179.2				Auger ID/OD: --																																																																																																																																																																																																																																																																																							
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID																																																																																																																																																																																																																																																																																							
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/16																																																																																																																																																																																																																																																																																							
Date Start/Finish: 2-10-2021/2-10-2021				Drilling Method: SSA/HW Drive				Core Barrel: --																																																																																																																																																																																																																																																																																							
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<table><thead><tr><th rowspan="2">Depth (ft.)</th><th colspan="7">Sample Information</th><th rowspan="2">Graphic Log</th><th rowspan="2">Visual Description and Remarks</th><th rowspan="2">Laboratory Testing Results/ AASHTO and Unified Class.</th></tr><tr><th>Sample No.</th><th>Pen./Rec. (in.)</th><th>Sample Depth (ft.)</th><th>Blows (6 in.) Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th><th>Elevation (ft.)</th></tr></thead><tbody><tr><td>0</td><td>1D</td><td>24/0.5</td><td>0.0 - 2.0</td><td>1/WOH/1/WOH</td><td>1</td><td>1</td><td>SSA</td><td>179.1</td><td rowspan="10"></td><td rowspan="10"></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td>1U</td><td>24/24</td><td>5.0 - 7.0</td><td></td><td></td><td></td><td>9</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>6</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>5</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>9</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>11</td><td></td></tr><tr><td>10</td><td>2D</td><td>24/16</td><td>10.0 - 12.0</td><td>2/3/15/19</td><td>18</td><td>26</td><td>20</td><td>168.6</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>18</td><td>168.1</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>19</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>13</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>6</td><td></td><td></td><td></td></tr><tr><td>15</td><td>3D</td><td>24/8</td><td>15.0 - 17.0</td><td>17/19/18/23</td><td>37</td><td>53</td><td>18</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>24</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>22</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>34</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>41</td><td></td><td></td><td></td></tr><tr><td>20</td><td>4D</td><td>7/4</td><td>20.0 - 20.6</td><td>25/50(1")</td><td></td><td></td><td></td><td>158.6</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>25</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>												Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	0	1D	24/0.5	0.0 - 2.0	1/WOH/1/WOH	1	1	SSA	179.1																																							5	1U	24/24	5.0 - 7.0				9									6									5									9									11		10	2D	24/16	10.0 - 12.0	2/3/15/19	18	26	20	168.6										18	168.1										19											13											6				15	3D	24/8	15.0 - 17.0	17/19/18/23	37	53	18											24											22											34											41				20	4D	7/4	20.0 - 20.6	25/50(1")				158.6																																				25										
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ELAR-101 WIN: 18915.00					
Driller: Northern Test Borings, Inc.		Elevation (ft.): 119.8		Auger ID/OD: --							
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20							
Date Start/Finish: 08-1-18/08-1-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 197+79.6, 19.0 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 6.7 ft							
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N = uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/14	0.0 - 2.0	5/5/3/2	8	12	SSA	118.2	Brown, dry, medium dense, fine to coarse SAND, little gravel, trace silt -FILL-(SW) (ROADWAY BASE/SUBBASE MATERIAL)	qp=9,747 psi (8.1-9.3')	
	2D	24/14	2.0 - 4.0	3/2/2/3	4	6			Dark grey-brown, moist, loose, fine to coarse Sandy SILT, little gravel -FILL-(ML)		
5	3D	3/3	5.0 - 5.3	50(3")			26/5" NQ	114.8	Brown, dry, very dense, fine to coarse SAND, little gravel, trace silt -FILL-(SW)		
	R1	18/18	5.5 - 7.0	RQD = 0%			CORE	114.6	Top of Bedrock at El. 114.6 R1: Grey, aphanitic to fine-grained METASILTSTONE. Moderately hard, slightly to moderately weathered, highly fractured. Discernible joints dipping at steep angles, very close, open, discernible joints, planar to undulating, rough. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION- R1 Core Times (min:sec): 5.5-6.5' (1:55); 6.5-7.0' (2:20) R2: Similar to R1. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION- R2 Core Times (min:sec): 7.0-7.7'(1:24) R3: Grey, aphanitic METASILTSTONE, moderately hard, slightly weathered. Joints dipping at moderate to steep angles, secondary near-vertical joint very close to close, tight to open, planar, smooth to rough. Slight oxidation on some joint surfaces. Rock Quality=Very Poor Recovery=92% -BREWER FORMATION- R4 Core Times (min:sec): 10.6-11.6' (4:23) R5: Similar to R4, except joints dipping at low and steep angles, close. Rock Quality=Very Poor Recovery=98% -BREWER FORMATION- R5 Core Times (min:sec): 11.6-12.6' (5:41); 12.6-13.6' (2:53); 13.6-14.6' (2:31); 14.6-15.5' (2:21)		
	R2	8.4/8.4	7.0 - 7.7	RQD = 0%							
	R3	34.8/34.8	7.7 - 10.6	RQD = 37%							
10	R4	12/11	10.6 - 11.6	RQD = 0%							
	R5	46.8/46	11.6 - 15.5	RQD = 38%							
15								104.3			
20											
25											
Bottom of Exploration at 15.5 feet below ground surface.											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											Page 1 of 1
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											Boring No.: BB-ELAR-101


Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ELAR-102 WIN: 18915.00				
Driller: Northern Test Borings, Inc.		Elevation (ft.): 123.6		Auger ID/OD: --						
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20						
Date Start/Finish: 08-1-18/08-1-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 198+49.4, 22.3 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 4.8 ft						
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/20	0.5 - 2.5	14/12/12/8	24	36	SSA	123.1	-BITUMINOUS CONCRETE-	qp=12,789 psi (10.7-11.7')
									Brown, dry, dense, fine to coarse SAND, some fine to coarse gravel, trace silt	
	2D	24/14	2.5 - 4.5	6/5/7/33	12	18		121.1	-FILL-(SW) (ROADWAY BASE/SUBBASE MATERIAL)	
									Dark brown-grey, dry to moist, very stiff, SILT, little fine to coarse sand, trace fine to coarse gravel, cobble in spoon tip	
									-FILL-(ML)	
								119.1		
5	3D	15/12	5.0 - 6.3	5/20/50(3")			97/7"		Grey-brown to rust-brown, mottled, very dense, fine Sandy SILT, little gravel, trace medium to coarse sand	
	R1	36/36	6.6 - 9.6	RQD = 33%			NQ CORE	117.0	-GLACIAL TILL-(ML)	
									Top of Bedrock at El. 117.0	
									R1: Grey, aphanitic to fine-grained METASILTSTONE. Moderately hard, slightly to moderately weathered. Joints dipping at steep angles, very close to close, open joints, undulating, rough. High angle foliation, frequent thin calcite veins, one 3-in. thick quartz vein.	
10	R2	33.6/34	9.6 - 12.4	RQD = 86%					Rock Quality=Poor Recovery=100%	qp=11,024 psi (14.3-15.3')
									-BREWER FORMATION-	
									R1 Core Times (min:sec): 6.6-7.6' (1:55); 7.6-8.6' (3:31); 8.6-9.6' (5:15)	
	R3	49.2/48	12.4 - 16.5	RQD = 41%					R2: Similar to R1. Rock Quality=Good Recovery=100%	
									-BREWER FORMATION-	
									R2 Core Times (min:sec): 9.6-10.6' (4:35); 10.6-11.6' (4:34); 11.6-12.4 (7:56)	
15									R3: Similar to R1, except secondary low angle joints. Rock Quality=Poor Recovery=98%	
									-BREWER FORMATION-	
									R3 Core Times (min:sec): 12.4-13.4' (8:21); 13.4-14.4' (8:30); 14.4-15.4' (6:52); 15.4-16.5' (7:28)	
									Bottom of Exploration at 16.5 feet below ground surface.	
20										
25										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-ELAR-102

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-ELAR-201A					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 119.8		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 1-05-2021/1-05-2021		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 197+82.7, 14.5 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 1.8 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
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Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/8	0.0 - 2.0	6/6/5/2	11	16	SSA	115.4		<p>Note: Moved boring approximately 10 ft towards road away from power lines.</p> <p>Brown, wet, very stiff, fine to medium Sandy SILT, trace gravel, loosely bonded</p> <p>-GLACIAL TILL-(ML)</p> <p>Brown, wet, stiff, SILT, some fine gravel, little fine to medium sand, trace coarse sand, trace gravel, moderately bonded</p> <p>-GLACIAL TILL-(ML)</p> <p>Brown, wet, hard, SILT, some sand, little gravel, loosely bonded</p> <p>-GLACIAL TILL-(ML)</p> <p>Top of Bedrock El. 115.4</p> <p>R1: Grey, aphanitic, SILTSTONE, moderately hard, fresh to slightly weathered. Vertical joints, wide spacing, tight, rough, planar joints. Occasional calcite veins and banding, Rock Quality=Excellent</p> <p>Recovery=95%</p> <p>-BREWER FORMATION-</p> <p>R1 Core Times (min:sec): 4.7-5.7' (2:43); 5.7-6.7' (2:52); 6.7-7.7' (1:58); 7.7-8.7' (2:17); 8.7-9.7' (2:23)</p> <p>R2: Grey, aphanitic, SILTSTONE, moderately hard, fresh to moderately weathered. Steep angle joints, moderate spacing, tight to open, rough joints, iron staining on some joints. Occasional calcite veins.</p> <p>Rock Quality=Good</p> <p>Recovery=100%</p> <p>-BREWER FORMATION-</p> <p>R2 Core Times (min:sec): 9.7-10.7' (2:22); 10.7-11.7' (2:00); 11.7-12.7' (2:02); 12.7-13.7' (2:14); 13.7-14.7' (1:53)</p>	<p>G#613355</p> <p>A-4, ML</p>
	2D	24/7	2.0 - 4.0	1/4/6/14	10	14					
5	3D R1	5/4 60/57	4.0 - 4.4 4.7 - 9.7	50(4") RQD = 95%			71 RC NQ CORE				
10	R2	60/60	9.7 - 14.7	RQD = 90%							
15								105.1	<p>Bottom of Exploration at 14.7 feet below ground surface.</p>	<p>qp=15,479 psi (13.2'-14.2')</p>	
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-ELAR-201A	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ELAR-201 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 116.0		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 1-04-2021/1-04-2021		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 197+07.7, 47.5 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 1.3 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
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Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/7	0.0 - 2.0	WOH/WOH/1/3	1	1	SSA
	2D	10.8/8	2.0 - 2.9	WOH/13(5")			RC
	R1	60/57	3.4 - 8.4	RQD = 95%			NO CORE
5							
10							
15							
20							
25							
Elevation (ft.): 115.8 114.0 113.1 107.6							
Graphic Log 							
Visual Description and Remarks Brown, wet, very soft, SILT, organics, roots -TOPSOIL-(OL) Grey-brown, wet, very soft, Clayey SILT, trace gravel, trace fine sand, moderately bonded -GLACIAL TILL-(ML) Grey-brown, wet, very dense, fine SAND, some silt, little gravel, moderately bonded -GLACIAL TILL-(SM) Top of Bedrock at El. 113.1 R1: Grey, aphanitic, SILTSTONE, moderately hard, fresh to slight weathering. Joints dipping at steep angles, moderate to wide spacing, tight, rough, planar. Occasional calcite veins, 0.25 to 1-in. thick quartz banding between 5.2 to 5.8 ft, calcite coating on joint surface at 4.2 ft. Rock Quality=Excellent Recovery=95% -BREWER FORMATION- R1 Core Times (min:sec): 3.4-4.4' (2:41); 4.4-5.4' (2:29); 5.4-6.4' (2:56); 6.4-7.4' (2:27); 7.4-8.4' (2:22) Bottom of Exploration at 8.4 feet below ground surface.							
Laboratory Testing Results/ AASHTO and Unified Class.							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							




Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-ELAR-202																																																																																																																																																				
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ELAR-203A WIN: 18915.00			
Driller: New England Boring Contractors		Elevation (ft.): 121.5		Auger ID/OD: --					
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16					
Date Start/Finish: 12-23-2020/12-23-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID					
Boring Location: Sta. 198+69.1, 1.0 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 2.4 ft					
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test									
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
0	1D	24/9	0.0 - 2.0	2/2/1/4	3	4	SSA	Grey-brown, moist, soft, fine Sandy SILT -GLACIAL TILL-(ML)	
	2D	24/14	2.0 - 4.0	2/10/32/27	42	60	3	Brown-grey, moist, hard, SILT, little fine sand, trace gravel, moderately bonded -GLACIAL TILL-(ML) Note: Gravel from 3.9 to 4.0 ft.	
							4		
5	3D	16.8/15	4.0 - 5.4	16/24/50(5")			46	Brown-grey, moist, hard, Sandy SILT, little fine gravel, moderately bonded -GLACIAL TILL-(ML)	G#613356 A-4, ML
							RC		
	R1	60/48	6.0 - 11.0	RQD = 60%			NQ CORE	Top of Bedrock El. 116.1 R1: Grey, aphanitic, SILTSTONE, moderately hard, fresh to slightly weathered. Joints dipping at low and steep angles, close to moderate spacing, tight, planar, rough, calcite veins. Rock Quality=Good Recovery=80% -BREWER FORMATION- R1 Core Times (min:sec): 6.0-7.0' (0:58); 7.0-8.0' (1:15); 8.0-9.0' (1:16); 9.0-10.0' (1:19); 10.0-11.0' (1:24)	
10								R2: Grey, aphanitic, SILTSTONE, moderately hard, slightly weathered. Dipping at steep angles, moderate spacing, tight to open, rough, calcite veins. Rock Quality=Poor Recovery=120% Note: R2 recovery and RQD includes 5 in. from R1 that was not initially recovered. -BREWER FORMATION- R2 Core Times (min:sec): 11.0-12.0' (1:43); 12.0-13.0' (1:31)	
	R2	24/29	11.0 - 13.0	RQD = 46%					
								R3: Grey, aphanitic, SILTSTONE, moderately hard, fresh to slight weathering. Steep angle joint, wide spacing, tight, rough, calcite veins. Rock Quality=Excellent Recovery=94% -BREWER FORMATION- R3 Core Times (min:sec): 13.0-14.0' (1:12); 14.0-15.0' (1:21); 15.0-16.0' (1:25); 16.0-17.0' (1:22)	qp=21,335 psi (14.7'-15.7')
	R3	48/45	13.0 - 17.0	RQD = 94%					
15								Bottom of Exploration at 17.0 feet below ground surface.	
20									
25									
Remarks:									
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Page 1 of 1 Boring No.: BB-ELAR-203A	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-ELAR-203 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 119.0				Auger ID/OD: --			
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 12-23-2020/12-23-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 198+77.3, 35.2 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 0.8 ft			
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div>Definitions:</div> <div>D = Split Spoon Sample</div> <div>MD = Unsuccessful Split Spoon Sample Attempt</div> <div>U = Thin Wall Tube Sample</div> <div>MU = Unsuccessful Thin Wall Tube Sample Attempt</div> <div>V = Field Vane Shear Test, PP = Pocket Penetrometer</div> <div>MV = Unsuccessful Field Vane Shear Test Attempt</div> <div>R = Rock Core Sample</div> <div>SSA = Solid Stem Auger</div> <div>HSA = Hollow Stem Auger</div> <div>RC = Roller Cone</div> <div>WOH = Weight of 140lb. Hammer</div> <div>WOR/C = Weight of Rods or Casing</div> <div>WO1P = Weight of One Person</div> <div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</div> <div>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</div> <div>q_p = Unconfined Compressive Strength (ksf)</div> <div>N-uncorrected = Raw Field SPT N-value</div> <div>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</div> <div>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</div> <div>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div> <div>T_v = Pocket Torvane Shear Strength (psf)</div> <div>WC = Water Content, percent</div> <div>LL = Liquid Limit</div> <div>PL = Plastic Limit</div> <div>PI = Plasticity Index</div> <div>G = Grain Size Analysis</div> <div>C = Consolidation Test</div>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	7/3	0.0 - 0.6	2/50(1")			RC	118.7		Brown, moist, soft, SILT, trace fine sand, organics -TOPSOIL-(OL) Note: Spoon tip contained tree root. Top of Bedrock El. 118.4 R1: Grey, aphanitic, SILTSTONE, moderately hard, slight weathering. Steep angle joints, moderate spacing, tight, planar to undulating, rough. Few calcite veins, iron staining on joints. Rock Quality=Good Recovery=94% -BREWER FORMATION- R1 Core Times (min:sec): 1.5-2.5' (2:49); 2.5-3.8' (1:57) R2: Grey, aphanitic, SILTSTONE, moderately hard, fresh. Steep angle joints, moderately spaced, tight to open, rough joints, calcite veins. Rock Quality=Good Recovery=89% -BREWER FORMATION- R2 Core Times (min:sec): 3.8-4.8' (1:38); 4.8-5.8' (2:52); 5.8-6.8' (1:48) Bottom of Exploration at 6.8 feet below ground surface.	qp=11,830 psi (5.1'-5.6')
	R1	27.6/26	1.5 - 3.8	RQD = 76%			NQ	118.4			
							CORE				
	R2	36/32	3.8 - 6.8	RQD = 81%							
5								112.2			
10											
15											
20											
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-ELAR-203	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ELAR-204 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 123.6		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 12-22-2020/12-22-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 199+34.0, 37.0 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 2.1 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="font-size: small;"> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_u(lab) = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/7	0.0 - 2.0	2/2/2	4	6	SSA	123.3		Brown, moist, soft, SILT, trace fine sand, organics -TOPSOIL-(OL) -----0.3- Brown-grey, moist, medium stiff, Silty CLAY, trace fine sand, moderate plasticity -MARINE DEPOSIT-(CL) Similar to 1D, except stiff -MARINE DEPOSIT-(CL) -----3.5- Grey, moist, medium dense, GRAVEL, trace fine sand, trace silt, loosely bonded -GLACIAL TILL-(GP) -----4.0- Brown-grey, moist, hard, SILT, some fine sand, little gravel, loosely bonded -GLACIAL TILL-(ML) Note: Cobble from 4.2 to 4.4 ft. -----5.8- Top of Bedrock at El. 117.8 R1: Grey, aphanitic, SILTSTONE, hard, fresh to slightly weathered. Joints dipping at moderate to steep angles, close to moderately close, planar, smooth to rough, tight to open, 0.05-in. thick silt infilled joint at 9.0 ft. Rock Quality=Fair Recovery=97% -BREWER FORMATION- R1 Core Times (min:sec): 6.5-7.5' (2:33); 7.5-8.5' (2:11); 8.5-9.5' (1:41); 9.5-10.5' (1:48); 10.5-11.5' (1:55) -----11.5- Bottom of Exploration at 11.5 feet below ground surface.	
	2D/A	24/20	2.0 - 4.0	5/8/7/20	15	21		120.1			
								119.6			
5	3D	22/14	4.0 - 5.8	32/23/17/50(4")	40	57	RC	117.8			
	R1	60/58	6.5 - 11.5	RQD = 75%			NQ				
							CORE				
10											
15											
20											
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-ELAR-204	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ELER-101 WIN: 18915.00					
Driller: Northern Test Borings, Inc.		Elevation (ft.): 225		Auger ID/OD: --							
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20							
Date Start/Finish: 07-23-18/07-23-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 237+34.7, 45.2 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 7.9 ft							
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
0	1D	24/8	0.0 - 2.0	6/8/6/2	14	21	SSA	223.0		Brown, damp, medium dense, fine to coarse SAND, trace fine gravel, trace silt, well graded, reworked naturally-deposited soils -FILL-(SW-SM)	G#474527 A-4(0), ML WC=12.4
	2D	24/16	2.0 - 4.0	3/3/4/5	7	11				Light brown, moist, stiff, SILT, little fine to coarse sand, trace fine gravel -GLACIAL TILL-(ML)	
5	3D	24/24	4.0 - 6.0	12/14/14/18	28	42				Yellow-brown with occasional grey mottling, moist, hard, SILT, some fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	
							47				
							49				
							37				
							68				
10	4D	16/14	10.0 - 11.3	17/24/50(4")			44			Brown, wet, hard, SILT, some fine to coarse gravel, little fine to coarse sand, well bonded -GLACIAL TILL-(ML)	
							58				
							85				
15							101				
							75/4" RC	210.6	Top of Bedrock at El. 210.6		
	R1	58.8/55	16.4 - 21.3	RQD = 75%			NQ CORE		R1: Grey, aphanitic SILTSTONE. Hard, fresh, joints dipping at low to moderate angles, very close to close spacing, tight, some oxidation and occasional calcite coatings on joint surfaces, frequent thin calcite veins, occasional thin quartz veins. Rock Quality=Fair Recovery=93% -BREWER FORMATION- R1 Core Times (min:sec): 16.4-17.4' (3:29); 17.4-18.4' (3:20); 18.4-19.4' (4:04); 19.4-20.4' (4:39); 20.4-21.3' (5:29)	qp=18,157 psi (16.4-16.8')	
20											
	R2	60/60	21.3 - 26.3	RQD = 85%					R2: Similar to R1, except few dark gray aphanitic slaty 1 to 3-in. thick beds. Rock Quality=Good Recovery=100% -BREWER FORMATION- R2 Core Times (min:sec): 21.3-22.3' (5:27); 22.3-23.3' (6:29); 23.3-24.3' (5:50); 24.3-25.3' (5:55); 25.3-26.3' (6:10)	qp=25,061 psi (21.9-22.3')	
25											
Remarks: 1. Observaton well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-ELER-101	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-ELER-101 WIN: 18915.00																																																																																																																																																																																																					
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Remarks: 1. Observaton well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.																																																																																																																																																																																																													
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Page 2 of 2

Boring No.: BB-ELER-101

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ELER-102 WIN: 18915.00	
Driller: Northern Test Borings, Inc.		Elevation (ft.): 225.8		Auger ID/OD: --			
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20			
Date Start/Finish: 07-24-18/07-24-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 237+33.0, 39.7 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 5.9 ft			
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/16	0.3 - 2.3	14/12/11/9	23	35	SSA
	2D	24/15	2.3 - 4.3	8/7/6/10	13	20	
5	3D	24/24	4.3 - 6.3	4/7/7/9	14	21	✓
							39
							33
							41
							45
							49
10	4D	24/24	10.0 - 12.0	11/15/19/21	34	51	83
							91
							93
							RC
							213.0
15	R1	48/40	14.5 - 18.5	RQD = 15%			NQ
							CORE
	R2	44.4/37	18.5 - 22.2	RQD = 14%			
20							
	R3	60/54	22.2 - 27.2	RQD = 28%			
							✓
25							
Visual Description and Remarks: -BITUMINOUS CONCRETE- Dark brown, dry, dense, Gravelly SAND, trace silt, well graded -FILL-(SW)(ROADWAY BASE/SUBBASE MATERIAL) Grey grading to yellow-brown, moist, very stiff, Sandy SILT, trace fine gravel, poorly-bonded -GLACIAL TILL-(SM) Yellow-brown, moist, very stiff, SILT, some fine to coarse sand, trace fine gravel -GLACIAL TILL-(ML) Yellow-brown, wet, hard, SILT, some fine to coarse sand, little fine gravel, moderately bonded -GLACIAL TILL-(ML) Top of Bedrock at El. 213.0 R1: Grey, aphanitic PHYLLITE. Moderately hard to hard, fresh to slightly weathered. Primary joints dipping at moderate to steep angles, very close to close, planar, smooth to rough, tight to open, occasional calcite veins, occasional pitting, fresh to slightly weathered joint surfaces, highly fractured, slight to moderately weathered zone at approximately 17.0 to 17.7 ft. Rock Quality=Very Poor Recovery=83% -BREWER FORMATION- R1 Core Times (min:sec): 14.5-15.5' (2:59); 15.5-16.5' (2:29); 16.5-17.5' (2:11); 17.5-18.5' (2:19) R2: Similar to R1, except high angle foliation, occasional highly fractured and moderately weathered zones. Rock Quality=Very Poor Recovery=83% -BREWER FORMATION- R2 Core Times (min:sec): 18.5-19.5' (2:07); 19.5-20.5' (1:53); 20.5-21.5' (2:20); 21.5-22.2' (2:23) R3: Similar to R2, except 2-in. thick quartz vein at approximately 26 ft. Rock Quality=Poor Recovery=90%							
Laboratory Testing Results/AASHTO and Unified Class.							
G#474529 A-4(0), ML WC=13.9 G#474530 A-4(0), ML WC=10.2							
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-ELER-102 WIN: 18915.00							
Driller: Northern Test Borings, Inc.				Elevation (ft.) 225.8				Auger ID/OD: --							
Operator: M. Nadeau				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)				Hammer Wt./Fall: SS-140#/30; HW-140#/#							
Date Start/Finish: 07-24-18/07-24-18				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 237+33.0, 39.7 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 5.9 ft							
Hammer Efficiency Factor: 0.907				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected							
				Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Sample Information												Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log						
25							NQ CORE					-BREWER FORMATION- R3 Core Times (min:sec): 22.2-23.2' (2:14); 23.2-24.2' (2:34); 24.2-25.2' (2:13); 25.2-26.2' (3:03); 26.2-27.2' (3:42)			
	R4	36/31	27.2 - 30.2	RQD = 39%								R4: Similar to R1, except secondary low angle joints, oxidation on joint surfaces. Rock Quality=Poor Recovery=86% -BREWER FORMATION- R4 Core Times (min:sec): 27.2-28.2' (3:04); 28.2-29.2' (2:51); 29.2-30.2' (3:01)	qp=5,737 psi (27.3-27.7')		
30									195.6						
												Bottom of Exploration at 30.2 feet below ground surface.			
35															
40															
45															
50															
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 2 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: BB-ELER-102			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-ELER-201				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 222.7		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 12-17-2020/12-18-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 236+83.9, 40.2 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.4 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/8	0.0 - 2.0	2/3/3/5	6	9	SSA		Brown, dry, stiff, SILT, little gravel, trace fine sand, loosely bonded -GLACIAL TILL-(ML)	
5	2D	24/20	5.0 - 7.0	9/17/20/23	37	53	11		Brown, dry, hard, SILT, little gravel, trace sand, moderately bonded -GLACIAL TILL-(ML)	
10	3D	24/16	10.0 - 12.0	9/26/24/20	50	71	6		Brown, wet, hard, Gravelly SILT, trace sand, moderately bonded -GLACIAL TILL-(ML)	
15	4D	3/3	15.0 - 15.3	50(3")			NW	207.7	Brown, wet, very dense, Sandy GRAVEL, little silt, well bonded -GLACIAL TILL-(GM)	
20	5D	1/0	20.0 - 20.1	53(1")			RC	202.6	No Recovery, very dense	
25	R1	60/39	21.3 - 26.3	RQD = 48%			NQ CORE		Top of Bedrock El. 202.6 R1: Grey, aphanitic, SILTSTONE, moderately hard, slightly weathered. Joints dipping at moderate to steep angles, very close to close, planar to undulating, smooth to rough, tight to open, oxidation on some joint surfaces, common calcite veins. Rock Quality=Poor Recovery=65% -BREWER FORMATION- R1 Core Times (min:sec): 21.3-22.3' (1:27); 22.3-23.3' (2:41);	
Remarks:										
<div style="display: flex; justify-content: space-between;"> <div>Stratification lines represent approximate boundaries between soil types; transitions may be gradual.</div> <div>Page 1 of 2</div> </div>										
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-ELER-201

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log</div> <div>US CUSTOMARY UNITS</div>				Project: Route 9/I-395 Connector			Boring No.: BB-ELER-201																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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<table><thead><tr><th colspan="9">Sample Information</th><th rowspan="2">Graphic Log</th><th rowspan="2">Visual Description and Remarks</th><th rowspan="2">Laboratory Testing Results/AASHTO and Unified Class.</th></tr><tr><th>Depth (ft.)</th><th>Sample No.</th><th>Pen./Rec. (in.)</th><th>Sample Depth (ft.)</th><th>Blows (/6 in.) Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th><th>Elevation (ft.)</th></tr></thead><tbody><tr><td>25</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td rowspan="12"><div>25</div><div>28.5</div></td><td rowspan="12">23.3-24.3' (2:34); 24.3-25.3' (2:18); 25.3-26.3' (1:52) R2: Similar to R1 . Rock Quality=Very Poor Recovery=76% -BREWER FORMATION- R2 Core Times (min:sec): 26.3-27.3' (2:54); 27.3-28.3' (3:45); 28.3-28.5' (0:52) Bottom of Exploration at 28.5 feet below ground surface.</td><td rowspan="12"></td></tr><tr><td></td><td>R2</td><td>26.4/20</td><td>26.3 - 28.5</td><td>RQD = 15%</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>30</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>40</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>45</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td>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Information									Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	25									<div>25</div> <div>28.5</div>	23.3-24.3' (2:34); 24.3-25.3' (2:18); 25.3-26.3' (1:52) R2: Similar to R1 . Rock Quality=Very Poor Recovery=76% -BREWER FORMATION- R2 Core Times (min:sec): 26.3-27.3' (2:54); 27.3-28.3' (3:45); 28.3-28.5' (0:52) Bottom of Exploration at 28.5 feet below ground surface.			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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ELER-202 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 225.1		Auger ID/OD: HSA-3.25 in. ID			
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: C. Toscano		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 11-18-2020/11-18-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 237+14.7, 42.2 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: NE			
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/15	0.3 - 2.3	10/11/51/4	62	90	SSA
							5
							15
							49
							62
5	2D	24/22	5.0 - 7.0	6/4/20/17	24	35	15
							10
							38
							46
							55
10	3D	24/10	10.0 - 12.0	14/27/30/21	57	82	HW
15	4D	6/4	15.0 - 15.5	84/50(0.0")			RC
	R1	48/36	17.0 - 21.0	RQD = 8%			NQ CORE
20							
	R2	57.6/38	21.0 - 25.8	RQD = 45%			
25							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Visual Description and Remarks</p> <p>-BITUMINOUS CONCRETE- Brown, moist, very dense, fine to medium SAND, trace coarse sand, trace fine to coarse gravel -FILL-(ROADWAY BASE/SUBBASE MATERIAL) Olive-brown, moist, hard, SILT, little fine sand, trace medium sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML) Note: Drill action indicated few cobbles from 7.0 to 9.0 ft. Note: Washed ahead of casing from 5.0 to 10.0 ft. Olive-brown, moist, hard, SILT, little fine sand, trace medium to coarse sand and fine gravel, well bonded, cobbles likely present -GLACIAL TILL-(ML) Note: Drill action indicated frequent cobbles from 10.0 to 14.0 ft. Rollerbit advanced rapidly from 14.0 to 15.0 ft. Similar to 3D, except pulverized rock fragments lodged in tip of spoon. Note: Drill action indicated cobbles from 15.0 to 15.5 ft. Rollerbit advanced rapidly from 15.5 to 16.5 ft. Top of Bedrock El. 208.6 R1: Grey, aphanitic, SLATE, moderately hard, slightly to moderately weathered. Joints low to steep, very close to close, planar to undulating, rough, open. Highly fractured, oxidized from 19 to 21 ft. Rock Quality=Very Poor Recovery=75% -BREWER FORMATION- R1 Core Times (min:sec): 17.0-18.0' (2:50); 18.0-19.0' (2:35); 19.0-20.0' (2:30); 20.0-21.0' (3:30) R2: Similar to R1, except hard, fresh. Joints low to moderately dipping, close, silt infillings, slightly oxidized, common calcite veins. Rock Quality=Poor Recovery=66% -BREWER FORMATION- R2 Core Times (min:sec): 21.0-22.0' (3:51); 22.0-23.0' (3:40);</p> </div> <div style="width: 45%; text-align: right;"> <p>0.3-</p> <p>2.5-</p> <p>G#613357 A-4, ML</p> <p>16.5-</p> </div> </div>							
Laboratory Testing Results/AASHTO and Unified Class.							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS						Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine							Boring No.: BB-ELER-202 WIN: 18915.00										
Driller: New England Boring Contractors						Elevation (ft.) 225.1							Auger ID/OD: HSA-3.25 in. ID										
Operator: J. Layfield						Datum: NAVD 88							Sampler: Split Spoon 1.375 in. ID										
Logged By: C. Toscano						Rig Type: Mobile B-53 Truck							Hammer Wt./Fall: SS-140#/30; HW-300#/ Date Start/Finish: 11-18-2020/11-18-2020										
Drilling Method: SSA/HW Drive						Core Barrel: NQ-2.0 in. ID							Water Level*: NE										
Boring Location: Sta. 237+14.7, 42.2 LT						Casing ID/OD: HW-4.0 in. ID																	
Hammer Efficiency Factor: 0.867						Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																	
<div>Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div>						<div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div>							<div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div>							<div>T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>			
Sample Information																							
Depth (ft.)		Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks				Laboratory Testing Results/AASHTO and Unified Class.								
25		R3	48/48	25.8 - 29.8	RQD = 77%			NO CORE	188.1		23.0-24.0' (3:13); 24.0-25.0' (2:49); 25.0-25.8' (3:48) Note: No water return. R3: Similar to R2, except joints low to steep. Common quartz intrusions up to 3-in. thick and calcite veins, no silt infillings. Rock Quality=Good Recovery=100% -BREWER FORMATION- R3 Core Times (min:sec): 25.8-26.8' (2:40); 26.8-27.8' (3:18); 27.8-28.8' (4:15); 28.8-29.8' (4:00) Note: No water return. R4: Similar to R3, except common quartz veins. Rock Quality=Fair Recovery=100% -BREWER FORMATION- R4 Core Times (min:sec): 29.8-30.8' (3:01); 30.8-31.8' (2:41); 31.8-32.8' (2:00); 32.8-33.8' (1:44); 33.8-34.8' (1:19) Note: No water return. R5: Similar to R4. Rock Quality=Poor Recovery=96% -BREWER FORMATION- R5 Core Times (min:sec): 34.8-35.8' (1:36); 35.8-37.0' (1:28) Bottom of Exploration at 37.0 feet below ground surface.				qp=27,259 psi (26'-26.6')								
30		R4	60/60	29.8 - 34.8	RQD = 67%								qp=21,637 psi (28.6'-29.5')										

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ELER-203 WIN: 18915.00						
Driller: New England Boring Contractors		Elevation (ft.): 225.6		Auger ID/OD: --								
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID								
Logged By: H. Hollauer		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; HW-300#/16								
Date Start/Finish: 12-1-2020/12-1-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID								
Boring Location: Sta. 237+57.3, 55.2 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: NE								
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>										
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Sample Information												
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
0	1D	24/14	0.0 - 2.0	1/3/3/3	6	9	SSA	225.4		-ROOT MAT- Grey-brown, damp, medium stiff, SILT, little fine to coarse sand, trace gravel, likely reworked naturally-deposited soil -TOPSOIL-(ML)	G#613358 A-4, ML	
								222.6		Note: Drill action indicates strata change at 3.0 ft.		
5	2D	24/24	5.0 - 7.0	11/18/20/24	38	55	HW			Grey-brown, dry, hard, SILT, little fine sand, trace medium to coarse sand and fine to coarse gravel -GLACIAL TILL-(ML)		
10	3D	24/24	10.0 - 12.0	14/18/22/28	40	58				Similar to 2D, except grey -GLACIAL TILL-(ML)		
15	4D	2/2	15.0 - 15.2	60(2")			RC	210.4		Similar to 3D, except with weathered rock fragments.		qp=16,647psi (15.9'-16.2') GTX#313322 SF-1 15.0/29.1 psi (16.7')
	R1	60/40	15.3 - 20.3	RQD = 47%			NQ CORE			Top of Bedrock El 210.4 R1: Grey, aphanitic, SILTSTONE, hard, fresh to slightly weathered. Joints dipping at moderate angles, close, tight, slight iron staining on joint surface. Highly fractured zone from approximately 15.3 to 17.0 ft. Slight pitting, frequent calcite veins up to 1 in. in thickness. Rock Quality=Poor Recovery=67% -BREWER FORMATION- R1 Core Times (min:sec): 15.3-16.3' (2:30); 16.3-17.3' (4:00); 17.3-18.3' (3:00); 18.3-19.3' (3:00); 19.3-20.3' (3:30) Note: Bottom joint iron stained and silty. Possible open fracture encountered at bottom of core run.		
20								205.3	Bottom of Exploration at 20.3 feet below ground surface.			
25												
Remarks: 1. SF-1 denotes sliding friction test completed at depth shown. 15.0/29.1 psi represents normal and peak shear stresses, respectively.												
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-ELER-203		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ELER-204 WIN: 18915.00							
Driller: New England Boring Contractors		Elevation (ft.): 223.2		Auger ID/OD: --									
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID									
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16									
Date Start/Finish: 12-15-2020/12-15-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID									
Boring Location: Sta. 237+05.2, 55.7 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 1.0 ft									
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test													
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.			
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)		
0	1D	24/6	0.0 - 2.0	1/3/3/4	6	9	SSA	222.7		-TOPSOIL- Brown, dry, medium stiff, SILT, trace fine sand, trace gravel, organics, likely reworked naturally-deposited soil -TOPSOIL-(ML)	0.5-		
								218.4		Note: Drill action indicates strata change at 4.8 ft.			
5	2D	24/22	5.0 - 7.0	31/13/14/21	27	38	50					Brown, dry, very stiff, SILT, trace gravel, trace fine sand -GLACIAL TILL-(ML)	4.8-
							78						
							122						
							49	215.0		Top of Bedrock El. 215.0	8.2-		
10	R1	60/48	9.9 - 14.9	RQD = 38%			NQ			R1: Grey, aphanitic, SILTSTONE, hard, fresh to slightly weathered. Joints dipping at moderate to vertical angles, very close to moderately spaced, tight to open, planar to undulating, rough, occasional calcite veins. Highly fractured zone from approximately 12.5 to 13.5 ft. Rock Quality=Poor Recovery=80% -BREWER FORMATION- R1 Core Times (min:sec): 9.9-10.9' (3:16); 10.9-11.9 (2:44); 11.9-12.9' (2:15); 12.9-13.9' (2:26); 13.9-14.9' (2:47)			
							CORE						
15								208.3		Bottom of Exploration at 14.9 feet below ground surface.	14.9-		
25													
Remarks:													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-ELER-204			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ELER-205 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 225.9		Auger ID/OD: --							
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: C. Toscano		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-18-2020/11-19-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 237+34.6, 43.7 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: NE							
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/18	0.5 - 2.5	12/15/12/9	27	39	SSA	225.4		-BITUMINOUS CONCRETE- Brown, moist, dense, fine to medium SAND, little coarse sand and silt, little fine gravel, trace coarse gravel -FILL-(SP) (ROADWAY BASE/SUBBASE MATERIAL) Olive-brown, moist, hard, SILT, little fine sand, cobbles likely present -GLACIAL TILL-(ML) Note: Drill action indicated boulder from 5.25 to 6.5 ft. Note: Spun HW casing to 10.0 ft. Olive-brown, moist, hard, SILT, little fine sand, trace medium to coarse sand and fine gravel -GLACIAL TILL-(ML)	G#613359 A-4, ML
5	2D	2/2	5.0 - 5.2	50/3"			HW	223.4			
10	3D	24/24	10.0 - 12.0	14/20/25/26	45	65					
15	R1	36/32	15.0 - 18.0	RQD = 31%			NQ CORE	211.4			
20	R2	24/22	18.0 - 20.0	RQD = 33%							
25	R3	31.2/27	20.0 - 22.6	RQD = 13%							
	R4	28.8/28	22.6 - 25.0	RQD = 31%							
Remarks: 1. SF-2 denotes sliding friction test completed at depth shown. 20.0/14.3 psi represents normal and peak shear stresses, respectively.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: BB-ELER-205		

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-ELER-206A WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 224.5		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 2-24-2021/2-25-2021		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 237+80.3, 53.2 RT		Casing ID/OD: HW-3.0 in. ID		Water Level*: 2.3 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _u (lab) = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0							SSA	215.0		
5	1D	24/22	5.5 - 7.5	10/13/21/32	34	48	47			
							87			
							72			
							263			
							247/RC			
10	R1	60/56	10.0 - 15.0	RQD = 57%			NQ CORE			
15	R2	60/53	15.0 - 20.0	RQD = 53%						
20	R3	24/13	20.0 - 22.0	RQD = 0%						
	R4	10/5	22.0 - 22.8	RQD = 0%						
	R5	26/26	22.8 - 25.0	RQD = 0%						
25										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-ELER-206A WIN: 18915.00							
Driller: New England Boring Contractors				Elevation (ft.): 224.5				Auger ID/OD: --							
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#							
Date Start/Finish: 2-24-2021/2-25-2021				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 237+80.3, 53.2 RT				Casing ID/OD: HW-3.0 in. ID				Water Level*: 2.3 ft							
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected				T _y = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test			
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.				
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)							
25	R6	48/39	25.0 - 29.0	RQD = 42%			NO CORE			<p>Rock Quality=Very Poor Recovery=52%</p> <p>R4 Core Times (min:sec): 22.0-22.8' (2:46) R5: Similar to R3, except dark grey/black slaty steeply dipping, foliation layer (approximately 1-in. thick) at approximately 23.5 ft, grading to slate, pyrite mineralization.</p> <p>Rock Quality=Very Poor Recovery=100%</p> <p>-BREWER FORMATION-</p> <p>R5 Core Times (min:sec): 22.8-23.8' (2:32); 23.8-25.0' (3:09); R6: Grey, aphanitic, SILTSTONE, hard to moderately hard, fresh to slightly weathered. Joints steeply dipping, very close to moderately close, planar to undulating, rough, tight to open. Intermittent highly fractured zones. Calcite veins associated with steeply dipping joints (0.25 to 1-in. thick). Discontinuous silt infilling on joint surfaces at approximately 28.5 ft (0.25-in. thick).</p> <p>Rock Quality=Good Recovery=95%</p> <p>-BREWER FORMATION-</p> <p>R6 Core Times (min:sec): 25.0-26.0' (2:18); 26.0-27.0' (2:31); 27.0-28.0' (2:49); 28.0-29.0' (3:01) R7: Similar to R6, except joints moderately close. Secondary horizontal joints, close, planar to stepped, rough, tight to open. Few calcite veins (0.25-in. thick).</p> <p>Rock Quality=Good Recovery=95%</p> <p>-BREWER FORMATION-</p> <p>R7 Core Times (min:sec): 29.0-30.0' (1:49); 30.0-31.0' (2:13); 31.0-32.2' (2:13) R8: Similar to R6, except no horizontal joints. Occasional 1 to 2-in. thick dark grey to black steeply dipping slate beds, planar to stepped, smooth to rough, tight to open. Calcite veins (0.25-in. thick).</p> <p>Rock Quality=Very Poor Recovery=68%</p> <p>-BREWER FORMATION-</p> <p>R8 Core Times (min:sec): 32.2-33.2' (3:12); 33.2-34.4' (3:32) R9: Grey, aphanitic, SILTSTONE, hard, fresh, solid core stem (no joints). Very thin (approximately 0.25-in. thick) dark grey to black steeply dipping foliated layers from approximately 34.4 to 34.8 ft, containing calcite, few calcite stringers and veins (up to 0.25-in. thick).</p> <p>Rock Quality=Good Recovery=80%</p> <p>R9 Core Times (min:sec): 34.4-35.4' (2:11); 35.4-36.4' (2:18); 36.4-37.0' (2:44)</p> <p>37.0</p> <p>Bottom of Exploration at 37.0 feet below ground surface.</p>					
50															
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.															
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.															

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: BB-ELER-206						
				Location: Brewer and Eddington, Maine		WIN: 18915.00						
Driller: New England Boring Contractors		Elevation (ft.): 225.1		Auger ID/OD: --								
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID								
Logged By: H. Hollauer		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; HW-300#/16								
Date Start/Finish: 11-30-2020/11-30-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID								
Boring Location: Sta. 237+80.6, 41.5 RT		Casing ID/OD: HW-3.0 in. ID		Water Level*: NE								
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>										
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>												
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows					
0	1D	24/14	0.0 - 2.0	1/2/2/2	4	6	SSA	224.9		-TOPSOIL/ROOT MAT- -0.2- Grey-brown, damp, soft, SILT, little fine to coarse sand, trace fine gravel, appears reworked -GLACIAL TILL-(ML)		
								221.6		-3.5- Note: Drill action indicates strata change at 3.5 ft.		
5	2D	24/22	5.0 - 7.0	12/14/16/18	30	43					Grey-brown, damp, hard, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML) Note: Drill action indicates cobbles from 7.0 to 10.0 ft.	
10	3D	6/4	10.0 - 10.5	64(6")			RC	214.7			Similar to S2, except rock in spoon tip, very dense	
	R1	31.2/30	11.0 - 13.6	RQD = 0%			NO CORE				Top of Bedrock El. 214.7 R1: Grey, aphanitic, SILTSTONE, hard to moderately hard, slightly to moderately weathered. Joints dipping at moderate angles, very close to close, planar to undulating, rough, tight to open, slight iron staining on few joint surfaces. Calcite coating on few joint surfaces, highly fractured throughout. Rock Quality=Very Poor Recovery=96%	
	R2	28.8/24	13.6 - 16.0	RQD = 0%							-BREWER FORMATION- R1 Core Times (min:sec): 11.0-12.0' (3:30); 12.0-13.0' (3:00); 13.0-13.6' (1:45) R2: Similar to R1, except joints low angle to moderately dipping, few thin calcite veins. Central portion of recovered core has been reduced to gravel-size pieces. Rock Quality=Very Poor Recovery=83%	
15								209.1			-BREWER FORMATION- R2 Core Times (min:sec): 13.6-14.0' (1:30); 14.0-15.0' (3:30); 15.0-16.0' (3:20)	
20											Bottom of Exploration at 16.0 feet below ground surface.	
25												
Remarks:												
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-ELER-206		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-EST2-101 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 197.5		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SSA-140#/30; HW-140#/30			
Date Start/Finish: 11-29-18/11-29-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta.284+04.3; 1.3 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 2.0 ft			
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _u (lab) = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/6	0.0 - 2.0	WOH/WOH/1/2	1	2	HW PUSH
5	2D	24/12	5.0 - 7.0	12/14/12/11	26	40	HW
10							
	R1	56.4/44	11.5 - 16.2	RQD = 9%			CORE
15							
	R2	60/60	16.2 - 21.2	RQD = 52%			
20							
25							
				Visual Description and Remarks Note: Frozen soil at ground surface. -TOPSOIL- Yellow-brown and light brown, wet, very soft, fine to coarse Sandy SILT, trace organics, loosely bonded -GLACIAL TILL-(ML) Grey with yellow-brown and red-brown, wet, hard, fine to coarse Sandy SILT, little fine gravel, moderately bonded -GLACIAL TILL-(ML) Note: Weathered rock in spoon sample. Note: Drill action and wash water contents indicate weathered rock at 10.0 ft. Note: Collected cutting sample of weathered bedrock 10.0 to 11.0 ft. -WEATHERED BEDROCK- Advanced rollerbit to 11.5 ft into competent bedrock. Top of Bedrock at El. 186.0 Grey, aphanitic, PHYLLITE, hard, fresh to moderate weathering. Primary joints dipping at steep to vertical angles. Secondary joints dipping at low to moderate angles, very close to close, tight to open, slight fine-grained silt/pyrite infilling. Slight oxidation on joint surfaces, occasional pitting, few calcite/quartzite stringers up to 1/5 in. thickness throughout run. Rock Quality=Very Poor Recovery=78% R1 Core Times (min:sec): 11.5-12.5' (3:18); 12.5-13.5' (2:31); 13.5-14.5' (3:01); 14.5-15.5' (2:55); 15.5-16.2' (3:11) R2: Grey, aphanitic, PHYLLITE, hard, fresh to moderate weathering. Primary joints dipping at steep angles. Secondary joints dipping at low to moderate angles, very close to close, tight to open, pyrite observed on joint surfaces, occasional pitting, some calcite/quartzite stringers up to 1 in. thickness throughout run. Rock Quality=Fair Recovery=100% R2 Core Times (min:sec): 16.2-17.2' (2:47); 17.2-18.2' (2:13); 18.2-19.2' (2:13); 19.2-20.2' (2:18); 20.2-21.2' (3:43) Bottom of Exploration at 21.2 feet below ground surface.			
Laboratory Testing Results/ AASHTO and Unified Class.							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-EWC1-101 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 181.1		Auger ID/OD: --			
Operator: T.Schaffer/E. Baron		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 12-4-18/12-5-18		Drilling Method: HW Drive		Core Barrel: NQ 2.0-in. ID			
Boring Location: Sta. 272+35.9; 3.4 RT		Casing ID/OD: HW 4.0 in. ID		Water Level*: --			
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/11	0.0 - 2.0	1/5/7/19	12	19	HW PUSH
5	2D	24/24	5.0 - 7.0	4/8/11/26	19	29	7
10	3D	24/8	10.0 - 12.0	49/11/12/17	23	35	35
15	R1	60/53	14.0 - 19.0	RQD = 55%			NQ CORE
20	R2	60/60	19.0 - 24.0	RQD = 100%			
25							
Visual Description and Remarks Note: Frozen soil at ground surface. -TOPSOIL- Grey-brown with some light brown, wet, very stiff, Clayey SILT, trace fine sand, trace organics -MARINE DEPOSIT-(ML) Grey-brown with some light brown, wet, very stiff, Clayey SILT, little fine sand, trace organics -MARINE DEPOSIT-(ML) Note: Drill action and wash water contents indicate increase in granular material at approximately 9.0 ft. Light brown to grey-brown, wet, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, trace clay, well bonded -GLACIAL TILL-(ML) Note: Drill action and wash water contents indicate top of weathered bedrock at 12.7 ft. -PROBABLE WEATHERED BEDROCK- Note: Advance rollerbit to 14.0 ft. Top of Bedrock at El. 167.1 R1: Grey aphanitic to fine-grained, PHYLLITE. Olive-green calcareous ARENITE from 17.5 to 18.0 ft, hard, fresh to moderately weathered. Joints dipping at horizontal to steep angles, very close to close, tight to open, silt coatings on some joint surfaces, oxidation and slight pyrite on some joint surfaces, frequent calcite/quartz veins up to 1/2 in. thickness throughout run, occasional pitting. Rock Quality=Fair Recovery=88% R1 Core Times (min:sec): 14.0-15.0' (2:49); 15.0-16.0' (9:15); 16.0-17.0' (2:46); 17.0-18.0' (2:32); 18.0-19.0' (2:52) R2: Grey, aphanitic, PHYLLITE, hard, fresh to very slightly weathered. Joints dipping at low angles, close to moderately close, tight, slight pyrite on some joint surfaces. Secondary joints steeply dipping, frequent calcite/quartz stringers up to 1/3 in. thickness throughout run, slight pitting. Rock Quality=Excellent Recovery=100% R2 Core Times (min:sec): 19.0-20.0' (3:15); 20.0-21.0' (2:43); 21.0-22.0' (3:02); 22.0-23.0' (4:17); 23.0-24.0' (4:32)							
Laboratory Testing Results/AASHTO and Unified Class.							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

[illegible]

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log</div> <div>US CUSTOMARY UNITS</div>							<div>Project: Route 9/I-395 Connector</div> <div>Location: Brewer and Eddington, Maine</div>						<div>Boring No.: BB-EWC1-201</div> <div>WIN: 18915.00</div>																																																																																																																																																																																																																																																																								
Driller: New England Boring Contractors				Elevation (ft.): 182.9				Auger ID/OD: --																																																																																																																																																																																																																																																																													
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID																																																																																																																																																																																																																																																																													
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<table><tr><th rowspan="2">Depth (ft.)</th><th colspan="7">Sample Information</th><th rowspan="2">Graphic Log</th><th rowspan="2">Visual Description and Remarks</th><th rowspan="2">Laboratory Testing Results/AASHTO and Unified Class.</th></tr><tr><th>Sample No.</th><th>Pen./Rec. (in.)</th><th>Sample Depth (ft.)</th><th>Blows/(6 in.) Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th><th>Elevation (ft.)</th></tr><tr><td>0</td><td>1D/A</td><td>24/12</td><td>0.0 - 2.0</td><td>2/2/3/3</td><td>5</td><td>7</td><td>SSA</td><td>182.7</td><td rowspan="13"><p>Dark brown, moist, medium stiff, SILT, trace fine sand, organics, 2 in. of frost -TOPSOIL-(OL) Grey-brown mottled, moist, medium stiff, Clayey SILT, trace fine sand -MARINE DEPOSIT-(ML) Grey-brown mottled, wet, very stiff, Clayey SILT -MARINE DEPOSIT-(ML) Grey, wet, very dense, GRAVEL, little silt, moderately bonded -GLACIAL TILL-(GM) Note: Gravel piece from 10.3 to 10.4 ft, refusal at 10.7 ft. Note: Top of probable bedrock at 10.7 ft based on drill action. Top of Probable Bedrock at El. 172.2 -PROBABLE BEDROCK-</p></td><td rowspan="13"></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td>2D</td><td>24/20</td><td>5.0 - 7.0</td><td>7/9/8/13</td><td>17</td><td>24</td><td>46</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>41</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>73</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>94</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>228</td><td></td></tr><tr><td>10</td><td>3D</td><td>8/5</td><td>10.0 - 10.7</td><td>52/50(2")</td><td></td><td></td><td>RC</td><td>172.8</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>172.2</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>169.9</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>15</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>20</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>25</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>												Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows/(6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	0	1D/A	24/12	0.0 - 2.0	2/2/3/3	5	7	SSA	182.7	<p>Dark brown, moist, medium stiff, SILT, trace fine sand, organics, 2 in. of frost -TOPSOIL-(OL) Grey-brown mottled, moist, medium stiff, Clayey SILT, trace fine sand -MARINE DEPOSIT-(ML) Grey-brown mottled, wet, very stiff, Clayey SILT -MARINE DEPOSIT-(ML) Grey, wet, very dense, GRAVEL, little silt, moderately bonded -GLACIAL TILL-(GM) Note: Gravel piece from 10.3 to 10.4 ft, refusal at 10.7 ft. Note: Top of probable bedrock at 10.7 ft based on drill action. Top of Probable Bedrock at El. 172.2 -PROBABLE BEDROCK-</p>																																						5	2D	24/20	5.0 - 7.0	7/9/8/13	17	24	46									41									73									94									228		10	3D	8/5	10.0 - 10.7	52/50(2")			RC	172.8									172.2									169.9																			15																																																		20																																																		25									
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-EWC1-202 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 181.1		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 2-12-2021/2-12-2021		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 272+35.2, 58.8 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 6.6 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/9	0.0 - 2.0	WOH/3/2/4	5	7	SSA	175.7		Grey-brown mottled, moist, medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
5	2D	24/24	5.0 - 7.0	4/8/11/12	19	27	HW	172.0		Grey, wet, very stiff, Silty CLAY, trace gravel, low plasticity -MARINE DEPOSIT-(CL)	
10	3D	24/12	10.0 - 12.0	16/16/15/15	31	44	RC	168.3		Grey, wet, hard, Clayey SILT, little fine to medium sand, trace gravel, moderately bonded -GLACIAL TILL-(ML) Note: Top of probable bedrock at 12.8 ft based on drill action.	
15								166.1		Top of Probable Bedrock at El. 168.3 -PROBABLE BEDROCK-	
20										Bottom of Exploration at 15.0 feet below ground surface.	
25											
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Page 1 of 1 Boring No.: BB-EWC1-202	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-EWC2-101 WIN: 18915.00			
Driller: New England Boring Contractors		Elevation (ft.): 181.5		Auger ID/OD: --					
Operator: B. Enos/M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID					
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140#/30					
Date Start/Finish: 11-30-18/12-1-18		Drilling Method: HW Drive		Core Barrel: NQ 2.0-in. ID					
Boring Location: Sta. 275+86.7; 12.7 LT		Casing ID/OD: HW 4.0 in. ID		Water Level*: --					
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test									
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
0	1D	24/15	0.0 - 2.0	2/3/3/4	6	9	HW PUSH	Grey-brown, wet, stiff, Clayey SILT, trace fine sand, trace organics -MARINE DEPOSIT-(ML) Note: Drill action indicates strata change at 3.6 ft. Light brown, wet, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML) Note: Cobble encountered at approximately 6.8 ft. Light brown, wet, hard, SILT, trace fine sand, trace coarse gravel, well bonded -GLACIAL TILL-(ML) Light brown, wet, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML) Light brown, wet, very stiff, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)	177.9 3.6 6.8
5	2D	18/8	5.0 - 6.5	12/35/55	90	139	36		
							255		
							10		
							12		
							12		
10	3D	24/13	10.0 - 12.0	14/18/15/28	33	51	15		
							24		
							99		
							83		
							49		
15	4D	24/10	15.0 - 17.0	11/14/14/20	28	43	42		
							41		
							33		
							43		
							37		
20	5D	24/9	20.0 - 22.0	7/7/10/11	17	26	19		
							26		
							28		
							19		
25							32		
Remarks:									
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 3	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Boring No.: BB-EWC2-101	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-EWC2-101 WIN: 18915.00									
Driller: New England Boring Contractors				Elevation (ft.): 181.5				Auger ID/OD: --									
Operator: B. Enos/M. Porter				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID									
Logged By: N. Klausmeyer				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-140#/#									
Date Start/Finish: 11-30-18/12-1-18				Drilling Method: HW Drive				Core Barrel: NQ 2.0-in. ID									
Boring Location: Sta. 275+86.7; 12.7 LT				Casing ID/OD: HW 4.0 in. ID				Water Level*: --									
Hammer Efficiency Factor: 0.925				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>													
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test																	
Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.					
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows										
25	6D	24/9	25.0 - 27.0	11/12/12/18	24	37	33			Light brown, wet, hard, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)							
							43										
							33										
							80										
							65										
30	7D	24/1	30.0 - 32.0	7/13/17/16	30	46	19						Light brown, wet, hard, SILT, some fine to coarse gravel, little fine to coarse sand -GLACIAL TILL-(ML)				
							30										
							60										
							40										
							47										
35	8D	0/0	35.0 - 35.0	50(0")			293									Note: Split-spoon refusal at 35.0 ft. Note: Cored through boulder from 35.0 to 36.6 ft.	
							173										
							197										
							213										
							109										
40	9D	24/14	40.0 - 42.0	12/17/24/28	41	63	42			Grey, wet, hard, SILT, little fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML)							
							42										
							67										
							75										
							204										
45	10D	15/15	45.0 - 46.3	36/69/83(3")			129						Grey, wet, hard, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)				
							88										
							67										
							81										
							113										
50																Note: Drill action and wash water contents indicate granular material.	
Remarks:																	
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 3							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: BB-EWC2-101							

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-EWC2-201 WIN: 18915.00																																																																																																																																																																																																																																																																															
Driller: New England Boring Contractors				Elevation (ft.): 181.4				Auger ID/OD: --																																																																																																																																																																																																																																																																															
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID																																																																																																																																																																																																																																																																															
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: BB-EWC-101 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 191.2		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-28-18/11-28-18		Drilling Method: HW Drive		Core Barrel: NQ 2.0-in. ID							
Boring Location: Sta. 289+53.7; 7.4 LT		Casing ID/OD: HW 4.0 in. ID		Water Level*: 0.3 ft							
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/5	0.0 - 2.0	1/1/2/4	3	5	HW PUSH		Note: Frozen soil at ground surface. -TOPSOIL- Grey-brown to yellow-brown mottled, wet, medium stiff, Clayey SILT, trace organics (wood chips, roots) -MARINE DEPOSIT-(ML)		
									187.4		Note: Drill action indicates granular material at 3.8 ft. Grey-brown, wet, hard, fine to coarse Gravelly SILT, little fine to coarse sand, well bonded -GLACIAL TILL-(ML)
5	2D	24/10	5.0 - 7.0	13/13/14/21	27	42	44				Note: Used 300 lb hammer with 16 in. drop to advance HW casing. Note: Casing refusal at 9.6 ft.
							90				
							185				
							89				
							65				
10	R1	60/25	10.0 - 15.0	RQD = 20%			NQ CORE		Top of Bedrock at El. 181.6 Note: Advanced roller bit to 10 ft. R1: Grey, aphanitic, PHYLLITE, hard, fresh grading to severely weathered. Joints dipping at low to vertical angles, very close to close, tight to open, fine-grained silt coatings and oxidation on some joint surfaces, frequent calcite/quartz veins up to 1/2 in. thickness throughout run. Rock Quality=Very Poor Recovery=42% R1 Core Times (min:sec): 10.0-11.0' (2:01); 11.0-12.0' (1:39); 12.0-13.0' (2:19); 13.0-14.0' (3:06); 14.0-15.0' (2:42) R2: Grey, aphanitic, PHYLLITE, hard, severely weathered. Joints dipping at low to vertical angles, very close to close, tight to open, fine-grained silt coatings and oxidation on some joint surfaces, some calcite/quartz stringers up to 1/4 in. in thickness throughout run. Rock Quality=Very Poor Recovery=100% R2 Core Times (min:sec): 15.0-16.0' (1:34); 16.0-17.0' (3:06) R3: Grey, aphanitic, PHYLLITE, hard, fresh to severely weathered. Joints dipping at low to moderate angles, very close to close, tight to open, some fine-grained coatings and oxidation on some joint surfaces, frequent calcite/quartz stringers up to 1/4 in. thickness throughout run. Rock Quality=Very Poor Recovery=100% R3 Core Times (min:sec): 17.0-18.0' (1:35); 18.0-19.0' (2:48); 19.0-20.0' (1:07); 20.0-20.2' (0:47) R4: Grey, aphanitic, PHYLLITE, hard, fresh to moderate weathering. Joints dipping at low to steep angles, very close to close, tight to open, slight fine-grained coatings and slight oxidation on some joint surfaces, frequent calcite/quartz stringers		
15	R2	24/24	15.0 - 17.0	RQD = 0%							
	R3	38.4/38.4	17.0 - 20.2	RQD = 18%							
20	R4	48/45	20.2 - 24.2	RQD = 58%							
25											
Remarks: 1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: BB-EWC-101		

Maine Department of Transportation <u>Soil/Rock Exploration Log</u> <u>US CUSTOMARY UNITS</u>				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: BB-EWC-101 WIN: 18915.00																								
Driller: New England Boring Contractors				Elevation (ft.) 191.2				Auger ID/OD: --																								
Operator: M. Porter				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID																								
Logged By: N. Klausmeyer				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#																								
Date Start/Finish: 11-28-18/11-28-18				Drilling Method: HW Drive				Core Barrel: NQ 2.0-in. ID																								
Boring Location: Sta. 289+53.7; 7.4 LT				Casing ID/OD: HW 4.0 in. ID				Water Level*: 0.3 ft																								
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Boring No.: BB-EWC-101

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log</div> <div>US CUSTOMARY UNITS</div>						Project: Route 9/I-395 Connector		Boring No.: BB-EWC-203																																																																																																																																																																																																															
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Boring No.: BB-EWC-203																																																																																																																																																																																																																							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-101 WIN: 18915.00				
Driller: Northern Test Borings, Inc.		Elevation (ft.): 82.0		Auger ID/OD: --						
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20						
Date Start/Finish: 07-16-18/07-16-18		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 52+97.4; 1.8 Lt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: See Remarks						
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D/A	24/20	0.0 - 2.0	2/2/3/4	5	8	SSA	81.0	Brown, damp, medium stiff, SILT, trace fine sand, trace organics -TOPSOIL-(OL)	C#IP-3 CU#3-1 Su=984 psf LL=45 PL=24 PI-21 WC=35.1
								80.0	Grey-brown, moist, medium stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(ML)	
	2D	24/16	2.0 - 4.0	3/3/5/5	8	12			2.0	
									Grey, moist, medium stiff, Silty CLAY, trace organics -MARINE DEPOSIT-(CL)	
5								77.0	Grey, Clayey SILT -MARINE DEPOSIT-(ML)	
	1U	24/19	5.0 - 7.0				HW			
	MV		6.6 - 7.0					75.4	Note: Attempted field vane shear test at 7.0 ft, no penetration. Grey, moist, stiff, Silty CLAY, trace organics -MARINE DEPOSIT-(CL)	
	3D	24/19	7.0 - 9.0	2/3/3/3	6	9				
10	4D	24/24	10.0 - 12.0	WOH/WOH/WO1P/2					Grey, wet, very soft, Silty CLAY, trace organics -MARINE DEPOSIT-(CL)	
	MU	0/0	15.0 - 15.0							
15	5D	24/0	15.0 - 17.0	WOH/WOR/WOR/WOR					Grey, wet, very soft, Silty CLAY -MARINE DEPOSIT-(CL)	
	MU	24/0	17.0 - 19.0							
20	6D	24/24	20.0 - 22.0	push thru vane					Grey, wet, very soft, Silty CLAY -MARINE DEPOSIT-(CL)	
	V1		20.6 - 21.0	Su=660/40 psf					55x110 mm vane raw torque readings: V1: 170/10 in-lbs V2: 150/10 in-lbs	
	V2		21.6 - 22.0	Su=580/40 psf						
25	2U	24/23	24.0 - 26.0						Grey, wet, Silty CLAY	
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 5 ft. Casing driven (advanced) after washing ahead, casing blows not recorded. 2. Observation well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: HB-BE-101	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-101 WIN: 18915.00				
Driller: Northern Test Borings, Inc.			Elevation (ft.): 82.0		Auger ID/OD: --					
Operator: M. Nadeau			Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID					
Logged By: N. Klausmeyer			Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#					
Date Start/Finish: 07-16-18/07-16-18			Drilling Method: SSA/HW Drive		Core Barrel: --					
Boring Location: Sta. 52+97.4; 1.8 Lt.			Casing ID/OD: HW-4.0 in. ID		Water Level*: See Remarks					
Hammer Efficiency Factor: 0.907			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_y = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
25							HW			<p>Grey, wet, soft to medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V3: 165/15 in-lbs V4: 115/10 in-lbs</p> <p>Note: Water loss at approximately 29.0 ft.</p> <p>Grey, wet, very soft, Silty CLAY -MARINE DEPOSIT-(CL)</p> <p>Grey, wet, soft to medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V5: 160/30 in-lbs V6: 110/15 in-lbs</p> <p>Grey, Silty CLAY grading to SAND</p> <p>Note: Attempted 55 x 110 mm vane shear test from 37.64 to 38.0 ft, no penetration.</p> <p>Grey, wet, very dense, fine to coarse GRAVEL, some silt, little fine to coarse sand -GLACIAL TILL-(GM)</p> <p>Top of Probable Bedrock at El. 39.4 ft -PROBABLE BEDROCK-</p> <p>Bottom of Exploration at 45.0 feet below ground surface.</p>
	7D V3	24/24	26.0 - 28.0 26.6 - 27.0	push thru vane Su=640/60 psf						
	V4		27.6 - 28.0	Su=445/40 psf						
30	8D	24/24	30.0 - 32.0	WOR/WOR/WOR/ WOR						
	9D V5	24/24	32.0 - 34.0 32.6 - 33.0	push thru vane Su=620/115 psf						
	V6		33.6 - 34.0	Su=425/60 psf						
35	3U	24/24	35.0 - 37.0							
	MV		37.6 - 38.0							
40	10D	15/10	40.0 - 41.3	7/8/50(3")						
45										
50										

Remarks:
 1. Washed ahead of casing in approximate 5-ft intervals below 5 ft. Casing driven (advanced) after washing ahead, casing blows not recorded.
 2. Observaton well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-101

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: HB-BE-102					
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: Northern Test Borings, Inc.		Elevation (ft.): 81.4		Auger ID/OD: --							
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20							
Date Start/Finish: 07-19-18/07-19-18		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 704+26.7; 7.8 Rt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: 2.2 ft							
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="font-size: small;"> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/16	0.0 - 2.0	2/3/5/5	8	12	SSA	80.4		Brown, moist, stiff, SILT, trace organics -TOPSOIL-(OL)	C#IP-8 CU#8-1 Su=1,229 psf LL=32 PL=19 PI=13 WC=27.6
								80.4		Grey-brown, moist, very stiff, SILT, trace organics -MARINE DEPOSIT-(ML) Grey-brown, moist, stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(ML)	
	2D	24/22	2.0 - 4.0	7/6/7/7	13	20					
5	3D	24/23	5.0 - 7.0	4/5/4/5	9	14		76.4		Grey with slight brown mottling, damp, stiff, Silty CLAY, trace organics -MARINE DEPOSIT-(CL)	
10	1U	16/16	10.0 - 11.3				HW			Note: Could only advance tube 16 in. into soil. Grey, Clayey SILT.	
	4D V1	24/24	12.0 - 14.0 12.6 - 13.0	push thru vane Su=775/20 psf						Grey, wet, medium stiff, Silty CLAY, trace organics, slight brown mottling -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 200/5 in-lbs Note: Attempted field vane shear test at 13.6 ft, no penetration.	
	MV		13.6 - 14.0								
15	5D	24/24	15.0 - 17.0	WOH/WOH/WOH/ WOH						Grey, wet, very soft, Silty CLAY -MARINE DEPOSIT-(CL)	
20	2U	24/24	20.0 - 22.0							Grey, wet, Silty CLAY	
	6D V2	24/24	22.0 - 24.0 22.6 - 23.0	push thru vane Su=310/20 psf						Grey, wet, very soft, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V2: 80/5 in-lbs V3: 90/10 in-lbs	
	V3		23.6 - 24.0	Su=350/40 psf							
25											
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-102	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-102 WIN: 18915.00																																																																																														
Driller: Northern Test Borings, Inc.				Elevation (ft.): 81.4				Auger ID/OD: --																																																																																														
Operator: M. Nadeau				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID																																																																																														
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)				Hammer Wt./Fall: SS-140#/30; HW-140#																																																																																														
Date Start/Finish: 07-19-18/07-19-18				Drilling Method: SSA/HW Drive				Core Barrel: --																																																																																														
Boring Location: Sta. 704+26.7; 7.8 Rt.				Casing ID/OD: HW-4.0 in. ID				Water Level*: 2.2 ft																																																																																														
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-103 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 81.2		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: H. Hollauer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/24						
Date Start/Finish: 10-24-18/10-24-18		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 57+12.8; 308.3 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --						
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/20	0.0 - 2.0	WOH/2/4/7	6	9	HW	80.7		
5	2D	24/20	5.0 - 7.0	4/4/3/3	7	11		74.4		
	1U	10.8/10.8	8.0 - 8.9							
10	3D	24/24	10.0 - 12.0	WOH/3/3/4	6	9				
15	2U	24/24	15.0 - 17.0							
	4D	24/24	17.0 - 19.0	Push thru vane						
	V1		17.6 - 18.0	Su=570/45 psf						
	V2		18.6 - 19.0	Su=520/70 psf						
20	5D	24/24	20.0 - 22.0	WOR/WOR/WOR/WOR						
25										
Remarks: 1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: HB-BE-103	

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Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th></tr><tr><td>0</td><td>1D</td><td>24/17</td><td>0.0 - 2.0</td><td>WOH/WOH/3/5</td><td>3</td><td>5</td><td>HW</td><td>79.5</td><td rowspan="20"></td><td>Brown to dark brown, moist, medium stiff, SILT, trace roots/organics, trace fine sand -TOPSOIL/ROOT MAT-(OL)</td><td rowspan="20"></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Grey-brown, moist, medium stiff, Clayey SILT -MARINE DEPOSIT-(ML)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td>2D</td><td>24/24</td><td>5.0 - 7.0</td><td>3/3/3/4</td><td>6</td><td>9</td><td></td><td></td><td>Grey-brown, moist, stiff, Clayey SILT -MARINE DEPOSIT-(ML)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>1U</td><td>18/19</td><td>7.0 - 8.5</td><td></td><td></td><td></td><td></td><td>72.3</td><td>Grey-brown, moist, Clayey SILT -MARINE DEPOSIT-(ML)</td></tr><tr><td></td><td>MU</td><td>24/0</td><td>9.0 - 11.0</td><td></td><td></td><td></td><td></td><td></td><td>Grey, moist, soft, Silty CLAY -MARINE DEPOSIT-(CL) Note: No tube recovery, collected split-spoon sample. 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Grey, wet, Silty CLAY -MARINE DEPOSIT-(CL)		MU	24/0	11.0 - 13.0								4D	24/12	11.0 - 13.0	Push thru tube					Note: Conventional tube sampler used. Grey, wet, Silty CLAY, highly plastic -MARINE DEPOSIT-(CL)												2U	24/23	13.0 - 15.0																	15	5D	24/24	15.0 - 17.0	Push thru vane					Grey, wet, medium stiff, Silty CLAY, highly plastic -MARINE DEPOSIT-(CL) 65x130 mm vane raw torque readings: V1: 272/48 in-lbs V2: 252/39 in-lbs		V1		15.6 - 16.0	Su=645/120 psf							V2		16.6 - 17.0	Su=600/95 psf																	MU	24/0	20.0 - 22.0							20	6D	24/24	20.0 - 22.0	Push thru tube					Note: No tube recovery, collected split-spoon sample. Grey, wet, Silty CLAY, highly plastic -MARINE DEPOSIT-(CL)												7D	24/24	22.0 - 24.0	Push thru vane					Grey, wet, soft, Silty CLAY, highly plastic -MARINE DEPOSIT-(CL) 65x130 mm vane raw torque readings: V3: 180/24 in-lbs V4: 162/10 in-lbs		V3		22.6 - 23.0	Su=425/60 psf							V4		23.6 - 24.0	Su=385/25 psf																25									
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-104 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 80.3				Auger ID/OD: --			
Operator: M. Porter				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID			
Logged By: H. Hollauer				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#			
Date Start/Finish: 10-22-18/10-23-18				Drilling Method: SSA/HW Drive				Core Barrel: --			
Boring Location: Sta. 58+06.9; 531.1 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: --			
Hammer Efficiency Factor: 0.925				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _y = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
25	3U	24/24	25.0 - 27.0				HW			Note: Piston sampler. Grey, wet, Silty CLAY, trace fine sand, highly plastic -MARINE DEPOSIT-(CL) Grey, wet, medium stiff, Silty CLAY, highly plastic -MARINE DEPOSIT-(CL) 65x130 mm vane raw torque readings: V5: 240/25 in-lbs V6: 211/38 in-lbs	
	8D	24/24	27.0 - 29.0	Push thru vane							
	V5		27.6 - 28.0	Su=570/60 psf							
	V6		28.6 - 29.0	Su=500/95 psf							
30	4U	8.4/8	30.4 - 31.1								
	9D	24/10	31.1 - 33.1	9/3/5/23	8	12					
35								47.5	Note: Tube only advanced 0.7 ft. Grey, wet, Silty CLAY, highly plastic -MARINE DEPOSIT-(CL) Grey, wet, stiff, Silty CLAY, highly plastic -MARINE DEPOSIT-(CL)	32.8	
								45.6	Grey, wet, medium dense, GRAVEL, some fine to coarse sand, some silt -GLACIAL TILL-(GM)	34.7	
								45.3	Top of Probable Bedrock at El. 45.6 Note: Rollerbit to 35 ft.	35.0	
									Bottom of Exploration at 35.0 feet below ground surface.		
40											
45											
50											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-105 WIN: 18915.00				
Driller: Northern Test Borings, Inc.		Elevation (ft.): 88.1		Auger ID/OD: --						
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20						
Date Start/Finish: 07-20-18/07-20-18		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 804+71.4; 6.2 Lt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: 4.4 ft						
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/18	0.0 - 2.0	3/4/6/8	10	15	SSA	87.1	Brown, damp, stiff, SILT, trace organics -TOPSOIL-(ML)	C#IP-6 CU#6-1 Su=864 psf LL=31 PL=20 PI=11 WC=30.3
	2D	24/17	2.0 - 4.0	10/12/12/14	24	36			Brown with slight grey mottling, damp, hard, SILT, trace organics -MARINE DEPOSIT-(ML)	
5	3D	24/24	4.0 - 6.0	11/7/7/8	14	21			Brown with grey mottling, moist, very stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(ML)	
	4D	24/16	6.0 - 8.0	7/7/8/6	15	23			Brown with grey mottling, moist, very stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(ML)	C#IP-7 CU#7-1 Su=690 psf LL=35 PL=18 PI=17 WC=36.7
	5D	24/24	8.0 - 10.0	3/4/3/4	7	11			Grey-brown with brown mottling, wet, stiff, Clayey SILT to Silty CLAY, trace organics -MARINE DEPOSIT-(ML/CL)	
10	1U	24/24	10.0 - 12.0				HW	78.1	Grey-brown, wet, Silty CLAY	
	6D MV	24/24	12.0 - 14.0 12.6 - 13.0	2/2/2/3	4	6			Olive-grey, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) Note: Attempted vane shear test at 12.6 ft, no penetration. Note: Color change to grey at approximately 13.5 ft.	C#IP-7 CU#7-1 Su=690 psf LL=35 PL=18 PI=17 WC=36.7
	2U	24/24	14.0 - 16.0						Grey, wet, medium stiff, Silty CLAY	
15	7D V1	24/17	16.0 - 18.0 16.4 - 16.8	WOH/17/28/8 Su=735/80 psf	45	68			Grey, wet, hard, Silty CLAY, trace fine sand -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 190/20 in-lbs Note: Could only push vane 9 in. into clay.	
									Grey, wet, very dense, Gravelly SAND, little silt, loosely bonded -GLACIAL TILL-(SM)	C#IP-7 CU#7-1 Su=690 psf LL=35 PL=18 PI=17 WC=36.7
20	8D	9/10	20.0 - 20.8	19/50(3")			RC	67.3	Grey, wet, very dense, Gravelly SAND, little silt, loosely bonded, weathered bedrock -GLACIAL TILL-(SM)	
									Top of Bedrock at El. 67.3 ft -PROBABLE BEDROCK-	
25								65.1	Bottom of Exploration at 23.0 feet below ground surface.	
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: HB-BE-105	

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: HB-BE-106	
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00	
Driller: Northern Test Borings, Inc.		Elevation (ft.): 82.3		Auger ID/OD: --			
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20			
Date Start/Finish: 07-19-18/07-19-18		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 709+60.5; 199.7 Rt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: 22.0 ft			
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/17	0.0 - 2.0	2/4/4/4	8	12	SSA
	2D	24/17	2.0 - 4.0	4/4/7/7	11	17	
5	3D	24/24	5.0 - 7.0	3/4/4/4	8	12	
10	4D MV	24/24	10.0 - 12.0 10.6 - 11.0	2/2/3/2	5	8	HW
15	5D	24/6	15.0 - 17.0	9/8/7/6	15	23	
20	6D/A	24/18	20.0 - 22.0	14/16/14/14	30	45	
25							

Remarks:

1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded.

Visual Description and Remarks:

- 81.8 - 80.5: Brown, dry, stiff, SILT, some organics -TOPSOIL-(OL)
- 80.5 - 77.3: Grey-brown, moist, very stiff, SILT, trace organics -MARINE DEPOSIT-(ML)
- 77.3 - 5.0: Grey with brown mottling, moist, very stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(ML)
- 5.0 - 68.8: Grey with brown mottling, moist, stiff, Silty CLAY, trace organics -MARINE DEPOSIT-(CL)
- 68.8 - 13.5: Note: Drill action indicates probable gravel at approximately 13.5 ft.
- 13.5 - 62.3: Grey, wet, medium dense, fine to coarse GRAVEL, little coarse to fine sand, trace silt -GLACIAL TILL-(GW)
- 62.3 - 60.8: Grey, wet, dense, fine to coarse SAND, some fine to coarse gravel, trace silt, loosely to moderately bonded -GLACIAL TILL-(SW-SM)
- 60.8 - 59.5: Grey, wet, dense, Silty fine SAND -GLACIAL TILL-(SM)
- 59.5 - 24.8: Top of Bedrock at El. 59.5 ft -PROBABLE BEDROCK-

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 2

Boring No.: HB-BE-106

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-107	
				Location: Brewer and Eddington, Maine		WIN: 18915.00	
Driller: Northern Test Borings, Inc.		Elevation (ft.): 88.5		Auger ID/OD: --			
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20			
Date Start/Finish: 07-19-18/07-20-18		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 708+66.7; 4.3 Rt.		Casing ID/OD: HW-4.0 in. ID		Water Level*: Not Measured			
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/22	0.0 - 2.0	2/2/5/4	7	11	SSA
	2D	24/21	2.0 - 4.0	4/5/9/8	14	21	
5	3D	24/24	5.0 - 7.0	4/5/6/6	11	17	
10	4D	24/24	10.0 - 12.0	push thru vane			HW
	V1		10.6 - 11.0	S _u =660/80 psf			
	V2		11.6 - 12.0	S _u =545/160 psf			
	MU	24/0	12.0 - 14.0	27/17/10/10	27	41	
	5D	24/0	12.5 - 14.5				
15	6D	24/5	15.0 - 17.0	7/7/7/19	14	21	
20	7D	10/10	20.0 - 20.8	29/50(4")			
25							

Visual Description and Remarks

Brown, damp, stiff, SILT, trace clay, contains organics
-TOPSOIL-(OL)

Brown with grey mottling, moist, very stiff, SILT, little clay, trace organics
-MARINE DEPOSIT-(ML)

Olive-brown, moist, very stiff, Clayey SILT, trace organics
-MARINE DEPOSIT-(ML)

Grey with brown mottling, wet, medium stiff, Silty CLAY, trace silt
-MARINE DEPOSIT-(CL)
55x110 mm vane raw torque readings:
V1: 170/20 in-lbs
V2: 140/15 in-lbs
Note: Attempted tube sample at 12.0 ft, no penetration.

Grey, wet, dense, fine to medium SAND, some fine to coarse gravel, trace coarse sand, trace silt, loosely to moderately bonded
-GLACIAL TILL-(SW-SM)

Grey, wet, medium dense, fine to coarse GRAVEL, some fine to coarse sand, trace silt, loosely bonded
-GLACIAL TILL-(GW-SM)

Grey, wet, very dense, fine to coarse GRAVEL, some fine to coarse sand, some silt, moderately bonded
-GLACIAL TILL-(GM)

Bottom of Exploration at 20.8 feet below ground surface.

Note: Drilled adjacent to boring HB-BE-107A, see log for details.

Graphic Log

Laboratory Testing Results/ AASHTO and Unified Class.

Remarks:
1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1

Boring No.: HB-BE-107

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-108 WIN: 18915.00																																																																																																																																																																																																																																																																																																																																																				
Driller: New England Boring Contractors				Elevation (ft.) 81.8				Auger ID/OD: --																																																																																																																																																																																																																																																																																																																																																				
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Logged By: H. Hollauer				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/24																																																																																																																																																																																																																																																																																																																																																				
Date Start/Finish: 10-18-18/10-19-18				Drilling Method: SSA/HW Drive				Core Barrel: --																																																																																																																																																																																																																																																																																																																																																				
Boring Location: Sta. 58+96.1; 0.3 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 0.9 ft BGS																																																																																																																																																																																																																																																																																																																																																				
Hammer Efficiency Factor: 0.925				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																																																																																																																																																																																																																																																																																																																																								
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Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th><th>Elevation (ft.)</th></tr></thead><tbody><tr><td>0</td><td>1D</td><td>24/16</td><td>0.0 - 2.0</td><td>1/2/4/5</td><td>6</td><td>9</td><td>HW</td><td>81.3</td><td>Brown, slightly moist, stiff, SILT, non-plastic -TOPSOIL/ROOT MAT-(OL)</td><td rowspan="5">G#513338 A=4(0)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Grey-brown slightly mottled, slightly moist, stiff, Clayey SILT, moderately plastic -MARINE DEPOSIT-(ML)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td>2D</td><td>24/24</td><td>5.0 - 7.0</td><td>2/2/3/4</td><td>5</td><td>8</td><td></td><td></td><td>Grey-brown slightly mottled, slightly moist, medium stiff, Clayey SILT, moderately plastic -MARINE DEPOSIT-(ML) Pocket Penetrometer Readings=1.5, 2.0 tsf</td><td rowspan="5">C#IP-20 CU#9-1 Su=533 psf LL=35 PL=19 PI=16 WC=36 CL</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td>3D</td><td>24/24</td><td>10.0 - 12.0</td><td>WOH/WOH/WOH/ WOH</td><td></td><td></td><td></td><td></td><td></td><td rowspan="5">Note: At approximately 9 ft, softer with depth.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>1U</td><td>24/23</td><td>12.0 - 14.0</td><td></td><td></td><td></td><td></td><td></td><td>Grey, moist, very soft, Silty CLAY, highly plastic -MARINE DEPOSIT-(CL)</td><td rowspan="5">65x130 mm vane raw torque readings: V1: 210/50 in-lbs V2: 183/39 in-lbs</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>15</td><td>V1</td><td></td><td>14.6 - 15.0</td><td>Su=500/120 psf</td><td></td><td></td><td></td><td></td><td></td><td rowspan="5">Note: Resistance while advancing casing. 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Remarks: 1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details.																																																																																																																																																																																																																																																																																																																																																												
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<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log</div> <div>US CUSTOMARY UNITS</div>						Project: Route 9/I-395 Connector			Boring No.: HB-BE-109		
						Location: Brewer and Eddington, Maine			WIN: 18915.00		
Driller:			New England Boring Contractors			Elevation (ft.):			84.4		
Operator:			M. Porter			Datum:			NAVD 88		
Logged By:			H. Hollauer			Rig Type:			Mobile B-53 Track		
Date Start/Finish:			10-19-18/10-22-18			Drilling Method:			SSA/HW Drive		
Boring Location:			Sta. 62+43.7; 1.1 LT			Casing ID/OD:			HW-4.0 in. ID		
Hammer Efficiency Factor: 0.925						Hammer Type:			Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>		
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt						R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person			S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected		
						T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test					
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows ((6 in.) Shear Strength (psf) or RQD (%))	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
25	R2	60/55	26.3 - 31.3	RQD = 63%			NO CORE			joints dipping at moderate to steep angles, spaced very close to close, smooth, planar to undulating, tight to open, occasional quartz veins parallel to discontinuities. Rock Quality=Poor Recovery=91% R1 Core Times (min:sec): 24.0-25.0' (2:50); 26.0-26.3' (2:30) R2: Same as R1, except joints very close to moderately close. Rock Quality=Fair Recovery=92% R2 Core Times (min:sec): 26.3-27.3' (1:45); 27.3-28.3' (1:38); 28.3-29.3' (1:50); 29.3-30.3' (1:36); 30.3-31.3' (1:46)	
30	R3	60/60	31.3 - 36.3	RQD = 85%						R3: Same as R1, except joints very close to moderately close. Rock Quality=Good Recovery=100% R3 Core Times (min:sec): 31.3-32.3' (2:30); 32.3-33.3' (2:10); 33.3-34.3' (missed); 34.3-35.3' (2:10); 35.3-36.3' (1:40)	
35								48.1		Bottom of Exploration at 36.3 feet below ground surface.	
40											
45											
50											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											
Boring No.: HB-BE-109											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-111 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 91.4		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: H. Hollauer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30;HW-300#/20;			
Date Start/Finish: 11-01-18/11-02-18		Drilling Method: SSA/HW/NW		Core Barrel: --			
Boring Location: Sta. 71+94.1; 2.2 LT		Casing ID/OD: HW-4.0 in. ID; NW-3.0 in. ID		Water Level*: 5.0 ft			
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/14	0.0 - 2.0	WOH/3/3/4	6	7	HW
5	2D	24/24	5.0 - 7.0	2/3/4/6	7	8	
10	1U	24/23	10.0 - 12.0				
	3D	24/20	12.0 - 14.0	1/13/12/16	25	28	
15	4D	24/10	15.0 - 17.0	79/20/16/24	36	41	RC
							NW
20							
25							
				Elevation (ft.)		Graphic Log	
				Visual Description and Remarks		Laboratory Testing Results/AASHTO and Unified Class.	
				Brown, damp, medium stiff, SILT, trace clay, trace organics, trace fine to medium sand -TOPSOIL/ROOT MAT-(OL)		0.2	
				Brown, damp, medium stiff, SILT, trace clay grading to brown and grey slightly mottled, Clayey SILT -MARINE DEPOSIT-(ML)		5.0	
				Grey and brown mottled, damp, medium stiff, CLAY, some silt -MARINE DEPOSIT-(CL)		86.4	
				Grey and brown mottled, damp, CLAY, some silt -MARINE DEPOSIT-(CL)		79.2	
				Grey, moist, medium dense, fine SAND, little silt, trace medium sand -GLACIAL TILL-(SM)		76.4	
				Boulder/cobble from 15.0 to 16.2 ft		75.2	
				Grey, dense, moist, SAND, little gravel, trace silt, trace medium to coarse sand -GLACIAL TILL-(SM)		71.4	
				Note: Rollercone through boulder. Advanced 3-in. casing to install well. Unable to advance 4-in. casing past boulder.			
				Bottom of Exploration at 20.0 feet below ground surface.			
C#IP-12 CU#16-1 Su=426 psf LL=34 PL=19 PI=15 WC=35 CL							
Remarks: 1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details.							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.						Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.						Boring No.: HB-BE-111	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-112 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 85.4		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: H. Hollauer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/24							
Date Start/Finish: 10-25-18/10-26-18		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 80+95.9; 5.2 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*:							
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/8	0.0 - 2.0	WOH/WOH/3/3	3	5	HW	85.1			
5	2D	24/22	5.0 - 7.0	2/2/3/4	5	8					
10	3D	24/24	10.0 - 12.0	WOH/WOH/WOH/ WOH							
	4D	24/24	12.0 - 14.0	Push thru vane							
	V1		12.6 - 13.0	Su=390/45 psf							
	V2		13.6 - 14.0	Su=365/25 psf							
15	V3		15.6 - 16.0	Su=380/45 psf							
	V4		16.6 - 17.0	Su=425/70 psf							
20	5D	24/24	20.0 - 22.0	Push thru vane							
	V5		20.6 - 21.0	Su=615/95 psf							
	V6		21.6 - 22.0	Su=595/105 psf							
25								61.9			

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-112

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-112 WIN: 18915.00					
Driller: New England Boring Contractors				Elevation (ft.) 85.4				Auger ID/OD: --					
Operator: M. Porter				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID					
Logged By: H. Hollauer				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/#					
Date Start/Finish: 10-25-18/10-26-18				Drilling Method: SSA/HW Drive				Core Barrel: --					
Boring Location: Sta. 80+95.9; 5.2 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*:					
Hammer Efficiency Factor: 0.925				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected					
Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test													
Sample Information													
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.		
25	6D	24/5	25.0 - 27.0	18/12/8/14	20	31	HW			Dark grey, wet, dense, fine to coarse SAND, little gravel, little silt -GLACIAL TILL-(SM)			
							RC	57.6		Top of Probable Bedrock at El. 57.6 Note: Top of probable bedrock at 27.8 ft based on drill action. Drill action and water loss indicates possible weathered zone from 29.2 to 29.8 ft.			
30								55.6		Bottom of Exploration at 29.8 feet below ground surface.			
35													
40													
45													
50													
Remarks:													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-112			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector		Boring No.: HB-BE-113					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: Northern Test Borings, Inc.		Elevation (ft.): 93.3		Auger ID/OD: --							
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20							
Date Start/Finish: 8-9-18/8-9-18		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 87+96.5; 4.7 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.8 ft							
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/15	0.0 - 2.0	4/5/5/6	10	15	SSA	92.3		Brown, damp, stiff, SILT with roots, trace sand, organics -TOPSOIL-(OL/OH) -----1.0 Brown to grey-brown mottled, damp to moist, stiff, Clayey SILT, trace fine sand -MARINE DEPOSIT-(ML) -----2.0 Grey to grey-brown mottled, moist, stiff, SILT to Silty CLAY, trace organics (roots) -MARINE DEPOSIT-(ML/CL) -----5.0 Grey to grey-brown mottled, moist, stiff, SILT to Silty CLAY, trace organics -MARINE DEPOSIT-(ML/CL) -----8.0 Note: Attempted vane shear test at 8.6 ft, no penetration. -----10.3 Grey, wet, medium stiff to stiff, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 420/80 in-lbs V2: 250/40 in-lbs -----12.1 -----15.0 Grey, wet, medium dense, fine to coarse SAND, some fine to coarse gravel, little silt, loosely bonded, well graded -GLACIAL TILL-(SM) -----20.0 Grey, wet, dense, fine to coarse SAND, some fine to coarse gravel, little silt, moderately bonded, well graded -GLACIAL TILL-(SW-SM) -----22.0 Bottom of Exploration at 22.0 feet below ground surface.	
								91.3			
	2D	24/?	2.0 - 4.0	3/4/4/4	8	12					
5	3D	24/24	5.0 - 7.0	3/3/3/4	6	9	HW				
	MV		8.6 - 9.0								
10	4D	24/24	10.0 - 12.0	Push thru vane				83.0			
	V1		10.6 - 11.0	Su=1,630/340 psf							
	V2		11.6 - 12.0	Su=970/155 psf							
								81.2			
15	5D	24/6	15.0 - 17.0	6/8/8/9	16	24					
20	6D	24/16	20.0 - 22.0	11/14/16/19	30	45		71.3			
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-113

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-114 WIN: 18915.00	
Driller: Northern Test Borings, Inc.		Elevation (ft.): 112.1		Auger ID/OD: --			
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20			
Date Start/Finish: 8-7-18/8-7-18		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 99+00.2, 18.1 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 5.8 ft			
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/21	0.0 - 2.0	4/6/8/7	14	21	SSA
	2D	24/24	2.0 - 4.0	6/8/8/9	16	24	
5	3D	24/24	5.0 - 7.0	5/6/7/7	13	20	HW
10	4D	24/7	10.0 - 12.0	21/23/27/13	50	76	42
							37
							58
							91
							96
15	5D	14/8	15.0 - 16.2	11/17/50(2")			-
							RC
20							
25							
Elevation (ft.): 111.1 103.3 95.8 92.8							
Visual Description and Remarks Light brown with occasional grey mottling, damp to moist, very stiff, SILT, trace clay, trace fine sand, trace organics (roots) -TOPSOIL-(OL/OH) Olive-brown and grey mottled, moist, very stiff, SILT, trace fine sand -MARINE DEPOSIT-(ML) Light brown with grey mottling, moist, very stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(ML) Note: Drill action indicates granular material at approximately 8.8 ft. Light brown, wet, very dense, fine to coarse SAND, little silt, trace fine to coarse gravel, well bonded -GLACIAL TILL-(SM) Yellow-brown, wet, very dense, fine to coarse SAND, little fine to coarse gravel, trace silt, moderately bonded -GLACIAL TILL-(SW-SM) Note: Drill action and wash indicate top of probable bedrock at approximately 16.3 ft. Top of Probable Bedrock at El. 95.8 -PROBABLE BEDROCK- Bottom of Exploration at 19.3 feet below ground surface.							
Laboratory Testing Results/ AASHTO and Unified Class.							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-115 WIN: 18915.00				
Driller: Northern Test Borings, Inc.		Elevation (ft.): 126.2		Auger ID/OD: --						
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20						
Date Start/Finish: 8-7-18/8-7-18		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 102+02.1, 2.5 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 8.0 ft						
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/18	0.0 - 2.0	6/12/16/11	28	42	SSA	125.9		Brown, dry, hard, SILT, trace organics, roots -TOPSOIL/ROOT MAT-(OL/OH) 0.3- Yellow-brown, damp, dense, Silty fine to coarse SAND, trace fine gravel, trace organics (roots), loose grading to moderately bonded -GLACIAL TILL-(SM) Yellow-brown, damp, dense, Silty fine to coarse SAND, little fine gravel, loosely bonded -GLACIAL TILL-(SM) G#474338 A-4(0), SM WC=4.9 Yellow-brown grading to red-brown, damp grading to moist, medium dense, fine to coarse SAND, some silt, little fine gravel, loosely bonded -GLACIAL TILL-(SM) G#474340 A-2-4(0), SM WC=6.7 Note: Drill action indicates coarse material at approximately 9.5 ft. 9.5- Red-brown to yellow-brown, wet, very dense, fine to coarse Sandy GRAVEL (weathered rock), trace silt, moderately bonded -GLACIAL TILL-(GW-GM) One 0.5-in. piece of coarse gravel -GLACIAL TILL-(GW) 11.4- Light brown, wet, very dense, Silty fine to coarse SAND, some fine to coarse gravel, moderately bonded, well graded -GLACIAL TILL-(SM) 11.7- Light brown, wet, very dense, fine to coarse SAND, some fine to coarse gravel, trace silt, moderately bonded, well graded -GLACIAL TILL-(SW-SM) 14.0- Light brown, wet, very dense, Silty fine to coarse SAND, little fine gravel, moderately bonded, well graded -GLACIAL TILL-(SM) 16.0- Light brown, wet, very dense, fine to coarse SAND, little silt, little fine to coarse gravel, moderately bonded, well graded -GLACIAL TILL-(SW-SM) 18.0- 20.0- Bottom of Exploration at 22.0 feet below ground surface.
	2D	24/8	2.0 - 4.0	6/11/12/10	23	35				
5	3D	24/13	5.0 - 7.0	6/7/7/7	14	21	HW			
10	4D	8/7	10.0 - 10.7	37/50(2")			HW	116.7		
	5D	15/3	12.0 - 13.3	23/33/50(3")						
15	6D	24/15	14.0 - 16.0	21/23/25/23	48	73	34	112.2		
	7D	24/16	16.0 - 18.0	20/21/21/23	42	63		110.2		
	8D	20/14	18.0 - 19.7	21/27/32/50(2")	59	89		108.2		
20	9D	24/7	20.0 - 22.0	37/39/49/48	88	133		106.2		
25								104.2		


Remarks:
 1. Observaton well installed in completed borehole. See observation well installation and groundwater monitoring reports for details.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1
Boring No.: HB-BE-115

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-116 WIN: 18915.00					
Driller: Northern Test Borings, Inc.		Elevation (ft.): 133.2		Auger ID/OD: --							
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20							
Date Start/Finish: 8-6-18/8-6-18		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 105+00.7, 0.07 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 12.5 ft							
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/16	0.0 - 2.0	6/12/10/7	22	33	SSA	132.8		Brown, dry, hard, SILT, roots, organics -TOPSOIL-(ML) -----0.4 Light brown, damp, medium dense, fine to coarse SAND, some silt, little fine to coarse gravel, trace organics (roots), loosely bonded -GLACIAL TILL-(SM) -----2.0 Tan grading to yellow-brown, damp to moist, medium dense, fine to coarse Sandy GRAVEL, little silt, loosely bonded -GLACIAL TILL-(GM) -----3.5 Yellow-brown to grey-brown mottled, moist, hard, Sandy SILT, little fine gravel, moderately bonded -GLACIAL TILL-(ML)	G#474342 A-4(0), ML WC=11.5
								131.2			
	2D	24/8	2.0 - 4.0	14/8/8/4	16	24		129.7			
5	3D	24/20	5.0 - 7.0	9/11/15/8	26	39					
								44			
								69			
								78			
10	4D	22/12	10.0 - 11.8	22/23/29/50(4")	52	79	41	123.2			
								50			
								83			
								127			
								209			
15	5D	17/12	15.0 - 16.4	14/28/50(5")			44				
								49			
								72			
	6D	24/15	18.0 - 20.0	15/28/32/37	60	91	79				
								82			
20	7D	16/10	20.0 - 21.3	37/44/50(4")			HW				
	8D	24/14	22.0 - 24.0	21/20/20/17	40	60		111.2			
25	9D	24/19	24.0 - 26.0	17/24/28/21	52	79		109.2			
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2 Boring No.: HB-BE-116		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-116 WIN: 18915.00							
Driller: Northern Test Borings, Inc.				Elevation (ft.) 133.2				Auger ID/OD: --							
Operator: M. Nadeau				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)				Hammer Wt./Fall: SS-140#/30; HW-140#/#							
Date Start/Finish: 8-6-18/8-6-18				Drilling Method: SSA/HW Drive				Core Barrel: --							
Boring Location: Sta. 105+00.7, 0.07 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 12.5 ft							
Hammer Efficiency Factor: 0.907				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected							
								Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information												Graphic Log		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)							
25							HW	107.2				little fine to coarse gravel, trace silt, well bonded -GLACIAL TILL-(SW) _____ 26.0 Brown, wet, very dense, fine to coarse Sandy GRAVEL, trace silt, loosely bonded -GLACIAL TILL-(GW) _____ 28.0 Bottom of Exploration at 28.0 feet below ground surface.			
	10D	24/8	26.0 - 28.0	12/23/37/41	60	91		105.2							
30															
35															
40															
45															
50															
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 2 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: HB-BE-116			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-117 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 149.0		Auger ID/OD: --			
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140/30			
Date Start/Finish: 10-30-18/10-30-18		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 111+04.2; 0.7 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --			
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/4	0.0 - 2.0	1/2/2/3	4	5	2
							4
							7
							17
							31
5	2D	24/16	5.0 - 7.0	51/33/29/28	62	70	22
							22
							35
							83
							166
10	3D	24/24	10.0 - 12.0	41/45/46/65	91	103	OPEN
15	4D	24/20	15.0 - 17.0	22/23/26/28	49	55	
20	5D	24/17	20.0 - 22.0	15/31/43/38	74	83	
25							
Visual Description and Remarks -TOPSOIL- Brown to yellow-brown, wet, medium stiff, SILT, little fine to coarse sand, trace organics, roots, wood chips -GLACIAL TILL-(ML) Yellow-brown, moist, hard, SILT, little fine to coarse gravel, little fine to coarse sand, well bonded -GLACIAL TILL-(ML) Yellow-brown, moist, hard, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML) Yellow-brown, wet, hard, SILT, some fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML) Yellow-brown grading to grey-brown, hard, wet, SILT, little fine to coarse gravel, little fine to coarse sand, trace clay, well bonded -GLACIAL TILL-(ML)							
Laboratory Testing Results/ AASHTO and Unified Class.							
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine					Boring No.: HB-BE-117 WIN: 18915.00																																																																																																																																																																																																																																																																																																																																																																																																																																													
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Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing</th><th>Blows</th></tr><tr><td>25</td><td>6D</td><td>24/18</td><td>25.0 - 27.0</td><td>23/30/50/43</td><td>80</td><td>90</td><td>OPEN</td><td></td><td></td><td></td><td></td><td>Yellow-brown, hard, wet, SILT, little fine to coarse gravel, little fine to coarse sand, well bonded -GLACIAL TILL-(ML)</td><td rowspan="12">G#513343 A-4(0)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>30</td><td>7D</td><td>24/24</td><td>30.0 - 32.0</td><td>12/15/24/37</td><td>39</td><td>44</td><td></td><td></td><td></td><td></td><td></td><td>Yellow-brown, wet, hard, SILT, some fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>35</td><td>8D</td><td>11/11</td><td>35.0 - 35.9</td><td>125/126(5")</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Yellow-brown, wet, hard, SILT, some fine to coarse sand, trace fine to coarse gravel, well graded -GLACIAL TILL-(ML)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>40</td><td>9D</td><td>11/8</td><td>40.0 - 40.9</td><td>81/100(5")</td><td></td><td></td><td></td><td></td><td></td><td>109.0</td><td></td><td>Yellow-brown, wet, very dense, Silty fine to coarse SAND, little fine to coarse gravel, well bonded -GLACIAL TILL-(SM)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>108.1</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>45</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>															Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing	Blows	25	6D	24/18	25.0 - 27.0	23/30/50/43	80	90	OPEN					Yellow-brown, hard, wet, SILT, little fine to coarse gravel, little fine to coarse sand, well bonded -GLACIAL TILL-(ML)	G#513343 A-4(0)																																																					30	7D	24/24	30.0 - 32.0	12/15/24/37	39	44						Yellow-brown, wet, hard, SILT, some fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)																																																					35	8D	11/11	35.0 - 35.9	125/126(5")								Yellow-brown, wet, hard, SILT, some fine to coarse sand, trace fine to coarse gravel, well graded -GLACIAL TILL-(ML)																																																					40	9D	11/8	40.0 - 40.9	81/100(5")						109.0		Yellow-brown, wet, very dense, Silty fine to coarse SAND, little fine to coarse gravel, well bonded -GLACIAL TILL-(SM)											108.1																																																																																														45																																																																														50												
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-118 WIN: 18915.00																																																																																																																																																																																																																											
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<div>Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div> <div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div> <div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div> <div>T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>																																																																																																																																																																																																																																			
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Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) 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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-119 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 148.2		Auger ID/OD: --							
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140/30							
Date Start/Finish: 10-29-18/10-29-18		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 110+98.9; 49.9 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 5.8 ft							
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/11	0.0 - 2.0	1/2/3/13	5	6	1	148.0		-TOPSOIL-	
							3			Yellow-brown, wet, medium stiff, SILT, little fine to coarse sand, trace fine gravel, trace organics, moderately bonded	
							20			-GLACIAL TILL-(ML)	
							40				
							106				
5	2D	24/20	5.0 - 7.0	9/21/27/29	48	54	13			Yellow-brown to red-brown, moist, hard, SILT, little fine to coarse gravel, little fine to coarse sand, well bonded	
							19			-GLACIAL TILL-(ML)	
							14				
							13				
							15				
10	3D	24/17	10.0 - 12.0	24/36/44/68	80	90	OPEN			Yellow-brown, wet, hard, SILT, some fine to coarse gravel, some fine to coarse sand, well bonded	
										-GLACIAL TILL-(ML)	
15	4D	24/20	15.0 - 17.0	20/23/23/23	46	52				Yellow-brown, wet, hard, SILT, some fine to coarse gravel, some fine to coarse sand, well bonded	
									-GLACIAL TILL-		
20	5D	24/17	20.0 - 22.0	12/27/45/40	72	81		128.2	Yellow-brown, wet, very dense, Silty fine to coarse SAND, some fine to coarse gravel, well bonded		
									-GLACIAL TILL-(SM)		
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-119	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-119 WIN: 18915.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-120				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 132.8		Auger ID/OD: --						
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140/30						
Date Start/Finish: 10-30-18/10-30-18		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 113+99.3; 2.8 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --						
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/9	0.0 - 2.0	1/1/2/3	3	3	32	132.3		<p>Yellow-brown, wet, soft, SILT, trace fine to coarse sand, trace fine gravel, trace organics, roots</p> <p>-TOPSOIL-(ML)</p> <p>0.5-</p> <p>Yellow-brown to red-brown, moist, soft, SILT, little fine to coarse sand, trace fine gravel, well bonded</p> <p>-GLACIAL TILL-(ML)</p> <p>5</p> <p>Yellow-brown to red-brown, moist, hard, SILT, little fine to coarse sand, trace fine gravel, well bonded</p> <p>-GLACIAL TILL-(ML)</p> <p>10</p> <p>Yellow-brown, moist, hard, SILT, little fine to coarse gravel, little fine to coarse sand, well bonded</p> <p>-GLACIAL TILL-(ML)</p> <p>15</p> <p>Yellow-brown, wet, very dense, fine to coarse SAND, some gravel, some silt, moderately bonded</p> <p>-GLACIAL TILL-(SC-SM)</p> <p>15.0-</p> <p>20</p> <p>Light brown, wet, very dense, fine to coarse SAND, some silt, little fine to coarse gravel, well bonded</p> <p>-GLACIAL TILL-(SM)</p> <p>20.0-</p> <p>25</p>
							3			
							7			
							25			
							20			
5	2D	24/14	5.0 - 7.0	42/45/62/85	107	121	20			
							72			
							124			
							155			
							234			
10	3D	24/24	10.0 - 12.0	23/23/27/32	50	56	111			
							123			
							122			
							130			
							127			
15	4D	24/13	15.0 - 17.0	21/26/26/29	52	59	72	117.8		
							61			
							49			
							87			
							107			
20	5D	24/22	20.0 - 22.0	25/31/37/30	68	77	63	112.8		
							58			
							49			
							46			
25							109			
Remarks: 1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: HB-BE-120	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-120 WIN: 18915.00																																																																																																																																																																																																																																																																																																																																											
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-121 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 113.7		Auger ID/OD: --			
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140/30			
Date Start/Finish: 10-31-18/10-31-18		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 121+96.7; 8.7 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 1.5 ft			
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _u (lab) = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
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Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/20	0.0 - 2.0	1/2/3/4	5	6	HW WOH
	2D	24/24	2.0 - 4.0	4/7/8/10	15	17	
5	3D	24/24	4.0 - 6.0	5/7/9/11	16	18	✓
							7
							37
							32
							21
							36
10	4D	24/14	10.0 - 12.0	16/15/14/7	29	33	85
							66
							72
							112
							130
15	5D	24/19	15.0 - 17.0	18/28/30/39	58	65	OPEN
20	6D	24/4	20.0 - 22.0	11/18/24/34	42	47	✓
25							
				Elevation (ft.): 107.6			
				Elevation (ft.): 98.7			
				Elevation (ft.): 91.7			
				Bottom of Exploration at 22.0 feet below ground surface.			
				Visual Description and Remarks			
				Light brown with some grey mottling, moist, medium stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(CL) Light brown with some grey mottling, moist, very stiff, Clayey SILT, trace organics -MARINE DEPOSIT- Light brown with some grey mottling, wet, very stiff, SILT, little clay, trace fine sand, trace organics -MARINE DEPOSIT-(CL) Note: Drill action indicates granular material at 6.1 ft. Note: Drill action indicates layer of weathered cobbles from 8.5 to 9.0 ft. Grey-brown, wet, dense, Silty fine to coarse SAND, little fine to coarse gravel, moderately bonded -GLACIAL TILL-(SM) Grey-brown, wet, hard, SILT, some fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML) Grey, wet, hard, SILT, some fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML) Bottom of Exploration at 22.0 feet below ground surface.			
				Laboratory Testing Results/ AASHTO and Unified Class.			
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-122				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 103.7		Auger ID/OD: --						
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140/30						
Date Start/Finish: 10-31-18/10-31-18		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 128+90.3; 3.9 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 6.5 ft						
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/10	0.0 - 2.0	1/2/3/3	5	6	HW WOH		Light brown with some grey mottling, moist, medium stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(CL) Light brown with some grey mottling, moist, stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(CL) Light brown with some grey mottling, moist, stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(CL) Note: Drill action indicates granular material at approximately 8.8 ft.	
	2D	24/24	2.0 - 4.0	3/6/6/8	12	14				
5	3D	24/24	4.0 - 6.0	5/5/5/6	10	11	✓			
							PUSH			
							51			
10	4D	24/14	10.0 - 12.0	15/17/22/22	39	44	24		Yellow-brown, wet, dense, Silty fine to coarse SAND, trace fine gravel, moderately bonded -GLACIAL TILL-(SM) Grey, wet, dense, fine Gravelly fine to coarse SAND, little silt, moderately bonded -GLACIAL TILL-(SW-SM) Grey, wet, very stiff, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)	
							36			
							42			
							53			
							54			
15	5D	24/7	15.0 - 17.0	6/14/14/12	28	32	29			
							80			
							118			
							136			
							123			
20	6D	24/15	20.0 - 22.0	11/11/14/17	25	28	OPEN		Grey, wet, very stiff, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)	
25							✓			
Remarks:										
<div style="display: flex; justify-content: space-between;"> <div> Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made. </div> <div> Page 1 of 2 Boring No.: HB-BE-122 </div> </div>										

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* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-122																																																																																																																																																																

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-123 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 82.3		Auger ID/OD: --							
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-140#/30							
Date Start/Finish: 11-8-18/11-8-18		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 144+06.5; 2.6 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --							
Hammer Efficiency Factor: 0.9057		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/12	0.0 - 2.0	WOH/1/2/6	3	5	3			Grey-brown with yellow-brown mottling, moist, medium stiff, Clayey SILT, trace organics (roots) -MARINE DEPOSIT-(ML)	G#513341 A-4(0)
							27				
							44				
							49				
							66				
5	2D	24/24	5.0 - 7.0	1/3/3/5	6	9	37			Yellow-brown with red-brown and grey-brown mottling, wet, stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(ML)	
							53				
							69				
							70				
10	3D/A	24/12	10.0 - 12.0	1/4/34/24	38	57	38				
	MV		10.0 - 10.0				51				
							67			Grey, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test at 10.0 ft, no penetration.	
							71			Grey, wet, very dense, Silty fine SAND, little fine gravel, moderately bonded -GLACIAL TILL-(SM) Note: Drill action and wash water contents indicate granular material.	
							76				
							59				
15	4D	24/4	15.0 - 17.0	15/10/10/11	20	30	61			Grey, wet, medium dense, fine to coarse SAND, little fine gravel, trace silt, well graded, moderately bonded -GLACIAL TILL-(SM)	
							71				
							128				
							131			Note: Drill action and wash water contents indicate granular material.	
							84				
20	5D	18/6	20.0 - 21.5	7/14/19	33	50	OPEN			Grey, wet, hard, fine Sandy SILT, little fine to coarse gravel, trace medium to coarse sand, well bonded -GLACIAL TILL-(ML)	
25										Bottom of Exploration at 21.5 feet below ground surface.	
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-123	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-124 WIN: 18915.00			
Driller: New England Boring Contractors		Elevation (ft.): 86.8		Auger ID/OD: --					
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID					
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-140#/30					
Date Start/Finish: 11-9-18/11-9-18		Drilling Method: SSA/HW Drive		Core Barrel: --					
Boring Location: Sta. 146+99.2; 1.9 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 4.5 ft					
Hammer Efficiency Factor: 0.9057		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test									
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
0	1D	24/8	0.0 - 2.0	WOH/WOH/1/4	1	2	HW PUSH	Grey-brown with yellow-brown mottling, wet, very soft, Clayey SILT, trace organics -MARINE DEPOSIT-(ML)	
5	2D	24/24	5.0 - 7.0	3/3/4/6	7	11	30	Yellow-brown with grey mottling, wet, stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(ML)	
							37		
							36		
							43		
							46	Note: Drill action and wash water contents indicate granular material from 8.5 to 9.0 ft.	
10	3D	24/24	10.0 - 12.0	2/3/3/3	6	9	48		
							51		
							49		
							95	Note: Drill action and wash water contents indicate granular material starting at 13.6 ft.	
15	4D	24/5	15.0 - 17.0	14/8/7/9	15	23	56		
							78		
							81		
							101	Note: Drill action and wash water contents continue to indicate granular material.	
							OPEN		
20	5D	24/4	20.0 - 22.0	10/13/13/12	26	39			
								Grey, wet, hard, SILT, some fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	
25								Bottom of Exploration at 22.0 feet below ground surface.	
Remarks:									
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Boring No.: HB-BE-124	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-125 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 96.6		Auger ID/OD: --			
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-140#/30			
Date Start/Finish: 11-9-18/11-9-18		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 151+06.0; 0.1 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --			
Hammer Efficiency Factor: 0.9057		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/16	0.0 - 2.0	WOH/2/3/5	5	8	HW PUSH
							7
							42
							45
5	2D	24/24	5.0 - 7.0	2/3/3/4	6	9	24
							25
							24
							23
							24
10	3D/A	24/19	10.0 - 12.0	1/5/24/24	29	44	20
							105
							30
							52
							75
15	4D	21/11	15.0 - 16.8	8/15/44/50(3")	59	89	OPEN
							RC
20							
25							
Visual Description and Remarks: Yellow-brown with grey mottling, wet, medium stiff, Clayey SILT, trace organics (roots, wood chips) -MARINE DEPOSIT-(ML) Yellow-brown with grey mottling, wet, stiff, Silty CLAY, trace organics -MARINE DEPOSIT-(CL) Yellow-brown with grey mottling, wet, hard, Silty CLAY, trace fine sand, trace fine gravel, trace organics (roots) -MARINE DEPOSIT-(CL) Grey with yellow-brown and red-brown mottling, wet, dense, fine to coarse SAND, little silt, little fine gravel, well graded, moderately bonded -GLACIAL TILL-(SW-SM) Note: Drill action and wash water contents indicate granular material. Yellow-brown, wet, hard, fine to coarse Sandy SILT, some fine to coarse gravel, moderately bonded -GLACIAL TILL-(ML) Note: Cuttings sample from 16.5 to 20.0 ft consists of grey bedrock chips. Note: Drill action indicates top of weathered bedrock at 16.5 ft, advanced roller bit to 20.0 ft. Bottom of Exploration at 20.0 feet below ground surface.							
Laboratory Testing Results/ AASHTO and Unified Class.							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-126 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 105.8		Auger ID/OD: --			
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-140#/30			
Date Start/Finish: 11-9-18/11-9-18		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 154+99.5; 0.3 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 2.0 ft			
Hammer Efficiency Factor: 0.9057		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/19	0.0 - 2.0	WOH/1/2/4	3	5	HW PUSH
							46
							55
5	2D/A	24/16	5.0 - 7.0	9/28/32/25	60	91	34
							36
							48
							79
							137
10	3D	24/8	10.0 - 12.0	56/34/26/29	60	91	74
							85
							75
							RC
15							
20							
25							
Elevation (ft.) 105.6 100.3 99.4 95.8 92.9 90.8 Graphic Log Visual Description and Remarks -TOPSOIL/ORGANIC DEPOSIT- Brown grading to grey-brown, wet, medium stiff, Clayey SILT, trace organics (roots, wood chips) -MARINE DEPOSIT-(ML) Yellow-brown with some grey mottling, wet, hard, Clayey SILT -MARINE DEPOSIT-(ML) Yellow-brown with grey-brown and red-brown mottling, wet, hard, SILT, some fine to coarse gravel, little fine to coarse sand, well bonded -GLACIAL TILL-(ML) Red-brown with grey and yellow-brown, wet, very dense, fine GRAVEL, some silt, little fine to coarse sand, weathered rock fragments, poorly-graded, well bonded -GLACIAL TILL-(GM) Note: Drill action and wash water contents indicate granular material. Yellow-brown with grey, wet, very dense, fine to coarse SAND, some fine to coarse gravel, some silt, weathered rock fragments, poorly-graded, loosely bonded -GLACIAL TILL-(SM) Top of Probable Bedrock at El. 92.9 -PROBABLE BEDROCK- Bottom of Exploration at 15.0 feet below ground surface.							
Laboratory Testing Results/AASHTO and Unified Class.							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-127 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 113.6		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30			
Date Start/Finish: 11-14-18/11-14-18		Drilling Method: HSA		Core Barrel: --			
Boring Location: Sta. 160+03.6; 1.4 RT		Casing ID/OD: HSA-2.25 in. ID		Water Level*: 15.7 ft			
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/18	0.0 - 2.0	WOH/WOH/2/3	2	3	HSA
5	2D	24/23	5.0 - 7.0	1/2/3/3	5	8	
10	3D	24/18	10.0 - 12.0	42/45/53/15	98	151	
15	4D	24/15	15.0 - 17.0	5/9/6/10	15	23	OPEN
20							
25							
Visual Description and Remarks Note: Ground surface is frozen. Brown grading to grey-brown with yellow-brown mottling, wet, soft, Clayey SILT, trace fine sand, trace organics -MARINE DEPOSIT-(ML) -----2.0 Grey-brown with some light brown mottling, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) Note: Hollow-stem auger drill action indicates granular material at 10.0 ft. -----10.0 Grey-brown to grey and red-brown, hard, SILT, some fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML) -----17.0 Grey, wet, very stiff, SILT, little fine to coarse sand, trace fine to coarse gravel, trace clay, well bonded -GLACIAL TILL-(ML) -----17.0 Bottom of Exploration at 17.0 feet below ground surface.							
Laboratory Testing Results/ AASHTO and Unified Class.							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-128 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 116.5		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30			
Date Start/Finish: 11-14-18/11-14-18		Drilling Method: HSA		Core Barrel: --			
Boring Location: Sta. 164+01.9; 4.9 LT		Casing ID/OD: HSA-2.25 in. ID		Water Level*: 6.5 ft			
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/12	0.0 - 2.0	WOH/WOH/2/5	2	3	HSA
5	2D	24/12	5.0 - 7.0	22/21/16/16	37	57	
10	3D	24/11	10.0 - 12.0	8/17/21/26	38	59	
15	4D	24/10	15.0 - 17.0	6/4/6/6	10	15	OPEN
20							
25							
				Elevation (ft.):		Graphic Log	
				116.3		Note: Ground surface is frozen. -TOPSOIL-(OL)	
				113.5		Brown grading to grey-brown with yellow-brown mottling, wet, soft, Silty CLAY, trace organics -MARINE DEPOSIT-(CL) Note: Hollow-stem auger drill action indicates granular material at 3.0 ft.	
				106.5		Brown with some red-brown, moist, very dense, fine to coarse SAND, little silt, little fine to coarse gravel, well graded, moderately bonded -GLACIAL TILL-(SW-SM) Note: Hollow-stem auger drill action continues to indicate granular material.	
				99.5		Brown, moist, hard, SILT, some fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML) Grey, wet, stiff, SILT, some fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	
						Bottom of Exploration at 17.0 feet below ground surface.	
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-129 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 110.5		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30						
Date Start/Finish: 11-13-18/11-13-18		Drilling Method: HSA		Core Barrel: --						
Boring Location: Sta. 167+97.2; 3.3 RT		Casing ID/OD: HSA-2.25 in. ID		Water Level*: 3.5 ft						
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _u (lab) = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/19	0.0 - 2.0	WOH/WOH/2/4	2	3	HSA		Dark brown grading to grey-brown with light brown mottling, soft, wet, Silty CLAY, trace organics (roots) -MARINE DEPOSIT-(CL)	
5	2D	24/14	5.0 - 7.0	WOH/WOH/2/3	2	3			Grey with light brown mottling, soft, wet, Silty CLAY -MARINE DEPOSIT-(CL)	
10	3D/A	24/12	10.0 - 12.0	6/9/10/8	19	29		100.2	Grey with light brown mottling, wet, very stiff, Silty CLAY -MARINE DEPOSIT-(CL)	
								98.0	Yellow-brown to red-brown, wet, medium dense, Gravelly fine to coarse SAND, little silt, well graded, moderately bonded -WEATHERED BEDROCK-(SW-SM)	
								97.5	Top of Probable Bedrock at El. 98.0 Note: Advanced hollow-stem auger to refusal at 13.0 ft.	
15									Bottom of Exploration at 13.0 feet below ground surface.	
20										
25										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-129

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-130 WIN: 18915.00						
Driller: New England Boring Contractors		Elevation (ft.): 142.3		Auger ID/OD: --								
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID								
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30								
Date Start/Finish: 11-13-18/11-13-18		Drilling Method: HSA		Core Barrel: --								
Boring Location: Sta. 171+02.7; 6.1 RT		Casing ID/OD: HSA-2.25 in. ID		Water Level*: 5.2 ft								
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>										
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _u (lab) = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test												
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows					
0	1D	24/2	0.0 - 2.0	WOH/1/2/10	3	5	HSA	141.3		Yellow-brown, wet, medium stiff, SILT, trace fine to coarse sand, trace fine gravel, trace organics, roots, wood chips -TOPSOIL-(ML)	1.0	
5	2D	24/16	5.0 - 7.0	12/16/18/19	34	52				Grey-brown, moist, hard, SILT, some fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)		
10	3D	24/24	10.0 - 12.0	21/18/22/28	40	62				Grey-brown, moist, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)		
15	4D	24/24	15.0 - 17.0	8/11/33/91	44	68	OPEN			Grey-brown, moist, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)		
20												
25												
Remarks:												
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-130		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-131 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 164.3		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140#/30						
Date Start/Finish: 11-12-18/11-13-18		Drilling Method: SSA/HW		Core Barrel: --						
Boring Location: Sta. 174+95.8; 2.8 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 8.2 ft						
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/17	0.0 - 2.0	1/1/1/7	2	3	SSA	162.8	Yellow-brown, wet, soft, SILT, trace fine sand, trace fine gravel, trace organics, roots -TOPSOIL-(ML)	G#513345 A-4(0)
									Yellow-brown, moist, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, moderately bonded -GLACIAL TILL-(ML)	
5	2D	24/24	5.0 - 7.0	9/11/11/16	22	34			Yellow-brown, moist, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, moderately bonded -GLACIAL TILL-(ML)	
10	3D	24/23	10.0 - 12.0	22/28/29/29	57	88	36		Yellow-brown, wet, hard, SILT, some fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	
							33			
							61			
							28			
							29			
15	4D	24/2	15.0 - 17.0	15/17/23/23	40	62	27		Yellow-brown, wet, hard, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML) Note: Low recovery due to probable cobble.	
							29			
							29			
							23			
							30			
20	5D	24/24	20.0 - 22.0	13/20/21/28	41	63	35		Grey, wet, hard, SILT, little fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	
							44			
							30			
							27			
25							36			
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Page 1 of 2 Boring No.: HB-BE-131		

Maine Department of Transportation						Project: Route 9/I-395 Connector				Boring No.: HB-BE-131																	
Soil/Rock Exploration Log US CUSTOMARY UNITS						Location: Brewer and Eddington, Maine				WIN: 18915.00																	
Driller:			New England Boring Contractors			Elevation (ft.):			164.3			Auger ID/OD:			--												
Operator:			M. Porter			Datum:			NAVD 88			Sampler:			Split-Spoon 1.375 in. ID												
Logged By:			N. Klausmeyer			Rig Type:			Mobile B-53 Track			Hammer Wt./Fall:			SS-140#/30; HW-140#/ 												
Date Start/Finish:			11-12-18/11-13-18			Drilling Method:			SSA/HW			Core Barrel:			--												
Boring Location:			Sta. 174+95.8; 2.8 LT			Casing ID/OD:			HW-4.0 in. ID			Water Level*:			8.2 ft												
Hammer Efficiency Factor: 0.925						Hammer Type: Automatic ☑ Hydraulic ☐ Rope & Cathead ☐																					
Definitions: D = Split Spoon Sample R = Rock Core Sample S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) T _v = Pocket Torvane Shear Strength (psf) MD = Unsuccessful Split Spoon Sample Attempt SSA = Solid Stem Auger S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) WC = Water Content, percent U = Thin Wall Tube Sample HSA = Hollow Stem Auger q _p = Unconfined Compressive Strength (ksf) LL = Liquid Limit MU = Unsuccessful Thin Wall Tube Sample Attempt RC = Roller Cone N-uncorrected = Raw Field SPT N-value PL = Plastic Limit V = Field Vane Shear Test, PP = Pocket Penetrometer WOH = Weight of 140 lb. Hammer Hammer Efficiency Factor = Rig Specific Annual Calibration Value PI = Plasticity Index MV = Unsuccessful Field Vane Shear Test Attempt WOR/C = Weight of Rods or Casing N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency G = Grain Size Analysis WO1P = Weight of One Person N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected C = Consolidation Test																											
Sample Information																											
Depth (ft.)		Sample No.		Pen./Rec. (in.)		Sample Depth (ft.)		Blows (/6 in.) Shear Strength (psf) or RQD (%)		N-uncorrected		N ₆₀		Casing Blows		Elevation (ft.)		Graphic Log		Visual Description and Remarks				Laboratory Testing Results/AASHTO and Unified Class.			
25		6D		24/24		25.0 - 27.0		24/32/37/47		69		106		OPEN						Grey, wet, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)							
		7D		24/24		28.0 - 30.0		19/21/37/50		58		89								Grey, wet, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)							
30		8D		24/24		30.0 - 32.0		24/26/73/44		99		153								Grey, wet, hard, SILT, trace fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML)							
																				Grey, wet, hard, SILT, some fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)				G#513346 A-4(0)			
				19/14		32.0 - 33.6		27/40/90/50(1")		130		200															
35																											
		10D		24/24		36.0 - 38.0		32/29/28/42		57		88								Grey, wet, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)							
40																											
45																											
50																											
Remarks:																											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																		Page 2 of 2									
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.																		Boring No.: HB-BE-131									

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-132				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 172.7		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: H. Hollauer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140#/30						
Date Start/Finish: 11-8-18/11-9-18		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 176+94.3; 16.3 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --						
Hammer Efficiency Factor: 0.750		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/8	0.0 - 2.0	2/3/2/5	5	6	HW	172.5	Grey-brown, dry, loose, fine to coarse SAND, some silt, little gravel, trace organics -TOPSOIL/ROOT MAT-(SM) Orange-brown, damp, loose, fine to coarse SAND, little silt, trace gravel -GLACIAL TILL-(SP-SM) Note: Spin casing through boulders and cobbles.	
5	2D	24/2	5.0 - 7.0	5/8/12/16	20	25				
10	3D	24/18	10.0 - 12.0	11/14/21/25	35	44		162.7	Orange-brown, damp, dense, SILT, some fine to coarse sand, trace gravel -GLACIAL TILL-(ML)	G#513335 A-4(0)
15	4D	24/20	15.0 - 17.0	9/13/11/17	24	30		157.7	Grey-brown, damp, medium dense, fine to coarse SAND, some silt, trace gravel -GLACIAL TILL-(SM)	DS-7, DS-8 DS-9 Cohesion 1400psf Friction Angle 23.5
20	5D	20/5	20.0 - 21.7	15/12/10/50(2")	22	28		151.0	Grey-brown, damp, medium dense, fine to coarse SAND, some silt, trace gravel -GLACIAL TILL-(SM) Note: Low recovery, possibly pushed cobble. Cobbles from 21.7 to 25.5 ft	
25										
Remarks: 1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details. 2. DS denotes direct shear test. DS-7, DS-8, DS-9 were run on composite sample of 4D, 5D and 6D.										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 3	
<small>* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.</small>									Boring No.: HB-BE-132	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-132 WIN: 18915.00	
Driller: New England Boring Contractors			Elevation (ft.): 172.7		Auger ID/OD: --		
Operator: M. Porter			Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID		
Logged By: H. Hollauer			Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140#/#		
Date Start/Finish: 11-8-18/11-9-18			Drilling Method: SSA/HW Drive		Core Barrel: --		
Boring Location: Sta. 176+94.3; 16.3 RT			Casing ID/OD: HW-4.0 in. ID		Water Level*: --		
Hammer Efficiency Factor: 0.750			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>				
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt							
R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person							
S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected							
T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							

Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
25	6D	24/18	25.5 - 27.5	9/9/7/12	16	20	HW	147.2		Grey, damp, medium dense, fine to coarse SAND, some silt, trace gravel -GLACIAL TILL-(SM)	G#513336 A-4(0)
30	7D	24/20	30.0 - 32.0	9/9/13/20	22	28		142.7		Grey, damp, medium dense, SILT, some fine to coarse SAND, trace gravel -GLACIAL TILL-(ML)	
35	8D	24/4	35.0 - 37.0	12/27/38/59	65	81		137.7		Grey, damp, very dense, fine to coarse SAND, some silt, trace gravel -GLACIAL TILL-(SM)	
40	9D	24/24	40.0 - 42.0	14/77/24/36	101	126				Grey, damp, very dense, Silty fine SAND, trace medium to coarse sand and gravel, trace clay -GLACIAL TILL-(SM)	G#513337 A-4(0)
	10D	24/6	42.0 - 44.0	16/28/40/59	68	85				Grey, damp, very dense, Silty fine SAND, trace medium to coarse sand and gravel, trace clay -GLACIAL TILL-(SM)	
45	11D	24/1	44.0 - 46.0	11/29/36/49	65	81				Note: Low recovery; pushed cobble. Grey, damp, very dense, Silty fine SAND, trace medium to coarse sand and gravel, trace clay -GLACIAL TILL-(SM)	
	12D	24/24	48.5 - 50.5	17/30/30/48	60	75	OPEN	124.2		Grey, damp, very dense, SILT, some fine SAND, trace medium to coarse gravel, trace clay	G#513337 A-4(0)
50											

Remarks:
 1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details.
 2. DS denotes direct shear test. DS-7, DS-8, DS-9 were run on composite sample of 4D, 5D and 6D.




Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-132

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS										Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-132 WIN: 18915.00			
Driller: New England Boring Contractors					Elevation (ft.): 172.7					Auger ID/OD: --							
Operator: M. Porter					Datum: NAVD 88					Sampler: Split-Spoon 1.375 in. ID							
Logged By: H. Hollauer					Rig Type: Mobile B-53 Track					Hammer Wt./Fall: SS-140#/30; HW-140#							
Date Start/Finish: 11-8-18/11-9-18					Drilling Method: SSA/HW Drive					Core Barrel: --							
Boring Location: Sta. 176+94.3; 16.3 RT					Casing ID/OD: HW-4.0 in. ID					Water Level*: --							
Hammer Efficiency Factor: 0.750					Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>												
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _u (lab) = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test																	
Sample Information																	
Depth (ft.)																	
Sample No.																	
Pen./Rec. (in.)																	
Sample Depth (ft.)																	
Blows (/6 in.) Shear Strength (psf) or RQD (%)																	
N-uncorrected																	
N ₆₀																	
Casing Blows																	
Elevation (ft.)																	
Graphic Log																	
Visual Description and Remarks																	
Laboratory Testing Results/ AASHTO and Unified Class.																	
50																	
-GLACIAL TILL-(ML)																	
Bottom of Exploration at 50.5 feet below ground surface.																	
55																	
60																	
65																	
70																	
75																	
Remarks: 1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details. 2. DS denotes direct shear test. DS-7, DS-8, DS-9 were run on composite sample of 4D, 5D and 6D.																	
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																	
Page 3 of 3																	
Boring No.: HB-BE-132																	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-133					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: Northern Test Borings, Inc.		Elevation (ft.): 161.1		Auger ID/OD: --							
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20							
Date Start/Finish: 8-13-18/8-13-18		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 177+0.5; 54.2 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 5.5 ft							
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/10	0.0 - 2.0	12/12/5/5	17	26	SSA	159.1		Brown, damp grading to moist, medium dense, fine to coarse SAND, little fine to coarse gravel, trace silt, well graded -FILL-(SW)	
	2D	24/14	2.0 - 4.0	15/17/15/19	32	48				Brown, moist, dense, Silty fine to coarse SAND, trace fine to coarse gravel, moderately bonded -GLACIAL TILL-(SM)	
5	3D	24/9	5.0 - 7.0	4/8/12/14	20	30	HW	156.1		Brown, moist, very stiff, SILT, some fine to coarse sand, little fine gravel, well graded, well bonded -GLACIAL TILL-(ML)	
10	4D	24/7	10.0 - 12.0	11/32/37/41	69	104				Brown, wet, hard, fine to coarse Sandy SILT, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	
15	5D	24/23	15.0 - 17.0	15/19/19/22	38	57				Grey, wet, hard, SILT, some fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)	G#474351 A-4(0), ML WC=12.1
20	6D	24/20	20.0 - 22.0	12/15/17/19	32	48				Grey, wet, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	
25											
Remarks: 											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-133	

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-134 WIN: 18915.00			
Driller: New England Boring Contractors			Elevation (ft.): 175.3			Auger ID/OD: --					
Operator: M. Porter			Datum: NAVD 88			Sampler: Split-Spoon 1.375 in. ID					
Logged By: N. Klausmeyer			Rig Type: Mobile B-53 Track			Hammer Wt./Fall: SS-140#/30; HW-140#/18					
Date Start/Finish: 11-12-18/11-12-18			Drilling Method: SSA/HW Drive			Core Barrel: --					
Boring Location: Sta. 176+84.7; 68.3 RT			Casing ID/OD: HW-4.0 in. ID			Water Level*: --					
Hammer Efficiency Factor: 0.925			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/3	0.0 - 2.0	2/1/3/6	4	6	SSA			Yellow-brown, moist, medium stiff, SILT, some fine to coarse sand, moderately bonded -GLACIAL TILL-(ML) Note: Low recovery due to probable cobble.	
5	2D	24/17	5.0 - 7.0	4/7/8/7	15	23	33			Yellow-brown, moist, very stiff, SILT, little fine to coarse sand, trace fine to coarse gravel, moderately bonded -GLACIAL TILL-(ML)	
							43				
							50				
							66				
							115				
10	3D	24/16	10.0 - 12.0	16/15/15/16	30	46	61			Yellow-brown, moist, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	
							95				
							280				
							197				
							140				
15	4D	24/20	15.0 - 17.0	12/14/16/19	30	46	OPEN			Yellow-brown, moist, hard, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)	
20	5D	24/16	20.0 - 22.0	8/10/10/57	20	31				Grey, wet, hard, SILT, some fine to coarse sand, trace fine gravel, trace clay, well bonded -GLACIAL TILL-(ML)	
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-134	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine			Boring No.: HB-BE-134 WIN: 18915.00		
Driller: New England Boring Contractors				Elevation (ft.): 175.3			Auger ID/OD: --			
Operator: M. Porter				Datum: NAVD 88			Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer				Rig Type: Mobile B-53 Track			Hammer Wt./Fall: SS-140#/30; HW-140#/#			
Date Start/Finish: 11-12-18/11-12-18				Drilling Method: SSA/HW Drive			Core Barrel: --			
Boring Location: Sta. 176+84.7; 68.3 RT				Casing ID/OD: HW-4.0 in. ID			Water Level*: --			
Hammer Efficiency Factor: 0.925				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>						
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected					T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test	
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
25	6D	24/11	25.0 - 27.0	14/37/23/26	60	93	OPEN	Grey, wet, hard, SILT, little fine to coarse sand, trace fine gravel, trace clay, well bonded -GLACIAL TILL-(ML)		
30	7D	24/3	30.0 - 32.0	18/14/15/21	29	45	V			Grey, wet, hard, SILT, some fine gravel, little fine to coarse sand, trace clay, well bonded -GLACIAL TILL-(ML)
								Bottom of Exploration at 32.0 feet below ground surface.		
35										
40										
45										
50										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										
Page 2 of 2								Boring No.: HB-BE-134		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-135 WIN: 18915.00		
Driller: New England Boring Contractors		Elevation (ft.): 93.0		Auger ID/OD: --				
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID				
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-300#/24				
Date Start/Finish: 10-24-18/10-24-18		Drilling Method: SSA/HW Drive		Core Barrel: --				
Boring Location: Sta. 181+05.1; 3.1 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Ground Surface				
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>						
<div> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>								
Depth (ft.)	Sample Information							Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	
0	1D	24/18	0.0 - 2.0	WOH/WOH/WOH/ WOH			HW WOH	<div> <div>Visual Description and Remarks</div> <div> <p>Grey with some brown pockets, wet, very soft, Silty CLAY, some organics -MARINE DEPOSIT-(CL)</p> <p>-----2.0</p> <p>Grey, wet, medium stiff, Silty CLAY</p> <p>55x110 mm vane raw torque readings: V1: 15.0/1.5 ft-lbs V2: 14.5/1.5 ft-lbs</p> <p>Grey, wet, very soft, Silty CLAY, trace fine sand, trace organics, shells -MARINE DEPOSIT-(CL)</p> <p>Grey, wet, Silty CLAY</p> <p>55x110 mm vane raw torque readings: V3: 12.0/1.0 ft-lbs V4: 9.0/0.5 ft-lbs</p> <p>Grey with dark grey streaking, wet, very soft, Silty CLAY, trace fine sand, trace organics, shells -MARINE DEPOSIT-(CL)</p> </div> </div>
							91.0	
5	1U	24/24	5.0 - 7.0				18	
							10	
	V1		7.6 - 8.0	Su=700/70 psf			12	
	V2		8.6 - 9.0	Su=675/70 psf			15	
							16	
10	2D	24/24	10.0 - 12.0	WOR/WOR/WOR/ WOR			WOH	
							14	
15	2U	24/23	15.0 - 17.0				14	
							14	
	V3		17.6 - 18.0	Su=560/45 psf			14	
	V4		18.6 - 19.0	Su=420/23 psf			13	
							13	
20	3D	24/24	20.0 - 22.0	WOR/WOR/WOR/ WOR			18	
							15	
							16	
							18	
25							18	

Remarks:

1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details.

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 2

Boring No.: HB-BE-135

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-136 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 94.9		Auger ID/OD: --							
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-300#/24							
Date Start/Finish: 10-25-18/10-25-18		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 181+02.9; 105.2 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Ground Surface							
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="font-size: small;"> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/14	0.0 - 2.0	WOH/WOH/3/3	3	3	SSA	89.9		Grey with some brown mottling, wet, soft, Clayey SILT, little organics, roots -MARINE DEPOSIT-(ML)	
5	2D	24/22	5.0 - 7.0	3/2/2/3	4	5	32	89.9		Grey with some light brown mottling, wet, medium stiff, Silty CLAY, trace organics -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test at 5.0 ft, no penetration.	
10	1U	24/24	10.0 - 12.0				19	89.9		Grey, wet, Silty CLAY	
15	V1		12.6 - 13.0	Su=280/45 psf			15	89.9		55x110 mm vane raw torque readings: V1: 6.0/1.0 ft-lbs V2: 6.5/0.5 ft-lbs	
20	V2		13.6 - 14.0	Su=302/23 psf			15	89.9		Grey, wet, very soft, CLAY, trace silt -MARINE DEPOSIT-(CL)	
25	3D	24/24	15.0 - 17.0	WOR/WOR/WOR/ WOR			23	89.9		Grey, wet, medium dense, fine to coarse SAND, some fine to coarse gravel, trace silt, well graded, moderately bonded -GLACIAL TILL-(SW)	
25	4D	24/10	20.0 - 22.0	16/13/11/19	24	27	34	89.9		Note: Drill action and wash water indicate granular material at 19.1 ft. Grey, wet, medium dense, fine to coarse SAND, some fine to coarse gravel, trace silt, well graded, moderately bonded -GLACIAL TILL-(SW)	
25							121	89.9			

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 2

Boring No.: HB-BE-136

Maine Department of Transportation Soil/Rock Exploration Log <u>US CUSTOMARY UNITS</u>							Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine						Boring No.: HB-BE-136 WIN: 18915.00																														
Driller: New England Boring Contractors							Elevation (ft.): 94.9						Auger ID/OD: --																														
Operator: B. Enos							Datum: NAVD 88						Sampler: Split-Spoon 1.375 in. ID																														
Logged By: N. Klausmeyer							Rig Type: Mobile B-53 Rubber Track						Hammer Wt./Fall: SS-140#/30; HW-300#																														
Date Start/Finish: 10-25-18/10-25-18							Drilling Method: SSA/HW Drive						Core Barrel: --																														
Boring Location: Sta. 181+02.9; 105.2 LT							Casing ID/OD: HW-4.0 in. ID						Water Level*: Ground Surface																														
Hammer Efficiency Factor: 0.677							Hammer Type: Automatic ☑ Hydraulic ☐ Rope & Cathead ☐																																				
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt											R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person											S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected											T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Sample Information																																											
Depth (ft.)		Sample No.		Pen./Rec. (in.)		Sample Depth (ft.)		Blows (/6 in.) Shear Strength (psf) or RQD (%)		N-uncorrected		N ₆₀		Casing Blows		Elevation (ft.)		Graphic Log		Visual Description and Remarks								Laboratory Testing Results/AASHTO and Unified Class.															
25		5D		8/6		25.0 - 25.7		40/50(2")						RC		69.2																											
30																																											
35																																											
40																																											
45																																											
50																																											
Remarks:																																											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																				Page 2 of 2																							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.																				Boring No.: HB-BE-136																							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-137 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 92.9		Auger ID/OD: --							
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-300#/24							
Date Start/Finish: 10-23-18/10-23-18		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 180+94.6; 100.6 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --							
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _u (lab) = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D/A	24/24	0.0 - 2.0	WOH/WOH/WOH/ WOH			HW WOH	92.1		Brown, wet, very soft, Silty PEAT, organics, roots -ORGANIC DEPOSIT-(PT) Grey, wet, very soft, Silty CLAY, trace organics -MARINE DEPOSIT-(CL) Grey, wet, very soft, Silty CLAY -MARINE DEPOSIT-(CL) Dark grey, wet, very soft, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 5.0/0.25 ft-lbs V2: 5.5/0.25 ft-lbs Grey with dark grey streaking, wet, very soft, Silty CLAY, trace fine sand, trace organics, shells -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test at 15.0 ft, no penetration. Grey, wet, Silty CLAY 55x110 mm vane raw torque readings: V3: 3.0/0 ft-lbs V4: 7.0/0.5 ft-lbs	C#IP-18 CU#10-1B Su=355 psf LL=32 PL=19 PI=13 WC=42 CL
5	2D	24/24	5.0 - 7.0	WOH/WOH/WOH/ WOH			6				
							6				
							7				
							6				
							10				
10	3D V1	24/24	10.0 - 12.0	Push thru vane Su=235/12 psf			6				
	V2		10.6 - 11.0				6				
			11.6 - 12.0	Su=258/12 psf			6				
							7				
							6				
15	4D	24/24	15.0 - 17.0	WOH/WOH/WOH/ WOH			6 12				
	MV		15.0 - 15.0				9				
							8				
							7				
							7				
20	1U	24/24	20.0 - 22.0				7				
							7				
	V3		22.6 - 23.0	Su=140/0 psf			8				
	V4		23.6 - 24.0	Su=325/23 psf			7				
25							8				
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Page 1 of 2 Boring No.: HB-BE-137		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-137 WIN: 18915.00																																																																																																																																																																																																																																																																																																																																																																	
Driller: New England Boring Contractors				Elevation (ft.): 92.9				Auger ID/OD: --																																																																																																																																																																																																																																																																																																																																																																	
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Logged By: N. Klausmeyer				Rig Type: Mobile B-53 Rubber Track				Hammer Wt./Fall: SS-140#/30; HW-300#/#																																																																																																																																																																																																																																																																																																																																																																	
Date Start/Finish: 10-23-18/10-23-18				Drilling Method: SSA/HW Drive				Core Barrel: --																																																																																																																																																																																																																																																																																																																																																																	
Boring Location: Sta. 180+94.6; 100.6 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: --																																																																																																																																																																																																																																																																																																																																																																	
Hammer Efficiency Factor: 0.677				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																																																																																																																																																																																																																																																																																																																																																					
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<table><thead><tr><th rowspan="2">Depth (ft.)</th><th colspan="7">Sample Information</th><th rowspan="2">Elevation (ft.)</th><th rowspan="2">Graphic Log</th><th rowspan="2">Visual Description and Remarks</th><th rowspan="2">Laboratory Testing Results/ AASHTO and Unified Class.</th></tr><tr><th>Sample No.</th><th>Pen./Rec. (in.)</th><th>Sample Depth (ft.)</th><th>Blows (/6 in.) Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th></tr></thead><tbody><tr><td rowspan="3">25</td><td>5D</td><td>24/24</td><td>25.0 - 27.0</td><td>Push thru vane</td><td></td><td></td><td>WOH</td><td rowspan="10">62.9</td><td rowspan="10"></td><td rowspan="10">Grey, wet, very soft, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V5: 9.0/1.0 ft-lbs V6: 8.5/0.5 ft-lbs</td><td rowspan="10"></td></tr><tr><td>V5</td><td></td><td>25.6 - 26.0</td><td>Su=420/45 psf</td><td></td><td></td><td>WOH</td></tr><tr><td>V6</td><td></td><td>26.6 - 27.0</td><td>Su=398/23 psf</td><td></td><td></td><td>WOH</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>8</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>9</td></tr><tr><td rowspan="3">30</td><td>6D</td><td>24/3</td><td>30.0 - 32.0</td><td>7/4/6/9</td><td>10</td><td>11</td><td>9</td><td rowspan="5">61.6</td><td rowspan="5"></td><td rowspan="5">Grey, wet, stiff, fine to coarse Sandy SILT, little fine to coarse gravel, moderately bonded -GLACIAL TILL-(ML) Note: Drill action indicates probable granular (sand and gravel) material at 31.3 ft.</td><td rowspan="5"></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>40</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>50</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>59</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>50/6" RC</td></tr><tr><td rowspan="3">35</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td rowspan="3">58.4</td><td rowspan="3"></td><td rowspan="3">Note: Drill action and wash water indicate probable bedrock at 34.5 ft. 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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-138 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 95.3		Auger ID/OD: --							
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-300#/24							
Date Start/Finish: 10-23-18/10-23-18		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 184+97.5; 2.2 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --							
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/19	0.0 - 2.0	1/3/4/6	7	8	SSA	93.3		Light brown with some grey mottling, damp, medium stiff, Clayey SILT, trace organics, appears to have been tilled during farming activities -MARINE DEPOSIT-(ML)	C#IP-13 CU#20-1 Su=1113 psf LL=40 PL=22 PI=18 WC=33 CL
5	2D	24/24	5.0 - 7.0	2/3/2/3	5	6	1	83.3		Grey with some light brown mottling, moist, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL)	
							1				
							1				
	1U	24/22	8.0 - 10.0				1				
							1				
10	3D	24/24	10.0 - 12.0	WOH/WOH/WOH/3			18			Grey with some light brown mottling, wet, very soft, Silty CLAY -MARINE DEPOSIT-(CL)	
							17				
							32				
							40				
15	4D	24/9	15.0 - 17.0	9/5/8/10	13	15	OPEN	78.3	Olive-brown, wet, stiff, fine to coarse Sandy SILT, little fine to coarse gravel, moderately bonded -GLACIAL TILL-(ML)		
20											
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-138	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-139					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 105.9		Auger ID/OD: --							
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30							
Date Start/Finish: 10-23-18/10-23-18		Drilling Method: SSA/HSA		Core Barrel: --							
Boring Location: Sta. 188+97.6; 0.1 RT		Casing ID/OD: HSA-2.5 in. ID		Water Level*: 8.3 ft							
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
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Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/19	0.0 - 2.0	1/2/4/4	6	7	HSA	103.9		Brown with some grey mottling, moist, medium stiff, SILT, trace clay, trace organics, appears to have been tilled during farming activities -MARINE DEPOSIT-(ML) -----2.0 Light brown with some grey mottling, moist, stiff, Silty CLAY, trace organics -MARINE DEPOSIT-(CL) -----9.1 Grey-brown, wet, dense, fine to coarse SAND, some fine to coarse gravel, little silt, trace clay, well graded, loosely bonded -GLACIAL TILL-(SW-SM) Grey-brown, wet, medium dense, fine to coarse SAND, some fine to coarse gravel, trace silt, well graded, moderately bonded -GLACIAL TILL-(SW-SM) -----14.0 Note: Augered into probable weathered bedrock from 14.0 to 15.0 ft. Note: Drill action indicates top of sound bedrock at 15.0 ft. Top of Probable Bedrock at El. 90.9 -----15.0 Bottom of Exploration at 15.0 feet below ground surface.	
	2D	24/24	2.0 - 4.0	4/4/5/6	9	10					
5											
10	3D	24/14	10.0 - 12.0	20/18/18/13	36	41					
	4D	24/17	12.0 - 14.0	6/6/8/35	14	16					
15											
20											
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-139	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine			Boring No.: HB-BE-140 WIN: 18915.00			
Driller: New England Boring Contractors			Elevation (ft.): 104.5			Auger ID/OD: --					
Operator: B. Enos			Datum: NAVD 88			Sampler: Split-Spoon 1.375 in. ID					
Logged By: N. Klausmeyer			Rig Type: Mobile B-53 Rubber Track			Hammer Wt./Fall: SS-140#/30; HW-300#/24					
Date Start/Finish: 10-23-18/10-23-18			Drilling Method: SSA/HW Drive			Core Barrel: --					
Boring Location: Sta. 188+99.1; 101.9 LT			Casing ID/OD: HW-4.0 in. ID			Water Level*: --					
Hammer Efficiency Factor: 0.677			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div>Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div> <div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div> <div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div> <div>T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/11	0.0 - 2.0	1/3/5/6	8	9	SSA			Brown with some grey mottling, moist, stiff, SILT, trace clay, trace organics, appears to have been tilled during farming activities -MARINE DEPOSIT-(ML)	
5											
	2D	24/24	5.0 - 7.0	4/4/4/5	8	9	38			Light brown with some grey mottling, moist, stiff, Clayey SILT, trace fine sand, trace organics -MARINE DEPOSIT-(ML)	
10											
	3D	24/12	10.0 - 12.0	12/12/20/17	32	36				Light brown, wet, dense, fine to coarse SAND, some fine to coarse gravel, little silt, well graded, moderately bonded -GLACIAL TILL-(SW-SM)	
15											
20											
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-140	

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log</div> <div>US CUSTOMARY UNITS</div>						Project: Route 9/I-395 Connector				Boring No.: HB-BE-141																	
						Location: Brewer and Eddington, Maine				WIN: 18915.00																	
Driller: New England Boring Contractors						Elevation (ft.): 107.5				Auger ID/OD: --																	
Operator: B. Enos						Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID																	
Logged By: N. Klausmeyer						Rig Type: Mobile B-53 Rubber Track				Hammer Wt./Fall: SS-140#/30; HW-300#/24																	
Date Start/Finish: 10-23-18/10-23-18						Drilling Method: SSA/HW Drive				Core Barrel: --																	
Boring Location: STA. 189+04.8; 99.3 RT						Casing ID/OD: HW-4.0 in. ID				Water Level*: --																	
Hammer Efficiency Factor: 0.677						Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																					
Definitions:														S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) T _v = Pocket Torvane Shear Strength (psf)													
D = Split Spoon Sample														SSA = Solid Stem Auger S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) WC = Water Content, percent													
MD = Unsuccessful Split Spoon Sample Attempt														HSA = Hollow Stem Auger q _p = Unconfined Compressive Strength (ksf) LL = Liquid Limit													
U = Thin Wall Tube Sample														RC = Roller Cone N-uncorrected = Raw Field SPT N-value PL = Plastic Limit													
MU = Unsuccessful Thin Wall Tube Sample Attempt														WOH = Weight of 140lb. Hammer Hammer Efficiency Factor = Rig Specific Annual Calibration Value PI = Plasticity Index													
V = Field Vane Shear Test, PP = Pocket Penetrometer														WOR/C = Weight of Rods or Casing N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency G = Grain Size Analysis													
MV = Unsuccessful Field Vane Shear Test Attempt														WO1P = Weight of One Person N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected C = Consolidation Test													
Sample Information																											
Depth (ft.)														Laboratory Testing Results/AASHTO and Unified Class.													
Sample No.														Visual Description and Remarks													
Pen./Rec. (in.)																											
Sample Depth (ft.)																											
Blows/(6 in.) Shear Strength (psf) or RQD (%)																											
N-uncorrected																											
N ₆₀																											
Casing Blows																											
Elevation (ft.)																											
Graphic Log																											
0														Light brown with some grey mottling, damp, stiff, Clayey SILT, trace organics, appears to have been tilled during farming activities -MARINE DEPOSIT-(ML)													
1D														24/10													
0.0 - 2.0														1/3/7/7													
10														11													
13														35													
70														104.1													
2D														2/1													
3.4 - 3.6														100(2")													
100/5														3.4													
SSA														Grey, dry, very dense, fine to coarse GRAVEL, well-graded -GLACIAL TILL-(GW)													
5														3D													
24/18														5.0 - 7.0													
20/80/23/23														103													
116														102.5													
Note: Casing advancement indicates probable cobble at 3.6 ft, augered to 5 ft.														5.0													
Light brown to grey, damp, very dense, fine to coarse SAND, some fine to coarse gravel, trace silt, well graded, moderately bonded -GLACIAL TILL-(SW)														8.6													
Note: Auger indicates top of weathered bedrock at 8.6 ft.														8.6													
-WEATHERED BEDROCK-														9.0													
Top of Probable Bedrock at El. 98.5														Bottom of Exploration at 9.0 feet below ground surface.													
Remarks:																											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.														Page 1 of 1													
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.														Boring No.: HB-BE-141													

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-142 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 115.6		Auger ID/OD: --								
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID								
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-300#/24								
Date Start/Finish: 10-23-18/10-23-18		Drilling Method: SSA/HW Drive		Core Barrel: --								
Boring Location: Sta. 192+96.7; 0.4 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 8.7 ft								
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>										
<div>Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div> <div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div> <div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div> <div>T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>												
Sample Information												
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
0	1D	24/17	0.0 - 2.0	1/1/3/4	4	5	SSA	115.4		-TOPSOIL/ORGANIC DEPOSIT-(OL) Light brown with some grey-brown mottling, moist, medium stiff, Clayey SILT, trace fine to medium sand, trace organics -MARINE DEPOSIT-(ML)		
5	2D	24/18	5.0 - 7.0	13/13/12/14	25	28		110.6		-5.0 Light brown with some grey-brown mottling, wet, medium dense, fine to coarse Silty SAND, trace fine to coarse gravel -GLACIAL TILL-(SM) Note: Drill action indicates top of probable weathered bedrock at 7.0 ft.		
								108.6		-7.0 -PROBABLE WEATHERED BEDROCK- Note: Drill action indicates top of probable bedrock at 8.0 ft.		
								107.6		-8.0 Top of Probable Bedrock at El. 107.6 -PROBABLE BEDROCK- Note: Advanced augers to refusal at 9.2 ft.		
								106.4		-9.2 Bottom of Exploration at 9.2 feet below ground surface.		
10												
25												
Remarks:												
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-142		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-143 WIN: 18915.00							
Driller: New England Boring Contractors		Elevation (ft.): 141.6		Auger ID/OD: --											
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID											
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-300#/24											
Date Start/Finish: 10-26-18/10-26-18		Drilling Method: SSA/HW Drive		Core Barrel: --											
Boring Location: Sta. 204+00.1; 15.1 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --											
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>													
<div>Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div> <div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div> <div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div> <div>T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>															
Sample Information										Graphic Log		Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)							
0	1D/A	24/11	0.0 - 2.0	1/3/8/14	11	12	5	141.1		Red-brown, moist, stiff, SILT, trace fine sand, trace organics (roots, wood), reworked naturally-deposited soil -TOPSOIL-(OL) 0.5- Yellow-brown, moist, stiff, SILT, trace fine to coarse gravel, trace fine to coarse sand, well bonded -GLACIAL TILL-(ML) 14 16 Yellow-brown, moist, hard, SILT, trace fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML) 21 37 61 Note: Drill action indicates probable bedrock at 9.3 ft. 132.3 Top of Probable Bedrock at El. 132.3 131.5 Bottom of Exploration at 10.1 feet below ground surface.					
							10								
							32								
							14								
							16								
5	2D	24/5	5.0 - 7.0	9/14/18/20	32	36	6								
							21								
							37								
							61								
							100/5 RC								
10	3D	1/0	10.0 - 10.1	50(1")				131.5							
15															
20															
25															
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 1 of 1			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: HB-BE-143			

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: HB-BE-144	
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00	
Driller: Northern Test Borings, Inc.		Elevation (ft.): 172.5		Auger ID/OD: --			
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20			
Date Start/Finish: 7-31-18/7-31-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ 2.0 in. ID			
Boring Location: Sta. 207+91.3, 1.8 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --			
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<div> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	16/3	0.0 - 1.3	5/7/50(4")			SSA
	2D	24/19	2.0 - 4.0	9/11/24/27	35	53	
5	3D	24/17	5.0 - 7.0	9/16/32/41	48	73	HW
	4D	2/4	8.0 - 8.2	50(2")			RC
10	R1	18/18	9.1 - 10.6	RQD = 22%			NQ CORE
	R2	42/20	10.6 - 14.1	RQD = 0%			
15							
20							
25							
				<div> <div> Elevation (ft.) </div> <div> Graphic Log </div> </div>			
				<div> <div>Visual Description and Remarks</div> <div> <p>Note: Encountered cobble while taking first sample.</p> <p>Brown, damp, very dense, Silty fine SAND, trace coarse gravel, organics (roots, leaves)</p> <p>-TOPSOIL-(SM)</p> <p>Yellow-brown, damp, hard, SILT, some fine to coarse sand, little fine gravel, trace organics, moderately bonded</p> <p>-GLACIAL TILL-(ML)</p> <p>Light brown, moist, hard, SILT, some fine to coarse sand, trace fine gravel, well bonded</p> <p>-GLACIAL TILL-(ML)</p> <p>Light brown to red-brown, wet, hard, fine to coarse GRAVEL (weathered rock), some silt, trace fine to coarse sand, well bonded</p> <p>-GLACIAL TILL-(GM)</p> <p>-WEATHERED BEDROCK-</p> <p>Top of Bedrock at El. 163.4</p> <p>R1: Grey, aphanitic PHYLLITE, hard, slight to moderately weathered. Joints dipping at low to steep angles, very close, open, occasional pitting, trace pyrite on joint surfaces.</p> <p>Rock Mass Quality=Poor</p> <p>Recovery=100%</p> <p>-BREWER FORMATION-</p> <p>R1 Core Times (min:sec): 9.1-10.1' (2:09); 10.1-10.6' (1:55)</p> <p>R2: Similar to R1, except joints very close to close, few thin calcite veins.</p> <p>Recovery=48%</p> <p>-BREWER FORMATION-</p> <p>R2 Core Times (min:sec): 10.6-11.6' (1:12); 11.6-12.6' (1:42); 12.6-13.6' (0:41); 13.6-14.1' (0:26)</p> <p>Note: Encountered approximately 50 gallons water loss at approximately 12 ft.</p> <p>Bottom of Exploration at 14.1 feet below ground surface.</p> </div> </div>			
				<div> <div>Laboratory Testing Results/AASHTO and Unified Class.</div> <div> <p>G#474347 A-4(0), ML WC=7.7</p> <p>G#474348 A-4(0), ML WC=10.0</p> </div> </div>			
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-145 WIN: 18915.00	
Driller: Northern Test Borings, Inc.		Elevation (ft.): 200.6		Auger ID/OD: --			
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20			
Date Start/Finish: 7-26-18/7-31-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ 2.0 in. ID			
Boring Location: Sta. 211+95.9, 7.4 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 19.8 ft			
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D/A	24/14	0.0 - 2.0	1/2/5/5	7	11	SSA
	2D	14/14	2.0 - 3.2	2/19/50(2")			
5	3D	23/24	5.0 - 6.9	11/12/15/50(5")	27	41	49
							55
							HW
							RC
10							
	R1	33.6/26	11.0 - 13.8	RQD = 35%			NQ CORE
15	R2	50.4/30	14.0 - 18.2	RQD = 34%			
	R3	60/56	18.2 - 23.2	RQD = 77%			
20							
	R4	60/53	23.2 - 28.2	RQD = 47%			
25							
Visual Description and Remarks Yellow-brown, damp, medium dense, Silty fine to medium SAND, organics (grass, roots) -TOPSOIL-(SM) Yellow-brown, damp, hard, fine to medium Sandy SILT, trace coarse gravel, trace organics, weakly bonded -GLACIAL TILL-(ML) Grey-brown grading to light brown, damp, hard, fine to coarse Sandy SILT, trace fine to coarse gravel, moderately bonded -GLACIAL TILL-(ML) Brown, moist, very dense, Silty fine to coarse SAND, trace fine gravel, moderately bonded -GLACIAL TILL-(SM) -PROBABLE WEATHERED BEDROCK- Top of Bedrock at El. 189.6 R1: Grey, aphanitic SILTSTONE, hard, slight to moderate weathering. Joints dipping at moderate to steep angles, very close to close, tight to open, highly oxidized, frequent 0.25 to 0.5-in. thick calcite veins, occasional pitting. Note: Approximately 100 gallons of water loss while coring R1. Rock Quality=Poor Recovery=76% -BREWER FORMATION- R1 Core Times (min:sec): 11.0-12.0' (2:30); 12.0-13.0' (1:35); 13.0-13.8' (2:15) R2: Similar to R1, except joints dipping at low to moderate angles, highly fractured, moderately weathered zone from approximately 15.3 to 17.2 ft. Recovery=60% -BREWER FORMATION- R2 Core Times (min:sec): 14.0-15.0' 2:58; 15.0-16.0' (1:29); 16.0-17.0' (0:13); 17.0-18.0' (1:38); 18.0-18.2' (1:00) Note: From approximately 15.5 to 17 ft, approximately 150 gallons water loss. Note: Borehole caved, NW casing was retrieved. Advanced roller bit down to 18.2 ft and readvanced NW casing to 18.2 ft. R3: Grey, aphanitic SILTSTONE, hard, fresh to slightly weathered. Joints dipping at low and high angles, very close to moderately close, tight to open, slight silt coating on joint surface, slight pitting from 22.9 to 23.2 ft, frequent 0.25 to 0.5-in. thick calcite veins. Rock Quality=Good Recovery=93%							
Laboratory Testing Results/AASHTO and Unified Class.							
G#474349 A-4(0), SM WC=8.5 qp=9821 psf 19.08-19.43'							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-145 WIN: 18915.00																																																																																																																																																																																																																																																																																																																	
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<table><tr><th rowspan="2">Depth (ft.)</th><th colspan="7">Sample Information</th><th rowspan="2">Elevation (ft.)</th><th rowspan="2">Graphic Log</th><th rowspan="2">Visual Description and Remarks</th><th rowspan="2">Laboratory Testing Results/ AASHTO and Unified Class.</th></tr><tr><th>Sample No.</th><th>Pen./Rec. (in.)</th><th>Sample Depth (ft.)</th><th>Blows (/6 in.) Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th></tr><tr><td>25</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td rowspan="12"></td><td rowspan="12">-BREWER FORMATION- R3 Core Times (min:sec): 18.2-19.2' (1:56); 19.2-20.2' (3:19); 20.2-21.2' (2:09); 21.2-22.2' (2:39); 22.2-23.2' (2:35) R4: Grey, aphanitic SILTSTONE, hard, fresh to moderately weathered. Joints dipping typically at moderate to steep angles with secondary low and near-vertical angle joints, very close to moderately close, tight to open, silt and pyrite coatings on joint surfaces, frequent calcite veins (0.125 to 1-in. thick). Rock Quality=Fair Recovery=88% -BREWER FORMATION- R4 Core Times (min:sec): 23.2-24.2' (2:41); 24.2-25.2' (2:55); 25.2-26.2' (3:13); 26.2-27.2' (2:52); 27.2-28.2' (4:04) R5: Similar to R4 Rock Quality=Poor Recovery=71% -BREWER FORMATION- R5 Core Times (min:sec): 28.2-29.2' (2:05); 29.2-30.2' (3:46); 30.2-31.0' (3:27) Bottom of Exploration at 31.0 feet below ground surface.</td><td rowspan="12"></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>R5</td><td>33.6/24</td><td>28.2 - 31.0</td><td>RQD = 29%</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>30</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>35</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>40</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>45</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>												Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	25											-BREWER FORMATION- R3 Core Times (min:sec): 18.2-19.2' (1:56); 19.2-20.2' (3:19); 20.2-21.2' (2:09); 21.2-22.2' (2:39); 22.2-23.2' (2:35) R4: Grey, aphanitic SILTSTONE, hard, fresh to moderately weathered. Joints dipping typically at moderate to steep angles with secondary low and near-vertical angle joints, very close to moderately close, tight to open, silt and pyrite coatings on joint surfaces, frequent calcite veins (0.125 to 1-in. thick). Rock Quality=Fair Recovery=88% -BREWER FORMATION- R4 Core Times (min:sec): 23.2-24.2' (2:41); 24.2-25.2' (2:55); 25.2-26.2' (3:13); 26.2-27.2' (2:52); 27.2-28.2' (4:04) R5: Similar to R4 Rock Quality=Poor Recovery=71% -BREWER FORMATION- R5 Core Times (min:sec): 28.2-29.2' (2:05); 29.2-30.2' (3:46); 30.2-31.0' (3:27) Bottom of Exploration at 31.0 feet below ground surface.																																	R5	33.6/24	28.2 - 31.0	RQD = 29%																30																																																												35																																																		40																																																		45																																																		50									
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-146					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 197.6		Auger ID/OD: --							
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Rubber Track		Hammer Wt./Fall: SS-140#/30; HW-300#/24							
Date Start/Finish: 10-26-18/10-26-18		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 211+81.7; 52.1 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 19.6 ft							
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/8	0.0 - 2.0	1/2/2/4	4	5	SSA			Red-brown grading to yellow-brown, moist, medium stiff, SILT, little fine to medium sand, trace organics, loosely bonded -GLACIAL TILL-(ML)	
5	2D	16/17	5.0 - 6.3	25/23/50(4")						Yellow-brown with some brown layering, moist, hard, SILT, little fine to coarse sand, well bonded -GLACIAL TILL-(ML)	
10	3D	11/11	10.0 - 10.9	30/75(5")				150	186.7	Yellow-brown grading to light brown, moist, hard, SILT, little fine to coarse sand, trace fine gravel, poorly-graded, well bonded -GLACIAL TILL-(ML)	
								RC		-PROBABLE WEATHERED BEDROCK- Note: Advanced roller bit to 13 ft.	10.9
	R1	26.4/10	13.0 - 15.2	RQD = 0%				NQ CORE	184.6	Top of Bedrock at El. 184.6 R1: Grey, aphanitic PHYLLITE, hard, slightly to moderately weathered. Joints dipping at moderate to steep angles, very close, open. Rock Quality=Very Poor Recovery=38% R1 Core Times (min:sec): 13.0-14.0' (2:03); 14.0-15.0' (3:56) 15.0-15.2' (0:36)	13.0
15	R2	21.6/18	15.2 - 17.0	RQD = 42%						R2: Grey, aphanitic PHYLLITE, hard, very slight to moderately weathered. Primary joints dipping at low to vertical angles, very close to close, tight to open. Rock Quality=Poor Recovery=83%	
	R3	48/12	17.0 - 21.0	RQD = 8%						R3: Grey, aphanitic PHYLLITE, hard, slight to moderately weathered. Primary joints dipping at moderate to vertical angles, very close to close, open, calcite/quartz stringers throughout run, some pitting. Rock Quality=Very Poor Recovery=25%	
20	R4	12/6	21.0 - 22.0	RQD = 0%					175.6	R4: Grey to brown, aphanitic PHYLLITE, hard, moderately to severely weathered. Joints indiscernible. Rock Quality=Very Poor	
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-146	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS										Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-146 WIN: 18915.00			
Driller: New England Boring Contractors					Elevation (ft.): 197.6					Auger ID/OD: --							
Operator: B. Enos					Datum: NAVD 88					Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer					Rig Type: Mobile B-53 Rubber Track					Hammer Wt./Fall: SS-140#/30; HW-300#							
Date Start/Finish: 10-26-18/10-26-18					Drilling Method: SSA/HW Drive					Core Barrel: --							
Boring Location: Sta. 211+81.7; 52.1 LT					Casing ID/OD: HW-4.0 in. ID					Water Level*: 19.6 ft							
Hammer Efficiency Factor: 0.677					Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>												
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test																	
Sample Information																	
Visual Description and Remarks																	
Laboratory Testing Results/ AASHTO and Unified Class.																	
Recovery=50% R4 Core Times (min:sec): 21.0-22.0' (4:44) Note: Lost approximately 250 gallons of water while coring. Bottom of Exploration at 22.0 feet below ground surface.																	
Remarks:																	
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.																	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-147 WIN: 18915.00				
Driller: Northern Test Borings, Inc.		Elevation (ft.): 202.3		Auger ID/OD: --						
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20						
Date Start/Finish: 7-26-18/7-26-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ 2.0 in. ID						
Boring Location: Sta. 212+13.7, 46.6 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Not Measured						
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/5	0.0 - 2.0	2/3/5/8	8	12	SSA	199.8		Brown, damp, medium dense, Silty fine to medium SAND, trace fine gravel, trace organics (roots, grass) -TOPSOIL-(SM) Note: Sampler advanced through approximately 10-in. cobble. Brown, damp, very dense, Silty fine to medium SAND, trace fine gravel, trace organics (roots) -TOPSOIL-(SM) -----2.5- Brown, moist, hard, Sandy SILT, trace fine gravel, moderately bonded -GLACIAL TILL-(ML) -----8.5- -PROBABLE WEATHERED BEDROCK- -----10.0- Top of Bedrock at El. 192.3 R1: Brown, aphanitic METASILTSTONE, moderately hard, moderately weathered, high fractured, few discernible joints dipping at near-vertical angles. Rock Quality=Very Poor Recovery=80% -BREWER FORMATION- R1 Core Times (min:sec): 10.0-10.4' (1:20) R2: Similar to R1, except joints dipping at steep to near-vertical angles, increased weathering with depth. Rock Quality=Very Poor Recovery=77% -BREWER FORMATION- R2 Core Times (min:sec): 10.4-11.0' (0:54); 11.0-12.0' (1:10); 12.0-12.2' (0:14) R3: Similar to R1, except highly to completely weathered, some soil infilling on discernible joint surfaces, joints dipping at steep to near-vertical angles. Rock Quality=Very Poor Recovery=75% -BREWER FORMATION- R3 Core Times (min:sec): 12.2-13.0' (0:53); 13.0-13.2' (0:14) R4: Similar to R1, except highly fractured, moderate to completely weathered, no discernible joints. Rock Quality=Very Poor Recovery=45% -BREWER FORMATION- R4 Core Times (min:sec): 13.2-14.0' (0:36); 14.0-15.0' (1:24) R5: Similar to R1, except discernible joints dipping at moderate to steep angles, near-vertical joints, occasional pitting observed, highly fractured, moderately to completely weathered. Rock Quality=Very Poor
	2D	4/6	2.0 - 2.3	50(4")						
	3D	2/3	4.0 - 4.2	50(2")						
5							HW			
								96		
								118		
								129		
10	R1	4.8/4	10.0 - 10.4	RQD = 0%			NQ	192.3		
	R2	21.6/17	10.4 - 12.2	RQD = 0%			CORE			
	R3	12/9	12.2 - 13.2	RQD = 0%						
	R4	21.6/10	13.2 - 15.0	RQD = 0%						
15	R5	18/15	15.0 - 16.5	RQD = 0%						
	R6	18/18	16.5 - 18.0	RQD = 0%						
								185.3		
								184.3		
20										
25										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-147

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-147 WIN: 18915.00							
Driller: Northern Test Borings, Inc.				Elevation (ft.) 202.3				Auger ID/OD: --							
Operator: M. Nadeau				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)				Hammer Wt./Fall: SS-140#/30; HW-140#							
Date Start/Finish: 7-26-18/7-26-18				Drilling Method: SSA/HW Drive				Core Barrel: NQ 2.0 in. ID							
Boring Location: Sta. 212+13.7, 46.6 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Not Measured							
Hammer Efficiency Factor: 0.907				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected				Tv = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test			
Sample Information												Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log						
25											Recovery=83% -BREWER FORMATION- R5 Core Times (min:sec): 15.0-16.0' (1:29); 16.0-16.5' (2:24) R6 (top 6 in.): Similar to R5. -----17.0' R6 (bottom 12 in.): Grey, aphanitic, PHYLLITE, medium hard, moderate to highly weathered, discernible joints at near-vertical angles, highly fractured throughout core stem, occasional 0.5-in. thick pitted quartz veins. Rock Quality=Very Poor Recovery=100% -BREWER FORMATION- R6 Core Times (min:sec): 16.5-17.0' (1:18); 17.0-18.0' (4:53) -----18.0' Bottom of Exploration at 18.0 feet below ground surface.				
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 2 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: HB-BE-147			








Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-148 WIN: 18915.00				
Driller: Northern Test Borings, Inc.		Elevation (ft.): 192.8		Auger ID/OD: --						
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20						
Date Start/Finish: 7-25-18/7-25-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ 2.0 in. ID						
Boring Location: Sta. 219+00.5, 1.9 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 8.2 ft						
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/17	0.0 - 2.0	4/6/6/8	12	18	SSA	191.3	Yellow-brown, dry, very stiff, Sandy SILT, trace organics, roots -TOPSOIL/ROOT MAT-(ML)	G#474353 A-4(0), ML WC=10.5
	2D	24/18	2.0 - 4.0	7/14/15/18	29	44			Yellow-brown, damp, hard, SILT, some fine to coarse sand, little fine to coarse gravel, moderately bonded -GLACIAL TILL-(ML)	
5	3D	5/8	4.0 - 4.4	50(5")			HW		Light brown grading to grey-brown, moist, SILT, some fine to coarse sand, moderately bonded -GLACIAL TILL-(ML) Note: Cobble encountered while augering from approximately 4.3 to 5.3 ft.	
							27			
10	4D	14/15	10.0 - 11.2	11/12/50(2")			HW		Light brown, wet, hard, SILT, some fine to coarse sand, trace fine to coarse gravel, moderately bonded -GLACIAL TILL-(ML)	G#474354 A-6(4), CL WC=13.7 LL=24 PL=13 PI=11 WC=13.7 G#474355 A-4(3), CL LL=23 PL=13 PI=10 WC=16.0
	5D	24/9	12.0 - 14.0	11/17/21/24	38	57			Light brown, wet, hard, Silty CLAY, some fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(CL)	
15	6D	14/17	14.0 - 15.2	17/22/50(2")					Light brown, wet, hard, Silty CLAY, some fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(CL)	
	7D	10/15	16.0 - 16.8	21/50(4")			RC		Olive-brown, wet, hard, SILT, little fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML)	
	R1	60/45	17.8 - 22.8	RQD = 68%			NQ CORE		Top of Bedrock at El. 176.0 R1: Grey, aphanitic to fine-grained, quart-rich METASILTSTONE, hard, single joint dipping at steep angle, wide, tight, slight pyrite observed on joint surface, 0.1-in. thick calcite stringers throughout core stem. Rock Quality=Fair Recovery=75% -BREWER FORMATION- R1 Core Times (min:sec): 17.8-18.8' (1:49); 18.8-19.8' (1:48); 19.8-20.8' (2:03); 20.8-21.8' (1:54); 21.8-22.8' (2:28)	
20								170.0	Bottom of Exploration at 22.8 feet below ground surface.	
25										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-149 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 188.5		Auger ID/OD: --						
Operator: B. Enos		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID						
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140/30						
Date Start/Finish: 10-26-18/10-29-18		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 222+47.9; 1.6 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --						
Hammer Efficiency Factor: 0.677		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/14	0.0 - 2.0	1/2/4/8	6	7	1	187.7		Brown to grey-brown with red-brown mottling, moist, medium stiff, fine to medium Sandy SILT, trace fine gravel, trace organics -TOPSOIL-(ML) 0.8 Grey-brown with red-brown mottling, moist, hard, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML) 3.7 Weathered rock in split spoon. Split-spoon refusal at 4.4 ft, advanced rollerbit to 6.0 ft. Grey, wet, very dense, Clayey fine GRAVEL, some silt, little fine to coarse sand, trace coarse gravel, well bonded -WEATHERED BEDROCK-(GM/GC) 10.0 Top of Bedrock at El. 178.5 R1: Grey, aphanitic, PHYLLITE, hard, fresh with some moderate weathering from approximately 11.0 to 11.5 ft. Primary joints dipping at horizontal to low angles. Secondary joints dipping at steep to vertical angles, very close to close, tight to open, quartz/ calcite stringers up to 1 in. throughout run. Rock Quality=Fair Recovery=100% R1 Core Times (min:sec): 10.0-11.0' (2:29); 11.0-12.0' (2:09); 12.0-13.0' (2:24); 13.0-14.0' (2:13); 14.0-14.9' (3:49) 14.9 Bottom of Exploration at 14.9 feet below ground surface.
							9			
	2D	24/13	2.0 - 4.0	14/21/28/70	49	55	10	184.8		
							86			
5	3D	5/3	4.0 - 4.4	100(5")			200			
							RC			
	4D	7/7	6.0 - 6.6	41/50(1")						
10	R1	58.8/58.8	10.0 - 14.9	RQD = 68%			NQ CORE	178.5		
15								173.6		
20										
25										
Remarks: 										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: HB-BE-149	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-150 WIN: 18915.00			
Driller: New England Boring Contractors		Elevation (ft.): 197.7		Auger ID/OD: --					
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID					
Logged By: K. Russ		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30					
Date Start/Finish: 11-15-18/11-15-18		Drilling Method: HSA		Core Barrel: --					
Boring Location: Sta. 229+89.9; 0.4 LT		Casing ID/OD: HSA-2.75 in. ID		Water Level*: 3.7 ft					
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test									
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
0	1D	24/9	0.0 - 2.0	WOH/2/1/2	3	5	HSA	197.4	-TOPSOIL/ROOT MAT-
5	2D	24/9	2.0 - 4.0	3/2/3/3	5	8			Olive-brown, moist, loose, fine to coarse SAND, little silt, little gravel, loosely bonded -GLACIAL TILL-(SM) Olive-brown, wet, loose, fine to coarse SAND, little silt, trace gravel, loosely bonded -GLACIAL TILL-(SM)
	3D	24/17	4.0 - 6.0	3/2/3/5	5	8			Olive-brown, moist, loose, fine to coarse SAND, little silt, little gravel, loosely bonded -GLACIAL TILL-(SM)
	4D	24/116	6.0 - 8.0	4/7/9/11	16	25			Olive-brown, moist, medium dense, fine to coarse SAND, some silt, little gravel, loosely bonded -GLACIAL TILL-(SM)
10	5D	24/20	8.0 - 10.0	6/20/10/13	30	46			Olive-brown, moist, dense, fine to coarse SAND, some silt, little gravel, loosely bonded -GLACIAL TILL-(SM)
15	6D	24/24	15.0 - 17.0	15/9/12/16	21	32			Olive-brown, moist, dense, fine to coarse SAND, some silt, trace gravel, loosely bonded -GLACIAL TILL-(SM)
20									
25									
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									




Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-151 WIN: 18915.00						
Driller: Northern Test Borings, Inc.		Elevation (ft.): 215.6		Auger ID/OD: --								
Operator: M. Nadeau		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID								
Logged By: N. Klausmeyer		Rig Type: Diedrich D50 Track (Rig #377)		Hammer Wt./Fall: SS-140#/30; HW-140#/20								
Date Start/Finish: 7-24-18/7-24-18		Drilling Method: SSA/HW Drive		Core Barrel: --								
Boring Location: Sta. 235+01.2, 5.6 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Not Measured								
Hammer Efficiency Factor: 0.907		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>										
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test												
Sample Information												
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
0	1D/A	24/6	0.0 - 2.0	2/3/3/8	6	9	SSA	215.1		Brown, moist, stiff, SILT, organics (roots, grass, wood) -TOPSOIL-(ML) -----0.5- Brown grading to yellow-brown, moist, stiff, SILT, little fine to coarse gravel, little fine to coarse sand, trace organics, moderately bonded -GLACIAL TILL-(ML) Yellow-brown, moist, very stiff, SILT, some fine to coarse sand, trace fine gravel, moderately bonded -GLACIAL TILL-(ML) Light brown, moist, hard, SILT, some fine to coarse sand, trace fine gravel, moderately bonded -GLACIAL TILL-(ML)	G#474356 A-4(0), ML WC=13.7 G#474357 A-4(0), ML WC=13.4	
	2D	20/19	2.0 - 3.7	7/9/11/50(2")	20	30						
	3D	24/24	4.0 - 6.0	9/12/14/14	26	39						
5												
10	4D	11/5	10.0 - 10.9	12/50(5")			HW				Light brown, wet, hard, SILT, some fine to coarse sand, little fine gravel, moderately bonded -GLACIAL TILL-(ML)	G#474358 A-4(0), ML WC=12.4
15	5D	14/9	15.0 - 16.2	10/12/50(2")				200.6		Light brown, wet, hard, silty CLAY, some fine to coarse sand, little fine gravel, well bonded -GLACIAL TILL-(CL)	G#474359 A-6(3), CL LL=25 PL=14 PI=11 WC=11.3 G#474360 A-1-a(0), SW-SM WC=7.9	
	6D	6.84/6	17.0 - 17.6	50/50(2")				198.6		Combined sample: Grey to light brown, wet, very dense, GRAVEL, some fine to coarse sand, little silt, well graded, well bonded -GLACIAL TILL-(SW-SM)		
	7D	20/9	19.0 - 20.7	9/11/15/20(2")	26	39						
20												
	8D	5/7	21.0 - 21.4	50(5")								
25										Top of Probable Bedrock at El. 192.8 -PROBABLE BEDROCK-		
Remarks: 1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded.												
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-151		

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log US CUSTOMARY UNITS</div>						<div>Project: Route 9/I-395 Connector</div> <div>Location: Brewer and Eddington, Maine</div>				<div>Boring No.: HB-BE-151</div> <div>WIN: 18915.00</div>													
Driller: Northern Test Borings, Inc.				Elevation (ft.): 215.6				Auger ID/OD: --															
Operator: M. Nadeau				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID															
Logged By: N. Klausmeyer				Rig Type: Diedrich D50 Track (Rig #377)				Hammer Wt./Fall: SS-140#/30; HW-140#/#															
Date Start/Finish: 7-24-18/7-24-18				Drilling Method: SSA/HW Drive				Core Barrel: --															
Boring Location: Sta. 235+01.2, 5.6 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Not Measured															
Hammer Efficiency Factor: 0.907						Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																	
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt						R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person						Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected						Tv = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test					
Sample Information																							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks				Laboratory Testing Results/AASHTO and Unified Class.									
25								190.6		Bottom of Exploration at 25.0 feet below ground surface.													
30																							
35																							
40																							
45																							
50																							
Remarks:																							
1. Washed ahead of casing in approximate 5-ft intervals below 10 ft. Casing driven (advanced) after washing ahead, casing blows not recorded.																							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 2				Boring No.: HB-BE-151									
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.																							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-152 WIN: 18915.00			
Driller: New England Boring Contractors		Elevation (ft.): 233.5		Auger ID/OD: --					
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID					
Logged By: K. Russ		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; NW-300#/18					
Date Start/Finish: 11-15-18/11-16-18		Drilling Method: HSA/NW		Core Barrel: NQ-2.0 in. ID					
Boring Location: Sta. 240+95.9, 11.3 LT		Casing ID/OD: HSA-2.75; NW-3.0 in. ID		Water Level*: 14.0 ft					
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>									
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
0	1D	24/9	0.0 - 2.0	WOH/1/2/1	3	5	HSA	 Light brown to olive-brown, wet, loose, fine to coarse SAND, little silt, trace gravel, reworked naturally-deposited soils -FILL-(SM)	G#513326 A-4(0)
								Note: Estimated bottom of Fill depth. No noticeable change in drill action or soil consistency. Boring located in gravel driveway.	
5	2D	24/15	5.0 - 7.0	12/18/16/24	34	52		 Olive-brown mottled, moist, very dense, SILT, some fine to coarse sand, trace gravel, loosely bonded -GLACIAL TILL-(ML)	
10	3D	24/24	10.0 - 12.0	13/22/25/33	47	72		 Olive-brown, dry, very dense, fine to coarse SAND, some gravel, little silt, moderately bonded -GLACIAL TILL-(SM)	G#513327 A-2-4(0) SC-SM
								Note: Drill action indicates cobbles at 12.3 ft.	
15	4D	24/19	15.0 - 17.0	19/21/16/16	37	57		 Olive-brown to red-brown, wet, very dense, fine to coarse SAND, little silt, little gravel, moderately bonded, contains weathered bedrock -GLACIAL TILL-(SM)	
	5D	20/15	17.0 - 18.7	14/28/38/50(2")	66	102		 Olive-brown to brown, wet, very dense, Silty Clayey SAND, trace gravel, moderately bonded, contains weathered bedrock -GLACIAL TILL-(SC-SM)	
20	MD R1	0/0 54/44	20.0 - 20.0 20.1 - 24.6	50(0") RQD = 37%			NQ CORE	 -WEATHERED BEDROCK- Note: Advanced HSA to 20.0 ft. Split-spoon refusal at 20.0 ft. Remove augers and advance NW casing to 20.1 ft. Begin NQ rock core at 20.1 ft.	
								Top of Bedrock at El. 213.4 R1: Grey to greenish-grey, aphanitic PHYLLITE, hard, slightly weathered. Joints dipping at moderate to high angles, very close to moderately close, tight. Joints oxidized from 20.1 to 22.1 ft. Very thin silt coatings on joint surfaces. Rock Quality=Poor Recovery=81% -BREWER FORMATION-	
25								 208.9	
Remarks:									
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 2 Boring No.: HB-BE-152	

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log</div> <div>US CUSTOMARY UNITS</div>						<div>Project: Route 9/I-395 Connector</div> <div>Location: Brewer and Eddington, Maine</div>				<div>Boring No.: HB-BE-152</div> <div>WIN: 18915.00</div>					
Driller: New England Boring Contractors				Elevation (ft.): 233.5				Auger ID/OD: --							
Operator: M. Porter				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID							
Logged By: K. Russ				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; NW-300#/#							
Date Start/Finish: 11-15-18/11-16-18				Drilling Method: HSA/NW				Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 240+95.9, 11.3 LT				Casing ID/OD: HSA-2.75; NW-3.0 in. ID				Water Level*: 14.0 ft							
Hammer Efficiency Factor: 0.925				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
<div>Definitions:</div> <div>D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div> <div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div> <div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div> <div>T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>															
Sample Information												Visual Description and Remarks		Laboratory Testing Results/AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log						
25											RI Core Times (min:sec): 20.1-21.1' (2:37); 21.1-22.1' (2:41); 22.1-23.1' (3:15); 23.1-24.1' (2:18); 24.1-24.6' (1:30) Bottom of Exploration at 24.6 feet below ground surface. 24.6'				
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 2 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: HB-BE-152			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-153	
				Location: Brewer and Eddington, Maine		WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 236.6		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SSA-140#/30; HW-140#/30			
Date Start/Finish: 11-19-18/11-19-18		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 244+91.7; 2.1 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.1 ft			
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/5	0.0 - 2.0	WOH/WOH/2/8	2	3	PUSH
5	2D	24/24	4.0 - 6.0	10/17/15/18	32	49	52
							34/6" 39/6"
	3D	13/12	6.0 - 7.1	10/38/50(1")			219
10							OPEN
15	4D	24/19	15.0 - 17.0	26/23/46/45	69	106	
20							
25							
<div style="display: flex;"> <div style="flex: 1;"> <p>Visual Description and Remarks</p> <p>-TOPSOIL-</p> <p>Dark brown grading to red-brown, wet, very loose, fine to coarse SAND, some gravel, little silt, trace organics (roots, wood chips), well graded</p> <p>-MARINE DEPOSIT-(SC-SM)</p> <p>Grey-brown with red-brown mottling, moist, hard, SILT, little fine to coarse sand, trace fine gravel, trace clay, trace organics</p> <p>-MARINE DEPOSIT-(ML)</p> <p>Light brown to grey-brown mottled, moist, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, trace clay</p> <p>-MARINE DEPOSIT-(ML)</p> <p>Note: Cored through boulders from 7.2 to 12.2 ft.</p> <p>Light brown, wet, hard, fine to coarse Sandy SILT, trace fine to coarse gravel, well bonded</p> <p>-GLACIAL TILL-(ML)</p> <p>Bottom of Exploration at 17.0 feet below ground surface.</p> </div> <div style="flex: 0.5; text-align: center;"> <p>Graphic Log</p> </div> <div style="flex: 0.5; text-align: right;"> <p>Laboratory Testing Results/AASHTO and Unified Class.</p> <p>G#513328 A-1-b(0) SC-SM</p> </div> </div>							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation						Project: Route 9/I-395 Connector							Boring No.: HB-BE-154																																																																																																																																																																																																																																																																																									
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Boring Location: Sta. 248+93.5; 2.2 RT						Casing ID/OD: HW-4.0 in. ID							Water Level*: 5.8 ft																																																																																																																																																																																																																																																																																									
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<div>Sample Information</div> <table><tr><th>Depth (ft.)</th><th>Sample No.</th><th>Pen./Rec. (in.)</th><th>Sample Depth (ft.)</th><th>Blows / (6 in.) Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th><th>Elevation (ft.)</th><th>Graphic Log</th><th>Visual Description and Remarks</th><th>Laboratory Testing Results/AASHTO and Unified Class.</th></tr><tr><td>0</td><td>1D</td><td>24/6</td><td>0.0 - 2.0</td><td>1/6/1/4</td><td>7</td><td>11</td><td>PUSH</td><td>232.9</td><td rowspan="10"></td><td>Note: Ground surface is frozen. -TOPSOIL-</td><td>-0.1-</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Brown grading to yellow-brown, wet, stiff, SILT, little fine to coarse sand, trace fine gravel, trace organics (roots, wood chips) -MARINE DEPOSIT-(ML)</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td>2D</td><td>24/5</td><td>5.0 - 7.0</td><td>14/21/26/27</td><td>47</td><td>72</td><td>73</td><td></td><td></td><td>Yellow-brown to brown, moist, hard, fine to medium Sandy SILT, trace organics -MARINE DEPOSIT-(ML)</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>90</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>116</td><td></td><td></td><td>Note: Strata change at approximately 7.0 ft based on casing blows. -PROBABLE GLACIAL TILL-</td><td>-7.0-</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>313</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>RC</td><td></td><td></td><td>Note: Encountered cobble from 9.2 to 9.7 ft.</td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>223.3</td><td></td><td>Top of Probable Bedrock at El. 223.3 -PROBABLE BEDROCK-</td><td>-9.7-</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>25</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>219.8</td><td></td><td>Bottom of Exploration at 13.2 feet below ground surface.</td><td>-13.2-</td></tr></table>																				Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	0	1D	24/6	0.0 - 2.0	1/6/1/4	7	11	PUSH	232.9		Note: Ground surface is frozen. -TOPSOIL-	-0.1-										Brown grading to yellow-brown, wet, stiff, SILT, little fine to coarse sand, trace fine gravel, trace organics (roots, wood chips) -MARINE DEPOSIT-(ML)																																						5	2D	24/5	5.0 - 7.0	14/21/26/27	47	72	73			Yellow-brown to brown, moist, hard, fine to medium Sandy SILT, trace organics -MARINE DEPOSIT-(ML)									90												116			Note: Strata change at approximately 7.0 ft based on casing blows. -PROBABLE GLACIAL TILL-	-7.0-								313												RC			Note: Encountered cobble from 9.2 to 9.7 ft.		10								223.3		Top of Probable Bedrock at El. 223.3 -PROBABLE BEDROCK-	-9.7-																																																																																																																									25								219.8		Bottom of Exploration at 13.2 feet below ground surface.	-13.2-
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-155 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 220.2		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SSA-140#/30; NW-300#/18							
Date Start/Finish: 11-20-18/11-20-18		Drilling Method: SSA/NW		Core Barrel: --							
Boring Location: Sta. 253+08.3; 11.3 LT		Casing ID/OD: NW-3.0 in. ID		Water Level*: 2.3 ft							
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/5	0.0 - 2.0	1/1/5/13	6	9	PUSH			Note: Ground surface is frozen. Light brown with light grey mottling, moist, stiff, SILT, little fine to coarse sand, trace organics, moderately bonded -GLACIAL TILL-(ML)	
5	2D	24/17	5.0 - 7.0	8/13/10/10	23	35				Grey-brown with light brown mottling, moist, hard, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)	
10	3D	24/17	10.0 - 12.0	50/20/17/24	37	57	87			Grey-brown, moist, hard, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)	
							130				
							128				
							157			Note: Drill action and wash water contents continue to indicate granular material.	
							149/0.5'	206.1		Top of Probable Bedrock El. 206.1	14.1'
15							RC	204.7		-PROBABLE BEDROCK- Note: Drill action and wash water contents indicate top of probable bedrock at 14.1 ft.	15.5'
										Bottom of Exploration at 15.5 feet below ground surface.	
20											
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-155	

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log</div> <div>US CUSTOMARY UNITS</div>						Project: Route 9/I-395 Connector		Boring No.: HB-BE-156																																																																																																																																																																																																																																																																																
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Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Visual Description and Remarks	0	1D	24/6	0.0 - 2.0	1/1/1/3	2	3	SSA	216.6	Note: Frozen soil at ground surface -TOPSOIL-	-0.2-										Light brown to yellow-brown and red-grey mottled, wet, soft, SILT, little fine to coarse sand, trace fine gravel, trace organics (wood chips and roots), loosely bonded -GLACIAL TILL-(ML)																					5	2D	24/19	5.0 - 7.0	12/20/27/38	47	72			Light brown, moist, hard, SILT, little fine to coarse sand, trace fine to coarse gravel, well bonded -GLACIAL TILL-(ML)																																									10	3D	24/21	10.0 - 12.0	21/43/26/23	69	106			Brown, moist, hard, SILT, some fine to coarse sand, little fine to coarse gravel, well bonded -GLACIAL TILL-(ML)																																									15	4D	2/2	15.0 - 15.2	50(2")				201.6	Red-brown, wet, very dense, Gravelly fine to coarse SAND, little silt, well bonded, well graded -WEATHERED BEDROCK-(SW)	-15.2-										Bottom of Exploration at 15.2 feet below ground surface.																															20																																																		25									
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-157 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 201.0		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30							
Date Start/Finish: 12-6-18/12-6-18		Drilling Method: SSA		Core Barrel: --							
Boring Location: Sta. 260+90.1; 3.8 LT		Casing ID/OD: SSA 4.0 in. OD		Water Level*: 1.9 ft							
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/11	0.0 - 2.0	WOH/WOH/5/11	5	8	SSA	198.1		Note: Frozen soil at ground surface. Yellow-brown to light brown and grey-brown mottled, wet, medium stiff, SILT, trace fine to medium sand, trace fine gravel, trace organics (wood chips, roots), moderately bonded -GLACIAL TILL-(ML)	
5	2D	9/9	5.0 - 5.8	39/50(3")				186.2 185.7		Note: Drill action indicates granular material at 2.9 ft. Light brown to red-brown, wet, very dense, Gravelly fine to coarse SAND, little silt, loosely bonded, well graded -WEATHERED BEDROCK-(SW)	
10	3D	5/5	10.0 - 10.4	50(5")				186.2 185.7		Yellow-brown to grey and red-brown, wet, very dense, Gravelly fine to coarse SAND, little silt, loosely bonded, well graded -WEATHERED BEDROCK-(SW)	
15							RC	186.2 185.7		Note: Drill action continues to indicate granular material. Top of Probable Bedrock at El. 186.2 Note: Drill action indicates top of bedrock at 14.8 ft. -PROBABLE BEDROCK-	
20								186.2 185.7		Bottom of Exploration at 15.3 feet below ground surface.	
25								186.2 185.7			

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-157

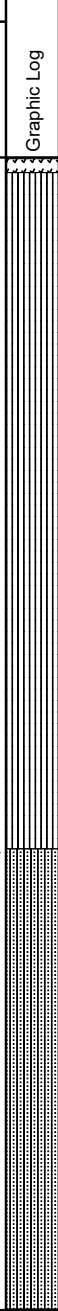
Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine			Boring No.: HB-BE-158 WIN: 18915.00			
Driller: New England Boring Contractors		Elevation (ft.): 193.1		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30							
Date Start/Finish: 12-6-18/12-6-18		Drilling Method: SSA		Core Barrel: --							
Boring Location: Sta. 264+90.7; 12.2 RT		Casing ID/OD: SSA 4.0 in. OD		Water Level*: 2.9 ft							
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/10	0.0 - 2.0	WOH/2/4/8	6	9	SSA			Note: Frozen soil at ground surface. Light brown to grey-brown, wet, stiff, SILT, little organics, trace gravel -MARINE DEPOSIT-(ML)	
5							RC	188.2 187.5		Top of Probable Bedrock at El. 188.2 Note: Drill action indicates probable bedrock at 4.9 ft. -PROBABLE BEDROCK-	
10											
15											
20											
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-158	

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log US CUSTOMARY UNITS</div>							<div>Project: Route 9/I-395 Connector</div> <div>Location: Brewer and Eddington, Maine</div>						<div>Boring No.: HB-BE-159</div> <div>WIN: 18915.00</div>																																																																																																																																																																																																																																																																																																																																																																																												
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Light brown, moist, hard, SILT, little fine to coarse sand, trace fine gravel, moderately bonded -GLACIAL TILL-(ML)</p> <p>Top of Probable Bedrock at El. 177.7 Note: Drill action indicates top of probable bedrock at 9.9 ft. -PROBABLE BEDROCK-</p> <p>Bottom of Exploration at 10.5 feet below ground surface.</p>													<div>Laboratory Testing Results/AASHTO and Unified Class.</div>												
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Logged By:			N. Klausmeyer			Rig Type:			Mobile B-53 Track			Hammer Wt./Fall:			SS-140#/30																																																																																																																																																																																																																																					
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Hammer Efficiency Factor: 0.925						Hammer Type:						Automatic <input checked="" type="checkbox"/>		Hydraulic <input type="checkbox"/>		Rope & Cathead <input type="checkbox"/>																																																																																																																																																																																																																																				
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-161 WIN: 18915.00						
Driller: New England Boring Contractors		Elevation (ft.): 195.4		Auger ID/OD: --								
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID								
Logged By: N. Klausmeyer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16								
Date Start/Finish: 11-28-18/11-28-18		Drilling Method: HW Drive		Core Barrel: --								
Boring Location: Sta. 293+04.2; 1.7 LT		Casing ID/OD: HW 4.0 in. ID		Water Level*: 0.3 ft								
Hammer Efficiency Factor: 0.925		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>										
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0	1D	24/10	0.0 - 2.0	1/1/2/8	3	5	HW	195.2		Note: Frozen soil at ground surface. -TOPSOIL-		
										Grey-brown to light brown mottled, wet grading to moist, medium stiff, Clayey SILT, some fine sand, trace organics -MARINE DEPOSIT-(ML)	0.2	
5	2D/A	24/24	5.0 - 7.0	3/5/13/12	18	28		189.2		Light brown to grey-brown mottled, wet, very stiff, Clayey SILT, trace organics -MARINE DEPOSIT-(ML)	6.2	
										Light brown, wet, very stiff, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)		
10	3D/A	13/9	10.0 - 11.1	12/38/50(1")				184.8		Light brown, wet, hard, SILT, little fine to coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(ML)	10.6	
										Red-brown to light brown, wet, very dense, fine GRAVEL, some fine to coarse sand, little silt, loosely bonded, poorly-graded -GLACIAL TILL-(GM)		
										Note: Drill action continues to indicate granular material.		
15	4D	1/2	15.0 - 15.1	50(1")				180.4 180.3		Grey, wet, very dense, Silty fine GRAVEL, poorly bonded, poorly-graded -WEATHERED BEDROCK-(GM)	15.0 15.1	
										Bottom of Exploration at 15.1 feet below ground surface.		
20												
25												
Remarks:												
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-161		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine			Boring No.: HB-BE-163 WIN: 18915.00			
Driller: New England Boring Contractors			Elevation (ft.): 195.8			Auger ID/OD: --					
Operator: M. Porter			Datum: NAVD 88			Sampler: Split-Spoon 1.375 in. ID					
Logged By: N. Klausmeyer			Rig Type: Mobile B-53 Track			Hammer Wt./Fall: SS-140#/30					
Date Start/Finish: 11-26-18/11-26-18			Drilling Method: HSA			Core Barrel: --					
Boring Location: Sta. 301+11.9; 2.3 RT			Casing ID/OD: HSA 2.25 in. ID			Water Level*: 3.8 ft					
Hammer Efficiency Factor: 0.925			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div>Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div> <div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div> <div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div> <div>T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	18/0	0.0 - 1.5	53/19/6	25	39	HSA	195.8		Note: Frozen soil at ground surface. Note: No recovery - encountered obstructions. Note: Advanced roller bit through obstructions to 5.0 ft. Yellow-brown to red-brown and grey, wet, medium stiff, SILT, little fine SAND, trace organics -MARINE DEPOSIT-(ML) Note: Drill action indicates granular material.	G#513339 A-4(0)
5	2D	24/24	5.0 - 7.0	2/3/2/5	5	8					
10	3D	24/24	10.0 - 12.0	3/10/9/8	19	29		185.8			
15								181.5 180.8	14.3	Top of Probable Bedrock at El. 181.5 Note: Top of probable bedrock at 14.3 ft. Advanced auger into probable bedrock to refusal at 15.0 ft. -PROBABLE BEDROCK-	
20											
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-163	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-164 WIN: 18915.00								
Driller: New England Boring Contractors		Elevation (ft.): 242.4		Auger ID/OD: --										
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID										
Logged By: H. Hollauer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140#/30										
Date Start/Finish: 11-6-18/11-7-18		Drilling Method: SSA/HW Drive		Core Barrel: --										
Boring Location: Sta. 305+07.7; 0.8 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --										
Hammer Efficiency Factor: 0.750		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>												
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>														
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.					
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows							
0	1D	24/2	0.0 - 2.0	1/1/7/8	8	10	SSA	242.1		Orange-brown, moist, loose, fine to coarse SAND, some silt, some gravel, trace organics -TOPSOIL/ROOTMAT-(OL/SM) Note: Cobbles and boulders noted at surface in area around boring. Note: Cobbles encountered at approximately 1.0 ft, low recovery, pushed on cobble. Note: Cobbles encountered from 2.5 to 4.8 ft.	G#513329 A-4(0)			
5	2D	24/14	5.0 - 7.0	11/22/18/17	40	50	HW	227.4				Brown and grey mottled, damp, dense, SILT, some sand, trace gravel -GLACIAL TILL-(ML)	G#513330 A-4(0)	
10	3D	24/20	10.0 - 12.0	12/17/20/30	37	46						Grey-brown, damp, dense, Sandy SILT -GLACIAL TILL-(ML)		
15	4D	24/14	15.0 - 17.0	12/27/27/36	54	68						Grey-brown, damp, very dense, Silty SAND, trace gravel -GLACIAL TILL-(SM)		
	5D	24/16	17.0 - 19.0	30/26/36/53	62	78						Grey-brown, damp, very dense, fine SAND, some silt, trace gravel -GLACIAL TILL-(SM) Note: Slightly greyer from 18.8 to 19.0 ft. Note: Cobble from 19.0 to 19.5 ft. Grey-brown, damp, very dense, fine SAND, some silt, trace gravel -GLACIAL TILL-(SM) Note: Weathered granite cobble from 20.0 to 20.1 ft.		DS-4, DS-5, DS-6 Cohesion 39.9psf Friction Angle 41.3
20	6D	7/6	19.5 - 20.1	41/50(1")										
25														
Remarks: 1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details. 2. DS denotes direct shear test. DS-4, DS-5, DS-6 were run on composite sample from 5D, 6D, 7D and 8D.														
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 2						
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Boring No.: HB-BE-164						

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS										Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-164 WIN: 18915.00			
Driller: New England Boring Contractors					Elevation (ft.): 242.4					Auger ID/OD: --							
Operator: M. Porter					Datum: NAVD 88					Sampler: Split-Spoon 1.375 in. ID							
Logged By: H. Hollauer					Rig Type: Mobile B-53 Track					Hammer Wt./Fall: SS-140#/30; HW-140#/#							
Date Start/Finish: 11-6-18/11-7-18					Drilling Method: SSA/HW Drive					Core Barrel: --							
Boring Location: Sta. 305+07.7; 0.8 RT					Casing ID/OD: HW-4.0 in. ID					Water Level*: --							
Hammer Efficiency Factor: 0.750					Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>												
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _y = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test																	
Sample Information																	
Visual Description and Remarks																	
Laboratory Testing Results/ AASHTO and Unified Class.																	
25																	
7D 24/18 25.0 - 27.0 17/44/65/70 109 136 HW																	
8D 24/14 27.0 - 29.0 26/39/40/50 79 99																	
213.4																	
Bottom of Exploration at 29.0 feet below ground surface.																	
30																	
35																	
40																	
45																	
50																	
Remarks: 1. Observation well installed in completed borehole. See Observation Well Installation Report and Groundwater Monitoring Report for details. 2. DS denotes direct shear test. DS-4, DS-5, DS-6 were run on composite sample from 5D, 6D, 7D and 8D.																	
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																	
Page 2 of 2 Boring No.: HB-BE-164																	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-165 WIN: 18915.00			
Driller: New England Boring Contractors		Elevation (ft.): 245.0		Auger ID/OD: --					
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID					
Logged By: H. Hollauer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140#/30					
Date Start/Finish: 11-6-18/11-6-18		Drilling Method: SSA/HW Drive		Core Barrel: --					
Boring Location: Sta. 309+01.8; 1.9 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 7.6 ft					
Hammer Efficiency Factor: 0.750		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test									
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
0							SSA	Note: Boulders noted at ground surface in area of boring. Possible bedrock outcrop at approximately 8.0 ft in front of rig. Location at top of a topographic high point. Boulders encountered in boring from approximately 0.3 to 2.1 ft below ground surface.	
	1D	24/16	2.5 - 4.5	6/6/10/10	16	20			
5	2D	24/20	5.0 - 7.0	9/12/11/54	23	29		Brown and grey mottled, damp, very stiff, Sandy SILT, trace gravel -GLACIAL TILL-(ML)	G#513331 A-4(0)
10	3D	24/24	10.0 - 12.0	9/10/13/18	23	29	HW	Grey-brown, damp, medium dense, fine SAND, some silt, trace gravel -GLACIAL TILL-(SM)	G#513332 A-4(0)
	4D	24/16	12.0 - 14.0	23/30/24/39	54	68		Grey-brown, damp, very dense, fine SAND, some silt, trace gravel -GLACIAL TILL-(SM)	
	5D	24/18	14.0 - 16.0	21/21/23/29	44	55		Grey-brown, damp, very dense, SILT, some fine SAND, trace gravel -GLACIAL TILL-(ML)	
								Note: Cobbles encountered from 17.8 to 18.2 ft based on drill action.	
15									
20									
	6D	24/24	22.0 - 24.0	14/24/36/48	60	75	OPEN	Grey, damp, very dense, fine SAND, little silt, trace gravel -GLACIAL TILL-(SP-SM)	
25								Bottom of Exploration at 24.0 feet below ground surface.	
Remarks:									
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Boring No.: HB-BE-165	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-166 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 216.4		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID							
Logged By: H. Hollauer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140#/30							
Date Start/Finish: 11-5-18/11-6-18		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 312+94.8; 7.7 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: --							
Hammer Efficiency Factor: 0.750		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/3	0.0 - 2.0	1/4/6/6	10	13	SSA	211.4	Brown, wet, medium dense, fine to coarse SAND, some silt, trace gravel -MARINE DEPOSIT-(SM)	G#513340 A-4(0)	
5	2D	24/18	5.0 - 7.0	WOH/1/4/6	5	6	HW	211.4	Brown, wet, loose, Sandy SILT with occasional grey, wet, soft clay layers -MARINE DEPOSIT-(ML)		
10	3D	24/14	10.0 - 12.0	20/23/18/11	41	51		206.4	Grey, wet, very dense, fine SAND, trace medium to coarse sand, trace silt, trace gravel -GLACIAL TILL-(SP)		
15	4D	24/3	15.0 - 17.0	10/11/14/15	25	31			Grey, wet, dense, fine SAND, little silt, trace clay, trace gravel -GLACIAL TILL-(SP-SM) Note: Low recovery due to cobble.		
20	5D	24/14	20.0 - 22.0	2/7/9/11	16	20	OPEN	194.4	Grey, wet, medium dense, fine SAND, little silt, trace clay, trace gravel, -GLACIAL TILL-(SP-SM)		
25									Bottom of Exploration at 22.0 feet below ground surface.		
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											




* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1
 Boring No.: HB-BE-166

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-167 WIN: 18915.00																																																																																																																																																																																																																																																													
Driller: New England Boring Contractors				Elevation (ft.): 216.9				Auger ID/OD: --																																																																																																																																																																																																																																																													
Operator: M. Porter				Datum: NAVD 88				Sampler: Split-Spoon 1.375 in. ID																																																																																																																																																																																																																																																													
Logged By: H. Hollauer				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-140#/30																																																																																																																																																																																																																																																													
Date Start/Finish: 11-5-18/11-5-18				Drilling Method: SSA				Core Barrel: --																																																																																																																																																																																																																																																													
Boring Location: Sta. 317+23.1; 11.4 LT				Casing ID/OD: --				Water Level*: --																																																																																																																																																																																																																																																													
Hammer Efficiency Factor: 0.750				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																																																																																																																																																																																																																																																	
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Page 1 of 1										Boring No.: HB-BE-167																																																																																																																																																																																																																																																											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-168 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 220.2		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split-Spoon 1.375 in. ID			
Logged By: H. Hollauer		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-140#/30			
Date Start/Finish: 11-5-18/11-5-18		Drilling Method: SSA		Core Barrel: --			
Boring Location: Sta. 323+79.8; 8.2 RT		Casing ID/OD: --		Water Level*: --			
Hammer Efficiency Factor: 0.750		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/8	0.0 - 2.0	2/2/3/4	5	6	SSA
	2D	24/12	2.0 - 4.0	6/20/25/14	45	56	
5	3D	24/8	4.0 - 6.0	6/15/23/18	38	48	
	4D	24/10	6.0 - 8.0	21/27/45/28	72	90	
10	5D	24/10	10.0 - 12.0	13/24/24/30	48	60	
15	6D	18/12	15.0 - 16.5	45/32/115	147	184	OPEN
20							
25							
Elevation (ft.) 219.9 218.1 214.2 211.2 203.7							
Visual Description and Remarks Brown, moist, medium stiff, SILT, trace fine to coarse sand, trace organics -TOPSOIL/ROOTMAT-(OL) 0.3 Brown to orange-brown, moist, loose, fine to coarse SAND, some silt -MARINE DEPOSIT-(SM) 2.1 Brown-grey slightly mottled, very dense, SILT, some fine to medium sand, trace gravel -MARINE DEPOSIT-(ML) Grey-brown, moist, hard, SILT, little fine to medium sand, trace gravel -MARINE DEPOSIT-(ML) 6.0 Grey-brown, damp, very dense, Silty Clayey GRAVEL, some fine to medium sand -MARINE DEPOSIT-(GC-GM) 9.0 Grey-brown, dry, very dense, fine SAND, little silt, trace gravel -GLACIAL TILL-(SP-SM) 16.5 Grey-brown, dry, very dense, fine SAND, little silt, little gravel -GLACIAL TILL-(SP-SM) Bottom of Exploration at 16.5 feet below ground surface.							
Laboratory Testing Results/ AASHTO and Unified Class.							
G#513333 A-4(0) G#513334 A-4(0) GC-GM							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation						Project: Route 9/I-395 Connector		Boring No.: HB-BE-169																																																																																																																																																																																																																														
Soil/Rock Exploration Log US CUSTOMARY UNITS						Location: Brewer and Eddington, Maine		WIN: 18915.00																																																																																																																																																																																																																														
Driller: Northern Test Borings, Inc.			Elevation (ft.): 186.4			Auger ID/OD: --																																																																																																																																																																																																																																
Operator: M. Nadeau			Datum: NAVD 88			Sampler: Split-Spoon 1.375 in. ID																																																																																																																																																																																																																																
Logged By: N. Klausmeyer			Rig Type: Diedrich D50 Track (Rig #377)			Hammer Wt./Fall: SS-140#/30; HW-140#/20																																																																																																																																																																																																																																
Date Start/Finish: 7-23-18/7-24-18			Drilling Method: SSA/HW Drive			Core Barrel: --																																																																																																																																																																																																																																
Boring Location: Sta. 332+00.8; 5.5 RT			Casing ID/OD: HW-4.0 in. ID			Water Level*: 5.9 ft																																																																																																																																																																																																																																
Hammer Efficiency Factor: 0.907			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																																																																																																																																																																																																																			
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15	5D	19/7	15.0 - 16.6	20/21/30/50(1")	51	77	RC	171.4		Olive-grey, wet, very dense, Gravelly fine to coarse SAND, little silt, well graded, moderately bonded -GLACIAL TILL-(GW-GM)	15.0-																																																																																																																																																																																																																											
								169.6		Note: Drill action indicates top of probable bedrock at approximately 16.8 ft.	16.8-																																																																																																																																																																																																																											
								167.6		Top of Probable Bedrock at El. 169.6 -PROBABLE BEDROCK-	18.8-																																																																																																																																																																																																																											
20							↓			Bottom of Exploration at 18.8 feet below ground surface.																																																																																																																																																																																																																												
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Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1																																																																																																																																																																																																																												
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-169																																																																																																																																																																																																																												

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-201 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 97.5		Auger ID/OD: --							
Operator: T. Schaeffer		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: D. Dearden		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-3-2020/11-4-2020		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 52+00.4, 1.5 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Not measured							
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/8	0.0 - 2.0	WOH/4/7/12	11	16	SSA	97.5		Note: Gravel and rootlets at surface. Brown to greyish-brown, damp, medium dense, fine to medium SAND, some silt, little gravel, trace coarse sand, poorly graded -FILL-(SM)	
5	2D	24/20	5.0 - 7.0	4/4/5/8	9	13	HW	92.5			
10	3D	24/19	10.0 - 12.0	2/3/2/4	5	7		87.5		Brownish-grey, damp to moist, medium stiff, Silty CLAY, trace fine to medium sand, slightly plastic -FILL-(CL)	
15	4D	24/15	15.0 - 17.0	6/7/10/11	17	25	70	82.5			
20	5D	24/18	20.0 - 22.0	3/4/4/7	8	12	84	77.5		Grey, wet, stiff, Silty CLAY, trace fine sand with organics, black staining, slight organic odor, rootlets and reeds -MARINE DEPOSIT-(CL)	
							71				
							72				
							74				
25							70				
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector				Boring No.: HB-BE-201	
				Location: Brewer and Eddington, Maine				WIN: 18915.00	
Driller: New England Boring Contractors				Elevation (ft.): 97.5				Auger ID/OD: --	
Operator: T. Schaeffer				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID	
Logged By: D. Dearden				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#	
Date Start/Finish: 11-3-2020/11-4-2020				Drilling Method: SSA/HW Drive				Core Barrel: --	
Boring Location: Sta. 52+00.4, 1.5 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Not measured	
Hammer Efficiency Factor: 0.867				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/> <small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>					

Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (1/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows					
25	6D	24/24	25.0 - 27.0	2/3/4/5	7	10	HW	72.5		Grey, wet, stiff, CLAY, trace fine sand, slightly desiccated texture, occasional mottling, slight organic odor -MARINE DEPOSIT-(CH)	LL=52 PL=27 PI=25 WC=39 CH	
30	1U	24/24	30.0 - 32.0									LL=66 PL=27 PI=39 WC=54.4 CH
	7D	24/24	32.0 - 34.0	push thru vane								
	V1		32.6 - 33.0	Su=935/85 psf								
	V2		33.6 - 34.0	Su=795/85 psf								
35												
40	8D	24/24	40.0 - 42.0	push thru vane				57.5		Grey, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V3: 25/4 ft-lbs V4: 24/4 ft-lbs		
	V3		40.6 - 41.0	Su=710/115 psf								
	V4		41.6 - 42.0	Su=680/115 psf								
45												
	2U	24/24	46.0 - 48.0					51.5			LL=40 PL=27 PI=13 WC=36.3 ML	
	9D	24/24	48.0 - 50.0	push thru vane						Dark grey, wet, stiff, Clayey SILT, black streaks, slight organic odor -MARINE DEPOSIT-(ML) 55x110 mm vane raw torque readings:		
	V5		48.6 - 49.0	Su=1050/128 psf								
50	V6		49.6 - 50.0	Su=1050/128 psf								

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-201

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log US CUSTOMARY UNITS</div>						Project: Route 9/I-395 Connector						Boring No.: HB-BE-201								
						Location: Brewer and Eddington, Maine						WIN: 18915.00								
Driller: New England Boring Contractors							Elevation (ft.): 97.5							Auger ID/OD: --						
Operator: T. Schaeffer							Datum: NAVD 88							Sampler: Split Spoon 1.375 in. ID						
Logged By: D. Dearden							Rig Type: Mobile B-53 Track							Hammer Wt./Fall: SS-140#/30; HW-300#/#						
Date Start/Finish: 11-3-2020/11-4-2020							Drilling Method: SSA/HW Drive							Core Barrel: --						
Boring Location: Sta. 52+00.4, 1.5 LT							Casing ID/OD: HW-4.0 in. ID							Water Level*: Not measured						
Hammer Efficiency Factor: 0.867							Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>													
<div>Definitions:</div> D = Split Spoon SampleMD = Unsuccessful Split Spoon Sample AttemptU = Thin Wall Tube SampleMU = Unsuccessful Thin Wall Tube Sample AttemptV = Field Vane Shear Test, PP = Pocket PenetrometerMV = Unsuccessful Field Vane Shear Test Attempt <div>R = Rock Core SampleSSA = Solid Stem AugerHSA = Hollow Stem AugerRC = Roller ConeWOH = Weight of 140 lb. HammerWOR/C = Weight of Rods or CasingWO1P = Weight of One PersonSu = Peak/Remolded Field Vane Undrained Shear Strength (psf)Su(lab) = Lab Vane Undrained Shear Strength (psf)qp = Unconfined Compressive Strength (ksf)N-uncorrected = Raw Field SPT N-valueHammer Efficiency Factor = Rig Specific Annual Calibration ValueN60 = SPT N-uncorrected Corrected for Hammer EfficiencyN60c = (Hammer Efficiency Factor/60%)*N-uncorrectedTy = Pocket Torvane Shear Strength (psf)WC = Water Content, percentLL = Liquid LimitPL = Plastic LimitPI = Plasticity IndexG = Grain Size AnalysisC = Consolidation Test</div>																				
Sample Information																				
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.									
50							HW			V5: 37/4.5 ft-lbs V6: 37/4.5 ft-lbs										
										Note: Drill action indicates granular material.										
55	10D	24/24	55.0 - 57.0	WOR/WOR/WOR/ WOH				42.5		Grey, wet, medium stiff to stiff, Silty CLAY, very slight organic odor -MARINE DEPOSIT-(CL)	-55.0									
60	11D	24/9	60.0 - 62.0	20/15/14/30	29	42				Grey, wet, dense, fine to coarse SAND, some gravel, little silt, well graded, possible fragments of weathered bedrock -GLACIAL TILL-(SW)										
							RC	35.0		Note: Based on drill action, top of weathered bedrock at 62.5 ft.	62.5									
								34.2		Top of Weathered Bedrock El. 35.0 -WEATHERED BEDROCK-	63.3									
										Bottom of Exploration at 63.3 feet below ground surface.										
65										Note: Advanced roller bit to top of probable bedrock at 63.3 ft.										
75																				
Remarks:																				
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																				
Page 3 of 3																				
Boring No.: HB-BE-201																				

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-202 WIN: 18915.00		
Driller: New England Boring Contractors		Elevation (ft.): 81.2		Auger ID/OD: --				
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID				
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16				
Date Start/Finish: 11-11-2020/11-12-2020		Drilling Method: SSA/HW Drive		Core Barrel: --				
Boring Location: Sta. 906+69.3, 81.5 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian				
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>						
<div> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plasticity Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>								
Depth (ft.)	Sample Information							Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	
0	1D	24/7	0.0 - 2.0	WOR/WOR/WOH/WOH			SSA	<div>Visual Description and Remarks</div> <div> Grey-brown, moist, very soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) </div> <div> Grey-brown, mottled, moist, medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) </div> <div> Grey, wet, very soft, Silty CLAY, moderate to high plasticity -MARINE DEPOSITS-(CL) Note: Attempted field vane shear test, no penetration. </div> <div> Grey, wet, medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 240/50 in-lbs V2: 220/45 in-lbs </div> <div> Grey, wet, medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V3: 140/20 in-lbs V4: 140/20 in-lbs </div>
5	2D	24/17	5.0 - 7.0	1/2/2/3	4	6	27	
							30	
							41	
	1U	24/13	8.0 - 10.0	--			21	
							17	
10	3D	24/24	10.0 - 12.0	WOH/WOH/WOH/2			38	
	MV		10.6 - 11.0	--			36	
							38	
							36	
							37	
15	4D	24/24	15.0 - 17.0	push thru vane			PUSH	
	V1		15.6 - 16.0	Su=930/195 psf				
	V2		16.6 - 17.0	Su=855/175 psf				
	2U	24/24	18.0 - 20.0					
20	5D	24/24	20.0 - 22.0	push thru vane				
	V3		20.6 - 21.0	Su=545/80 psf				
	V4		21.6 - 22.0	Su=545/80 psf				
25								

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 2
Boring No.: HB-BE-202

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-202 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 81.2				Auger ID/OD: --			
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#			
Date Start/Finish: 11-11-2020/11-12-2020				Drilling Method: SSA/HW Drive				Core Barrel: --			
Boring Location: Sta. 906+69.3, 81.5 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Artesian			
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (16 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing	Blows			
25	6D V5 V6	24/24	25.0 - 27.0 25.6 - 26.0 26.6 - 27.0	push thru vane Su=545/80 psf Su=465/80 psf				HW		Grey, wet, soft to medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V5: 140/20 in-lbs V6: 120/20 in-lbs Grey, wet, medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V7: 130/25 in-lbs Note: Attempted field vane shear test, no penetration. Grey, wet, medium dense, GRAVEL, some silt, loosely bonded -GLACIAL TILL-(GM) Note: Top of probable bedrock at 33.1 ft based on drill action. Top of Probable Bedrock El. 48.1 -PROBABLE BEDROCK- Bottom of Exploration at 37.0 feet below ground surface.	
30	7D/A V7 MV	24/24	30.0 - 32.0 30.6 - 31.0 31.6 - 32.0	WOR/WOH/WOH/12 Su=505/95 psf							
40											
50											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-203 WIN: 18915.00							
Driller: New England Boring Contractors				Elevation (ft.): 80.6				Auger ID/OD: --							
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-12-2020/11-13-2020				Drilling Method: SSA/HW Drive				Core Barrel: --							
Boring Location: Sta. 906+69.1, 66.2 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: Artesian							
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected							
				Tv = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Sample Information												Graphic Log		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)							
0	1D	24/4	0.0 - 2.0	WOH/WOH/WOH/2			SSA	80.1	Grey-brown mottled, wet, very soft, SILT, trace clay, low plasticity, organics, roots -TOPSOIL-(OL)		0.5				
5	2D	24/19	5.0 - 7.0	2/2/3/3	5	7	12		Grey-brown mottled, wet, medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)						
							23								
							25								
							28								
							28								
10	MU		10.0 - 12.0				PUSH		Note: Attempted tube sample, no recovery, clean out to 12.0 ft, retake tube.						
	MU		12.0 - 14.0						Note: Attempt tube sample, no recovery, clean out to 15.0 ft.						
15	3D	24/24	15.0 - 17.0	push thru vane					Grey, wet, soft to medium stiff, Silty CLAY, low to moderate plasticity -MARINE DEPOSIT-(CL)						
	V1		15.6 - 16.0	Su=545/80 psf					55x110 mm vane raw torque readings: V1: 140/20 in-lbs V2: 120/15 in-lbs						
	V2		16.6 - 17.0	Su=465/60 psf											
20	4D	24/24	20.0 - 22.0	push thru vane			17		Grey, wet, medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)						
	V3		20.6 - 21.0	Su=545/115 psf					55x110 mm vane raw torque readings: V3: 140/30 in-lbs V4: 130/30 in-lbs						
	V4		21.6 - 22.0	Push thru vane			14		Note: Attempted tube sample, poor recovery						
	U1	24/7	22.0 - 24.0	6/8/6/7	14	20	12								
	5D	24/4	22.8 - 24.8												
							11		Grey, wet, medium dense, fine to coarse SAND, some gravel, trace silt, loosely bonded -GLACIAL TILL-(SP)						
							29								
25															
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.															
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.															
Page 1 of 2												Boring No.: HB-BE-203			

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-204 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 81.5		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-16-2020/11-17-2020		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 57+44.5, 5.3 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 1.1 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N = uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/4	0.0 - 2.0	WOH/WOH/1/4	1	1	SSA	81.4		Brown, moist, very soft, SILT, organics -TOPSOIL/ROOTMAT-(OL) 0.1- Grey, moist, very soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) Grey-brown mottled, moist, stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) Grey, wet, medium stiff, Silty CLAY, low to moderate plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration. Grey, wet, soft to medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 120/25 in-lbs V2: 130/20 in-lbs Similar to 4D -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V3: 110/20 in-lbs V4: 130/50 in-lbs 21.6- Grey, wet, medium dense, Clayey GRAVEL, little sand, loosely bonded -GLACIAL TILL-(GC)	CU#14-1 Su=564psf DSS-3 Su=350psf LL=37 PL=22 PI=15 WC=33.8 CL
5	2D	24/24	5.0 - 7.0	3/4/5/6	9	13	28				
							30				
							49				
							31				
							64				
10	3D MV	24/24	10.0 - 12.0 10.6 - 11.0	1/2/2/2	4	6	HW				
	1U	24/24	13.0 - 15.0								
15	4D V1	24/24	15.0 - 17.0 15.6 - 16.0	push thru vane Su=465/95 psf			48				
	V2		16.6 - 17.0	Su=505/80 psf			42				
							40				
							39				
							35				
20	5D/A V3	24/24	20.0 - 22.0 20.6 - 21.0	WOH/WOH/WOH/4 Su=425/80 psf			26				
	V4		21.0 - 21.6	Su=505/195 psf			27				
							24				
							35				
25							57				
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log US CUSTOMARY UNITS</div>						Project: Route 9/1-395 Connector				Boring No.: HB-BE-204							
						Location: Brewer and Eddington, Maine				WIN: 18915.00							
Driller: New England Boring Contractors						Elevation (ft.) 81.5				Auger ID/OD: --							
Operator: M. Porter						Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher						Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/#							
Date Start/Finish: 11-16-2020/11-17-2020						Drilling Method: SSA/HW Drive				Core Barrel: --							
Boring Location: Sta. 57+44.5, 5.3 LT						Casing ID/OD: HW-4.0 in. ID				Water Level*: 1.1 ft							
Hammer Efficiency Factor: 0.852						Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt						R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected				Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test			
Sample Information																	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks				Laboratory Testing Results/AASHTO and Unified Class.			
25	6D	24/11	25.0 - 27.0	8/11/17/14	28	40		56.5		Grey, wet, dense, fine to medium SAND, some silt, little gravel, moderately bonded -GLACIAL TILL-(SM)							
								54.5		Bottom of Exploration at 27.0 feet below ground surface.							
										No Refusal							
Remarks:																	
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											Page 2 of 2						
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											Boring No.: HB-BE-204						

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-205 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 83.1		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 11-17-2020/11-17-2020		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 60+46.1, 5.1 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 2.7 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							

Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/10	0.0 - 2.0	WOH/1/3/4	4	6	SSA	82.9		Brown, dry, very soft, SILT, trace fine sand, organics -TOPSOIL-(OL)	C#IP-1 CU#6-1 Su=482psf LL=36 PL=19 PI=17 WC=36.1 CL
										Grey, dry, medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
5	2D	24/24	5.0 - 7.0	3/3/4/4	7	10	18			Grey-brown mottled, moist, stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
							24				
							30				
							29				
							30				
10							HW				
	1U	24/16.8	12.0 - 14.0								
15	3D	24/24	14.0 - 16.0	push thru vane							
	V1		14.6 - 15.0	Su=505/115 psf							
	V2		15.6 - 16.0	Su=445/115 psf			42				
							38				
							52				
							55				
							61				
20	4D	10/5	20.0 - 20.8	49/50(4.0")			RC				
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation						Project: Route 9/I-395 Connector			Boring No.: HB-BE-206														
Soil/Rock Exploration Log US CUSTOMARY UNITS						Location: Brewer and Eddington, Maine			WIN: 18915.00														
Driller: New England Boring Contractors			Elevation (ft.): 82.3			Auger ID/OD: --																	
Operator: M. Porter			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID																	
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track			Hammer Wt./Fall: SS-140#/30; HW-300#/16																	
Date Start/Finish: 11-17-2020/11-18-2020			Drilling Method: SSA/HW Drive			Core Barrel: --																	
Boring Location: Sta. 705+96.6, 7.4 RT			Casing ID/OD: HW-4.0 in. ID			Water Level*: 4.2 ft																	
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																				
<div>Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div>						<div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div>						<div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div>						<div>T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>					
Sample Information																							
Depth (ft.)												Laboratory Testing Results/AASHTO and Unified Class.											
Sample No.												Visual Description and Remarks											
Pen./Rec. (in.)																							
Sample Depth (ft.)																							
Blows/(6 in.) Shear Strength (psf) or RQD (%)																							
N-uncorrected																							
N ₆₀																							
Casing Blows																							
Elevation (ft.)																							
Graphic Log																							
Brown, moist, very soft, SILT, trace fine sand, organics -TOPSOIL-(OL)												0.4											
Grey-brown mottled, moist, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)																							
Grey-brown mottled, moist, medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)																							
Note: Attempted tube at 7.0 ft, no recovery.																							
Note: Attempted tube at 9.0 ft, no recovery.																							
1U 24/21.6 12.0 - 14.0																							
V1 14.6 - 15.0 Su=425/80 spf																							
3D/A 24/24 15.0 - 17.0 WOH/VOH/VOH/9 Su=425/80 psf																							
V2 15.1 - 15.5																							
55X110 vane raw torque readings: V1: 110/20 in-lbs Grey, wet, soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) V2: 110/20 in-lbs																							
Grey, wet, medium dense, GRAVEL, some silt, little fine to coarse sand, loosely bonded -GLACIAL TILL-(GM)												16.6											
Note: Probable top of bedrock at 19.7 ft based on drill action.																							
Top of Probable Bedrock El. 62.6 -PROBABLE BEDROCK-												19.7											
Bottom of Exploration at 22.0 feet below ground surface.												22.0											
Remarks:																							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 1 of 1											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: HB-BE-206											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-207					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 85.4		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-19-2020/11-20-2020		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 810+94.8, 1.6 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.7 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/8	0.0 - 2.0	WOH/WOH/3/4	3	4	SSA			Grey-brown mottled, moist, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	CU#10-1 Su=974psf LL=35 PL=18 PI=17 WC=26.5 CL
	MU		3.0 - 5.0							Note: Attempted tube sample. 0.5 ft recovery placed in sample jar.	
5	1U	24/24	5.0 - 7.0				10				
							11				
	2D	24/24	7.0 - 9.0	2/2/2/4	4	6	15			Grey-brown mottled, wet, medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)	
							20				
							22				
10	3D	24/24	10.0 - 12.0	WOH/WOH/4/2	4	6	WOH			Grey-brown mottled, wet, medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)	
	4D/A MU	24/10	13.0 - 15.0 13.0 - 15.0	3/7/17/19	24	34	66			Similar to 3D -MARINE DEPOSIT-(CL) Note: Attempted tube sample, no recovery.	
							45				
15							83			Grey, wet, dense, Silty GRAVEL, some fine to coarse sand, little clay, loosely bonded -GLACIAL TILL-(GM)	
							67				
							51				
							48				
20	5D	24/9	20.0 - 22.0	12/14/37/49	51	72				Grey, wet, very dense, SAND, some silt, little gravel, loosely bonded -GLACIAL TILL-(SM) Note: Some weathered rock in bottom 2 in. of sample.	
25										Bottom of Exploration at 22.0 feet below ground surface.	
										No Refusal	

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1

Boring No.: HB-BE-207

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-208 WIN: 18915.00																																																																																																																																																																																																																																																																																																											
Driller: New England Boring Contractors				Elevation (ft.): 90.1				Auger ID/OD: --																																																																																																																																																																																																																																																																																																											
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID																																																																																																																																																																																																																																																																																																											
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/16																																																																																																																																																																																																																																																																																																											
Date Start/Finish: 11-20-2020/11-20-2020				Drilling Method: SSA/HW Drive				Core Barrel: --																																																																																																																																																																																																																																																																																																											
Boring Location: Sta. 806+73.4, 5.0 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 7.1 ft																																																																																																																																																																																																																																																																																																											
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																																																																																																																																																																																																																																																																																															
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<table><tr><th colspan="8">Sample Information</th><th rowspan="2">Elevation (ft.)</th><th rowspan="2">Graphic Log</th><th rowspan="2">Visual Description and Remarks</th><th rowspan="2">Laboratory Testing Results/ AASHTO and Unified Class.</th></tr><tr><th>Depth (ft.)</th><th>Sample No.</th><th>Pen./Rec. (in.)</th><th>Sample Depth (ft.)</th><th>Blows (6 in.) Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th></tr><tr><td>0</td><td>1D</td><td>24/11</td><td>0.0 - 2.0</td><td>WOH/WOH/3/4</td><td>3</td><td>4</td><td>SSA</td><td></td><td></td><td>Grey-brown mottled, moist, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)</td><td rowspan="15">C#IP-15 CU#22-1 Su=914psf LL=34 PL=17 PI=17 WC=32.2 CL</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td>2D</td><td>24/24</td><td>5.0 - 7.0</td><td>2/4/4/5</td><td>8</td><td>11</td><td>20</td><td></td><td></td><td>Grey-brown mottled, moist, stiff, Silty CLAY, low to moderate plasticity -MARINE DEPOIST-(CL)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>26</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>31</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>34</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>36</td><td></td><td></td><td></td></tr><tr><td>10</td><td>1U</td><td>24/16.8</td><td>10.0 - 12.0</td><td></td><td></td><td></td><td>36</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>27</td><td></td><td></td><td></td></tr><tr><td></td><td>3D</td><td>24/24</td><td>12.0 - 14.0</td><td>WOH/WOH/WOH/5</td><td></td><td></td><td>21</td><td></td><td></td><td>Grey, wet, very soft, Silty CLAY, moderate to high plasticity -MARINE DEPOSIT-(CL)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>34</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>72</td><td></td><td></td><td></td></tr><tr><td>15</td><td>4D</td><td>24/8</td><td>15.0 - 17.0</td><td>10/5/5/9</td><td>10</td><td>14</td><td>45</td><td></td><td></td><td>Grey, wet, medium dense, fine SAND, some silt, little medium to coarse sand and gravel, loosely bonded -GLACIAL TILL-(SP)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>51</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>101</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>90</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>163</td><td></td><td></td><td></td></tr><tr><td>20</td><td>5D</td><td>10/7</td><td>20.0 - 20.8</td><td>53/50(4")</td><td></td><td></td><td></td><td></td><td></td><td>Grey, wet, very dense, GRAVEL, some fine to medium sand, trace coarse sand, well graded, well bonded -GLACIAL TILL/WEATHERED ROCK-(GW) Note: Refusal at 20.8 ft, probable top of bedrock. 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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-209 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 83.1		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 11-24-2020/11-25-2020		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 713+54.5, 121.3 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.7 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N = uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/9	0.0 - 2.0	WOH/WOH/2/3	2	3	SSA		Grey-brown mottled, moist, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
5	2D	24/24	5.0 - 7.0	1/3/4/5	7	10	22		Grey-brown mottled, moist, stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)	
10	3D	24/24	10.0 - 12.0	push thru vane			WOH		Grey, wet, medium stiff, Silty CLAY, moderate to high plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration. 55x110 mm vane raw torque readings: V1: 130/35 in-lbs	
15	4D/A	24/20	15.0 - 17.0	WOH/WOH/5/5	5	7	27		Similar to 3D, except soft -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V2: 120/20 in-lbs	
20	5D	7/1	20.0 - 20.6	11/50(1")			RC		Grey, wet, medium stiff, SILT, some fine sand, trace gravel -GLACIAL TILL-(ML) Note: Attempted field vane shear test, no penetration.	
25									Grey, wet, very dense, GRAVEL, little fine to coarse sand, trace silt, loosely bonded -GLACIAL TILL-(GP) Note: Top of probable bedrock at 20.6 ft based on drill action. Top of Probable Bedrock El. 62.5 -PROBABLE BEDROCK- Bottom of Exploration at 23.0 feet below ground surface.	
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-210							
				Location: Brewer and Eddington, Maine		WIN: 18915.00							
Driller: New England Boring Contractors		Elevation (ft.): 84.7		Auger ID/OD: --									
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID									
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16									
Date Start/Finish: 11-23-2020/11-24-2020		Drilling Method: SSA/HW Drive		Core Barrel: --									
Boring Location: Sta. 713+51.4, 19.8 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 1.3 ft									
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>													
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.		
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows						
0	1D	24/9	0.0 - 2.0	WOH/3/3/4	6	9	SSA			Brown, moist, stiff, Silty CLAY, organics -MARINE DEPOSIT-(CL)			
5	2D	24/24	5.0 - 7.0	3/3/4/3	7	10	11						Grey-brown mottled, wet, stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)
10	3D	24/24	10.0 - 12.0	1/1/1/WOR	2	3	WOH			Grey, wet, soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)			
15	MU		13.0 - 15.0							Note: Attempted tube sample, no recovery.			
	1U	24/19.2	15.0 - 17.0				32				C#IP-11 CU#11-1 Su=989psf DSS-6 Su=438psf LL=34 PL=18 PI=16 WC=33.3 CL		
	4D	24/24	17.0 - 19.0	push thru vane			31			Grey, wet, soft to medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 120/25 in-lbs V2: 180/30 in-lbs			
	V1		17.6 - 18.0	Su=465/95 psf									
	V2		18.6 - 19.0	Su=790/115 psf			32						
							43						
20	5D	24/11	20.0 - 22.0	12/9/10/12	19	27	RC			Grey, wet, medium dense, fine to medium SAND, little coarse sand, little silt, little gravel, loosely bonded -GLACIAL TILL-(SP)			
25										Note: Top of probable bedrock at 22.5 ft based on drill action. Top of Probable Bedrock El. 62.2 -PROBABLE BEDROCK-			

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 2




Boring No.: HB-BE-210


[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-211 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 85.8		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-24-2020/11-24-2020		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 803+38.1, 89.7 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 2.0 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/19	0.0 - 2.0	WOH/WOH/3/3	3	4	SSA	80.8		Grey-brown mottled, dry, soft, Clayey SILT, low plasticity -MARINE DEPOSIT-(ML)	
5	2D	24/24	5.0 - 7.0	2/3/4/5	7	10	15	71.9		Grey-brown mottled, moist, stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)	
							21				
							26				
							31				
							27				
							24				
							17				
							31				
							48				
							54				
10	3D	24/24	10.0 - 12.0	WOH/WOH/WOH/ WOH			24	63.8		Grey, wet, very soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)	
							17				
							31				
							48				
							54				
							25				
							59				
							44				
							60				
							57				
15	4D	24/7	15.0 - 17.0	16/7/6/12	13	18	25	63.8		Grey, wet, medium dense, fine to medium SAND, some gravel, little coarse sand, little silt, loosely bonded -GLACIAL TILL-(SP)	
							59				
							44				
							60				
							57				
20	5D	24/7	20.0 - 22.0	10/9/6/8	15	21		63.8		Grey, wet, medium dense, fine to medium SAND, some gravel, trace silt, loosely bonded -GLACIAL TILL-(SP)	
25										Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-211	


Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-212 WIN: 18915.00				
Driller: New England Boring Contractors			Elevation (ft.): 81.6		Auger ID/OD: --						
Operator: M. Porter			Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 10-14-2020/10-14-2020			Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 65+49.2, 2.4 LT			Casing ID/OD: HW-4.0 in. ID		Water Level*: 1.75 ft						
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D/A	24/16	0.0 - 2.0	WOH/3/3/4	6	9	SSA	81.4		Dark brown, moist, very soft, SILT, organics -TOPSOIL/ROOTMAT-(OL) Brown-grey mottled, moist, stiff, SILT, trace organics -MARINE DEPOSIT-(ML)	
5	2D	24/22	5.0 - 7.0	2/3/4/6	7	10	32	76.6		Brown-grey mottled, moist, stiff, Silty CLAY, trace organics -MARINE DEPOSIT-(CL) Grey, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 190/40 in-lbs V2: 190/40 in-lbs	
10	3D	24/24	10.0 - 12.0	push thru vane			46	71.6		Similar to 3D, except soft to medium stiff 55x110 mm vane raw torque readings: V3: 140/30 in-lbs V4: 120/20 in-lbs	
	V1		10.6 - 11.0	Su=735/155 psf			41				
	V2		11.6 - 12.0	Su=735/155 psf			39				
							40				
							38				
							42				
							40				
							41				
							46				
							41				
15	4D	24/24	15.0 - 17.0	push thru vane			42			Grey, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V5: 160/30 in-lbs V6: 130/30 in-lbs	
	V3		15.6 - 16.0	Su=545/115 psf			40				
	V4		16.6 - 17.0	Su=465/80 psf			41				
							46				
							41				
							37				
							44				
							45				
							48				
							49				
20	5D	24/24	20.0 - 22.0	push thru vane			37			Note: Strata change at 23.8 ft based on drill action. Grey, wet, dense, Sandy GRAVEL, trace silt, poorly graded, loosely bonded	
	V5		20.6 - 21.0	Su=620/115 psf			44				
	V6		21.6 - 22.0	Su=505/115 psf			45				
							48				
							49				
							35				
							50				
							49				
							49				
							49				
25	6D	24/11	24.0 - 26.0	6/18/17/8	35	50	49	57.8			
Remarks:											
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Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th></tr><tr><td>0</td><td>1D</td><td>24/11</td><td>0.0 - 2.0</td><td>WOH/WOH/WOH/1</td><td></td><td></td><td>SSA</td><td>80.7</td><td rowspan="20"></td><td>Brown, moist, very soft, SILT, organics, roots -TOPSOIL (ROOTMAT)-(OL)</td><td rowspan="20"></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Grey, moist, very soft, Silty CLAY -MARINE DEPOSIT-(CL)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td>2D</td><td>24/24</td><td>5.0 - 7.0</td><td>2/2/3/3</td><td>5</td><td>7</td><td>18</td><td></td><td>Grey-brown mottled, medium stiff, Silty CLAY, slight plasticity -MARINE DEPOSIT-(CL)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td>3D V1</td><td>24/24</td><td>10.0 - 12.0 10.3 - 10.7</td><td>WOH/WOH/1/1 Su=1,125/40 psf</td><td>1</td><td>1</td><td>20</td><td></td><td>Grey-brown mottled, stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 290/10 in-lbs Note: V1 too stiff to push complete depth.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>15</td><td>4D V2 V3</td><td>24/24</td><td>15.0 - 17.0 15.6 - 16.0 16.6 - 17.0</td><td>push thru vane Su=545/115 psf Su=580/115 psf</td><td></td><td></td><td>34 26</td><td></td><td>Grey, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V2: 140/30 in-lbs V3: 150/30 in-lbs</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>20</td><td>5D/A</td><td>24/16</td><td>20.0 - 22.0</td><td>10/12/27/24</td><td>39</td><td>55</td><td>73</td><td>61.1</td><td>Grey, wet, hard, fine Sandy SILT -MARINE DEPOSIT-(ML)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>59.4</td><td>Grey, wet, very dense, fine SAND, little silt, little medium to coarse sand, little gravel, poorly graded -GLACIAL TILL-(SP)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>25</td><td></td><td></td><td></td><td></td><td></td><td></td><td>110</td><td></td><td></td></tr></table>												Sample Information								Elevation (ft.)	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Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	0	1D	24/11	0.0 - 2.0	WOH/WOH/WOH/1			SSA	80.7		Brown, moist, very soft, SILT, organics, roots -TOPSOIL (ROOTMAT)-(OL)											Grey, moist, very soft, Silty CLAY -MARINE DEPOSIT-(CL)																															5	2D	24/24	5.0 - 7.0	2/2/3/3	5	7	18		Grey-brown mottled, medium stiff, Silty CLAY, slight plasticity -MARINE DEPOSIT-(CL)																																																													10	3D V1	24/24	10.0 - 12.0 10.3 - 10.7	WOH/WOH/1/1 Su=1,125/40 psf	1	1	20		Grey-brown mottled, stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 290/10 in-lbs Note: V1 too stiff to push complete depth.																																																			15	4D V2 V3	24/24	15.0 - 17.0 15.6 - 16.0 16.6 - 17.0	push thru vane Su=545/115 psf Su=580/115 psf			34 26		Grey, wet, medium stiff, Silty CLAY -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V2: 140/30 in-lbs V3: 150/30 in-lbs																																									20	5D/A	24/16	20.0 - 22.0	10/12/27/24	39	55	73	61.1	Grey, wet, hard, fine Sandy SILT -MARINE DEPOSIT-(ML)																			59.4	Grey, wet, very dense, fine SAND, little silt, little medium to coarse sand, little gravel, poorly graded -GLACIAL TILL-(SP)																															25							110		
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-213 WIN: 18915.00							
Driller: New England Boring Contractors				Elevation (ft.) 81.1				Auger ID/OD: --							
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#							
Date Start/Finish: 10-15-2020/10-15-2020				Drilling Method: SSA/HW Drive				Core Barrel: --							
Boring Location: Sta. 67+53.8, 74.3 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 3.5 ft							
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected				Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test			
Sample Information												Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log						
25	6D	24/8	25.9 - 27.9	11/16/16/19	32	45		53.2		Grey, wet, dense, fine to medium SAND, little coarse sand, little gravel, trace silt, poorly graded, moderately bonded -GLACIAL TILL-(SP)					
										Bottom of Exploration at 27.9 feet below ground surface.					
										No Refusal					
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 2 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: HB-BE-213			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-214 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 82.3		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 10-15-2020/10-15-2020		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 67+63.7, 71.8 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 1.4 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
0	1D/A	24/12	0.0 - 2.0	WOH/1/3/2	4	6	SSA	82.2		Brown, moist, very soft, SILT, organics -TOPSOIL (ROOTMAT)-(OL)	
								0.1-		Grey-brown mottled, moist, medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
5	2D	24/24	5.0 - 7.0	1/2/2/3	4	6	25			Grey-brown mottled, wet, medium stiff, Silty CLAY, medium plasticity -MARINE DEPOSIT-(CL)	
							27				
							28				
							37				
							28				
10	3D/A V1	24/18	10.0 - 12.0 10.6 - 11.0	WOR/1/9/10 Su=545/80 psf	10	14	38		71.0	Similar to 2D 55x110 mm vane raw torque readings: V1: 140/20 in-lbs Note: Too stiff to push another vane.	
							66		11.3-	Grey, wet, very stiff, Sandy SILT, trace gravel, well bonded -GLACIAL TILL-(ML)	
							69				
							56				
							46				
15	MD	24/0	15.0 - 17.0	9/7/6/9	13	18	49			Note: Missed sample, possibly pushed gravel.	
							53				
	MD 4D	24/0 24/14	17.0 - 19.0 17.0 - 19.0	10/8/9/12 6/4/8/13	17 12	24 17			65.3	Note: Missed sample, no sample, gravel stuck in spoon. Note: 3-in. diameter spoon, 300 lb hammer, 16 in. drop used to collect 4D	
									63.3	Grey, wet, medium dense, fine to medium SAND, little coarse sand, little gravel, trace silt, poorly bonded -GLACIAL TILL-(SP)	
20										Bottom of Exploration at 19.0 feet below ground surface.	
										No Refusal	
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-214	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-215						
				Location: Brewer and Eddington, Maine		WIN: 18915.00						
Driller: New England Boring Contractors		Elevation (ft.): 84.3		Auger ID/OD: --								
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID								
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16								
Date Start/Finish: 10-19-2020/10-19-2020		Drilling Method: SSA/HW Drive		Core Barrel: --								
Boring Location: Sta. 69+48.1, 0.7 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 4.1 ft								
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>										
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N = uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>												
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows					
0	1D	24/14	0.0 - 2.0	1/3/3/5	6	9	SSA			Grey-brown mottled, moist, stiff, Silty CLAY -MARINE DEPOSIT-(CL)	C#IP-4 CU#3-1 Su=606psf DSS-5 Su=293psf LL=37 PL=19 PI=18 WC=36.0 CL	
5	2D	24/24	5.0 - 7.0	2/3/3/4	6	9	30			Similar to 1D		
							31					
							32					
							36					
							33					
10	1U	24/24	10.0 - 12.0	push thru vane			32					
							29					
	V1		12.6 - 13.0	Su=505/115 psf			26			55x110 mm vane raw torque readings: V1: 130/30 in-lbs V2: 200/30 in-lbs		
	V2		13.6 - 14.0	Su=775/115 psf			30					
							33					
15	3D	24/8	15.0 - 17.0	2/12/22/33	34	48	35					
							41					
							87					
							44					
							53					
20	4D	24/8	20.0 - 22.0	9/6/4/7	10	14				Grey, wet, medium dense, fine to medium SAND, trace coarse sand, trace silt, poorly graded, poorly bonded -GLACIAL TILL-(SP)		
25										Bottom of Exploration at 22.0 feet below ground surface. No Refusal		
Remarks:												
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-215		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-216 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 95.0		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 10-19-2020/10-19-2020		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 73+50.3, 0.3 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 6.2 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							

Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D/A	24/14	0.0 - 2.0	1/3/7/12	10	14	SSA	94.7		C#IP-5 CU#1-1 Su=1013psf LL=35 PL=18 PI=17 WC=30.6 CL	
											Grey-brown mottled, moist, stiff, Silty CLAY -MARINE DEPOSIT-(CL)
5	2D	24/24	5.0 - 7.0	5/5/9/8	14	20	19				Grey-brown mottled, moist, very stiff, Silty CLAY, fine sand seam -MARINE DEPOSIT-(CL)
	1U	24/19	8.0 - 10.0				25				
							20				
10	3D/A MV	24/15	10.0 - 12.0 10.1 - 10.5	6/8/11/13	19	27	35	84.4			Similar to 2D Note: Attempted field vane shear test, no penetration.
							57		Grey, wet, medium dense, fine SAND, some silt, trace coarse to medium sand, trace fine gravel, poorly graded, well bonded -GLACIAL TILL-(SP)		
							65				
							44				
							41				
15	4D	24/7	15.0 - 17.0	11/9/7/10	16	23		80.0	Grey, wet, medium dense, fine to coarse SAND, little gravel, trace silt, well graded, moderately bonded -GLACIAL TILL-(SW)		
								78.0	Bottom of Exploration at 17.0 feet below ground surface. No Refusal		
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1

Boring No.: HB-BE-216

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-217 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 135.1		Auger ID/OD: HSA-3.25 in. ID							
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: C. Toscano		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; NW-300#/16							
Date Start/Finish: 11-9-2020/11-9-2020		Drilling Method: HSA/NW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 106+96.5, 2.9 LT		Casing ID/OD: NW-3.0 in. ID		Water Level*: 14.0 ft							
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/8	0.0 - 2.0	3/5/8/12	13	19	HSA	133.1	Brown, moist, very stiff, SILT, little fine sand, trace fine to coarse gravel, trace grass, roots -TOPSOIL-(OL)		
5	2D	22/10	5.0 - 6.8	13/19/20/50(4")	39	56			Brown, moist, very dense, fine to coarse SAND, some fine gravel, little silt, moderately bonded -GLACIAL TILL-(SM)		G#613870 A-1-b (0), SM
10	3D	24/24	10.0 - 12.0	20/20/28/31	48	69			Light brown, moist, very dense, Silty fine to coarse SAND, little fine gravel -GLACIAL TILL-(SM) Note: Pushed NW casing to 10.0 ft. Used 140-lb automatic hammer to drive casing from 10.0 to 15.0 ft.		G#613871 A-4 (0), SM
15	4D	24/14	15.0 - 17.0	10/15/15/16	30	43			Olive-brown, moist, dense, medium SAND, some silt, little fine sand, little coarse gravel, trace coarse sand, trace fine gravel, well bonded -GLACIAL TILL-(SM) Note: Washed ahead of casing from 15.0 to 20.0 ft.		G#613872 A-1-b (0), SM
20	5D	24/15	20.0 - 22.0	12/19/19/27	38	55			Olive-brown, wet, very dense, Silty fine to medium SAND, little fine gravel, trace coarse sand, well bonded -GLACIAL TILL-(SM) Note: Washed ahead of casing from 20.0 to 25.0 ft.	G#613873 A-4 (0), SM	
25									Note: Drill action indicated cobbles from 22.8 to 24.2 ft.		
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-217	

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-218 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 138.7		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-4-2020/11-4-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 109+01.6, 4.9 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 17.4 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D/A	24/12	0.0 - 2.0	1/2/3/4	5	7	WOH	138.3		Brown, moist, soft, SILT, trace fine sand, organics, roots -TOPSOIL-(OL)	G#613874 A-4 (0), ML DS-1, DS-2, DS-3 Cohesion 803 psf Friction Angle 32.7 G#613875 A-4 (0), ML G#613876 A-4 (0), ML G#613877 A-2-4 (0)
								0.4		Brown, moist, loose, fine SAND, some silt, little gravel, trace medium sand, loosely bonded -GLACIAL TILL-(SM)	
5	2D	24/20	5.0 - 7.0	12/26/32/45	58	82	74	133.7		Brown, moist, hard, SILT, little fine gravel, trace fine to coarse sand, loosely bonded -GLACIAL TILL-(ML)	
10	3D	24/16	10.0 - 12.0	21/21/22/19	43	61	HW			Brown, wet, hard, SILT, some fine sand, little medium sand, trace coarse sand, trace fine gravel, loosely bonded -GLACIAL TILL-(ML)	
15	4D	24/16	15.0 - 17.0	31/20/67/35	87	124			Brown, wet, hard, SILT, little fine sand, little fine gravel, trace medium to coarse sand, bonded -GLACIAL TILL-(ML)		
20	5D	24/15	20.0 - 22.0	8/65/50/53	115	163		118.7	Brown, wet, hard/very dense, SILT and fine to coarse GRAVEL, some fine to coarse sand, moderately bonded -GLACIAL TILL-(ML/GW)		
	R1	51.6/42	22.7 - 27.0	RQD = 64%			RC NQ CORE	116.6	Top of Bedrock El. 116.6 R1: Grey, aphanitic, SILTSTONE, hard, fresh to slightly weathered. Joints dipping at low to moderate angles, close to moderate spacing, tight to open. Secondary joints steep, moderate, tight to open. Quartz intrusion.		
25											
Remarks: DS denotes direct shear test. DS-1, DS-2, DS-3 were run on a composite sample of 2D, 3D, and 4D.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-218	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-218 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 138.7				Auger ID/OD: --			
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/#			
Date Start/Finish: 11-4-2020/11-4-2020				Drilling Method: SSA/HW Drive				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 109+01.6, 4.9 LT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 17.4 ft			
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
25										Rock Quality=Fair Recovery=81% -BREWER FORMATION- R1 Core Times (min:sec): 22.7-23.7' (4:33); 23.7-24.7' (3:51); 24.7-25.7' (3:17); 25.7-26.7' (4:03); 26.7-27.0' (2:01) R2: Grey, aphanitic, SILTSTONE, moderately hard, moderately weathered. Discernible joints dipping at steep to vertical angles, highly fractured throughout (gravel-sized pieces). Rock Quality=Very Poor Recovery=55% -BREWER FORMATION- R2 Core Times (min:sec): 27.0-28.0' (1:37); 28.0-29.0' (2:36); 29.0-30.2' (2:40) Bottom of Exploration at 30.2 feet below ground surface.	
	R2	38.4/21	27.0 - 30.2	RQD = 0%							
30							108.5				
35											
40											
45											
50											
Remarks: DS denotes direct shear test. DS-1, DS-2, DS-3 were run on a composite sample of 2D, 3D, and 4D.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 2 of 2 Boring No.: HB-BE-218		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine			Boring No.: HB-BE-219 WIN: 18915.00																																																																																																																																																																																											
Driller: New England Boring Contractors			Elevation (ft.): 116.4			Auger ID/OD: --																																																																																																																																																																																													
Operator: M. Porter			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID																																																																																																																																																																																													
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track			Hammer Wt./Fall: SS-140#/30; HW-300#/16																																																																																																																																																																																													
Date Start/Finish: 11-4-2020/11-4-2020			Drilling Method: SSA/HW Drive			Core Barrel: --																																																																																																																																																																																													
Boring Location: Sta. 117+96.7, 2.8 LT			Casing ID/OD: HW-4.0 in. ID			Water Level*: 2.5 ft																																																																																																																																																																																													
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																																																																																																																																																																																
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-220					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 108.3		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-3-2020/11-3-2020		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 125+94.8, 0.8 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 4.6 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/12	0.0 - 2.0	WOH/WOH/WOH/3			SSA	108.1			
5	2D MV	24/24	5.0 - 7.0 5.6 - 6.0	2/3/4/5	7	10	20	103.3			
10	3D	24/15	10.0 - 12.0	18/24/36/26	60	85	29	98.8			
15	4D	24/6	15.0 - 17.0	20/24/24/15	48	68		91.3			
20											
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: HB-BE-221					
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 77.7		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 10-29-2020/10-29-2020		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 139+34.3, 2.8 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.7 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="font-size: 0.8em;"> <div>Definitions:</div> <div style="display: flex; justify-content: space-between;"> <div> D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div> </div>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
0	1D	24/13	0.0 - 2.0	WOH/1/2/3	3	4	SSA	77.6			
5	2D/A	24/22	5.0 - 7.0	2/3/3/10	6	9	23	72.4			
							40	70.8			
							77				
							66				
							42				
10	3D	24/3	10.0 - 12.0	8/6/7/10	13	18	56	67.7			
							57				
							99				
							104				
							103				
15	4D	24/14	15.0 - 17.0	14/15/13/14	28	40		62.7			
								60.7			
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-221

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-222				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 76.5		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 01-14-2021/01-15-2021		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 141+92.6, 5.5 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 9.6 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D/A	24/6	0.0 - 2.0	2/1/2/4	3	4	SSA		Brown, moist, soft, SILT, trace sand, organics, 2 in. frost -TOPSOIL-(OL) Brown, moist, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) Grey-brown mottled, moist, stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration. Grey, wet, soft to medium stiff, Silty CLAY, high plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 9/2 ft-lbs V2: 12/2 ft-lbs Grey, wet, soft to medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V3: 8/1 ft-lbs V4: 11/2 ft-lbs Grey, wet, medium dense, fine SAND, some silt, little medium to coarse sand, loosely bonded -GLACIAL TILL-(SM)	
5	2D MV	24/22	5.0 - 7.0 5.6 - 6.0	3/4/6/7	10	14	19			
							16			
							16			
							18			
							19			
10	3D V1	24/24	10.0 - 12.0 10.6 - 11.0	push thru vane Su=420/95 psf			28			
	V2		11.6 - 12.0	Su=560/95 psf			18			
							18			
							17			
							16			
15	4D V3	24/24	15.0 - 17.0 15.6 - 16.0	push thru vane Su=375/45 psf			17			
	V4		16.6 - 17.0	Su=515/95 psf			12			
							9			
							9			
							18			
20	5D	24/12	20.0 - 22.0	17/8/4/5	12	17	33			
							14			
							25			
							24			
25							58			
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-223A					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 109.2		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 01-19-2021/01-19-2021		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 166+87.5, 30.2 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/3	0.0 - 2.0	WOH/WOH/WOH/1			SSA	109.1		LL=35 PL=19 PI=16 WC=29 CL C#IP-2 LL=33 PL=17 PI=16 WC=36.4 CL	
											Dark brown, wet, very soft, SILT, organics -TOPSOIL-(OL)
											Grey-brown, wet, very soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)
5	2D MV	24/24	5.0 - 7.0 5.6 - 6.0	2/3/3/3	6	9	3				Grey-brown mottled, wet, stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.
							11				Note: Advanced roller bit ahead of casing from 5.0 to 10.0 ft.
							2				
	1U	24/20	8.0 - 10.0				2				
							3				
10	3D/A V1	24/23	10.0 - 12.0 10.0 - 10.6	WOH/3/10/9 S _u =560/95 psf	13	18	7				Grey, wet, medium stiff, Silty CLAY, high plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 12/2 ft-lbs
							26				
							37				
							28				Grey, wet, medium dense, fine SAND, some silt, little medium to coarse sand, little gravel, loosely bonded -GLACIAL TILL-(SM)
							28				
15	4D	24/8	15.0 - 17.0	20/11/8/8	19	27	HW				Grey, wet, medium dense, fine to medium SAND, little gravel, little silt, moderately bonded -GLACIAL TILL-(SM) Top of probable bedrock at 17.4 ft based on drill action.
							RC		91.8	Top of Probable Bedrock El. 91.8 -PROBABLE BEDROCK-	
20									89.2	Bottom of Exploration at 20.0 feet below ground surface.	
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-223A	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-223 WIN: 18915.00			
Driller: New England Boring Contractors			Elevation (ft.): 109.1		Auger ID/OD: --					
Operator: M. Porter			Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16					
Date Start/Finish: 01-18-2021/01-18-2021			Drilling Method: SSA/HW Drive		Core Barrel: --					
Boring Location: Sta. 166+00.4, 0.8 LT			Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.1 ft					
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/7	0.0 - 2.0	WOR/WOH/1/2	1	1	SSA	109.0		Brown, wet, very soft, SILT, trace sand, organics -TOPSOIL-(OL) 0.1- Grey-brown mottled, wet, very soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) 5- Grey-brown mottled, wet, very stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) 10- Note: Attempted tube sample at 10.0 ft, no recovery. 15- Grey, wet, medium stiff, Silty CLAY, high plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 16/4 ft-lbs Note: Vane refusal at 14.4 ft. 15.7- Grey, wet, very stiff, Silty CLAY, some gravel, trace fine sand -GLACIAL TILL-(CL) 17.4- Top of Probable Bedrock El. 91.7 -PROBABLE BEDROCK- Note: Drill action and cuttings indicate top of probable bedrock at 17.4 ft. Advance roller bit to 20.0 ft. 20.0- Bottom of Exploration at 20.0 feet below ground surface.
5	2D	24/21	5.0 - 7.0	3/5/7/7	12	17	24			
							25			
							23			
							18			
							18			
10	MU		10.0 - 12.0				18			
							17			
	1U	24/19	12.0 - 14.0				12			
							9			
15	3D/A V1	24/23	14.0 - 16.0 14.0 - 14.4	WOH/WOH/16/10 Su=745/185 psf	16	23	7			
							44			
							58			
							108/5 RC			
20										
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1

Boring No.: HB-BE-223

[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-224 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 110.7		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 01-20-2021/01-20-2021		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 168+24.6, 82.5 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.9 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/2	0.0 - 2.0	WOH/WOH/WOH/1			SSA	110.5		<p>LL=34 PL=18 PI=16 WC=29 CL</p> <p>CU#1-1 Su=1248psf LL=35 PL=20 PI=15 WC=34.2</p>
5	2D MV	24/24	5.0 - 7.0 5.6 - 6.0	1/2/2/3	4	6	4			
							3			
							3			
	1U	24/22	8.0 - 10.0				2			
							3			
10	3D MV	24/24	10.0 - 12.0	WOH/WOH/WOH/ WOH			6			
							6			
							16			
							53			
							35			
15	4D	24/10	15.0 - 17.0	20/22/15/25	37	53	HW			
							RC			
20										
25										
Remarks: 										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: HB-BE-224	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-225					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 94.6		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 12-3-2020/12-3-2020		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 182+09.1, 15.3 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 2.0 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/18	0.0 - 2.0	WOH/2/4/3	6	9	SSA	94.4		Brown, moist, very soft, SILT, organics -TOPSOIL-(OL) Grey-brown mottled, moist, stiff, Clayey SILT, low plasticity -MARINE DEPOSIT-(ML) Grey-brown mottled, moist, very soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) Grey, wet, medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 170/40 in-lbs Note: Encountered stiff material at 10.6 ft. Grey, wet, medium dense, fine SAND, little medium sand, little silt, trace gravel, moderately bonded -GLACIAL TILL-(SP) Grey, wet, dense, fine SAND, little silt, little gravel, trace medium to coarse sand, moderately bonded -GLACIAL TILL-(SP) Bottom of Exploration at 17.0 feet below ground surface. No Refusal	C#IP-2 CU#2 Su=383psf DSS-1 Su=62psf LL=30 PL=17 PI=13 WC=32.3 CL
5	2D	24/16	5.0 - 7.0	WOH/WOH/WOH/							
10	3D	24/14	10.0 - 12.0	WOH/6/11/14	17	24	2				
	V1		10.2 - 10.6	Su=660/455 psf			4				
							6				
							22				
							60				
15	4D	24/3	15.0 - 17.0	19/20/12/10	32	45					
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-225

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-226					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 97.3		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 12-3-2020/12-4-2020		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 184+83.8, 72.3 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.5 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/10	0.0 - 2.0	WOH/1/3/3	4	6	SSA			Olive-brown mottled, moist, medium stiff, SILT, organics -MARINE DEPOSIT-(ML)	
5											
	U1	24/24	6.0 - 8.0					91.3			
	2D MV	24/24	8.0 - 10.0 8.6 - 9.0	WOH/WOH/WOH/ WOH						Grey, wet, very soft, Silty CLAY, moderate to high plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.	C#IP-1 CU#1-1 Su=343psf LL=33 PL=18 PI=15 WC=30.9 CL
10										Note: Drill action indicates change at 11.1 ft.	
								86.2			
15	3D	24/9	15.0 - 17.0	3/6/11/14	17	24	35			Grey, wet, very stiff, fine Sandy SILT, some gravel, little medium to coarse sand, moderately bonded -GLACIAL TILL-(ML)	
20	4D	24/7	20.0 - 22.0	7/8/7/8	15	21				Similar to 3D -GLACIAL TILL-(ML)	
25								75.3		Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
Remarks:											

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-226

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: HB-BE-227				
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 95.8		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 12-3-2020/12-3-2020		Drilling Method: SSA/HW Drive/NW Drive		Core Barrel: --						
Boring Location: Sta. 184+89.7, 63.7 RT		Casing ID/OD: HW-4.0 in. ID/NW-3.0 in. ID		Water Level*: 4.4 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="font-size: small;"> Definitions: R = Rock Core Sample S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) T_v = Pocket Torvane Shear Strength (psf) D = Split Spoon Sample S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) WC = Water Content, percent MD = Unsuccessful Split Spoon Sample Attempt q_p = Unconfined Compressive Strength (ksf) LL = Liquid Limit U = Thin Wall Tube Sample N-uncorrected = Raw Field SPT N-value PL = Plastic Limit MU = Unsuccessful Thin Wall Tube Sample Attempt Hammer Efficiency Factor = Rig Specific Annual Calibration Value PI = Plasticity Index V = Field Vane Shear Test, PP = Pocket Penetrometer N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency G = Grain Size Analysis MV = Unsuccessful Field Vane Shear Test Attempt WOI1P = Weight of One Person N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected C = Consolidation Test </div>										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/10	0.0 - 2.0	WOH/WOH/1/4			SSA	95.6	<p>Brown, moist, very soft, SILT, organics -TOPSOIL-(OL)</p> <p>Grey-brown mottled, moist, very soft, Clayey SILT -MARINE DEPOSIT-(ML)</p> <p>Grey-brown, wet, medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.</p> <p>Note: Encountered boulder from 9.5 to 10.5 ft. Switched to 3-in. casing at 10.0 ft.</p> <p>Grey, wet, very dense, fine to medium SAND, some silt, some gravel, little coarse sand, moderately bonded -GLACIAL TILL-(SM)</p> <p>Grey, wet, medium dense, GRAVEL, some silt, some fine sand, trace medium sand, loosely bonded -GLACIAL TILL-(GM)</p> <p>Bottom of Exploration at 17.0 feet below ground surface. No Refusal</p>	C#IP-3 LL=37 PL=19 PI=18 WC=31.4 CL
5	1U	24/24	5.0 - 7.0				5	90.8		
							7			
	2D	24/24	7.0 - 9.0	WOH/2/2/2	4	6	13			
	MV		7.6 - 8.0				12			
							7			
10	3D	24/14	10.5 - 12.5	22/23/15/7	38	54	25	86.3		
							29			
							23			
							23			
							24			
15	4D	24/1	15.0 - 17.0	3/3/7/9	10	14		80.8		
20										
25										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-227

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-228 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 171.6		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 12-7-2020/12-7-2020		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 207+03.9, 55.4 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 15.9 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/11	0.0 - 2.0	WOH/1/2/4	3	4	SSA
5	2D	24/24	5.0 - 7.0	17/15/17/21	32	45	80
10	3D	3/3	10.0 - 10.3	50(3")			RC
	R1	37.2/21	11.0 - 14.1	RQD = 0%			NQ CORE
15	R2	34.8/13	14.1 - 17.0	RQD = 14%			
20	R3	48/11	17.0 - 21.0	RQD = 0%			
25							
				Visual Description and Remarks Brown, moist, very soft, SILT, organics -TOPSOIL-(OL) Brown-orange, moist, soft, SILT, little fine to medium sand, little gravel, loosely bonded -GLACIAL TILL-(ML) Dark brown, wet, hard, SILT, little fine to medium sand, trace coarse sand, trace fine gravel, moderately bonded -GLACIAL TILL-(ML) Brown, wet, hard, fine to coarse sandy SILT, little fine gravel, moderately bonded -GLACIAL TILL-(ML) Top of Bedrock El. 161.3 R1: Grey, aphanitic, SILTSTONE, moderately hard, slightly to moderately weathered, highly fractured throughout (gravel-sized pieces). Rock Quality=Very Poor Recovery=56% -BREWER FORMATION- R1 Core Times (min:sec): 11.0-12.0' (3:05); 12.0-13.0' (2:19); 13.0-14.1' (4:07) R2: Similar to R1. Rock Quality=Very Poor Recovery=37% -BREWER FORMATION- R2 Core Times (min:sec): 14.1-15.1' (2:05); 15.1-16.1' (1:45); 16.1-17.0 (1:17) R3: Similar to R1. Rock Quality=Very Poor Recovery=23% -BREWER FORMATION- R3 Core Times (min:sec): 17.0-18.0' (1:22); 18.0-19.0' (2:38); 19.0-20.0' (4:23); 20.0-21.0' (3:57) Bottom of Exploration at 21.0 feet below ground surface.			
Laboratory Testing Results/ AASHTO and Unified Class.							
G#613878 A-4 (0), ML G#613879 A-4 (0), ML							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-229 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 170.7		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 12-9-2020/12-9-2020		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 208+44.6, 64.3 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 16.5 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/1	0.0 - 2.0	1/2/3/3	5	7	SSA
5	2D	24/24	5.0 - 7.0	8/12/15/24	27	38	35
							83
							114
							128
10							51 RC
	R1	40.8/39	12.0 - 15.4	RQD = 10%			NQ CORE
15	R2	19.2/12	15.4 - 17.0	RQD = 63%			
20							
25							
Visual Description and Remarks Brown, moist, soft, SILT, organics -TOPSOIL-(OL) 0.1- Brown, moist, hard, SILT, little fine sand, trace medium to coarse sand, trace fine gravel, moderately bonded -GLACIAL TILL-(ML) 9.3- Top of Bedrock El. 161.4 Note: Casing driven to 9.3 ft. 9.3- R1: Grey, aphanitic, SILTSTONE, moderately hard, slightly to moderately weathered. Joints low angle to moderately dipping. Secondary steep to vertical, rough, open, highly fractured throughout, iron oxidation on joint surfaces. Rock Quality=Very Poor Recovery=96% -BREWER FORMATION- R1 Core Times (min:sec): 12.0-13.0' (1:44); 13.0-14.0' (1:14); 14.0-15.4' (3:29) R2: Grey, aphanitic, SILTSTONE, moderately hard, slightly weathered. Joints dipping at steep angles, moderately close, smooth, planar, open. Rock Quality=Fair Recovery=63% -BREWER FORMATION- R2 Core Times (min:sec): 15.4-16.4' (2:56); 16.4-17.0' (1:23) Note: At 16.5 ft, starting losing significant amounts of water. 17.0- Bottom of Exploration at 17.0 feet below ground surface.							
Laboratory Testing Results/ AASHTO and Unified Class.							
G#613880 A-4 (0), ML							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-230					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 190.1		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 12-9-2020/12-10-2020		Drilling Method: SSA/HW Drive/NW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 210+08.2, 0.3 LT		Casing ID/OD: HW-4.0 in. ID/NW-3.0 in. ID		Water Level*: 1.7 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/2	0.0 - 2.0	1/3/3/2	6	9	SSA	190.0		Brown, dry, soft, Gravelly SILT, organics -TOPSOIL-(OL)	G#613881 A-4 (0), ML
5	2D	20.4/20.4	5.0 - 6.7	7/16/35/50(2.4")	51	72	12 NW			Brown, moist, hard, SILT, some fine sand, little medium sand, trace coarse sand, trace fine gravel, moderately bonded -GLACIAL TILL-(ML) Note: 3-in. casing used from 5.0 to 15.0 ft.	
10	3D	13.2/13	10.0 - 11.1	15/29/50(1")			20 72 97 140	175.5		Brown, wet, hard, SILT, some fine to coarse sand, little gravel, moderately bonded -GLACIAL TILL-(ML) Note: From 11.1 to 11.4 ft, roller coned through cobble.	
15	4D	24/16	15.0 - 17.0	44/45/66/52	111	158	NW	172.6		Brown-grey, wet, very dense, GRAVEL, little silt, trace fine to coarse sand, well bonded -WEATHERED BEDROCK-(GP)	
20	R1	49.2/40	20.0 - 24.1	RQD = 24%			NQ CORE			R1: Grey, aphanitic, SILTSTONE, moderately hard, moderately to highly weathered. Joints dipping at low angles, close to moderately close, open, quartz/calcite intrusion with pitting. Secondary vertical joints, open. . Rock Quality=Very Poor Recovery=81% -BREWER FORMATION- R1 Core Times (min:sec): 20.0-21.0' (3:41); 21.0-22.0' (3:24); 22.0-23.0' (3:27); 23.0-24.1' (3:46) R2: Grey, aphanitic, SILTSTONE, moderately hard, fresh to	
25	R2	58.8/50	24.1 - 29.0	RQD = 68%							


Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-230

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log</div> <div>US CUSTOMARY UNITS</div>				<div>Project: Route 9/I-395 Connector</div> <div>Location: Brewer and Eddington, Maine</div>				<div>Boring No.: HB-BE-230</div> <div>WIN: 18915.00</div>							
Driller: New England Boring Contractors				Elevation (ft.): 190.1				Auger ID/OD: --							
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#/#							
Date Start/Finish: 12-9-2020/12-10-2020				Drilling Method: SSA/HW Drive/NW Drive				Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 210+08.2, 0.3 LT				Casing ID/OD: HW-4.0 in. ID/NW-3.0 in. ID				Water Level*: 1.7 ft							
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected							
Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test															
Sample Information												Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log						
25								NO CORE	161.1		slightly weathered. Low to moderately dipping joints, tight to open, calcite veins. Rock Quality=Fair Recovery=85% -BREWER FORMATION- R2 Core Times (min:sec): 24.1-25.1' (1:50); 25.1-26.1' (2:21); 26.1-27.1' (1:55); 27.1-28.1' (2:57); 28.1-29.0' (3:01)				
											Bottom of Exploration at 29.0 feet below ground surface.				
30															
35															
40															
45															
50															
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 2 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: HB-BE-230			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-231 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 202.3		Auger ID/OD: HSA-3.25 in. ID							
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: C. Toscano		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; NW-300#/16							
Date Start/Finish: 11-11-2020/11-13-2020		Drilling Method: HSA/NW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 214+00.0, 0		Casing ID/OD: NW-3.0 in. ID		Water Level*: 26.0 ft							
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/6	0.0 - 2.0	2/3/4/3	7	10	HSA				
5	2D	24/24	5.0 - 7.0	40/24/34/24	58	84	129				
							119				
							135				
							139				
							145				
10											
	R1	36/27	13.0 - 16.0	RQD = 11%			NQ CORE				
15											
	R2	39.96/16	16.0 - 19.3	RQD = 0%							
	R3	48/45	19.3 - 23.3	RQD = 48%							
20											
	R4	48/38	23.3 - 27.3	RQD = 44%							
25											
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Page 1 of 2 Boring No.: HB-BE-231	

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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-232 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 196.8		Auger ID/OD: HSA-3.25 in. ID						
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: C. Toscano		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; NW-300#/16						
Date Start/Finish: 11-11-2020/11-11-2020		Drilling Method: HSA/NW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 217+00.3, 0.8 RT		Casing ID/OD: NW-3.0 in. ID		Water Level*: --						
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _u (lab) = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/8	0.0 - 2.0	1/1/1/2	2	3	HSA	195.3	Dark brown, moist, soft, SILT, little fine sand, organics, trace roots, grass -TOPSOIL-(OL)	G#613883 A-4 (0), ML
									Grey-brown, moist, soft, SILT, little fine sand, trace medium to coarse sand, trace fine gravel found in tip of spoon -GLACIAL TILL-(ML) Note: Spun auger to 5.0 ft.	
5	2D	24/18	5.0 - 7.0	9/14/19/19	33	48	11		Olive-brown, moist, hard, SILT, little fine to medium sand, trace gravel, well bonded -GLACIAL TILL-(ML) Note: Drove NW casing with 140-lb automatic hammer from 5.0 to 10.0 ft.	
							35			
							110			
							125			
							136			
10	3D	24/18	10.0 - 12.0	12/17/20/23	37	53	36		Olive-brown, moist, hard, fine to medium sandy SILT, trace coarse sand, trace fine gravel -GLACIAL TILL-(ML) Note: Used 300-lb safety hammer to drive casing from 10.0 to 15.0 ft.	
							35			
							52			
							48			
							130			
15	4D R1	2/1 60/52	15.0 - 15.2 15.2 - 20.2	50(2") RQD = 60%			RC NQ CORE	181.8 181.6	Olive-brown, moist to wet, hard, SILT, some fine to medium sand, trace fine gravel -GLACIAL TILL-(ML) Note: Advanced rollerbit into sound rock from 15.2 to 16.0 ft. Top of Bedrock at El. 181.6 R1: Grey, fine to medium-grained, METASANDSTONE, hard, fresh to slightly weathered. Joints dipping low to moderate angles, very close to close, tight, common calcite veins (0.125 to 0.25-in. thick), frequent oxidized joint surfaces. Steep angle secondary joints perpendicular to primary joints, very close to moderately close, planar, smooth, tight. Rock Quality=Fair Recovery=87% -BREWER FORMATION- R1 Core Times (min:sec): 16.0-17.0' (1:31); 17.0-18.0' (1:34); 18.0-19.0' (1:25); 19.0-20.0' (1:32); 20.0-21.0' (2:22) R2: Similar to R1, except grey to greenish-grey and less oxidized joint surfaces (occasional) calcite infilled parallel, steep angle joints (0.125 to 0.25-in. thick). Low angle joints close to moderately close.	
20	R2	60/56	21.0 - 26.0	RQD = 72%						
25										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: HB-BE-232	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-232 WIN: 18915.00			
Driller: New England Boring Contractors				Elevation (ft.): 196.8				Auger ID/OD: HSA-3.25 in. ID			
Operator: J. Layfield				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID			
Logged By: C. Toscano				Rig Type: Mobile B-53 Truck				Hammer Wt./Fall: SS-140#/30; NW-300#/#			
Date Start/Finish: 11-11-2020/11-11-2020				Drilling Method: HSA/NW Drive				Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 217+00.3, 0.8 RT				Casing ID/OD: NW-3.0 in. ID				Water Level*: --			
Hammer Efficiency Factor: 0.867				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div>Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt</div> <div>R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person</div> <div>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</div> <div>T_y = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test</div>											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
25											
	R3	60/59	26.0 - 31.0	RQD = 63%							
30											
	R4	60/60	31.0 - 36.0	RQD = 35%							
35											
40											
45											
50											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											
										Page 2 of 2	
										Boring No.: HB-BE-232	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-234 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 208.2		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 12-16-2020/12-17-2020		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 232+46.4, 4.1 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 1.3 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/1	0.0 - 2.0	WOH/1/2/2	3	4	SSA
5	2D	20/9	5.0 - 6.7	19/24/31/50(2")	55	78	44
10	3D	4/2	10.0 - 10.3	50(4")			HW
15	4D	24/7	15.0 - 17.0	9/18/19/24	37	53	
20	5D	5/3	20.0 - 20.4	50(5")			
25							RC
				Elevation (ft.): 208.1			
				Graphic Log			
				Visual Description and Remarks			
				Laboratory Testing Results/AASHTO and Unified Class.			
				Brown, wet, very soft, SILT, trace sand, little gravel, organics -TOPSOIL-(OL) 0.1-			
				Brown, wet, hard, SILT, little gravel, trace fine sand, moderately bonded -GLACIAL TILL-(ML) Note: Coarse gravel in bottom 1 in. of spoon.			
				Brown-grey, wet, hard, SILT, little gravel, trace fine sand, moderately bonded -GLACIAL TILL-(ML)			
				Grey, wet, very dense, fine to medium SAND, some silt, trace coarse sand, trace fine gravel, moderately bonded -GLACIAL TILL-(SM) 15.0- G#613884 A-2-4 (0), SM			
				Grey, wet, very dense, fine to coarse GRAVEL, little silt, little medium to coarse sand, trace fine sand, well bonded -GLACIAL TILL-(GM) 20.0- G#613885 A-1-a (0), GM			
				Note: Top of probable bedrock at 23.9 ft based on drill action.			
				Top of Probable Bedrock El. 184.3 -PROBABLE BEDROCK- 23.9- 184.0- 24.2-			
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS					Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-235 WIN: 18915.00				
Driller: New England Boring Contractors			Elevation (ft.): 219.3			Auger ID/OD: --					
Operator: M. Porter			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher			Rig Type: Mobile B-53 Track			Hammer Wt./Fall: SS-140#/30; HW-300#/16					
Date Start/Finish: 12-15-2020/12-16-2020			Drilling Method: SSA/HW Drive			Core Barrel: NQ-2.0 in. ID					
Boring Location: Sta. 235+96.8, 2.6 LT			Casing ID/OD: HW-4.0 in. ID			Water Level*: 0.9 ft					
Hammer Efficiency Factor: 0.852			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="font-size: small;"> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div>											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
0	1D	24/8	0.0 - 2.0	WOH/3/3/5	6	9	SSA	218.8		Brown, wet, very soft, SILT, little fine to medium sand, little gravel, organics, roots -TOPSOIL-(ML) Brown, wet, stiff, SILT, little fine to coarse sand, little gravel -GLACIAL TILL-(ML) Brown, wet, hard, SILT, little fine to medium sand, trace coarse sand, trace fine gravel, moderately bonded -GLACIAL TILL-(ML) Brown, wet, hard, SILT, some gravel, little fine to coarse sand, moderately bonded -GLACIAL TILL-(ML) Top of Bedrock El. 206.5	G#613886 A-4 (0), ML
5	2D	24/24	5.0 - 7.0	11/15/20/28	35	50	53	206.5			
							85				
							98				
							99				
							134				
10	3D	24/22	10.0 - 12.0	51/18/24/28	42	60	HW				
							RC				
15	R1	24/20	15.0 - 17.0	RQD = 0%			NQ CORE		R1: Grey, aphanitic, SILTSTONE, moderately hard, slightly weathered, completely fractured throughout to rubble/gravel-sized pieces. No discernible joints. Rock Quality=Very Poor Recovery=83% -BREWER FORMATION- R1 Core Times (min:sec): 15.0-16.0' (2:57); 16.0-17.0' (3:03) R2: Similar to R1. Rock Quality=Very Poor Recovery=67% -BREWER FORMATION- R2 Core Times (min:sec): 17.0-18.0' (1:50); 18.0-18.5' (2:16) R3: Grey, aphanitic, SILTSTONE, moderately hard, slightly weathered. Joints dipping at steep angles (occasionally perpendicular), rough, planar, tight to open, highly fractured. Calcite/quartz intrusion (1 to 2-in. thick). Secondary low angle joints, very close to close, planar, rough, open. Thin, parallel steep calcite veins (0.25 to 0.5-in. thick). Rock Quality=Very Poor Recovery=51% -BREWER FORMATION-		
	R2	18/12	17.0 - 18.5	RQD = 0%							
	R3	39.6/20	18.5 - 21.8	RQD = 15%							
20											
	R4	62.4/53	21.8 - 27.0	RQD = 43%							
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-235	

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log</div> <div>US CUSTOMARY UNITS</div>				<div>Project: Route 9/1-395 Connector</div> <div>Location: Brewer and Eddington, Maine</div>				<div>Boring No.: HB-BE-235</div> <div>WIN: 18915.00</div>																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	25							NQ CORE																		R5	24/24	27.0 - 29.0	RQD = 42%																																30								190.3																																																																35																																																																																				40																																																																																																												45																																																																																																50											
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-236 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 228.5		Auger ID/OD: --						
Operator: J. Layfield		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: C. Toscano		Rig Type: Mobile B-53 Truck		Hammer Wt./Fall: SS-140#/30; NW-300#/16						
Date Start/Finish: 11-19-2020/11-20-2020		Drilling Method: NW Drive		Core Barrel: NQ-2.0 in. ID						
Boring Location: Sta. 238+13.6, 4.4 LT		Casing ID/OD: NW-3.0 in. ID		Water Level*: --						
Hammer Efficiency Factor: 0.867		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/6	0.0 - 2.0	2/4/6/8	10	14	NW	228.2		G#613887 A-2-4 (0), SM
								226.0		
5	2D	24/14	5.0 - 7.0	12/16/32/22	48	69				
10	3D	24/15	10.0 - 12.0	16/17/25/24	42	61		218.5		
15	R1	48/48	15.0 - 19.0	RQD = 31%				215.0	Note: Drill action indicates top of bedrock at 13.5 ft. Top of Bedrock at El. 215.0 Note: Drove NW casing to refusal at 14.5 ft. Washed out borehole to 15.0 ft. R1: Grey, aphanitic, SILTSTONE, moderately hard, slightly weathered. Joints low angle, very close to close, tight to open. Occasional decomposed joints up to 1-in. thick. Frequent silt infillings, discolored. Frequent quartz and calcite veins throughout core run. Rock Quality=Fair Recovery=100% -BREWER FORMATION- R1 Core Times (min:sec): 15.0-16.0' (4:01); 16.0-17.0' (2:54); 17.0-18.0' (2:40); 18.0-19.0' (3:09) R2: Similar to R1, except no decomposed joints on discolored joint surfaces. Highly fractured zone from approximately 19.5 to 20.0 ft. Rock Quality=Fair Recovery=100% -BREWER FORMATION- R2 Core Times (min:sec): 19.0-20.0' (2:58); 20.0-21.0' (3:05); 21.0-22.0' (3:19); 22.0-23.0' (3:01); 23.0-24.0' (2:19) R3: Grey, aphanitic, SILTSTONE, moderately hard, fresh. Joints dipping at low to moderate angles, very close.	
20	R2	60/60	19.0 - 24.0	RQD = 53%						
25	R3	60/60	24.0 - 29.0	RQD = 68%						
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2 Boring No.: HB-BE-236	


[illegible]

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-237 WIN: 18915.00							
Driller: New England Boring Contractors		Elevation (ft.): 228.9		Auger ID/OD: HSA-3.25 in. ID									
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID									
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16									
Date Start/Finish: 12-21-2020/12-21-2020		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID									
Boring Location: Sta. 239+30.1, 27.6 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.7 ft									
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test													
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.		
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows						
0	1D	24/7	0.0 - 2.0	5/1/1/2	2	3	SSA		Note: 2 in. of frost. Brown, moist, soft, SILT, some gravel, trace fine sand, loosely bonded -GLACIAL TILL-(ML)	G#613888 A-4 (0), ML			
5	2D	24/24	5.0 - 7.0	12/16/21/23	37	53	57						
							95						
							157						
							213						
10	R1	42/34	10.0 - 13.5	RQD = 0%			RC NQ CORE						
	R2	48/34	13.5 - 17.5	RQD = 33%									
15													
	R3	48/47	17.5 - 21.5	RQD = 98%									
20													
	R4	58.8/46	21.5 - 26.4	RQD = 73%									
25													
Remarks:													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.													

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.


Page 1 of 2

Boring No.: HB-BE-237

<div>Maine Department of Transportation</div>						Project: Route 9/I-395 Connector							Boring No.: HB-BE-237																												
Soil/Rock Exploration Log US CUSTOMARY UNITS						Location: Brewer and Eddington, Maine							WIN: 18915.00																												
Driller:				New England Boring Contractors				Elevation (ft.):				228.9				Auger ID/OD:				HSA-3.25 in. ID																					
Operator:				M. Porter				Datum:				NAVD 88				Sampler:				Split Spoon 1.375 in. ID																					
Logged By:				J. Fletcher				Rig Type:				Mobile B-53 Track				Hammer Wt./Fall:				SS-140#/30; HW-300#/#																					
Date Start/Finish:				12-21-2020/12-21-2020				Drilling Method:				SSA/HW Drive				Core Barrel:				NQ-2.0 in. ID																					
Boring Location:				Sta. 239+30.1, 27.6 LT				Casing ID/OD:				HW-4.0 in. ID				Water Level*:				3.7 ft																					
Hammer Efficiency Factor: 0.852						Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																			
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Depth (ft.)		Sample No.		Pen./Rec. (in.)		Sample Depth (ft.)		Blows ((/6 in.) Shear Strength (psf) or RQD (%)		N-uncorrected		N ₆₀		Casing Blows		Elevation (ft.)		Graphic Log		Visual Description and Remarks				Laboratory Testing Results/AASHTO and Unified Class.																	
25		R5		31.2/8		26.4 - 29.0		RQD = 0%						NO CORE		199.9				R4 Core Times (min:sec): 21.5-22.5' (3:37); 22.5-23.5' (2:51); 23.5-24.5' (2:08); 24.5-25.5' (2:51); 25.5-26.4' (2:03) R5: Grey, aphanitic, SILTSTONE, moderately hard to hard, slightly weathered. Joints low angle to moderately dipping, planar, rough, close, open, calcite veins. Highly fractured zone from approximately 27.3 to 29.0 ft. Rock Quality=Very Poor Recovery=26% -BREWER FORMATION- R5 Core Times (min:sec): 26.4-27.4' (1:08); 27.4-28.4' (1:45); 28.4-29.0' (2:04) Bottom of Exploration at 29.0 feet below ground surface.																					
30																																									
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45																																									
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Boring No.: HB-BE-237																																									

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-238 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 194.7		Auger ID/OD: HSA-3.25 in. ID							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 2-8-2021/2-8-2021		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 296+97.4, 1.4 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 2.1 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D/A	24/4	0.0 - 2.0	1/2/4/11	6	9	1	194.5		Dark brown, moist, soft, SILT, trace fine sand, organics -TOPSOIL-(OL)	
							1			Brown, moist, medium stiff, SILT, trace gravel -MARINE DEPOSIT-(ML)	
							1				
							2	191.3		Note: Drill action indicates change at 3.4 ft.	
							9				
5	2D	23/8	5.0 - 6.9	10/15/17/50(5")						Brown, moist, hard, SILT, some gravel, trace medium sand, moderately bonded -GLACIAL TILL-(ML)	
10	3D	24/2	10.0 - 12.0	19/24/27/20	51	72		184.7		Brown, wet, very dense, GRAVEL, trace coarse to medium sand, poorly graded, loosely bonded -GLACIAL TILL-(GP)	
								182.7		Bottom of Exploration at 12.0 feet below ground surface. No Refusal	
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-238	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-239 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 82.6		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 11-12-2020/11-12-2020		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 907+45.1, 2.2 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 6.6 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/8	0.0 - 2.0	WOH/WOH/WOH/1			SSA		Grey-brown mottled, moist, very soft, Clayey SILT, trace gravel -MARINE DEPOSIT-(CL)	
5	2D	24/24	5.0 - 7.0	4/5/7/6	12	17	35		Grey-brown mottled, moist, very stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
							30			
							35			
							42			
							43			
10	3D MV	24/24	10.0 - 12.0 10.6 - 11.0	WOH/WOH/WOH/ WOH			HW		Grey, wet, very soft, Silty CLAY, moderate to high plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.	
15	4D V1 V2	24/24	15.0 - 17.0 15.6 - 16.0 16.6 - 17.0	push thru vane Su=545/80 psf Su=465/80 psf					Grey, wet, soft to medium stiff, Silty CLAY, low to moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 140/20 in-lbs V2: 120/20 in-lbs	C#IP-16 CU#16-1 Su=952psf DSS-2 Su=272psf LL=34 PL=17 PI=17 WC=37.4 CL
20	5D V3 V4	24/24	20.0 - 22.0 20.6 - 21.0 21.6 - 22.0	push thru vane Su=545/115 psf Su=465/95 psf					Grey, wet, soft to medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V3: 140/30 in-lbs V4: 120/25 in-lbs	C#IP-12 CU#12-1 Su=588psf LL=34 PL=16 PI=18 WC=37.3 CL
25	2U	24/22.8	23.0 - 25.0							
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 2 Boring No.: HB-BE-239	

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log</div> <div>US CUSTOMARY UNITS</div>						<div>Project: Route 9/L-395 Connector</div> <div>Location: Brewer and Eddington, Maine</div>			<div>Boring No.: HB-BE-239</div> <div>WIN: 18915.00</div>																						
Driller: New England Boring Contractors				Elevation (ft.): 82.6		Auger ID/OD: --																									
Operator: M. Porter				Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID																									
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#																									
Date Start/Finish: 11-12-2020/11-12-2020				Drilling Method: SSA/HW Drive		Core Barrel: --																									
Boring Location: Sta. 907+45.1, 2.2 LT				Casing ID/OD: HW-4.0 in. ID		Water Level*: 6.6 ft																									
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																											
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25		6D MV		4/4		25.0 - 25.3 25.6 - 26.0		50(4")						RC		57.3				<div>Similar to 5D, except hard -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, refusal at 25.3 ft. Note: Top of probable bedrock at 25.3 ft based on drill action.</div> <div>Top of Probable Bedrock El. 57.3 -PROBABLE BEDROCK-</div>											
30																52.6				<div>Bottom of Exploration at 30.0 feet below ground surface.</div>											
35																															
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Boring No.: HB-BE-239																															

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-240 WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 80.8		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 11-11-2020/11-11-2020		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 905+43.4, 2.0 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 1.0 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
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	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/5	0.0 - 2.0	WOH/WOH/WOH/3			SSA		Grey, moist, very soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)	C#IP-13 CU#13-1 Su=1233psf LL=30 PL=18 PI=12 WC=27.4 CL
5	2D	24/24	5.0 - 7.0	WOH/1/1/3	2	3	11		Grey, moist, soft, Silty CLAY, moderate to high plasticity -MARINE DEPOSIT-(CL)	
							12			
							22			
							34			
							35			
10	1U	24/24	10.0 - 12.0				34			
							30			
	3D	24/24	12.0 - 14.0	Push Thru Vane			30		Grey, wet, very soft to soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)	
	V1		12.6 - 13.0	Su=270/40 psf					55x110 mm vane raw torque readings:	
	V2		13.6 - 14.0	Su=195/20 psf			29		V1: 70/10 in-lbs	
							27		V2: 50/5 in-lbs	
15	4D	24/24	15.0 - 17.0	push thru vane			16		Grey, wet, soft to medium stiff, Silty CLAY, high to moderate plasticity -MARINE DEPOSIT-(CL)	
	V3		15.6 - 16.0	Su=545/80 psf					55x110 mm vane raw torque readings:	
	V4		16.6 - 17.0	Su=425/20 psf			19		V3: 140/20 in-lbs	
							25		V4: 110/15 in-lbs	
							19			
							23			
20	2U	24/24	20.0 - 22.0				26			
							18			
	5D	24/24	22.0 - 24.0	push thru vane			19		Grey, wet, soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)	
	V5		22.6 - 23.0	Su=425/80 psf					55x110 mm vane raw torque readings:	
	V6		23.6 - 24.0	Su=350/80 psf			19		V5: 110/20 in-lbs	
							16		V6: 90/20 in-lbs	
25										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-240

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-240 WIN: 18915.00																																																																																																																																																																																																																																																																																									
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Note: Probable bedrock. Rock coming up in wash water. Bottom of Exploration at 33.0 feet below ground surface. </td> <td rowspan="10"></td> </tr> <tr> <td></td> <td>V7</td> <td></td> <td>25.6 - 26.0</td> <td>Su=505/80 psf</td> <td></td> <td></td> <td>18</td> </tr> <tr> <td></td> <td>V8</td> <td></td> <td>26.6 - 27.0</td> <td>Su=425/60 psf</td> <td></td> <td></td> <td>17</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>45</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>RC</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>67</td> </tr> <tr> <td>30</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>35</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>45</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>50</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>												Depth (ft.)	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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-241					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 82.1		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 11-25-2020/11-25-2020		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 716+66.4, 159.7 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.7 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows				
0	1D	24/24	0.0 - 2.0	WOH/1/3/5	4	6	SSA	82.1		Grey-brown mottled, medium stiff, SILT, organics, low plasticity -MARINE DEPOSIT-(ML)	
5	2D	24/20	5.0 - 7.0	WOH/1/2/3	3	4	12	77.1		Grey-brown mottled, moist, soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)	
							15				
							23				
							32				
							35				
10	1U	24/15.6	10.0 - 12.0				28				
							24				
	3D/A	24/24	12.0 - 14.0	WOH/WOH/7/7	7	10	17				
	V1		12.6 - 13.0	$S_u=1085/215$ psf			23				
	MV		13.6 - 14.0								
							38				
15	4D	24/5	15.0 - 17.0	14/9/6/5	15	21	28	67.1		Grey, wet, stiff, Silty CLAY, some gravel, trace fine to medium sand, loosely bonded -GLACIAL TILL-(CL)	
							19				
							39				
							45				
							44				
20	5D	19.2/8	20.0 - 21.6	13/15/17/50(1")	32	45		62.1		Grey, wet, dense, fine to medium SAND, some gravel, little silt, moderately bonded -GLACIAL TILL-(SP)	
								60.5		Note: Refusal on probable top of bedrock at 21.6 ft. Bottom of Exploration at 21.6 feet below ground surface.	
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-241	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-242A WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 83.4		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: --							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: HW-300#/16							
Date Start/Finish: 12-1-2020/12-1-2020		Drilling Method: HW Drive		Core Barrel: --							
Boring Location: Sta. 802+9.1, 37.5 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)			
0							HW				
5											
10	1U	24/20.4	9.0 - 11.0								
	V1		11.6 - 12.0	Su=545/115 psf							
	V2		12.6 - 13.0	Su=465/80 psf							
15								69.1			
20											
25											
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Page 1 of 1 Boring No.: HB-BE-242A	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-242			
				Location: Brewer and Eddington, Maine		WIN: 18915.00			
Driller: New England Boring Contractors		Elevation (ft.): 83.5		Auger ID/OD: --					
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID					
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16					
Date Start/Finish: 11-30-2020/12-1-2020		Drilling Method: SSA/HW Drive		Core Barrel: --					
Boring Location: Sta. 802+9.6, 37.4 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: Artesian					
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
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Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
0	1D	24/12	0.0 - 2.0	WOH/WOH/1/3	1	1	SSA		
5	1U	24/14.4	5.0 - 7.0				7		
							9		
							10		
							12		
							13		
10	2D MV	24/24	10.0 - 12.0 10.6 - 11.0	WOH/WOH/WOH/ WOH			7	73.1	10.4-
							12		
							13		
							17		
							25	69.6	13.9-
15	3D	24/6	15.0 - 17.0	7/10/5/4	15	21	34		
							33		
							36		
							31		
							45		
20	4D	20.4/8	20.0 - 21.7	11/23/50/50(2")	73	104		63.5	20.0-
								61.8	
									21.7-
25									

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1

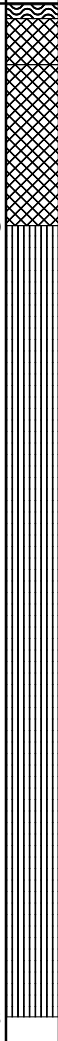
Boring No.: HB-BE-242

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-243 WIN: 18915.00																																																																																																																																																																																																																																																																			
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Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID																																																																																																																																																																																																																																																																			
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Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N₆₀</th><th>Casing Blows</th></tr><tr><td>0</td><td>1D</td><td>24/14</td><td>0.0 - 2.0</td><td>WOH/1/4/5</td><td>5</td><td>7</td><td>SSA</td><td></td><td></td><td>Grey-brown mottled, moist, medium stiff, Silty CLAY, trace fine gravel, low plasticity, organics -MARINE DEPOSIT-(CL)</td><td></td></tr><tr><td rowspan="4">5</td><td>2D</td><td>24/24</td><td>5.0 - 7.0</td><td>2/4/8/9</td><td>12</td><td>17</td><td>24</td><td></td><td></td><td>Grey-brown mottled, moist, very stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>40</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>49</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>52</td><td></td><td></td><td></td><td></td></tr><tr><td rowspan="4">10</td><td></td><td></td><td></td><td></td><td></td><td></td><td>49</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>WOH</td><td></td><td></td><td>Note: Attempted tube sample, no penetration, stiff soil. 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Boring No.: HB-BE-243																																																																																																																																																																																																																																																																											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/1-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-243 WIN: 18915.00							
Driller: New England Boring Contractors				Elevation (ft.) 85.8				Auger ID/OD: --							
Operator: M. Porter				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher				Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#							
Date Start/Finish: 11-30-2020/11-30-2020				Drilling Method: SSA/HW Drive				Core Barrel: --							
Boring Location: Sta. 802+03.8, 78.2 RT				Casing ID/OD: HW-4.0 in. ID				Water Level*: 2.7 ft							
Hammer Efficiency Factor: 0.852				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected							
Ty = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test															
Sample Information												Visual Description and Remarks		Laboratory Testing Results/ AASHTO and Unified Class.	
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log						
25	5D	24/4	25.0 - 27.0	7/6/4/3	10	14	HW	60.8		25.0	Grey, wet, medium dense, GRAVEL, little silt, trace fine sand, loosely bonded -GLACIAL TILL-(GP) Note: Top of probable bedrock at 27.5 ft based on drill action.				
							RC	58.3		27.5	Top of Probable Bedrock EL. 58.3 -PROBABLE BEDROCK-				
30								55.8		30.0	Bottom of Exploration at 30.0 feet below ground surface.				
35															
40															
45															
50															
Remarks:															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.												Page 2 of 2			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Boring No.: HB-BE-243			

Maine Department of Transportation							Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine						Boring No.: HB-BE-244 WIN: 18915.00											
Soil/Rock Exploration Log US CUSTOMARY UNITS																								
Driller: New England Boring Contractors							Elevation (ft.): 117.6						Auger ID/OD: --											
Operator: M. Porter							Datum: NAVD 88						Sampler: Split Spoon 1.375 in. ID											
Logged By: J. Fletcher							Rig Type: Mobile B-53 Track						Hammer Wt./Fall: SS-140#/30; HW-300#/16											
Date Start/Finish: 2-15-2021/2-15-2021							Drilling Method: SSA/HW Drive						Core Barrel: --											
Boring Location: Sta. 194+75.9, 6.8 LT							Casing ID/OD: HW-4.0 in. ID						Water Level*: Dry											
Hammer Efficiency Factor: 0.852							Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																	
Definitions:							R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person						S _U = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{U(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected						T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test					
D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt																								
Sample Information																				Graphic Log		Laboratory Testing Results/AASHTO and Unified Class.		
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows/(6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)																
0	1D/A	24/9	0.0 - 2.0	WOH/WOH/2/4	2	3	SSA	117.4		Dark brown, moist, soft, SILT, organics -TOPSOIL-(OL)		-0.2-												
										Grey-brown mottled, moist, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)														
								113.6		Grey, moist, hard, SILT, little gravel, trace fine sand -GLACIAL TILL-(ML)		-4.0-												
5	2D	24/17	5.0 - 7.0	16/13/10/13	23	33	HW			Note: Drill action indicates top of probable bedrock at 8.3 ft.														
								109.3		Top of Probable Bedrock at El. 109.3 Note: Advanced auger into probable bedrock to 10.3 ft. -PROBABLE BEDROCK-		-8.3-												
10								107.3		Bottom of Exploration at 10.3 feet below ground surface.		-10.3-												
15																								
20																								
25																								
Remarks:																								
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1														
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.																								
Boring No.: HB-BE-244																								

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-301 WIN: 18915.00	
Driller: Maine Department of Transportation		Elevation (ft.): 129.0		Auger ID/OD: 5.0 in. OD			
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30			
Date Start/Finish: 03-30-2021/03-30-2021		Drilling Method: SSA		Core Barrel: --			
Boring Location: Sta. 26+48.5, 17.1 RT		Casing ID/OD: --		Water Level*: 8.5 ft			
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/15	0.0 - 2.0	2/5/9/10	14	21	SSA
5	2D	24/24	5.0 - 7.0	5/16/22/22	38	56	
10	3D	24/17	10.0 - 12.0	8/9/18/18	27	40	
15	4D	24/24	15.0 - 17.0	13/15/27/19	42	62	
20	5D	24/24	20.0 - 22.0	11/33/33/52	66	98	
25							
				Visual Description and Remarks Dark brown, wet, loose, fine to coarse SAND, little silt -FILL-(SM) -----0.5 Brown, moist to wet, medium dense, fine to coarse SAND, little gravel, well graded -FILL-(SW) -----2.8 ----- Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to slightly bonded -GLACIAL TILL-(ML) ----- Note: Encountered occasional cobbles 8.0 to 10.0 ft. ----- Similar to 2D ----- ----- Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, slightly to moderately bonded -GLACIAL TILL-(ML) ----- ----- Similar to 4D, except friable to slightly bonded ----- ----- Bottom of Exploration at 22.0 feet below ground surface. No Refusal -----22.0			
				Laboratory Testing Results/ AASHTO and Unified Class.			
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-302			
				Location: Brewer and Eddington, Maine		WIN: 18915.00			
Driller: Maine Department of Transportation			Elevation (ft.): 130.8			Auger ID/OD: 5.0 in. OD			
Operator: T. Daggett			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes			Rig Type: Trailer CME 45C			Hammer Wt./Fall: SS-140#/30			
Date Start/Finish: 03-24-2021/03-24-2021			Drilling Method: SSA			Core Barrel: --			
Boring Location: Sta. 600+08.7, 18.4 RT			Casing ID/OD: HW-4.0 in. ID			Water Level*: 20.9 ft			
Hammer Efficiency Factor: 0.89			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>						
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>									
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
0	1D	24/17	0.0 - 2.0	8/8/14/21	22	33	SSA	130.5	 <p>Dark brown, wet, very stiff, fine to medium Sandy SILT, organics</p> <p>-TOPSOIL-(OL) 0.3-</p> <p>Grey-brown, dry to wet, dense, fine to coarse Sandy GRAVEL, well graded -FILL-(GW) 1.3-</p> <p>Red-brown, dry, dense, fine to coarse SAND, some gravel, well graded -FILL-(SW) 4.8-</p> <p>Olive-brown, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to moderately bonded -GLACIAL TILL-(ML)</p> <p>Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, slightly bonded -GLACIAL TILL-(ML)</p> <p>Olive-grey, damp to wet, very stiff, Clayey SILT, little fine to coarse sand, little gravel, friable to slightly bonded -GLACIAL TILL-(ML)</p> <p>Olive-grey, dry to wet, hard, Clayey SILT, little fine to coarse sand, trace gravel -GLACIAL TILL-(ML)</p> <p>Bottom of Exploration at 22.0 feet below ground surface. No Refusal</p>
								129.5	
5	2D	24/21	5.0 - 7.0	11/22/21/34	43	64		126.0	
10	3D	24/2	10.0 - 12.0	6/11/15/21	26	39			
15	4D	24/24	15.0 - 17.0	10/10/9/9	19	28			
20	5D	24/24	20.0 - 22.0	15/22/29/27	51	76			
25								108.8	

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-302

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-303						
				Location: Brewer and Eddington, Maine		WIN: 18915.00						
Driller: Maine Department of Transportation			Elevation (ft.): 127.0			Auger ID/OD: 5.0 in. OD						
Operator: T. Daggett			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID						
Logged By: B. Estes			Rig Type: Trailer CME 45C			Hammer Wt./Fall: SS-140#/30						
Date Start/Finish: 03-24-2021/03-24-2021			Drilling Method: SSA			Core Barrel: --						
Boring Location: Sta. 2003+00.5, 49.2 LT			Casing ID/OD: --			Water Level*: Dry						
Hammer Efficiency Factor: 0.89			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="font-size: small;"> Definitions: R = Rock Core Sample S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) T_v = Pocket Torvane Shear Strength (psf) D = Split Spoon Sample S_u(lab) = Lab Vane Undrained Shear Strength (psf) WC = Water Content, percent MD = Unsuccessful Split Spoon Sample Attempt HSA = Hollow Stem Auger q_p = Unconfined Compressive Strength (ksf) LL = Liquid Limit U = Thin Wall Tube Sample RC = Roller Cone N-uncorrected = Raw Field SPT N-value PL = Plastic Limit MU = Unsuccessful Thin Wall Tube Sample Attempt WOH = Weight of 140lb. Hammer Hammer Efficiency Factor = Rig Specific Annual Calibration Value PI = Plasticity Index V = Field Vane Shear Test, PP = Pocket Penetrometer N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency G = Grain Size Analysis MV = Unsuccessful Field Vane Shear Test Attempt WO1P = Weight of One Person N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected C = Consolidation Test </div>												
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.		
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)	
0	1D	24/15	0.5 - 2.5	7/12/12/12	24	36	SSA	126.5		Brown, damp, loose, fine to coarse SAND, little gravel, well graded -FILL-(SW) ————— 0.5 Grey-brown, dry to damp, dense, fine to coarse Sandy GRAVEL, well graded -FILL-(GW) ————— 3.2		
5	2D	24/22	5.0 - 7.0	9/14/14/30	28	42				Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to slightly bonded -GLACIAL TILL-(ML)		
10	3D	24/24	10.0 - 12.0	7/15/17/33	32	47				Similar to 2D		
15	4D	24/24	15.0 - 17.0	18/44/46/41	90	134				Similar to 3D		
20	5D	24/24	20.0 - 22.0	18/35/39/47	74	110				Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to slightly bonded -GLACIAL TILL-(ML)		
25								105.0		Bottom of Exploration at 22.0 feet below ground surface. No Refusal		
Remarks:												
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-303		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-304 WIN: 18915.00	
Driller: Maine Department of Transportation		Elevation (ft.): 126.1		Auger ID/OD: 5.0 in. OD			
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30			
Date Start/Finish: 03-24-2021/03-24-2021		Drilling Method: SSA		Core Barrel: --			
Boring Location: Sta. 2004+25.1, 50.7 LT		Casing ID/OD: --		Water Level*: Dry			
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0							SSA
	1D	24/16	1.0 - 3.0	6/12/10/12	22	33	
5	2D	24/24	5.0 - 7.0	7/11/13/16	24	36	
10	3D	24/18	10.0 - 12.0	6/16/18/18	34	50	
15	4D	24/24	15.0 - 17.0	9/22/24/29	46	68	
20	5D	24/24	20.0 - 22.0	10/36/41/35	77	114	
25							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Visual Description and Remarks</p> <p>125.8 - BITUMUNOUS CONCRETE-</p> <p>125.3 - Brown, dry, loose, fine to coarse SAND, little gravel, well graded -FILL-(SW)</p> <p>0.8 - Grey-brown to red-brown, dry, dense, fine to coarse Sandy GRAVEL, well graded -FILL-(GW)</p> <p>3.8 - Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable -GLACIAL TILL-(ML)</p> <p>Olive-grey, damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to moderately bonded -GLACIAL TILL-(ML)</p> <p>Olive-grey, dry to damp, hard, Clayey SILT, trace fine to coarse sand, trace gravel, friable to slightly bonded -GLACIAL TILL-(ML)</p> <p>Note: Encountered occasional cobbles 17.0 to 19.0 ft.</p> <p>Similar to 4D</p> <p>Bottom of Exploration at 22.0 feet below ground surface. No Refusal</p> </div> <div style="width: 5%; text-align: center;"> <p>Graphic Log</p> </div> <div style="width: 45%;"> <p>Laboratory Testing Results/ AASHTO and Unified Class.</p> </div> </div>							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-305 WIN: 18915.00	
Driller: Maine Department of Transportation		Elevation (ft.): 124.9		Auger ID/OD: 5.0 in. OD			
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30			
Date Start/Finish: 03-24-2021/03-24-2021		Drilling Method: SSA		Core Barrel: --			
Boring Location: Sta. 2005+50.0, 55.2 LT		Casing ID/OD: --		Water Level*: Dry			
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/16	0.2 - 2.2	2/4/8/9	12	18	SSA
5	2D	24/4	5.0 - 7.0	7/17/14/17	31	46	
10	3D	24/24	10.0 - 12.0	7/17/17/23	34	50	
15	4D	24/24	15.0 - 17.0	7/12/16/25	28	42	
20	5D	24/24	20.0 - 22.0	14/20/24/33	44	65	
25							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Visual Description and Remarks</p> <p>-BITUMINOUS CONCRETE-</p> <p>Brown, moist, loose, fine to coarse SAND, little gravel, well graded</p> <p>-FILL-(SW)</p> <p>Grey-brown, dry to damp, medium dense, fine to coarse Sandy GRAVEL, well graded</p> <p>-FILL-(GW)</p> <p>Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, well bonded</p> <p>-GLACIAL TILL-(ML)</p> <p>Olive-grey, dry to damp, hard, Clayey SILT, trace fine to coarse sand, trace gravel, slightly to moderately bonded</p> <p>-GLACIAL TILL-(ML)</p> <p>Similar to 3D</p> <p>Note: Encountered occasional cobble 17.0 to 19.0 ft.</p> <p>Olive-grey, dry to damp, hard, Clayey SILT, trace fine to coarse sand, trace gravel, moderately bonded, occasional fine sand partings</p> <p>-GLACIAL TILL-(ML)</p> <p>Bottom of Exploration at 22.0 feet below ground surface. No Refusal</p> </div> <div style="width: 45%; text-align: right;"> <p>0.1</p> <p>0.2</p> <p>4.5</p> <p>22.0</p> </div> </div>							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Graphic Log</p> </div> <div style="width: 45%;"> <p>Laboratory Testing Results/ AASHTO and Unified Class.</p> </div> </div>							
Remarks:							
<div style="display: flex; justify-content: space-between;"> <div style="width: 70%;"> <p>Stratification lines represent approximate boundaries between soil types; transitions may be gradual.</p> <p>* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.</p> </div> <div style="width: 30%; text-align: right;"> <p>Page 1 of 1</p> <p>Boring No.: HB-BE-305</p> </div> </div>							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-306				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: Maine Department of Transportation			Elevation (ft.): 123.9			Auger ID/OD: 5.0 in. OD				
Operator: T. Daggett			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID				
Logged By: B. Estes			Rig Type: Trailer CME 45C			Hammer Wt./Fall: SS-140#/30				
Date Start/Finish: 03-23-2021/03-23-2021			Drilling Method: SSA			Core Barrel: --				
Boring Location: Sta. 2006+74.9, 59.4 LT			Casing ID/OD: --			Water Level*: Dry				
Hammer Efficiency Factor: 0.89			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/16	0.3 - 2.3	7/10/9/9	19	28	SSA	123.8 123.3	 BITUMINOUS CONCRETE- Brown, damp, medium dense, fine to coarse SAND, little gravel, well graded -FILL-(SW) Grey-brown, dry to damp, medium dense, fine to coarse Sandy GRAVEL, well graded -FILL-(GW) Olive-grey, dry to damp, hard, Clayey SILT, trace gravel, trace fine to medium sand -GLACIAL TILL-(ML) Similar to 2D Olive-grey, dry to damp, hard, Clayey SILT, trace fine to medium sand, occasional fine sand seam, occasionally laminated -GLACIAL TILL-(ML) Olive-grey, damp, hard, Clayey SILT, trace fine to medium sand, trace gravel, occasionally laminated -GLACIAL TILL-(ML) Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
								119.8		
5	2D	24/23	5.0 - 7.0	21/19/23/20	42	62				
10	3D	24/10	10.0 - 12.0	10/30/31/46	61	90				
15	4D	24/24	15.0 - 17.0	11/15/16/27	31	46				
20	5D	24/24	20.0 - 22.0	13/19/23/26	42	62				
25								101.9		
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.									Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									Boring No.: HB-BE-306	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-307 WIN: 18915.00	
Driller: Maine Department of Transportation		Elevation (ft.): 123.4		Auger ID/OD: --			
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS/HW-140#/30			
Date Start/Finish: 03-23-2021/03-23-2021		Drilling Method: HW drive		Core Barrel: --			
Boring Location: Sta. 2008+00.4, 65.4 LT		Casing ID/OD: HW-4.0 in ID		Water Level*: 4.5			
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/18	0.5 - 2.5	9/11/11/13	22	33	HW
5	2D	24/19	5.0 - 7.0	11/9/12/22	21	31	
10	3D	24/15	10.0 - 12.0	10/13/8/7	21	31	
							22
							21
							63
							342
15	4D	24/24	15.0 - 17.0	21/25/30/42	55	82	OPEN
20	5D	24/24	20.0 - 22.0	22/33/84/80	117	174	
25							
Visual Description and Remarks: -BITUMINOUS CONCRETE- Brown, damp, loose, fine to coarse SAND, little gravel, well graded -FILL-(SW) Grey-brown, dry to damp, dense, Sandy GRAVEL, well graded -FILL-(GW) Note: Perched water at 4.5 ft. Olive-grey, dry to damp, hard, Clayey SILT, trace fine to medium sand, trace gravel, occasionally blocky -GLACIAL TILL-(ML) Note: Encountered occasional gravel and cobbles 7.5 to 9.0 ft. Olive-grey, damp, hard, Clayey SILT, trace fine to medium sand, trace gravel -GLACIAL TILL-(ML) Note: Encountered cobble at 13.6 ft. Olive-grey, damp, hard, Clayey SILT, trace fine to medium sand, trace gravel, moderate bonding -GLACIAL TILL-(ML) Note: Encountered occasional cobbles 18.0 to 19.0 ft. Olive-grey, damp, hard, Clayey SILT, little fine to coarse sand, little gravel, occasional fine sand seam, well bonded -GLACIAL TILL-(ML) Bottom of Exploration at 22.0 feet below ground surface. No Refusal							
Laboratory Testing Results/ AASHTO and Unified Class.							
Remarks:							

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-307

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-308				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: Maine Department of Transportation			Elevation (ft.): 123.4			Auger ID/OD: --				
Operator: T. Daggett			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID				
Logged By: B. Estes			Rig Type: Trailer CME 45C			Hammer Wt./Fall: SS/HW-140#/30				
Date Start/Finish: 03-23-2021/03-23-2021			Drilling Method: HW drive			Core Barrel: --				
Boring Location: Sta. 2009+24.3, 74.7 LT			Casing ID/OD: HW-4.0 in ID			Water Level*: 6.3				
Hammer Efficiency Factor: 0.89			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/11	0.0 - 2.0	1/4/8/8	12	18	HW	122.9		Brown, damp, very loose, fine to coarse SAND, little gravel, well graded -FILL-(SW) -----0.5 Grey-brown, damp, medium dense Sandy GRAVEL, well graded -FILL-(GW) -----4.8 Note: Perched water at 4.8 ft. Olive-grey, dry to damp, hard, Clayey SILT -GLACIAL TILL-(ML) ----- Olive-grey, damp, hard, Clayey SILT, occasional cobble -GLACIAL TILL-(ML) Note: Encountered occasional gravel and cobbles 11.2 to 13.0 ft. ----- Olive-grey, damp, hard Clayey SILT, trace fine to medium sand, moderate bonding -GLACIAL TILL-(ML) Note: Encountered occasional cobbles 18.0 to 20.0 ft. ----- Olive-grey, damp, hard, Clayey SILT, some gravel, little fine to medium sand, moderate bonding -GLACIAL TILL-(ML) -----22.0 Bottom of Exploration at 22.0 feet below ground surface. No Refusal
5	2D	24/20	5.0 - 7.0	7/13/19/24	32	47		118.6		
10	3D	14/12	10.0 - 11.2	9/12/50(2")						
15	4D	21/20	15.0 - 16.8	21/38/44/50(3")	82	122				
20	5D	24/14	20.0 - 22.0	25/36/77/68	113	168		101.4		
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1

Boring No.: HB-BE-308

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-309 WIN: 18915.00					
Driller: Maine Department of Transportation			Elevation (ft.): 129.6			Auger ID/OD: 5.0 in. OD					
Operator: T. Daggett			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID					
Logged By: B. Estes			Rig Type: Trailer CME 45C			Hammer Wt./Fall: SS-140#/30					
Date Start/Finish: 03-25-2021/03-25-2021			Drilling Method: SSA			Core Barrel: --					
Boring Location: Sta. 602+49.4, 13.1 RT			Casing ID/OD: --			Water Level*: Dry					
Hammer Efficiency Factor: 0.89			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="font-size: small;"> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/14	0.0 - 2.0	10/7/10/12	17	25	SSA	129.4		Brown, wet, loose, fine to medium SAND, trace gravel -FILL-(SP)	
										Grey-brown, dry, medium dense, fine to coarse Sandy GRAVEL, well graded -FILL-(GW)	
5	2D	24/24	5.0 - 7.0	18/24/32/30	56	83		124.6		Light brown to olive-grey, dry, hard, Clayey SILT, trace fine to medium sand, trace gravel, friable to slightly bonded -GLACIAL TILL-(ML)	
10	3D	24/24	10.0 - 12.0	14/17/17/21	34	50				Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to slightly bonded -GLACIAL TILL-(ML)	
15	4D	24/20	15.0 - 17.0	20/19/22/47	41	61			Similar to 3D		
20	5D	24/24	20.0 - 22.0	11/16/20/21	36	53		107.6	Olive-grey to olive-brown, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, well bonded -GLACIAL TILL-(ML)		
25										Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-309	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-310			
				Location: Brewer and Eddington, Maine		WIN: 18915.00			
Driller: Maine Department of Transportation			Elevation (ft.): 126.5			Auger ID/OD: 5.0 in. OD			
Operator: T. Daggett			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes			Rig Type: Trailer CME 45C			Hammer Wt./Fall: SS-140#/30			
Date Start/Finish: 03-30-2021/03-30-2021			Drilling Method: SSA			Core Barrel: --			
Boring Location: Sta. 30+07.9, 18.8 RT			Casing ID/OD: --			Water Level*: 21.7			
Hammer Efficiency Factor: 0.89			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>						
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>									
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows		
0	1D	24/13	0.0 - 2.0	5/5/9/13	14	21	SSA		Brown, wet to moist, medium dense, fine to coarse SAND, some gravel, well graded -FILL-(SW) Note: Drill action indicates change at 3.8 ft. Olive-grey, dry to damp, hard Clayey SILT, little fine to coarse sand, trace gravel, friable to slightly bonded -GLACIAL TILL-(ML) Similar to 2D, except occasional cobbles Olive-grey, dry to damp, very stiff, Clayey SILT, trace fine to coarse sand, friable to slightly bonded -GLACIAL TILL-(ML) Similar to 4D, except hard Bottom of Exploration at 22.0 feet below ground surface. No Refusal
5	2D	24/24	5.0 - 7.0	27/23/27/30	50	74			
10	3D	24/24	10.0 - 12.0	22/16/18/15	34	50			
15	4D	24/24	15.0 - 17.0	7/8/12/14	20	30			
20	5D	24/24	20.0 - 22.0	8/14/23/35	37	55			
25									

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-310

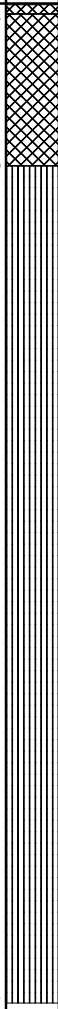
Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-311 WIN: 18915.00							
Driller: Maine Department of Transportation		Elevation (ft.): 127.5		Auger ID/OD: 5.0 in. OD									
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID									
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30									
Date Start/Finish: 03-25-2021/03-25-2021		Drilling Method: SSA		Core Barrel: --									
Boring Location: Sta. 604+99.7, 14.6 RT		Casing ID/OD: --		Water Level*: Dry									
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>													
Sample Information													
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.		
0	1D	24/13	0.0 - 2.0	5/11/8/9	19	28	SSA	127.3		Brown, wet, loose, fine to medium SAND, trace gravel -FILL-(SP)			
										Grey-brown, dry, medium dense, fine to coarse SANDY GRAVEL, well graded -FILL-(GW)			
5	2D	12/12	5.0 - 6.0	54/52				122.5		Olive-brown, dry to damp, hard, Clayey SILT, some fine to coarse sand, some gravel, friable to slightly bonded, occasional cobble -GLACIAL TILL-(ML)			
10	3D	24/24	10.0 - 12.0	8/10/18/13	28	42				Olive-grey, dry to damp, hard, Clayey SILT, some gravel, little fine to coarse sand, friable to well bonded -GLACIAL TILL-(ML)			
15	4D	24/24	15.0 - 17.0	25/28/23/34	51	76				Olive-grey, dry to damp, hard, Clayey SILT, some gravel, little fine to coarse sand, friable to moderately bonded -GLACIAL TILL-(ML)			
20	5D	24/22	20.0 - 22.0	12/24/22/28	46	68				Olive-grey to olive-brown, dry to damp, hard, Clayey SILT, some gravel, little fine to coarse sand, friable to moderately bonded -GLACIAL TILL-(ML)			
25								105.5		Bottom of Exploration at 22.0 feet below ground surface. No Refusal			
Remarks:													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.													

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-311

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-312 WIN: 18915.00					
Driller: Maine Department of Transportation			Elevation (ft.): 124.2			Auger ID/OD: 5.0 in. OD					
Operator: T. Daggett			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID					
Logged By: B. Estes			Rig Type: Trailer CME 45C			Hammer Wt./Fall: SS-140#/30					
Date Start/Finish: 03-31-2021/03-31-2021			Drilling Method: SSA			Core Barrel: --					
Boring Location: Sta. 32+52.9, 13.6 RT			Casing ID/OD: --			Water Level*: Dry					
Hammer Efficiency Factor: 0.89			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="font-size: small;"> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/17	0.0 - 2.0	5/9/9/11	18	27	SSA	123.8		Brown, wet, loose, fine to coarse SAND, some silt -FILL-(SM)	<div style="position: relative; height: 100px;"> <div style="position: absolute; top: 0; right: 0;">0.4</div> <div style="position: absolute; bottom: 0; right: 0;">4.0</div> </div>
										Brown to red-brown, wet, medium dense, fine to coarse SAND, some gravel, well graded, occasional cobble -FILL-(SW)	
										Note: Perched water at 3.5 ft.	
										Note: Drill action indicates change at 4.0 ft.	
5	2D	24/24	5.0 - 7.0	11/14/14/19	28	42				Olive-grey, dry, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable -GLACIAL TILL-(ML)	
10	3D	24/24	10.0 - 12.0	15/23/34/40	57	85			Similar to 2D		
15	4D	24/24	15.0 - 17.0	16/22/26/33	48	71			Similar to 3D, except dry to damp, friable to slightly bonded		
20	5D	24/24	20.0 - 22.0	20/36/55/55	91	135			Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to moderately bonded -GLACIAL TILL-(ML)		
25								102.2	Bottom of Exploration at 22.0 feet below ground surface. No Refusal		
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1 Boring No.: HB-BE-312	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-313				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: Maine Department of Transportation			Elevation (ft.): 124.4			Auger ID/OD: 5.0 in. OD				
Operator: T. Daggett			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID				
Logged By: B. Estes			Rig Type: Trailer CME 45C			Hammer Wt./Fall: SS-140#/30				
Date Start/Finish: 03-25-2021/03-25-2021			Drilling Method: SSA			Core Barrel: --				
Boring Location: Sta. 607+55.7, 12.1 RT			Casing ID/OD: --			Water Level*: Dry				
Hammer Efficiency Factor: 0.89			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/13	0.0 - 2.0	4/10/9/13	19	28	SSA	124.2		Brown, wet, loose, fine to coarse SAND, trace gravel -FILL-(SP) -----0.2 Grey-brown, dry, medium dense, fine to coarse Sandy GRAVEL, well graded -FILL-(GW) -----3.5 Note: Drill action indicates change at 3.5 ft. Light brown to olive-grey, dry to damp, hard, Clayey SILT, trace fine to coarse sand, trace gravel, friable to slightly bonded -GLACIAL TILL-(ML) Note: Encountered occasional cobbles 8.0 to 9.0 ft. Olive-brown to olive-grey, dry to damp, hard, Clayey SILT, trace fine to coarse sand, trace gravel, friable to slightly bonded -GLACIAL TILL-(ML) Similar to 3D Olive-grey, dry to damp, hard, Clayey SILT, little gravel, little fine to coarse sand, friable to well bonded -GLACIAL TILL-(ML) -----21.7 Bottom of Exploration at 21.7 feet below ground surface. No Refusal
5	2D	24/24	5.0 - 7.0	19/16/27/20	43	64				
10	3D	24/17	10.0 - 12.0	5/12/14/17	26	39				
15	4D	24/24	15.0 - 17.0	12/19/29/33	48	71				
20	5D	20/20	20.0 - 21.7	52/33/30/50(2")	63	93				
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1

Boring No.: HB-BE-313

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-314 WIN: 18915.00																																																																																																																																																																																																																																																				
Driller: Maine Department of Transportation				Elevation (ft.): 122.9				Auger ID/OD: 5.0 in. OD																																																																																																																																																																																																																																																				
Operator: T. Daggett				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID																																																																																																																																																																																																																																																				
Logged By: B. Estes				Rig Type: Trailer CME 45C				Hammer Wt./Fall: SS-140#/30																																																																																																																																																																																																																																																				
Date Start/Finish: 03-31-2021/03-31-2021				Drilling Method: SSA				Core Barrel: --																																																																																																																																																																																																																																																				
Boring Location: Sta. 35+03.3, 15.7 RT				Casing ID/OD: --				Water Level*: 10.1																																																																																																																																																																																																																																																				
Hammer Efficiency Factor: 0.89				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																																																																																																																																																																																																																																								
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Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-315					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: Maine Department of Transportation		Elevation (ft.): 123.0		Auger ID/OD: 5.0 in. OD							
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30							
Date Start/Finish: 03-25-2021/03-25-2021		Drilling Method: SSA		Core Barrel: --							
Boring Location: Sta. 610+00.3, 7.9 RT		Casing ID/OD: --		Water Level*: Dry							
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/16	0.5 - 2.5	5/12/13/11	25	37	SSA	122.6		-BITUMINOUS CONCRETE-	
								121.0		Grey-brown, dry, dense, fine to coarse Sandy GRAVEL, well graded	
										-FILL-(GW)	
								119.7		Red-brown, dry, dense, Gravelly fine to coarse SAND, well graded	
										-FILL-(SW)	
5	2D	24/24	5.0 - 7.0	10/12/16/17	28	42				Light brown to olive-brown(olive-grey at 6.7 ft.), dry to damp, hard, Clayey SILT, trace fine to coarse sand, trace gravel, friable to slightly bonded	
										-GLACIAL TILL-(ML)	
10	3D	24/24	10.0 - 12.0	5/19/9/8	28	42				Olive-grey, damp to moist, hard, Clayey SILT, trace fine to coarse sand, trace gravel, slightly bonded	
										-GLACIAL TILL-(ML)	
15	4D	24/23	15.0 - 17.0	13/22/39/54	61	90				Olive-grey, dry to damp, hard, Clayey SILT, trace fine to coarse sand, trace gravel, slightly to well bonded	
									-GLACIAL TILL-(ML)		
									Note: Encountered occasional cobbles 16.0 to 18.0 ft.		
20	5D	24/24	20.0 - 22.0	9/22/33/36	55	82			Similar to 4D		
								101.0			
										Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-315	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-316 WIN: 18915.00	
Driller: Maine Department of Transportation			Elevation (ft.): 120.4		Auger ID/OD: 5.0 in. OD		
Operator: T. Daggett			Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID		
Logged By: B. Estes			Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30		
Date Start/Finish: 03-31-2021/03-31-2021			Drilling Method: SSA		Core Barrel: --		
Boring Location: Sta. 37+48.5, 8.1 RT			Casing ID/OD: --		Water Level*: 2.3		
Hammer Efficiency Factor: 0.89			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>				
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							

Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/16	0.0 - 2.0	7/8/16/10	24	36	SSA	120.2		Brown, wet, stiff, fine to coarse Sandy SILT, organics -FILL-(ML) Brown to red-brown, moist, dense, fine to coarse SAND, some gravel, well graded -FILL-(SW) Note: Encountered cobble at 2.0 ft, water at 2.2 ft. Note: Drill action indicates change at 2.5 ft. Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to moderately bonded, occasionally laminated -GLACIAL TILL-(ML) Olive-grey, dry to moist, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to moderately bonded -GLACIAL TILL-(ML) Similar to 3D Similar to 4D, except slightly to well bonded Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
5	2D	24/20	5.0 - 7.0	10/19/23/25	42	62					
10	3D	24/14	10.0 - 12.0	8/18/11/12	29	43					
15	4D	24/11	15.0 - 17.0	25/44/38/52	82	122					
20	5D	24/24	20.0 - 22.0	27/39/59/93	98	145					
25								98.4			

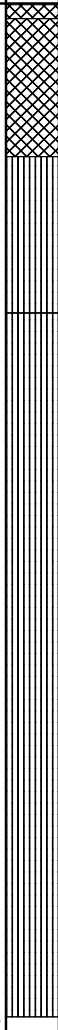
Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-316

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-317					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: Maine Department of Transportation		Elevation (ft.): 120.8		Auger ID/OD: 5.0 in. OD							
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30							
Date Start/Finish: 03-30-2021/03-30-2021		Drilling Method: SSA		Core Barrel: --							
Boring Location: Sta. 612+50.5, 13.5 RT		Casing ID/OD: --		Water Level*: Dry							
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>											
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.		
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/16	0.0 - 2.0	3/4/10/8	14	21	SSA	120.5		<p>Dark brown, wet, loose, fine to coarse SAND, little silt -FILL-(SM)</p> <p>Grey-brown to light brown, dry to moist, medium dense, fine to coarse Sandy GRAVEL, occasional cobbles, well graded -FILL-(GW)</p> <p>Note: Drill action indicates change at 3.3 ft.</p> <p>Olive-brown, dry to damp, hard, Clayey SILT, trace fine sand, occasionally laminated to slightly blocky, slightly mottled, moderately plastic -MARINE DEPOSIT-(ML)</p> <p>Note: Change to olive-gray at 6.7 ft.</p> <p>Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to slightly bonded -GLACIAL TILL-(ML)</p> <p>Note: Encountered cobbles 11.0 to 12.0 ft and 13.0 to 14.0 ft.</p> <p>Similar to 3D, friable to moderately bonded</p> <p>Similar to 4D</p>	
								117.5			
5	2D	24/24	5.0 - 7.0	14/14/21/27	35	52		114.1			
10	3D	24/24	10.0 - 12.0	5/12/12/39	24	36					
15	4D	24/24	15.0 - 17.0	8/15/18/22	33	49					
20	5D	24/24	20.0 - 22.0	5/18/16/16	34	50					
25								98.8		<p>Bottom of Exploration at 22.0 feet below ground surface. No Refusal</p>	
Remarks:											

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-318					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: Maine Department of Transportation		Elevation (ft.): 119.0		Auger ID/OD: 5.0 in. OD							
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30							
Date Start/Finish: 04-09-2021/04-09-2021		Drilling Method: SSA		Core Barrel: --							
Boring Location: Sta. 39+44.4, 0.9 RT		Casing ID/OD: --		Water Level*: 17.3							
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows				
0	1D	24/17	0.0 - 2.0	4/11/10/10	21	31	SSA	118.6 118.2		Brown, moist, medium stiff, SILT, trace fine sand, organics -FILL-(ML) -----0.4- Grey-brown, dry, dense GRAVEL, some fine to coarse sand, well graded -FILL-(GW) -----0.8- Red-brown, moist, dense, fine to coarse SAND, some gravel, well graded -FILL-(SW) -----3.5- Note: Drill action indicates change at 3.5 ft. Olive-brown, damp, hard, SILT, little clay, trace fine sand, occasionally laminated and blocky -MARINE DEPOSIT-(ML)	
5	2D	24/24	5.0 - 7.0	9/10/12/13	22	33					
10	3D	24/24	10.0 - 12.0	5/8/9/12	17	25		109.0		Olive-grey, dry to damp, very stiff, Clayey SILT, trace fine to coarse sand, trace gravel, friable to moderately bonded -GLACIAL TILL-(ML)	
15	4D	24/24	15.0 - 17.0	4/7/16/25	23	34				Similar to 3D, except hard, occasional fine sandy silt seams	
20	5D	24/24	20.0 - 22.0	20/23/17/27	50	74		97.0		Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to well bonded -GLACIAL TILL-(ML)	
25										Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-318

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: HB-BE-319					
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: Maine Department of Transportation		Elevation (ft.): 120.4		Auger ID/OD: 5.0 in. OD							
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30							
Date Start/Finish: 04-07-2021/04-07-2021		Drilling Method: SSA		Core Barrel: --							
Boring Location: Sta. 41+26.1, 40.6 RT		Casing ID/OD: --		Water Level*: 10.8							
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
0								120.0			
	1D	24/17	1.0 - 3.0	7/12/13/27	25	37		118.4			
								115.9			
5	2D	24/24	5.0 - 7.0	5/8/7/8	15	22		114.9			
								110.4			
								10.0			
10	3D	24/18	10.0 - 12.0	11/22/21/15	43	64					
15	4D	24/19	15.0 - 17.0	10/8/9/31	17	25					
20	5D	24/18	20.0 - 22.0	9/13/19/19	32	47					
								98.4			
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-320 WIN: 18915.00	
Driller: Maine Department of Transportation		Elevation (ft.): 117.3		Auger ID/OD: --			
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS/NW-140#/30			
Date Start/Finish: 04-08-2021/04-08-2021		Drilling Method: NW Drive		Core Barrel: --			
Boring Location: Sta. 2016+74.0, 38.7 LT		Casing ID/OD: NW-3.0 in. ID		Water Level*: 7.0			
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/22	0.5 - 2.5	5/11/15/18	26	39	NW
5	2D	24/24	5.0 - 7.0	10/13/15/17	28	42	
10	3D	24/21	10.0 - 12.0	5/6/9/14	15	22	26
							70
							OPEN
15	4D	24/21	15.0 - 17.0	8/13/17/21	30	45	
20	5D	24/18	20.0 - 22.0	14/14/21/22	35	52	
25							

Visual Description and Remarks

Brown, wet, hard, fine Sandy SILT, organics
-FILL-(ML)

Grey-brown, dry, dense, fine to coarse Sandy GRAVEL, well graded
-FILL-(GW)

Red-brown, damp, dense, fine to coarse SAND, some gravel, well graded
-FILL-(SW)

Note: Encountered cobble 3.0 to 4.0 ft.

Olive-brown, dry to damp, hard, SILT, little clay, trace fine sand
-MARINE DEPOSIT-(ML)

Olive grey, moist, hard, SILT, some clay, trace fine to medium sand, trace gravel, friable to slightly bonded, mostly laminated
-MARINE DEPOSIT-(ML)

Note: Encountered gravelly layer 8.5 to 9.0 ft.

Olive-grey, damp to moist, very stiff, Clayey SILT, little fine to coarse sand, trace gravel, slightly to moderately bonded
-GLACIAL TILL-(ML)

Similar to 3D, except hard

Olive-grey, damp, hard, Clayey SILT, little gravel, little fine to coarse sand, moderately to well bonded
-GLACIAL TILL-(ML)

Bottom of Exploration at 22.0 feet below ground surface.
No Refusal

Laboratory Testing Results/ AASHTO and Unified Class.

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-320

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-321 WIN: 18915.00				
Driller: Maine Department of Transportation		Elevation (ft.): 119.6		Auger ID/OD: 5.0 in. OD						
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30						
Date Start/Finish: 04-07-2021/04-07-2021		Drilling Method: SSA		Core Barrel: --						
Boring Location: Sta. 42+49.3, 37.4 RT		Casing ID/OD: --		Water Level*: 8.7						
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0							SSA	119.2	-BITUMINOUS CONCRETE-	
	1D	24/19	1.0 - 3.0	9/14/12/17	26	39		117.5	Grey-brown, dry, dense, fine to coarse Sandy GRAVEL, well graded	
								115.1	-FILL-(GW) Red-brown, moist, dense, fine to coarse SAND, some gravel, well graded	
								111.6	-FILL-(SW) Light brown, wet, very dense, fine SAND, trace silt, trace medium to coarse sand, trace gravel, uniform	
5	2D	24/24	5.0 - 7.0	18/25/22/22	47	70			-MARINE DEPOSIT-(SP)	
									Note: Drill action indicates change at 8.0 ft.	
10	3D	24/24	10.0 - 12.0	8/8/15/19	23	34			Olive-brown to olive-grey(at 10.2 ft.), dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to slightly bonded	
									-GLACIAL TILL-(ML)	
									Note: Wet zone 13.0 to 15.0 ft.	
15	4D	24/24	15.0 - 17.0	10/10/14/21	24	36			Similar to 3D, except occasionally wet, friable to moderately bonded	
20	5D	24/24	20.0 - 22.0	10/23/30/33	53	79			Olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to moderately bonded	
									-GLACIAL TILL-(ML)	
								97.6	Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
25										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-321

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-322 WIN: 18915.00	
Driller: Maine Department of Transportation		Elevation (ft.): 115.9		Auger ID/OD: --			
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS/NW-140#/30			
Date Start/Finish: 04-08-2021/04-08-2021		Drilling Method: NW Drive		Core Barrel: --			
Boring Location: Sta. 3020+81.2, 19.3 RT		Casing ID/OD: NW-3.0 in. ID		Water Level*: 2.0			
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/21	0.5 - 2.5	5/6/7/15	13	19	NW
5	2D	24/24	5.0 - 7.0	12/14/16/16	30	45	
10	3D	24/22	10.0 - 12.0	3/7/9/15	16	24	24
							26
							28
							112
							OPEN
15	4D	24/20	15.0 - 17.0	10/20/22/35	42	62	
20	5D	24/22	20.0 - 22.0	21/29/26/30	55	82	
25							
Visual Description and Remarks: Dark brown, wet, loose, Silty fine to coarse SAND, organics -FILL-(SM) Red-brown, wet, medium dense, fine to coarse SAND, some gravel, well graded -FILL-(SW) Light brown, dry, very stiff, SILT, little fine to coarse sand, trace gravel, friable -MARINE DEPOSIT-(ML) Light brown, damp, hard SILT, little clay, little fine to coarse sand, trace gravel, laminated and blocky, frequent fine sand partings -MARINE DEPOSIT-(ML) 3D: 10.0 to 10.3 ft, Similar to 2D Olive-brown, damp, very stiff, SILT, some clay, little fine to coarse sand, trace gravel, slightly to moderately bonded -GLACIAL TILL-(ML) Olive-grey, damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, slightly to moderately bonded -GLACIAL TILL-(ML) Similar to 4D, except moderately bonded Bottom of Exploration at 22.0 feet below ground surface. No Refusal							
Laboratory Testing Results/ AASHTO and Unified Class.							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: HB-BE-323	
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00	
Driller: Maine Department of Transportation		Elevation (ft.): 117.0		Auger ID/OD: 5.0 in. OD			
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30			
Date Start/Finish: 04-02-2021/04-02-2021		Drilling Method: SSA		Core Barrel: --			
Boring Location: Sta. 43+75.2, 16.1 RT		Casing ID/OD: --		Water Level*: 5.6			
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/16	0.0 - 2.0	6/10/10/10	20	30	SSA
5	2D	24/24	5.0 - 7.0	19/21/18/20	39	58	
10	3D	24/24	10.0 - 12.0	10/11/12/8	23	34	
15	4D	24/17	15.0 - 17.0	7/9/8/10	17	25	
20							
	5D	24/24	22.0 - 24.0	8/11/12/20	23	34	
25							

Visual Description and Remarks

116.7 Brown, wet, stiff, fine to medium Sandy SILT, organics -FILL-(ML)

115.8 Grey, dry, medium dense, fine to coarse Sandy GRAVEL, well graded -FILL-(GW)

112.8 Brown, damp, medium dense, fine to coarse SAND, some gravel, well graded -FILL-(SW)
Note: Encountered occasional cobbles 3.0-4.0 ft.

110.9 Light brown, damp, hard, fine Sandy SILT, mottled, little gravel -FILL-(Reworked MARINE DEPOSIT)(ML)

Light brown to olive-brown, dry, hard, Clayey SILT, trace fine to coarse sand, trace gravel, friable to slightly bonded -GLACIAL TILL-(ML)

Olive-brown, wet to dry, hard, Clayey SILT, trace fine to coarse sand, trace gravel, friable to slightly bonded -GLACIAL TILL-(ML)

Olive-grey, damp, very stiff, Clayey SILT, little fine to coarse sand, trace gravel, moderately bonded -GLACIAL TILL-(ML)

Similar to 4D, except hard

93.0

24.0 Bottom of Exploration at 24.0 feet below ground surface. No Refusal

Graphic Log

Laboratory Testing Results/ AASHTO and Unified Class.


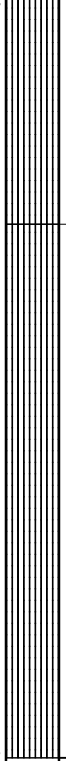
Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1

Boring No.: HB-BE-323

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-324 WIN: 18915.00					
Driller: Maine Department of Transportation		Elevation (ft.): 116.7		Auger ID/OD: 5.0 in. OD							
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30							
Date Start/Finish: 04-08-2021/04-08-2021		Drilling Method: SSA		Core Barrel: --							
Boring Location: Sta. 3019+58.6, 27.5 RT		Casing ID/OD: --		Water Level*: 6.3							
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>											
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.		
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/15	0.0 - 2.0	7/7/9/10	16	24	SSA	116.4		Dark brown, moist, loose, fine to medium SAND, some silt, trace gravel -FILL-(SM) -----0.3 Grey-brown, dry, medium dense, fine to coarse Sandy GRAVEL, well graded -FILL-(GW) -----1.8 Red-brown, damp, medium dense, fine to coarse SAND, some gravel, well graded -FILL-(SW) Note: Encountered cobbles 4.5-5.5 ft. -----5.5 Light brown, dry to moist, hard, intermixed SILT and SILT, little fine to medium sand, trace gravel -MARINE DEPOSIT-(ML) Note: Encountered cobble and wet at 7.0 ft.	
								114.9			
5	2D	24/21	5.5 - 7.5	17/15/14/16	29	43		111.2			
10	3D	24/20	10.0 - 12.0	8/11/11/13	22	33		106.3		Light brown, moist to wet, hard, SILT, trace fine sand, trace gravel -MARINE DEPOSIT-(ML) -----10.4 Olive-grey, moist to wet, hard, SILT, little clay, little fine to coarse sand, trace gravel, slightly to moderately bonded -GLACIAL TILL-(ML) Similar to 3D, except very stiff -----22.0 Olive-grey, moist, hard, SILT, little clay, little fine to coarse sand, trace gravel, slightly to moderately bonded -GLACIAL TILL-(ML) -----22.0 Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
15	4D	24/18	15.0 - 17.0	6/9/8/8	17	25					
20	5D	24/22	20.0 - 22.0	11/12/14/17	26	39		94.7			
25											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 1 Boring No.: HB-BE-324			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-325					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: Maine Department of Transportation			Elevation (ft.): 116.0			Auger ID/OD: 5.0 in. OD					
Operator: T. Daggett			Datum: NAVD 88			Sampler: Split Spoon 1.375 in. ID					
Logged By: B. Estes			Rig Type: Trailer CME 45C			Hammer Wt./Fall: SS-140#/30					
Date Start/Finish: 04-02-2021/04-02-2021			Drilling Method: SSA			Core Barrel: --					
Boring Location: Sta. 45+44.3, 8.5 LT			Casing ID/OD: --			Water Level*: 4.5					
Hammer Efficiency Factor: 0.89			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D	24/17	0.0 - 2.0	4/6/7/7	13	19	SSA	115.7		<p>Brown, wet, medium stiff, fine to coarse Sandy SILT, organics -FILL-(ML)</p> <p>Grey, dry, medium dense, fine to coarse Sandy GRAVEL, well graded -FILL-(GW)</p> <p>Brown, moist, medium dense, fine to coarse SAND, some gravel, well graded -FILL-(SW)</p> <p>Note: Encountered occasional cobble 4.0 to 5.0 ft, water at 5.0 ft. Brown to red-brown, wet, dense, fine to coarse SAND, some gravel, well graded, intermixed with olive-brown, moist, hard, Clayey SILT -FILL-(Reworked MARINE DEPOSIT)(SW/ML)</p> <p>Note: 3D, no recovery, probably pushed piece of gravel. Sample taken from auger cuttings described below. Olive-brown, moist, hard, Clayey SILT, some fine to coarse sand, little gravel -FILL-(Reworked GLACIAL TILL)(ML)</p> <p>Olive-grey, dry to damp, hard, Clayey SILT, trace fine to medium sand, friable to moderately bonded -GLACIAL TILL-(ML)</p> <p>Similar to 4D</p> <p>Bottom of Exploration at 22.0 feet below ground surface. No Refusal</p>	
								115.0			
5	2D	24/20	5.0 - 7.0	13/12/11/13	23	34					
10	3D	24/0	10.0 - 12.0	11/13/12/10	25	37		103.0			
15	4D	24/20	15.0 - 17.0	16/17/17/20	34	50					
20	5D	24/16	20.0 - 22.0	24/26/29/37	55	82		94.0			
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-325

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-326 WIN: 18915.00	
Driller: Maine Department of Transportation		Elevation (ft.): 113.6		Auger ID/OD: 5.0 in. OD			
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30			
Date Start/Finish: 03-29-2021/03-29-2021		Drilling Method: SSA		Core Barrel: --			
Boring Location: Sta. 46+77.0, 30.3 RT		Casing ID/OD: --		Water Level*: 5.5			
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/18	0.0 - 2.0	7/6/4/9	10	15	SSA
5	2D	24/19	5.0 - 7.0	24/23/25/27	48	71	
10	3D	24/17	10.0 - 12.0	13/19/13/10	32	47	
15	4D	24/8	15.0 - 17.0	11/23/33/19	56	83	
20	5D	24/22	20.0 - 22.0	19/20/21/26	41	61	
25							
				Elevation (ft.)			
				Graphic Log			
				Visual Description and Remarks		Laboratory Testing Results/AASHTO and Unified Class.	
				113.3		0.3	
				104.6		9.0	
				102.8		10.8	
				91.6		22.0	
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							
Page 1 of 1						Boring No.: HB-BE-326	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-327 WIN: 18915.00	
Driller: Maine Department of Transportation		Elevation (ft.): 105.6		Auger ID/OD: --			
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS/NW-140#/30			
Date Start/Finish: 03-29-2021/03-29-2021		Drilling Method: NW Drive		Core Barrel: --			
Boring Location: Sta. 48+15.8, 44.1 RT		Casing ID/OD: NW-3.0 in. ID		Water Level*: 2.0			
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/18	0.0 - 2.0	5/6/10/14	16	24	NW Drive
5	2D	24/5	5.0 - 7.0	5/6/15/16	21	31	15
10	3D	24/8	10.0 - 12.0	8/15/18/15	33	49	OPEN
15	4D	24/18	15.0 - 17.0	7/9/10/16	19	28	
20	5D	24/11	20.0 - 22.0	16/15/18/18	33	49	
25							
				Elevation (ft.):		Graphic Log	
				Visual Description and Remarks		Laboratory Testing Results/AASHTO and Unified Class.	
				Grey-brown, wet, medium dense, fine to coarse Sandy GRAVEL -FILL-(GW)		0.8	
				Olive-brown, dry, very stiff, Clayey SILT, trace fine sand, mottled, friable -MARINE DEPOSIT-(ML)		6.0	
				Note: Poor recovery, pushed rock in tip of sampler. Appears similar to sample 1D, except hard.			
				Note: Drill action indicates change to Glacial Till at 6.0 ft.			
				Olive-brown, damp to moist, hard, Clayey SILT, little fine to coarse sand, trace gravel, slightly bonded -GLACIAL TILL-(ML)			
				Olive-brown to olive-grey(at 15.4 ft.), moist to damp, very stiff, Clayey SILT, little fine to coarse sand, trace gravel, slightly to moderately bonded -GLACIAL TILL-(ML)			
				Note: Encountered occasional cobbles 17.5-19.0 ft.			
				Similar to 4D, except olive-grey, hard			
				Bottom of Exploration at 22.0 feet below ground surface. No Refusal		22.0	
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-328					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 96.6		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 12-1-2020/12-1-2020		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 52+43.7, 34.1 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.7 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/12	0.0 - 2.0	WOH/5/5/4	10	14	SSA			Grey-brown mottled, wet, stiff, SILT, little sand, little gravel, organics, loosely bonded -FILL-(ML)	
5	2D	24/16	5.0 - 7.0	2/3/3/2	6	9	HW	91.6		Grey, wet, stiff, Silty CLAY, low plasticity -FILL-(CL)	
10	3D	24/1	10.0 - 12.0	6/3/3/3	6	9		86.6		Grey, wet, loose, fine to coarse SAND, trace silt (wash sample) -FILL-(SP)	
15	4D	24/4	15.0 - 17.0	WOH/WOH/WOH/2				81.6		Grey, wet, very soft, Silty CLAY, trace gravel -FILL-(CL)	
20	5D	24/8	20.0 - 22.0	3/2/1/3	3	4		74.6		Grey, wet, soft, Clayey SILT, little fine to coarse sand, little gravel -MARINE DEPOSIT-(CL-ML)	LL=22 PL=15 PI=7 WC=18 CL-ML
25										Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
Remarks:											
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div>Stratification lines represent approximate boundaries between soil types; transitions may be gradual.</div> <div>Page 1 of 1</div> </div>											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-328	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-329 WIN: 18915.00				
Driller: Maine Department of Transportation		Elevation (ft.): 125.6		Auger ID/OD: 5.0 in. OD						
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30						
Date Start/Finish: 04-07-2021/04-07-2021		Drilling Method: SSA		Core Barrel: --						
Boring Location: Sta. 908+95.4, 11.8 LT		Casing ID/OD: --		Water Level*: Dry						
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>										
Depth (ft.)	Sample Information							Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0							SSA	125.3	<div style="display: flex; align-items: center;"> <div style="width: 10px; height: 100%; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); border: 1px solid black; margin-right: 5px;"></div> <div> -BITUMINOUS CONCRETE- Brown to red-brown, dry to damp, dense, fine to coarse SAND, some gravel, well-graded -FILL-(SW) Olive-brown, damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, slightly bonded, occasional cobbles (Reworked GLACIAL TILL) -FILL-(ML) Light-brown to olive-brown to olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to slightly bonded (Reworked GLACIAL TILL) -FILL-(ML) Similar to 2D, except occasional light brown fine Sandy SILT intermixed (Reworked GLACIAL TILL) -FILL-(ML) Note: Encountered occasional gravelly layer or cobbles approximately 11.5 to 14.0 ft. Light brown to olive-brown, mottled, dry to damp, hard, intermixed, fine Sandy SILT and Clayey SILT, little fine to coarse sand, little gravel, friable to moderately bonded (Reworked MARINE DEPOSIT/GLACIAL TILL) -FILL-(ML) Similar to 4D Brown to grey-brown, dry to damp, dense, GRAVEL, some fine to coarse sand, little silt, well graded -FILL-(GM) Bottom of Exploration at 22.0 feet below ground surface. No Refusal </div> </div>	
	1D	24/16	1.0 - 3.0	7/12/15/12	27	40		124.0		
5	2D	24/24	5.0 - 7.0	13/14/17/14	31	46				
10	3D	24/24	10.0 - 12.0	11/22/17/15	39	58				
15	4D	24/24	15.0 - 17.0	27/19/35/22	54	80				
20	5D	24/18	20.0 - 22.0	12/13/13/10	26	39				
25										
104.1 103.6										
Remarks:										
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 1		
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Boring No.: HB-BE-329		

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-330 WIN: 18915.00					
Driller: Maine Department of Transportation		Elevation (ft.): 125.3		Auger ID/OD: 5.0 in. OD							
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30							
Date Start/Finish: 04-11-2021/04-11-2021		Drilling Method: SSA		Core Barrel: --							
Boring Location: Sta. 718+88.1, 2.5 LT		Casing ID/OD: --		Water Level*: Dry							
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0							SSA	124.9		-BITUMINOUS CONCRETE- -----0.4- Brown to red-brown, damp to moist, dense, fine to coarse SAND, some gravel, well graded -FILL-(SW) -----2.8-	
	1D	24/15	1.0 - 3.0	11/13/12/7	25	37		122.5			
5	2D	24/24	5.0 - 7.0	9/17/16/24	33	49					
10	3D	24/24	10.0 - 12.0	11/26/22/19	48	71					
15	4D	7/7	15.0 - 15.6	29/50(1")						Note: Encountered cobble 14.5 to 15.0 ft. Spoon refusal on cobble at 15.6 ft. Similar to 3D, occasional cobbles 15.6 to 16.5 ft.	
20	5D	24/24	20.0 - 22.0	13/13/15/14	28	42				Olive-gray to olive-brown, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to slightly bonded (Reworked GLACIAL TILL) -FILL-(ML) -----22.0-	
25								103.3		Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1

Boring No.: HB-BE-330

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-331 WIN: 18915.00							
Driller: New England Boring Contractors		Elevation (ft.): 81.4		Auger ID/OD: --									
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID									
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16									
Date Start/Finish: 01-26-2021/01-26-2021		Drilling Method: SSA/HW Drive		Core Barrel: --									
Boring Location: Sta. 56+39.3, 22.8 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 4.1 ft									
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test													
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.			
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)		
0	1D	24/9	0.0 - 2.0	2/1/4/5	5	7	SSA			Grey-brown mottled, moist, medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)			
5	2D	24/24	5.0 - 7.0	5/3/3/2	6	9	17					Grey-brown mottled, moist, stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
10	3D	24/20	10.0 - 12.0	push thru vane			OPEN					Grey, wet, medium stiff to stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 26/5 ft-lbs V2: 20/2 ft-lbs	
	V1		10.6 - 11.0	Su=1210/235 psf									
	V2		11.6 - 12.0	Su=930/95 psf									
15	4D	24/24	15.0 - 17.0	push thru vane								Grey, wet, medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V5: 12/1 ft-lbs V4: 11/1 ft-lbs	
	V3		15.6 - 16.0	Su=560/45 psf									
	V4		16.6 - 17.0	Su=515/45 psf									
20	5D	24/24	20.0 - 22.0	push thru vane								Grey, wet, soft, Silty CLAY, high plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V5: 9/1 ft-lbs V6: 8/1 ft-lbs	
	V5		20.6 - 21.0	Su=420/45 psf									
	V6		21.6 - 22.0	Su=375/45 psf									
25								59.4				Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
Remarks:													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.													

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-332 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 81.5		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 01-26-2021/01-26-2021		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 902+45.2, 13.7 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 4.2 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/3	0.0 - 2.0	3/1/WOR/3	1	1	SSA
5							
5	2D	24/9	5.0 - 7.0	4/5/5/4	10	14	25
10							
10	3D	24/24	10.0 - 12.0	push thru vane			OPEN
15	V1		10.6 - 11.0	S _u =1400/375 psf			
	V2		11.6 - 12.0	S _u =1165/235 psf			
15	4D	24/5	15.0 - 17.0	push thru vane			
20	V3		15.6 - 16.0	S _u =605/95 psf			
	V4		16.6 - 17.0	S _u =560/95 psf			
20	5D	24/24	20.0 - 22.0	push thru vane			
25	V5		20.6 - 21.0	S _u =465/45 psf			
	V6		21.6 - 22.0	S _u =420/45 psf			

81.2

71.4

59.5

Graphic Log

Brown, moist, very soft, SILT, organics
-TOPSOIL-(OL)

Grey-brown mottled, moist, stiff, Silty CLAY
-MARINE DEPOSIT-(CL)

Grey-brown mottled, moist, stiff, Silty CLAY, low plasticity
-MARINE DEPOSIT-(CL)

Grey, wet, stiff, Silty CLAY, moderate plasticity
-MARINE DEPOSIT-(CL)
55x110 mm vane raw torque readings:
V1: 30/8 ft-lbs
V2: 25/5 ft-lbs

Grey, wet, medium stiff, Silty CLAY, high plasticity
-MARINE DEPOSIT-(CL)
55x110 mm vane raw torque readings:
V3: 13/2 ft-lbs
V4: 12/2 ft-lbs

Grey, wet, soft, Silty CLAY, moderate plasticity
-MARINE DEPOSIT-(CL)
55x110 mm vane raw torque readings:
V5: 10/1 ft-lbs
V6: 9/1 ft-lbs

Bottom of Exploration at 22.0 feet below ground surface.

No Refusal

Visual Description and Remarks

Laboratory Testing Results/ AASHTO and Unified Class.

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

Page 1 of 1

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Boring No.: HB-BE-332

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-333					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 81.8		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: B. Estes		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 01-27-2021/01-27-2021		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 705+00.3, 15.9 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.2 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/9	0.0 - 2.0	1/WOH/WOH/3			SSA			Grey-brown mottled, moist, very soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
5	2D	24/24	5.0 - 7.0	2/3/2/3	5	7	12			Grey-brown mottled, moist, medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
							9				
							11				
							13				
							18				
10	3D	24/24	10.0 - 12.0	push thru vane			HW			Grey, wet, medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 14/4 ft-lbs V2: 14/2 ft-lbs	
	V1		10.6 - 11.0	Su=650/185 psf							
	V2		11.6 - 12.0	Su=650/95 psf							
15	4D	24/24	15.0 - 17.0	push thru vane			13			Grey, wet, soft, Silty CLAY, high plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V3: 10/2 ft-lbs V4: 9/2 ft-lbs	
	V3		15.6 - 16.0	Su=465/95 psf			13				
	V4		16.6 - 17.0	Su=420/95 psf			13				
							48				
							31				
							51				
20	5D	24/6	20.0 - 22.0	7/6/4/14	10	14				Grey, wet, medium dense, GRAVEL, some fine to medium sand, little silt, well graded, loosely bonded -GLACIAL TILL-(GM)	
25										Bottom of Exploration at 22.0 feet below ground surface. No Refusal	

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-333

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-334	
				Location: Brewer and Eddington, Maine		WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 80.9		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 01-25-2021/01-25-2021		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 901+31.0, 19.2 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 1.1 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/14	0.0 - 2.0	1/1/2/4	3	4	SSA
5	2D	24/24	5.0 - 7.0	2/4/7/7	11	16	13
							22
							33
							42
							54
10	3D MV	24/24	10.0 - 12.0 10.6 - 11.0	1/2/2/2	4	6	OPEN
15	4D V1 V2	24/24	15.0 - 17.0 15.6 - 16.0 16.6 - 17.0	push thru vane Su=420/45 psf Su=420/45 psf			
20	5D V3 MV	24/24	20.0 - 22.0 20.6 - 21.0 21.6 - 22.0	WOR/WOR/6/10 Su=325/45 psf	6	9	
25							
				Elevation (ft.)			
				Graphic Log			
				Visual Description and Remarks			
				Laboratory Testing Results/ AASHTO and Unified Class.			
				Dark brown to brown, damp, soft, SILT, organics -TOPSOIL-(OL) 0.4- Olive-brown mottled, damp, soft, Silty CLAY, slightly plastic -MARINE DEPOSIT-(CL) Olive-brown to gray-brown mottled, damp to moist, very stiff, Silty CLAY, moderately plastic, slightly blocky -MARINE DEPOSIT-(CL) Grey-brown slightly mottled, moist to wet, medium stiff, Silty CLAY, moderately plastic -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test at 10.6 ft, no penetration. Grey with black streaks, wet, soft, Silty CLAY, moderately plastic 55x110 mm vane raw torque readings: V1: 9/1 ft-lbs V2: 9/1 ft-lbs Grey with black streaks, wet, soft, Silty CLAY, moderately plastic -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V3: 7/1 ft-lbs Note: Attempted field vane shear test, no penetration. 21.1- Grey-brown, wet, medium dense, Sandy GRAVEL, trace silt, well graded -GLACIAL TILL-(GW) 22.0-			
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

<div>Maine Department of Transportation</div> <div>Soil/Rock Exploration Log</div> <div>US CUSTOMARY UNITS</div>						Project: Route 9/I-395 Connector				Boring No.: HB-BE-334			
						Location: Brewer and Eddington, Maine				WIN: 18915.00			
Driller: New England Boring Contractors						Elevation (ft.): 80.9				Auger ID/OD: --			
Operator: M. Porter						Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes						Rig Type: Mobile B-53 Track				Hammer Wt./Fall: SS-140#/30; HW-300#			
Date Start/Finish: 01-25-2021/01-25-2021						Drilling Method: SSA/HW Drive				Core Barrel: --			
Boring Location: Sta. 901+31.0, 19.2 RT						Casing ID/OD: HW-4.0 in. ID				Water Level*: 1.1 ft			
Hammer Efficiency Factor: 0.852						Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>							
Definitions:													
D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt													
R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140 lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person													
S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected													
T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test													
Sample Information													
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks			
25										Bottom of Exploration at 22.0 feet below ground surface. No Refusal			
30													
35													
40													
45													
50													
Remarks:													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.													
Page 2 of 2													
Boring No.: HB-BE-334													

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: HB-BE-335						
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00						
Driller: New England Boring Contractors		Elevation (ft.): 80.8		Auger ID/OD: --								
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID								
Logged By: B. Estes		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16								
Date Start/Finish: 01-25-2021/01-25-2021		Drilling Method: SSA/HW Drive		Core Barrel: --								
Boring Location: Sta. 900+00.0, 15.8 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 0.1 ft								
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>										
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>												
Sample Information												
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
0	1D	24/16	0.0 - 2.0	5/2/2/4	4	6	SSA	80.4		<p>Dark brown to brown, damp, medium stiff, SILT, organics, frozen</p> <p>-TOPSOIL-(OL)</p> <p>Olive-brown mottled, damp, medium stiff, Silty CLAY, slightly plastic</p> <p>-MARINE DEPOSIT-(CL)</p> <p>Olive-brown to gray-brown mottled, damp to moist, stiff, Silty CLAY, moderately plastic, slightly blocky</p> <p>-MARINE DEPOSIT-(CL)</p> <p>Grey with black streaks, wet, soft to medium stiff, Silty CLAY, moderately plastic</p> <p>-MARINE DEPOSIT-(CL)</p> <p>55x110 mm vane raw torque readings:</p> <p>V1: 10/1 ft-lbs</p> <p>V2: 11/1 ft-lbs</p> <p>Grey-brown, wet, soft, Silty CLAY, moderately plastic</p> <p>-MARINE DEPOSIT-(CL)</p> <p>55x110 mm vane raw torque readings:</p> <p>V3: 9/1 ft-lbs</p> <p>V4: 9/1 ft-lbs</p> <p>Note: Vane refusal at 16.7 ft.</p> <p>Note: Piece of coarse gravel recovered in sample spoon tip.</p> <p>Grey-brown, wet, very dense, Sandy GRAVEL, trace silt, well graded</p> <p>-GLACIAL TILL-(GW)</p> <p>Note: Top of probable bedrock at 20.1 ft based on drill action.</p> <p>Top of Probable Bedrock El. 60.7</p> <p>-PROBABLE BEDROCK-</p> <p>Bottom of Exploration at 21.1 feet below ground surface.</p>		
5	2D	24/24	5.0 - 7.0	1/3/3/4	6	9	16	71.3				
10	3D	24/24	10.0 - 12.0	push thru vane			OPEN					
	V1		10.6 - 11.0	Su=465/45 psf								
	V2		11.6 - 12.0	Su=515/45 psf								
15	4D	24/24	15.0 - 17.0	push thru vane								
	V3		15.6 - 16.0	Su=420/45 psf								
	V4		16.3 - 16.7	Su=420/45 psf								
20	5D	1/1	20.0 - 20.1	50(1")			RC	60.7				
25								59.7				

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-335

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-336 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 83.1		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 01-25-2021/01-25-2021		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 60+23.5, 41.8 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 2.9 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/13	0.0 - 2.0	3/2/2/4	4	6	SSA
5	2D	24/24	5.0 - 7.0	3/4/4/6	8	11	19
							25
							36
							43
							40
10	3D	24/24	10.0 - 12.0	push thru vane			OPEN
	V1		10.6 - 11.0	Su=1445/185 psf			
	V2		11.6 - 12.0	Su=1120/140 psf			
15	4D	24/24	15.0 - 17.0	push thru vane			
	V3		15.6 - 16.0	Su=465/95 psf			
	V4		16.6 - 17.0	Su=325/45 psf			
20	5D	5/5	20.0 - 20.4	50(5")			
25							
Visual Description and Remarks Dark brown, damp, medium stiff, SILT, organics, frozen -TOPSOIL-(OL) Olive-brown mottled, damp, medium stiff, Silty CLAY, slightly plastic, slightly blocky, fissured with oxidization -MARINE DEPOSIT-(CL) Olive-brown to grey-brown mottled, moist, stiff, Silty CLAY, slightly to moderately plastic -MARINE DEPOSIT-(CL) Similar to 2D -MARINE DEPOSIT-(CL) Grey-brown slightly mottled, wet, stiff, Silty CLAY, moderately plastic -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 31/4 ft-lbs V2: 24/3 ft-lbs Grey with black streaks, wet, soft, Silty CLAY, moderately plastic -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V3: 10/2 ft-lbs V4: 7/1 ft-lbs Note: Drilling indicates change at 18.1 ft. Grey-brown, wet, very dense, Sandy GRAVEL, trace silt, well graded -GLACIAL TILL-(GW) Note: Refusal on probable bedrock at 20.4 ft. Bottom of Exploration at 20.4 feet below ground surface.							
Laboratory Testing Results/ AASHTO and Unified Class.							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-337					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 85.7		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 01-26-2021/01-26-2021		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 810+30.2, 15.7 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.6 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/7	0.0 - 2.0	3/WOR/1/4	1	1	SSA			Grey-brown mottled, moist, very soft, Silty CLAY, low plasticity (1.4 in. of frost) -MARINE DEPOSIT-(CL)	
5	2D	24/24	5.0 - 7.0	2/3/4/4	7	10	18			Grey-brown mottled, moist, stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
10	3D MV	24/24	10.0 - 12.0 10.6 - 11.0	WOH/WOH/WOH/ WOH			HW			Grey, wet, very soft, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.	
15	4D	24/4	15.0 - 17.0	21/7/12/7	19	27		71.0		Grey, wet, medium dense, Silty GRAVEL, trace fine to medium sand, loosely bonded -GLACIAL TILL-(GM)	
20							RC	67.4		Note: Probable top of weathered rock at 18.3 ft. Top of Probable Weathered Bedrock El. 67.4 -PROBABLE WEATHERED BEDROCK-	
25								64.1 63.7		Note: Drill action and cuttings indicate probable top of bedrock at 21.6 ft. Top of Probable Bedrock El. 64.1 -PROBABLE BEDROCK-	
Bottom of Exploration at 22.0 feet below ground surface.											
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-337	

Maine Department of Transportation				Project: Route 9/I-395 Connector		Boring No.: HB-BE-338	
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 85.6		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 01-27-2021/01-27-2021		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 811+46.1, 18.4 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 5.2 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N = uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plasticity Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/7	0.0 - 2.0	2/1/1/3	2	3	SSA
5							
5	2D	24/24	5.0 - 7.0	2/4/5/8	9	13	15
10							
10	MV		9.9 - 10.3	S _u >2,330 psf			38
15							
15	4D	24/24	15.0 - 17.0	push thru vane			
20	V1		15.6 - 16.0	S _u =650/185 psf			
	V2		16.6 - 17.0	S _u =560/95 psf			
20							
25							

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-338

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-339		
				Location: Brewer and Eddington, Maine		WIN: 18915.00		
Driller: New England Boring Contractors		Elevation (ft.): 84.4		Auger ID/OD: --				
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID				
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16				
Date Start/Finish: 01-22-2021/01-22-2021		Drilling Method: SSA/HW Drive		Core Barrel: --				
Boring Location: Sta. 61+58.4, 46.2 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.6 ft				
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>						
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plasticity Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>								
Sample Information								
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)
0	1D	24/14	0.0 - 2.0	1/2/3/6	5	7	SSA	84.4
5	2D	24/24	5.0 - 7.0	3/4/5/7	9	13	19	72.8
10	MV		9.9 - 10.3	Su=1,955 psf			46	
	3D	24/24	10.0 - 12.0	WOH/1/2/3	3	4	OPEN	72.8
15	4D	24/24	15.0 - 17.0	push thru vane Su=515/95 psf				66.7
	V1		15.6 - 16.0					
	V2		16.6 - 17.0	Su=605/95 psf				
20	5D	18/3	20.0 - 21.5	11/5/50	55	78		62.9
25								
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Visual Description and Remarks</p> <p>Grey-brown mottled, dry, medium stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)</p> <p>Grey-brown mottled, moist, stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL)</p> <p>Note: Vane refusal at 10.3 ft. MV: 42 ft-lbs Grey-brown mottled, moist, stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)</p> <p>Grey, wet, medium stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 11/2 ft-lbs V2: 13/2 ft-lbs</p> <p>Grey, wet, very dense, GRAVEL, trace silt, trace sand, modeately bonded -GLACIAL TILL-(GP)</p> <p>Bottom of Exploration at 21.5 feet below ground surface.</p> <p>No Refusal</p> </div> <div style="width: 5%; text-align: center;"> <p>Graphic Log</p> </div> <div style="width: 50%;"> <p>Laboratory Testing Results/ AASHTO and Unified Class.</p> </div> </div>								
Remarks:								
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.								Page 1 of 1
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.								Boring No.: HB-BE-339

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-340				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 85.0		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 01-22-2021/01-22-2021		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 62+00.4, 29.5 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.8 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D	24/4	0.0 - 2.0	WOH/WOH/1/3	1	1	SSA		Brown, moist, very soft, SILT, trace fine sand, organics -TOPSOIL-(OL)	
									Grey-brown mottled, moist, very soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
5	2D	24/24	5.0 - 7.0	2/3/4/5	7	10	✓		Grey-brown mottled, moist, stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
							31			
							40			
							44			
							45			
10	3D MV	24/24	10.0 - 12.0 10.6 - 11.0	WOH/WOH/WOH/ WOH			22		Grey, wet, very soft, Silty CLAY, moderate to high plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration.	
							16			
							15			
							14			
							14			
15	4D/A	24/16	15.0 - 17.0	WOH/7/3/5	10	14	19		Similar to 3D -MARINE DEPOSIT-(CL)	
							26			
							19			
							34			
							52			
20	5D	24/5	20.0 - 22.0	11/10/7/10	17	24		Grey, wet, medium dense, GRAVEL, little clay, trace fine sand, moderately bonded -GLACIAL TILL-(GM)		
25								Bottom of Exploration at 22.0 feet below ground surface. No Refusal		

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-340

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-341							
				Location: Brewer and Eddington, Maine		WIN: 18915.00							
Driller: New England Boring Contractors		Elevation (ft.): 119.6		Auger ID/OD: --									
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID									
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16									
Date Start/Finish: 11-3-2020/11-4-2020		Drilling Method: SSA/HW Drive		Core Barrel: --									
Boring Location: Sta. 118+94.6, 92.4 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 5.6 ft									
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>											
<div style="display: flex; justify-content: space-between; font-size: small;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>													
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.		
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows						
0	1D	24/18	0.0 - 2.0	WOH/2/3/4	5	7	SSA	119.3		Brown, moist, medium stiff, SILT, organics, roots -TOPSOIL-(OL) Grey-brown mottled, moist, medium stiff, SILT, trace clay -MARINE DEPOSIT-(ML)			
								114.8					
5	2D	24/24	5.0 - 7.0	4/5/5/6	10	14	20						
							34						
							224						
							101						
							73						
10	3D	24/15	10.0 - 12.0	27/23/15/8	38	54	15	109.6		Brown, wet, very dense, fine to coarse SAND, little gravel, little silt, loosely bonded -GLACIAL TILL-(SW)			
							9						
							16						
							14						
							19						
15	4D	24/7	15.0 - 17.0	7/22/9/12	31	44	OPEN	104.6			Grey, wet, dense, Silty fine to coarse SAND, little gravel, moderately bonded -GLACIAL TILL-(SM)		
20	5D	24/7	20.0 - 22.0	10/24/24/11	48	68		99.6			Grey to brown-grey, wet, hard, SILT, some gravel, little fine to coarse sand, moderately bonded -GLACIAL TILL-(ML)		
								97.6					
25										Bottom of Exploration at 22.0 feet below ground surface. No Refusal			
Remarks:													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.													
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Page 1 of 1 Boring No.: HB-BE-341			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-342					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 215.5		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 2-4-2021/2-4-2021		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 325+03.0, 21.1 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.1 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D/A	24/10	0.0 - 2.0	4/2/5/4	7	10	SSA	215.2		Brown, moist, stiff, SILT, organics, roots, trace fine sand -TOPSOIL-(OL)	
										Brown, moist, loose, fine to coarse SAND, some gravel, some silt, loosely bonded, oxidation -GLACIAL TILL-(SP)	
5	2D	24/14	5.0 - 7.0	13/15/12/12	27	38	35	210.5	Brown, moist, hard, SILT, little fine sand, trace gravel, loosely bonded -GLACIAL TILL-(ML)		
							36				
							48				
							73				
							97				
10	3D	24/18	10.0 - 12.0	17/26/30/27	56	80	OPEN		Grey, wet, hard, SILT, some gravel, trace fine sand, moderately bonded -GLACIAL TILL-(ML)		
15	4D	24/22	15.0 - 17.0	20/20/26/22	46	65			Grey, wet, hard, SILT, little gravel, trace fine sand, moderately bonded -GLACIAL TILL-(ML)		
20	5D	14/8	20.0 - 21.2	15/51/50(2")				195.5	Grey, wet, very dense, Silty GRAVEL, moderately bonded -GLACIAL TILL-(GM)		
								194.3	Note: Refusal at 21.2 ft, probable top of bedrock.		
25									Bottom of Exploration at 21.2 feet below ground surface.		

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1

Boring No.: HB-BE-342

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-343					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 202.5		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 2-3-2021/2-3-2021		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID							
Boring Location: Sta. 6004+65.0, 29.3 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 4.6 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D/A	24/5	0.0 - 2.0	3/1/7/3	8	11	SSA	202.1		Brown, moist, soft, SILT, trace fine sand, organics, 1-in. of frost -TOPSOIL-(OL) Brown, moist, stiff, Sandy SILT, trace gravel, loosely bonded -GLACIAL TILL-(ML) Brown, moist, very dense, Silty GRAVEL, little sand, loosely bonded -GLACIAL TILL-(GM) Brown, moist, hard, SILT, some fine sand, little gravel, moderately bonded -GLACIAL TILL-(ML) Grey, moist, very dense, Silty GRAVEL, trace fine to medium sand, well bonded -GLACIAL TILL-(GM) Top of Bedrock El. 185.3 R1: Grey, aphanitic, PHYLLITE, hard, fresh to slightly weathered. Joints dipping at low angles, close to wide spacing, tight, calcite veins, some oxide staining. Secondary steeply dipping joints, wide, tight to open. Rock Quality=Excellent Recovery=100% -BREWER FORMATION- R1 Core Times (min:sec): 17.5-18.5' (2:17); 18.5-19.5' (1:54); 19.5-20.5' (1:47); 20.5-21.5' (1:41); 21.5-22.5' (1:37) Bottom of Exploration at 22.5 feet below ground surface.	
5	2D	24/6	5.0 - 7.0	17/42/22/18	64	91	61	197.5			
							100				
							59				
							46				
							54				
10	3D	24/19	10.0 - 12.0	23/28/25/31	53	75	HW	192.5			
15	4D	1/1	15.0 - 15.1	58(1")				187.5			
	R1	60/60	17.5 - 22.5	RQD = 100%			RC NQ CORE	185.3			
20											
25								180.0			
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-343	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-344					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 209.9		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 2-4-2021/2-4-2021		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 326+34.5, 44.5 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 2.3 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: small;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0	1D/A	24/7	0.0 - 2.0	6/9/4/6	13	18	SSA	209.8		Brown, dry, very stiff, SILT, trace fine sand, trace gravel, organics -TOPSOIL-(OL) Brown, dry, very stiff, Gravelly SILT, trace fine sand, loosely bonded, oxidation -GLACIAL TILL-(ML)	
5	2D	24/15	5.0 - 7.0	15/16/15/35	31	44	69	204.9		Brown, wet, dense, fine to medium SAND, little gravel, little silt, loosely bonded, oxidation -GLACIAL TILL-(SM)	
							70				
							74				
							83				
							82				
10	3D	24/20	10.0 - 12.0	24/33/33/43	66	94	OPEN	199.9		Grey, wet, hard, SILT, trace gravel, trace fine sand, moderately bonded -GLACIAL TILL-(ML) Grey, wet, hard, SILT, some gravel, trace fine sand, well bonded -GLACIAL TILL-(ML)	
15	4D	24/10	15.0 - 17.0	29/50/69/45	119	169					
20	5D	24/15	20.0 - 22.0	38/31/59/50	90	128				Grey, wet, hard, SILT, little gravel, trace fine sand, moderately bonded -GLACIAL TILL-(ML)	
25								187.9		Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-344	

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-345 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 205.9		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 2-3-2021/2-3-2021		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 327+49.2, 38.3 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 3.4 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/8	0.0 - 2.0	2/3/2/2	5	7	SSA
5							
5	2D	24/14	5.0 - 7.0	11/15/15/12	30	43	58
10							57
							79
							144
							141
10	3D	24/24	10.0 - 12.0	18/21/28/47	49	70	OPEN
15							9.5"
15	4D	24/20	15.0 - 17.0	27/47/60/57	117	166	
20							
20	5D	24/21	20.0 - 22.0	20/24/54/52	78	111	
25							
Visual Description and Remarks Brown, moist, soft, SILT, trace fine sand, organics -TOPSOIL-(OL) Brown, moist, medium stiff, Clayey SILT, some fine sand, trace gravel, loosely bonded -GLACIAL TILL-(ML) Brown, moist, dense, fine to medium SAND, little silt, trace gravel, loosely bonded -GLACIAL TILL-(SM) Grey, moist, hard, SILT, little gravel, trace fine sand, moderately bonded -GLACIAL TILL-(ML) Grey, moist, hard, SILT, little gravel, moderately bonded -GLACIAL TILL-(ML) Grey, moist, hard, SILT, little gravel, moderately bonded -GLACIAL TILL-(ML) Bottom of Exploration at 22.0 feet below ground surface. No Refusal							
Laboratory Testing Results/ AASHTO and Unified Class.							
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-346					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 90.6		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 01-28-2021/01-29-2021		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 711+00.7, 10.6 LT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 8.0 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<div style="display: flex; justify-content: space-between; font-size: small;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D/A	24/9	0.0 - 2.0	1/WOH/2/4	2	3	SSA	90.4		Brown, dry, soft, SILT, organics -TOPSOIL-(OL)	
										Grey-brown mottled, moist, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
5	2D	24/24	5.0 - 7.0	3/7/8/9	15	21	20			Grey-brown mottled, moist, very stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
							26				
							30				
							34				
							32				
10	3D/A MV	24/14	10.0 - 12.0 10.6 - 11.0	WOH/8/19/17	27	38	41			Brown, wet, hard, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test, no penetration, probable sand seam.	
							25				
							26			Grey, wet, dense, fine to coarse SAND, some gravel, little silt, moderately bonded -GLACIAL TILL-(SM)	
							63				
							78				
15	4D	24/7	15.0 - 17.0	22/17/15/34	32	45	26		Grey, wet, dense, fine to medium SAND, little gravel, trace silt, moderately bondd -GLACIAL TILL-(SP) Note: Advanced roller bit ahead of casing from 15.0 to 20.0 ft.		
							36				
							88				
							68				
							79				
20	5D	19/6	20.0 - 21.6	14/44/44/50(1")	88	125			Grey, wet, very dense, fine SAND, little medium to coarse sand, little gravel, trace silt, moderately bonded -GLACIAL TILL-(SP) Note: Refusal at El. 69.0, probable top of bedrock.		
									Bottom of Exploration at 21.6 feet below ground surface.		
25											

Remarks:

 Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-346

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-347				
				Location: Brewer and Eddington, Maine		WIN: 18915.00				
Driller: New England Boring Contractors		Elevation (ft.): 90.5		Auger ID/OD: --						
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16						
Date Start/Finish: 01-28-2021/01-28-2021		Drilling Method: SSA/HW Drive		Core Barrel: --						
Boring Location: Sta. 807+46.4, 11.0 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 7.8 ft						
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> <div> <p>Definitions:</p> <p>D = Split Spoon Sample</p> <p>MD = Unsuccessful Split Spoon Sample Attempt</p> <p>U = Thin Wall Tube Sample</p> <p>MU = Unsuccessful Thin Wall Tube Sample Attempt</p> <p>V = Field Vane Shear Test, PP = Pocket Penetrometer</p> <p>MV = Unsuccessful Field Vane Shear Test Attempt</p> </div> <div> <p>R = Rock Core Sample</p> <p>SSA = Solid Stem Auger</p> <p>HSA = Hollow Stem Auger</p> <p>RC = Roller Cone</p> <p>WOH = Weight of 140lb. Hammer</p> <p>WOR/C = Weight of Rods or Casing</p> <p>WO1P = Weight of One Person</p> </div> <div> <p>S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)</p> <p>S_{u(lab)} = Lab Vane Undrained Shear Strength (psf)</p> <p>q_p = Unconfined Compressive Strength (ksf)</p> <p>N-uncorrected = Raw Field SPT N-value</p> <p>Hammer Efficiency Factor = Rig Specific Annual Calibration Value</p> <p>N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency</p> <p>N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected</p> </div> <div> <p>T_v = Pocket Torvane Shear Strength (psf)</p> <p>WC = Water Content, percent</p> <p>LL = Liquid Limit</p> <p>PL = Plastic Limit</p> <p>PI = Plasticity Index</p> <p>G = Grain Size Analysis</p> <p>C = Consolidation Test</p> </div> </div>										
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows			
0	1D/A	24/11	0.0 - 2.0	2/WOH/2/3	2	3	SSA		Brown, moist, soft, SILT, organics, frost throughout -TOPSOIL-(OL) Grey-brown mottled, moist, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) Grey-brown mottled, moist, stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL) Grey, wet, soft to stiff, Silty CLAY, moderate plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 29/3 ft-lbs V2: 10/1 ft-lbs Note: Drill action indicates change at 13.7 ft. Grey, wet, dense, GRAVEL, some fine to coarse sand, trace silt, well graded, moderately bonded -GLACIAL TILL-(GW) Grey, wet, very dense, GRAVEL, little fine to medium sand, little silt, poorly graded, moderately bonded -GLACIAL TILL-(GM) Note: Refusal at 20.4 ft, probable top of bedrock. Bottom of Exploration at 20.4 feet below ground surface.	
5	2D	24/24	5.0 - 7.0	3/4/5/5	9	13	20			
							25			
							20			
							22			
							34			
10	3D	24/24	10.0 - 12.0	push thru vane			22			
	V1		10.6 - 11.0	Su=1350/140 psf			16			
	V2		11.6 - 12.0	Su=465/45 psf			15			
							13			
							57			
15	4D	24/5	15.0 - 17.0	21/13/11/10	24	34	31			
							61			
							77			
							43			
							54			
20	5D	5/4	20.3 - 20.7	50(5")						
25										

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

 * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-347

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-348 WIN: 18915.00					
Driller: New England Boring Contractors		Elevation (ft.): 89.3		Auger ID/OD: --							
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16							
Date Start/Finish: 01-28-2021/01-28-2021		Drilling Method: SSA/HW Drive		Core Barrel: --							
Boring Location: Sta. 708.87.5, 11.9 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 7.4 ft							
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				Elevation (ft.)
0	1D	24/6	0.0 - 2.0	1/1/2/7	3	4	SSA			Grey-brown mottled, moist, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
5	2D	24/24	5.0 - 7.0	4/6/6/6	12	17	24			Grey-brown mottled, moist, very stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)	
10	3D MV	24/24	10.0 - 12.0 10.6 - 11.0	WOH/WOH/WOH/ WOH			35	79.3		Grey, wet, very soft, Silty CLAY, high plasticity -MARINE DEPOSIT-(CL) Note: Attempted field vane shear test at 10.6 ft, no penetration, vane refusal at 10.0 ft. Note: Attempted field vane shear test at 13.6 ft, no penetration, vane refusal at 13.0 ft.	
15	MV		13.6 - 14.0				24	76.2			
20	4D	24/10	15.0 - 17.0	19/11/9/10	20	28	66			Grey, wet, medium dense, fine to medium SAND, little silt, trace coarse sand and gravel, loosely bonded GLACIAL TILL-(SP)	
25	5D	24/5	20.0 - 22.0	15/12/12/11	24	34		69.3		Grey, wet, hard, SILT, some fine sand, trace medium sand and gravel, well bonded -GLACIAL TILL-(ML)	
								67.3		Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1	
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-348	

Maine Department of Transportation				Project: Route 9/1-395 Connector		Boring No.: HB-BE-349	
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Brewer and Eddington, Maine		WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 88.1		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: J. Fletcher		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 1-27-2021/1-28-2021		Drilling Method: SSA/HW Drive		Core Barrel: NQ-2.0 in. ID			
Boring Location: Sta. 809+01.9, 14.7 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 2.1 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<div style="display: flex; justify-content: space-between; font-size: small;"> <div> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt </div> <div> R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person </div> <div> S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected </div> <div> T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </div> </div>							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/8	0.0 - 2.0	1/1/2/5	3	4	SSA
5	2D	24/24	5.0 - 7.0	3/4/6/7	10	14	22
10	3D/A V1	24/13	10.0 - 12.0	WOH/5/18/41 Su=980psf	23	33	HW
15	R1	60/20.4	12.0 - 17.0				NQ CORE
20	R2	60/36	17.0 - 22.0	RQD = 8%			
25							
				Elevation (ft.)		Graphic Log	
				Visual Description and Remarks		Laboratory Testing Results/AASHTO and Unified Class.	
				Brown, moist, soft, SILT, organics -TOPSOIL-(OL)		0.1-	
				Grey-brown mottled, moist, soft, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)		0.1-	
				Grey-brown mottled, moist, stiff, Silty CLAY, low plasticity -MARINE DEPOSIT-(CL)		0.1-	
				Grey, wet, medium stiff, Silty CLAY, high plasticity -MARINE DEPOSIT-(CL) 55x110 mm vane raw torque readings: V1: 21 ft-lbs Note: Unable to take remolded reading due to gravel.		11.6-	
				Grey, wet, very dense, GRAVEL(weathered rock fragments(boulder)), well bonded		12.0-	
				R1: Grey, aphanitic, SILTSTONE, hard, slightly weathered. Recovery=33% -BOULDERS- R1 Core Times (min:sec): 12.0-13.0' (3:45); 13.0-14.0' (1:53); 14.0-15.0' (1:56); 15.0-16.0' (1:17); 16.0-17.0' (0:51)		17.0-	
				Top of Bedrock El. 71.1 R2: Grey, aphanitic, PHYLLITE, hard, fresh to slightly weathered. Joints low to moderately dipping, very close to close, tight to open. Highly fractured zone from approximately 17.0 to 18.0 ft. Rock Quality=Very Poor Recovery=60% -BREWER FORMATION- R2 Core Times (min:sec): 17.0-18.0' (3:04); 18.0-19.0' (2:22); 19.0-20.0' (2:49); 20.0-21.0' (3:19); 21.0-22.0' (2:43)		22.0-	
				Bottom of Exploration at 22.0 feet below ground surface.			
Remarks:							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.						Page 1 of 1	
Boring No.: HB-BE-349							

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-350 WIN: 18915.00	
Driller: New England Boring Contractors		Elevation (ft.): 85.4		Auger ID/OD: --			
Operator: M. Porter		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID			
Logged By: B. Estes		Rig Type: Mobile B-53 Track		Hammer Wt./Fall: SS-140#/30; HW-300#/16			
Date Start/Finish: 01-27-2021/01-27-2021		Drilling Method: SSA/HW Drive		Core Barrel: --			
Boring Location: Sta. 707+56.6, 16.2 RT		Casing ID/OD: HW-4.0 in. ID		Water Level*: 4.7 ft			
Hammer Efficiency Factor: 0.852		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S _u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S _{u(lab)} = Lab Vane Undrained Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N ₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T _v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows
0	1D	24/8	0.0 - 2.0	1/1/3/3	4	6	SSA
5							
	2D	24/24	5.0 - 7.0	3/4/5/7	9	13	21
							24
							28
10							33
							34
	3D	24/24	10.0 - 12.0	WOH/1/WOH/WOH	1	1	33
							28
15							19
							36
							56
	4D	24/1	15.0 - 17.0	10/9/5/5	14	20	OPEN
20							
							RC
25							

85.2

74.8

72.5

66.7

65.4

Graphic Log

Brown, moist, soft, SILT, organics
-TOPSOIL-(OL)

Grey-brown mottled, moist, medium stiff, Silty CLAY, low plasticity
-MARINE DEPOSIT-(CL)

Grey-brown mottled, moist, stiff, Silty CLAY, low plasticity
-MARINE DEPOSIT-(CL)

Grey, wet, very soft, Silty CLAY, high plasticity
-MARINE DEPOSIT-(CL)

Grey, wet, medium dense, GRAVEL, some fine to coarse sand, little silt, poorly graded, loosely bonded
-GLACIAL TILL-(GP)

Top of Probable Bedrock El. 66.7
-PROBABLE BEDROCK-
Note: Drill action and cuttings indicate probable top of bedrock at 18.7 ft.

Bottom of Exploration at 20.0 feet below ground surface.

0.2

10.6

12.9

18.7

20.0

Laboratory Testing Results/AASHTO and Unified Class.

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-350

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector		Boring No.: HB-BE-351					
				Location: Brewer and Eddington, Maine		WIN: 18915.00					
Driller: Maine Department of Transportation			Elevation (ft.): 124.1		Auger ID/OD: 5.0 in. OD						
Operator: T. Daggett			Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID						
Logged By: B. Estes			Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30						
Date Start/Finish: 04-11-2021/04-11-2021			Drilling Method: SSA		Core Barrel: --						
Boring Location: Sta. 522+99.5, 24.5 LT			Casing ID/OD: --		Water Level*: Dry						
Hammer Efficiency Factor: 0.89			Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>											
Depth (ft.)	Sample Information							Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows				
0							SSA	123.7	-BITUMINOUS CONCRETE-	<div style="position: relative; height: 100%;"> <div style="position: absolute; top: 0; right: 0; width: 100px; text-align: right;">0.4-</div> <div style="position: absolute; top: 20%; right: 0; width: 100px; text-align: right;">2.3-</div> <div style="position: absolute; top: 60%; right: 0; width: 100px; text-align: right;">21.2-</div> </div>	
	1D	24/15	1.0 - 3.0	16/17/21/27	38	56		121.8	Brown to red-brown, dry to damp, very dense, fine to coarse SAND, some gravel, well graded -FILL-(SW)		
									Olive-grey to olive-brown and light brown, dry to damp, hard, intermixed SILT and Clayey SILT, little fine to coarse sand, trace gravel, friable to slightly bonded (Reworked MARINE DEPOSIT/GLACIAL TILL) -FILL-(ML)		
5	2D	24/24	5.0 - 7.0	16/14/18/21	32	47			Similar to 1D (2.3-3.0 ft.)		
10	3D	24/24	10.0 - 12.0	12/17/18/31	35	52			Olive-grey to olive-brown and light brown, dry to damp, hard, intermixed SILT and Clayey SILT, little fine to coarse sand, trace gravel, friable to slightly bonded (Reworked MARINE DEPOSIT/GLACIAL TILL) -FILL-(ML)		
15	4D	24/24	15.0 - 17.0	15/15/12/19	27	40			Olive-brown, dry, hard, SILT, some clay, little fine to coarse sand, trace gravel, friable to slightly bonded (Reworked MARINE DEPOSIT/GLACIAL TILL) -FILL-(ML)		
20	5D	14/11	20.0 - 21.2	19/29/55(2")				102.9	Similar to 4D		
25									Bottom of Exploration at 21.2 feet below ground surface. Spoon refusal on probable cobble at 21.2 ft.		
Remarks:											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-351

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine		Boring No.: HB-BE-352 WIN: 18915.00					
Driller: Maine Department of Transportation		Elevation (ft.): 122.1		Auger ID/OD: 5.0 in. OD							
Operator: T. Daggett		Datum: NAVD 88		Sampler: Split Spoon 1.375 in. ID							
Logged By: B. Estes		Rig Type: Trailer CME 45C		Hammer Wt./Fall: SS-140#/30							
Date Start/Finish: 04-11-2021/04-11-2021		Drilling Method: SSA		Core Barrel: --							
Boring Location: Sta. 524+21.7, 22.6 LT		Casing ID/OD: --		Water Level*: Dry							
Hammer Efficiency Factor: 0.89		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>									
<small> Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N₆₀ = SPT N-uncorrected Corrected for Hammer Efficiency N₆₀ = (Hammer Efficiency Factor/60%)*N-uncorrected T_v = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test </small>											
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	121.7	Graphic Log	-BITUMINOUS CONCRETE-	
	1D	24/18	1.0 - 3.0	12/24/13/21	37	55		119.8		Light brown to red-brown, dry to damp, very dense, fine to coarse SAND, some gravel, trace silt, well graded	
										-FILL-(SW)	
										Olive-brown to olive-grey, dry to damp, hard, SILT, little fine to coarse sand, little clay, trace gravel, friable to slightly bonded (Reworked MARINE DEPOSIT/GLACIAL TILL)	
										-FILL-(ML)	
5	2D	24/24	5.0 - 7.0	10/11/15/14	26	39				Similar to 1D(2.3 to 3.0 ft)	
										Note: Encountered occasional cobbles 7.0 to 9.5 ft.	
10	3D	24/11	10.0 - 12.0	10/13/28/31	41	61				Olive-brown to olive-grey, dry to damp, hard, Clayey SILT, little fine to coarse sand, trace gravel, friable to slightly bonded (Reworked GLACIAL TILL)	
										-FILL-(ML)	
15	4D	24/22	15.0 - 17.0	20/18/18/18	36	53				Similar to 3D, olive-brown	
20	5D	24/19	20.0 - 22.0	8/15/15/24	30	45				Similar to 3D, olive-brown, damp	
								100.1		Bottom of Exploration at 22.0 feet below ground surface. No Refusal	
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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Boring No.: HB-BE-352

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Route 9/I-395 Connector Location: Brewer and Eddington, Maine				Boring No.: HB-BE-353 WIN: 18915.00																																																																																																																																																																																																																																																					
Driller: Maine Department of Transportation				Elevation (ft.): 115.9				Auger ID/OD: 5.0 in. OD																																																																																																																																																																																																																																																					
Operator: T. Daggett				Datum: NAVD 88				Sampler: Split Spoon 1.375 in. ID																																																																																																																																																																																																																																																					
Logged By: B. Estes				Rig Type: Trailer CME 45C				Hammer Wt./Fall: SS/NW-140#/30																																																																																																																																																																																																																																																					
Date Start/Finish: 04-11-2021/04-11-2021				Drilling Method: SSA/NW Drive				Core Barrel: --																																																																																																																																																																																																																																																					
Boring Location: Sta. 526+79.7, 21.6 LT				Casing ID/OD: NW-3.0 in. ID				Water Level*: Dry																																																																																																																																																																																																																																																					
Hammer Efficiency Factor: 0.89				Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>																																																																																																																																																																																																																																																									
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Field Vane Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = Weight of 140lb. Hammer WOR/C = Weight of Rods or Casing WO1P = Weight of One Person				Su = Peak/Remolded Field Vane Undrained Shear Strength (psf) Su(lab) = Lab Vane Undrained Shear Strength (psf) qp = Unconfined Compressive Strength (ksf) N-uncorrected = Raw Field SPT N-value Hammer Efficiency Factor = Rig Specific Annual Calibration Value N60 = SPT N-uncorrected Corrected for Hammer Efficiency N60 = (Hammer Efficiency Factor/60%)*N-uncorrected																																																																																																																																																																																																																																																					
								Tv = Pocket Torvane Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test																																																																																																																																																																																																																																																					
<table><thead><tr><th colspan="8">Sample Information</th><th rowspan="2">Graphic Log</th><th rowspan="2">Visual Description and Remarks</th><th rowspan="2">Laboratory Testing Results/ AASHTO and Unified Class.</th></tr><tr><th>Depth (ft.)</th><th>Sample No.</th><th>Pen./Rec. (in.)</th><th>Sample Depth (ft.)</th><th>Blows (6 in.) Shear Strength (psf) or RQD (%)</th><th>N-uncorrected</th><th>N60</th><th>Casing Blows</th><th>Elevation (ft.)</th></tr></thead><tbody><tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td>SSA</td><td>115.4</td><td rowspan="25"></td><td>-BITUMINOUS CONCRETE-</td><td rowspan="25"></td></tr><tr><td></td><td>1D</td><td>24/19</td><td>1.0 - 3.0</td><td>7/14/14/21</td><td>28</td><td>42</td><td></td><td></td><td>Brown to red-brown, dry, wet, dense, fine to coarse SAND, some gravel -FILL-(SW) Note: Encountered occasional cobbles 3.0 to 5.0 ft.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td>2D</td><td>24/15</td><td>5.0 - 7.0</td><td>17/13/23/35</td><td>36</td><td>53</td><td></td><td></td><td>Brown, dry, very dense, Gravelly fine to coarse SAND, well graded, intermixed with light brown, hard, SILT, trace fine sand -FILL-(SW/ML) Note: Encountered occasional cobbles 7.0 to 9.0 ft.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td>3D</td><td>24/15</td><td>10.0 - 12.0</td><td>3/45/26/21</td><td>71</td><td>105</td><td></td><td></td><td>Similar to 2D, occasional cobble Note: Encountered cobble 12.0 to 13.0 ft.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>15</td><td>4D</td><td>24/14</td><td>15.0 - 17.0</td><td>16/38/25/23</td><td>63</td><td>93</td><td>37</td><td></td><td>Brown, damp, very dense, fine to coarse SAND, some gravel, trace silt, well graded -FILL-(SW)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>82</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>OPEN</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>20</td><td>5D</td><td>24/9</td><td>20.0 - 22.0</td><td>14/23/21/44</td><td>44</td><td>65</td><td></td><td></td><td>Brown, damp, very dense, Gravelly fine to coarse SAND, well graded -FILL-(SW)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>25</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>93.9</td><td>Bottom of Exploration at 22.0 feet below ground surface. No Refusal</td></tr></tbody></table>												Sample Information								Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.	Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	0							SSA	115.4		-BITUMINOUS CONCRETE-			1D	24/19	1.0 - 3.0	7/14/14/21	28	42			Brown to red-brown, dry, wet, dense, fine to coarse SAND, some gravel -FILL-(SW) Note: Encountered occasional cobbles 3.0 to 5.0 ft.																					5	2D	24/15	5.0 - 7.0	17/13/23/35	36	53			Brown, dry, very dense, Gravelly fine to coarse SAND, well graded, intermixed with light brown, hard, SILT, trace fine sand -FILL-(SW/ML) Note: Encountered occasional cobbles 7.0 to 9.0 ft.																															10	3D	24/15	10.0 - 12.0	3/45/26/21	71	105			Similar to 2D, occasional cobble Note: Encountered cobble 12.0 to 13.0 ft.																															15	4D	24/14	15.0 - 17.0	16/38/25/23	63	93	37		Brown, damp, very dense, fine to coarse SAND, some gravel, trace silt, well graded -FILL-(SW)								82										OPEN																							20	5D	24/9	20.0 - 22.0	14/23/21/44	44	65			Brown, damp, very dense, Gravelly fine to coarse SAND, well graded -FILL-(SW)																															25								93.9	Bottom of Exploration at 22.0 feet below ground surface. No Refusal
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Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 1																																																																																																																																																																																																																																																			
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BE-353																																																																																																																																																																																																																																																			

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-BEA-101, Run No. R1 25.0 (left) to 30.0 (middle); Run No. R2 30.0 (middle) to 32.2 (right)
Top Middle Row: BB-BEA-101, Run No. R2 continued 30.0 (left) to 32.2 (right); Run No. R3 32.2 (left) to 35.0 (right)
Bottom Middle Row: BB-BEA-102, Run No. R1 22.0 (left) to 27.0 (right)
Bottom Row: BB-BEA-102, Run No. R2 27.0 (left) to 32.0 (right)

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I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-BEBT1-101, Run No. R1 31.0 (left) to 36.0 (right)

Top Middle Row: BB-BEBT1-101, Run No. R2 36.0 (left) to 41.0 (right)

Bottom Middle Row: BB-BEB-101, Run No. R1 37.0 (left) to 42.8 (middle-left), Run No. R2 42.8 (middle-left) to 45.4 (middle right), Run No. R3 45.4 (middle-right) to 48.0 (right)

Bottom Row: BB-BEB-101, Run No. R4 48.0 (left) to 50.0 (middle), Run No. R5 50.0 (middle) to 52.0 (right)

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I-395/ROUTE 9 CONNECTOR
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BREWER/EDDINGTON, MAINE**



Top Row: BB-BFB1-101, Run No. R1 38.0 (left) to 42.5 (right)
Top Middle Row: BB-BFB1-101, Run No. R2 42.5 (left) to 46.0 (right)
Bottom Middle Row: BB-BFB1-101, Run No. R3 46.0 (left) to 50.0 (right)

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Top Row: BB-BFB2-101, Run No. R1 31.5 (left) to 35.5 (middle), Run No. R2 35.5 (middle) to 36.3 (right)

Top Middle Row: BB-BFB2-101, Run No. R3 36.3 (left) to 40.5 (right)

Bottom Middle Row: BB-BFB2-101, Run No. R4 40.5 (left) to 41.5 (right)

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I-395/ROUTE 9 CONNECTOR
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Top Row: BB-BFB3-101, Run No. R1 28.0 (left) to 33.0 (right)
Top Middle Row: BB-BFB3-101, Run No. R2 33.0 (left) to 36.5 (middle), Run No. R3 36.5 (middle) to 38.0 (right)
Bottom Middle Row: BB-BFA1-101, Run No. R1 22.5 (left) to 26.3 (middle), Run No. R2 26.3 (middle) to 30.7 (right)
Bottom Row: BB-BFA1-101, Run No. R2 continued 26.3 (left) to 30.7 (middle), Run No. R3 30.7 (middle) to 32.7 (right)

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Top Row: BB-BWS-102, Run No. R1 41.0 (left) to 42.3 (middle), Run No. R2 42.3 (middle) to 45.5 (right)
Top Middle Row: BB-BWS-102, Run No. R3 45.5 (left) to 49.8 (middle), Run No. R4 49.8 (middle) to 51.3 (right)
Bottom Middle Row: BB-BFB-101, Run No. R1 42.0 (left) to 45.0 (middle), Run No. R2 45.0 (middle) to 50.0 (right)
Bottom Row: BB-BFB-101, Run No. R2 continued 45.0 (left) to 50.0 (middle), Run No. R3 50.0 (middle) to 52.0 (right)

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- Top Row:** BB-BST1-101, Run No. R1 35.0 (left) to 37.3 (middle), Run No. R2 37.3 (middle) to 40.6 (right)
- Top Middle Row:** BB-BST1-101, Run No. R2 continued 37.3 (left) to 40.6 (middle), Run No. R3 40.6 (middle-left) to 42.6 (middle-right), Run No. R4 42.6 (left) to 45.4 (right)
- Bottom Middle Row:** BB-BST1-101, Run No. R4 continued 42.6 (left) to 45.4 (middle), Run No. R5 45.4 (middle) to 49.4 (right)
- Bottom Row:** BB-BST1-101, Run No. R5 continued 45.4 (left) to 49.4 (right)

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Top Row: BB-BWS-103, Run No. R1 35.0 (left) to 36.2, Run No. R2 36.2 to 37.3, Run No. R3 37.3 to 38.0, Run No. R4 38.0 to 39.0, Run No. R5 39.0 to 40.1 (right)

Top Middle Row: BB-BWS-103, Run No. R6 40.1 (left) to 41.0, Run No. R7 41.0 to 42.2, Run No. R8 42.2 to 43.3, Run No. R9 43.3 to 44.4, Run No. R10 44.4 to 45.0 (right)

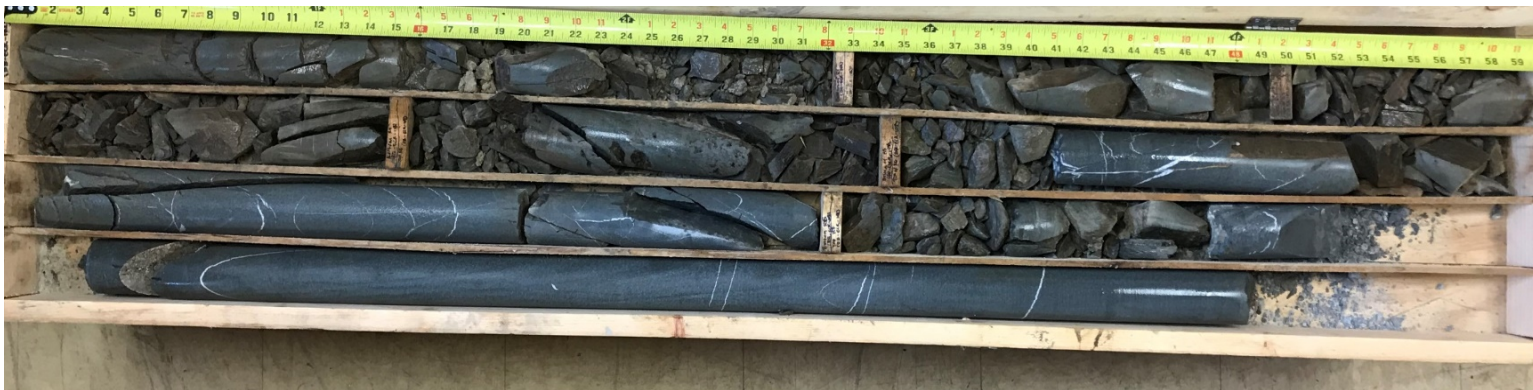
ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-BWS-104, Run No. R1 38.0 (left) to 43.0 (right)

Top Middle Row: BB-BWS-104, Run No. R2 43.0 (left) to 45.9 (middle), Run No. R3 45.9 (middle) to 48.0 (right)

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I-395/ROUTE 9 CONNECTOR
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- Top Row:** BB-ECR-102, Run No. R1 14.0 (left) to 16.8 (middle-left), Run No. R2 16.8 (middle-left) to 18.0 (middle-right),
Run No. R3 18.0 (middle-left) to 18.8 (right)
- Top Middle Row:** BB-ECR-102, Run No. R4 18.8 (left) to 20.1 (middle-left), Run No. R5 20.1 (middle-left) to 21.5 (middle-right),
Run No. R6 21.5 (middle-right) to 26.5 (right)
- Bottom Middle Row:** BB-ECR-102, Run No. R6 continued 21.5 (left) to 26.5 (middle), Run No. R7 26.5 (middle) to 28.4 (right)
- Bottom Row:** HB-BE-148, Run No. R1 17.8 (left) to 22.8 (right)

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- Top Row:** BB-ELAR-102, Run No. R1 6.6 (left) to 9.6 (middle), Run No. R2 9.6 (middle) to 12.4 (right)
- Top Middle Row:** BB-ELAR-102, Run No. R2 continued 9.6 (left) to 12.4 (middle), Run No. R3 12.4 (left) to 16.5 (right)
- Bottom Middle Row:** BB-ELAR-101, Run No. R1 5.5 (left) to 7.0 (middle-left), Run No. R2 7.0 (middle-left) to 7.7 (middle-right),
Run No. R3 7.7 (middle-right) to 10.6 (right)
- Bottom Row:** BB-ELAR-101, Run No. R3 continued 7.7 (left) to 10.6 (middle-left), Run No. R4 10.6 (middle-left) to
11.6 (middle-right), Run No. R5 11.6 (middle-right) to 15.5 (right)

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I-395/ROUTE 9 CONNECTOR
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- Top Row:** BB-ECR-101, Run No. R1 14.0 (left) to 16.5 (middle), Run No. R2 16.5 (middle) to 19.9 (right)
- Top Middle Row:** BB-ECR-101, Run No. R2 continued 16.5 (left) to 19.9 (middle-left), Run No. R3 19.9 (middle-left) to 22.5 (middle-right), Run No. R4 22.5 (middle-right) to 24.3 (right)
- Bottom Middle Row:** HB-BE-144, Run No. R1 9.1 (left) to 10.6 (middle), Run No. R2 10.6 (middle) to 14.1 (right)
- Bottom Row:** BB-ELAR-101, Run No. R5 11.6 (middle-right) to 15.5 (right)

**ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE**



Top Row: BB-ELER-101, Run No. R1 16.4 (left) to 21.3 (right)

Top Middle Row: BB-ELER-101, Run No. R2 21.3 (left) to 26.3 (right)

Bottom Middle Row: HB-BE-147, Run No. R1 10.0 (left) to 10.4, Run No. R2 10.4 to 12.2, Run No. R3 12.2 to 13.2, Run No. R4 13.2 to 15.0, Run No. R5 15.0 to 16.5 (right)

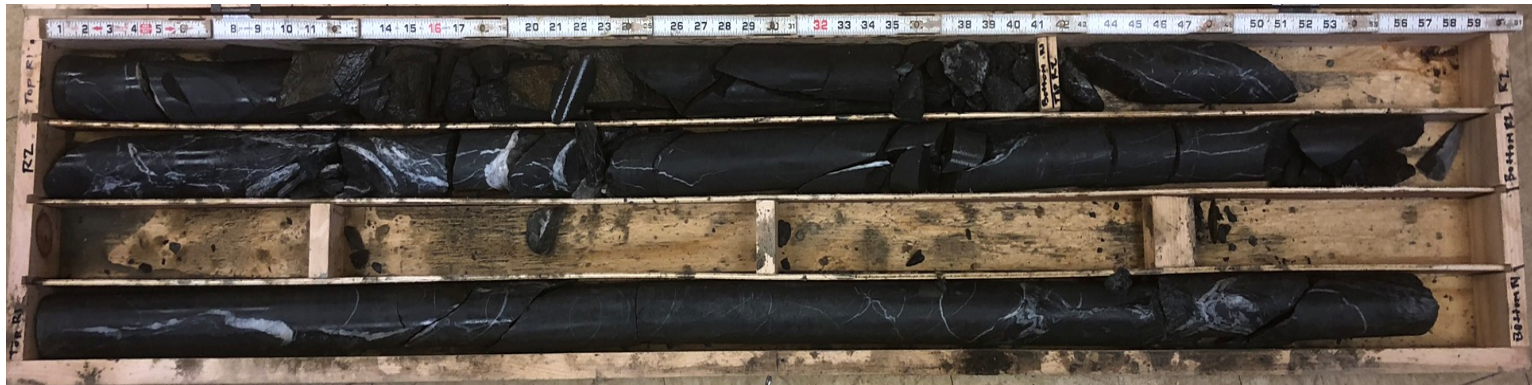
Bottom Row: BB-BE-147, Run No. R5 continued 15.0 (left) to 16.5 (middle), Run No. R6 16.5 (middle) to 18.0 (right)

**ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE**



Top Row: BB-ELER-102, Run No. R1 14.5 (left) to 18.5 (middle), Run No. R2 18.5 (middle) to 22.2 (right)
Top Middle Row: BB-ELER-102 Run No. R2 continued 18.5 (left) to 22.2 (middle), Run No. R3 22.2 (middle) to 27.2 (right)
Bottom Middle Row: BB-ELER-102 Run No. R3 continued 22.2 (left) to 27.2 (middle), Run No. R4 27.2 (middle) to 30.2 (right)
Bottom Row: BB-ELER-102, Run No. R4 continued 27.2 (left) to 30.2 (right)

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I-395/ROUTE 9 CONNECTOR
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Top Row: BB-EST2-101, Run No. R1 11.5 (left) to 16.2 (middle), Run No. R2 16.2 (middle) to 21.2 (right)

Top Middle Row: BB-EST2-101 Run No. R2 continued 16.2 (left) to 21.2 (right)

Bottom Row: BB-EWC2-101, Run No. R1 51.4 (left) to 56.4 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-109, Run No. R1 24.0 (left) to 26.3 (middle), Run No. R2 26.3 (middle) to 31.3 (right)
Top Middle Row: HB-BE-109, Run No. R2 continued 26.3 (left) to 31.3 (middle), Run No. R3 31.3 (middle) to 36.3 (right)
Bottom Middle Row: HB-BE-109 Run No. R3 continued 31.3 (left) to 36.3 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-145, Run No. R1 11.0 (left) to 13.8 (middle), Run No. R2 14.0 (middle) to 18.2 (right)

Top Middle Row: HB-BE-145, Run No. R3 18.2 (left) to 23.2 (right)

Bottom Middle Row: HB-BE-145, Run No. R4 23.2 (left) to 28.2 (right)

Bottom Row: HB-BE-145, Run No. R5 28.2 (left) to 31.0 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-146, Run No. R1 13.0 (left) to 15.2, Run No. R2 15.2 to 17.0, Run No. R3 17.0 to 21.0,
Run No. R4 21.0 to 22.0 (right)

Top Middle Row: HB-BE-149, Run No. R1 10.0 (left) to 14.9 (right)

Bottom Middle Row: BB-BEB-104, Run No. R1 60.0 (left) to 60.7 (middle), Run No. R2 60.7 (middle) to 65.6 (right)

Bottom Row: HB-BEB-104, Run No. R3 65.6 (left) to 70.6 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-152, Run No. R1 20.1 (left) to 24.6 (right)
Top Middle Row: BB-EWC-101, Run No. R1 10.0 (left) to 15.0 (middle), Run No. R2 15.0 (middle) to 17.0 (right)
Bottom Middle Row: BB-EWC-101, Run No. R3 17.0 (left) to 20.2 (right)
Bottom Row: BB-EWC-101, Run No. R4 20.2 (left) to 24.2 (right)

**ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE**



Top Row: BB-EWC1-101, Run No. R1 14.0 (left) to 19.0 (right)
Top Middle Row: BB-EWC1-101, Run No. R2 19.0 (left) to 24.0 (right)
Bottom Middle Row: BB-EEBT2-101, Run No. R1 22.0 (left) to 27.0 (right)
Bottom Row: BB-EEBT2-101, Run No. R2 27.0 (left) to 32.0 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-BEA-202, Run No. R1 20.2 (left) to 25.2 (right)
Top Middle Row: BB-BEA-202, Run No. R2 25.2 (left) to 27.4 (middle), Run No. R3 27.4 (middle) to 29.7 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-217, Run No. R1 28.5 (left) to 33.5 (right)
Top Middle Row: BB-BEA-203, Run No. R1 20.0 (left) to 25.0 (right)
Bottom Middle Row: BB-BEA-203, Run No. R2 25.0 (left) to 30.0 (right)
Bottom Row: BB-BEA-201, Run No. R1 32.0 (left) to 35.0 (right)

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MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-218, Run No. R1 22.7 (left) to 27.0 (middle-right), Run No. R2 27.0 (middle-right) to 30.2 (right)

Top Middle Row: HB-BE-218, Run No. R2 continued 27.0 (left) to 30.2 (right)

Bottom Middle Row: BB-BEA-204, Run No. R1 21.9 (left) to 26.9 (right)

Bottom Row: BB-BEA-204, Run No. R2 26.9 (left) to 31.1 (right)

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Top Row: BB-BEB-202, Run No. R2 55.0 (left) to 58.6 (middle-left), Run No. R3 58.6 (middle-left) to 59.9 (middle-right), Run No. R4 59.9 (middle-right) to 61.9 (right)

Top Middle Row: BB-BEB-202, Run No. R5 61.9 (left) to 63.9 (middle), Run No. R6 63.9 (middle) to 66.7 (right)

Bottom Middle Row: BB-BEB-202, Run No. R6 continued 63.9 (left) to 66.7 (middle-left), Run No. R7 66.7 (middle-left) to 68.7 (right)

Bottom Row: BB-BEB-201, Run No. R1 75.0 (left) to 77.5 (middle), Run No. R2 77.5 (middle) to 81.5 (page5)

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I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-BEB-201, Run No. R2 continued 77.5 (page4) to 81.5 (middle), Run No. R3 81.5 (middle) to 86.1 (right)
Top Middle Row: BB-BEB-201, Run No. R3 continued 81.5 (left) to 86.1 (middle); BB-BEBT1-202, Run No. R1 40.0 (middle) to 45.0 (right)
Bottom Middle Row: BB-BEBT1-201, Run No. R1 40.6 (left) to 42.9 (middle), Run No. R2 42.9 (middle) to 45.0 (right)
Bottom Row: BB-BEBT1-201, Run No. R2 continued 42.9 (left) to 45.0 (middle), Run No. R3 45.0 (middle) to 46.6 (right)

**ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE**



Top Row: BB-BFB-202, Run No. R1 48.5 (left) to 53.5 (right)
Top Middle Row: BB-BFB-201, Run No. R1 31.0 (left) to 35.6 (right)
Bottom Middle Row: BB-BFB1-201, Run No. R1 25.0 (left) to 29.8 (right)
Bottom Row: BB-BFB1-201, Run No. R2 29.8 (left) to 34.1 (right)

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I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-BFB1-202, Run No. R1 35.0 (left) to 40.0 (right)

Top Middle Row: BB-BFB1-202, Run No. R2 40.0 (left) to 45.0 (right)

Bottom Middle Row: BB-BFB1-203, Run No. R1 24.8 (left) to 29.8 (middle-right), Run No. R2 29.8 (middle-right) to 33.0 (right)

Bottom Row: BB-BFB1-203, Run No. R2 continued 29.8 (left) to 33.0 (middle-left), Run No. R3 33.0 (middle-left) to 34.8 (right)

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I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-BFB1-204, Run No. R1 38.8 (left) to 40.8 (middle-left), Run No. R2 40.8 (middle-left) to 44.8 (right)

Top Middle Row: BB-BFB1-204, Run No. R3 44.8 (left) to 47.4 (right)

Bottom Middle Row: BB-BST1-201, Run No. R1 33.0 (left) to 34.5 (middle-left), Run No. R2 34.5 (middle-left) to 38.5 (right)

Bottom Row: BB-BST1-201, Run No. R3 38.5 (left) to 41.5 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-BFB2-202, Run No. R1 27.0 (left) to 30.0 (middle), Run No. R2 30.0 (middle) to 34.5 (right)
Top Middle Row: BB-BFB2-202, Run No. R3 continued 30.0 (left) to 34.5 (middle-left); BB-BFB2-201, Run No. R1 34.0 (middle-left) to 36.4 (middle-right), Run No. R2 36.4 (middle-right) to 38.2 (right)
Bottom Middle Row: BB-BFB2-201, Run No. R3 38.2 (left) to 39.5 (middle-left), Run No. R4 39.5 (middle-left) to 44.3 (right)
Bottom Row: BB-BFB2-201, Run No. R4 continued 39.5 (left) to 44.3 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ECR-201, Run No. R1 17.0 (left) to 22.3 (right)
Top Middle Row: BB-ECR-201, Run No. R1 continued 17.0 (left) to 22.3 (middle), Run No. R2 22.3 (middle) to 27.3 (right)
Bottom Middle Row: BB-ECR-201, Run No. R2 continued 22.3 (left) to 27.3 (middle), Run No. R3 27.3 (middle) to 32.2 (right)
Bottom Row: BB-ECR-201, Run No. R3 continued 27.3 (left) to 32.2 (middle), Run No. R4 32.2 (middle) to 37.2 (page11)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ECR-201, Run No. R4 continued 32.2 (page10) to 37.2 (middle), Run No. R5 37.2 (middle) to 40.1 (right)

Top Middle Row: BB-ECR-201, Run No. R6 40.1 (left) to 42.1 (right)

Bottom Middle Row: BB-ELER-204, Run No. R1 9.9 (left) to 14.9 (right)

Bottom Row: HB-BE-235, Run No. R1 15.0 (left) to 17.0 (middle-left), Run No. R2 17.0 (middle-left) to 18.5 (middle-right), Run No. R3 18.5 (middle-right) to 21.8 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ECR-202, Run No. R1 15.0 (left) to 20.0 (right)
Top Middle Row: BB-ECR-202, Run No. R2 20.0 (left) to 23.4 (middle), Run No. R3 23.4 (middle) to 25.6 (right)
Bottom Middle Row: BB-ECR-202, Run No. R4 25.6 (left) to 28.0 (middle), Run No. R5 28.0 (middle) to 30.0 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ECR-203A, Run No. R1 15.4 (left) to 17.9 (middle left), Run No. R2 17.9 (middle left) to 20.4 (middle right),
Run No. R3 20.4 (middle right) to 23.5 (right),

Middle Row: BB-ECR-203A, Run No. R3 continued 20.4 (left) to 23.5 (middle right), Run No. R4 23.5 (middle) to 25.5 (right)

Bottom Row: BB-ECR-203A, Run No. R4 23.5 (left) to 25.5 (middle left), Run No. R5 25.5 (middle left) to 30.5 (page 14)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ECR-203A, Run No. R5 continued 25.5 (page 13) to 30.5 (middle), Run No. R6 30.5 (middle) to 34.6 (right)

Middle Row: BB-ECR-203A, Run No. R6 continued 30.5 (left) to 34.6 (middle left), Run No. R7 34.6 (middle left) to 39.6 (right)

Bottom Row: BB-ECR-203A, Run No. R8 39.6 (left) to 40.4 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ECR-204A, Run No. R1 15.0 (left) to 20.0 (middle left), Run No. R2 20.0 (middle left) to 21.4 (middle right),
Run No. R3 21.1 (middle right) to 25.0 (right)

Middle Row: BB-ECR-204A, Run No. R3 continued 21.1 (left) to 25.0 (middle), Run No. R4 25.0 (middle) to 29.1 (right)

Bottom Row: BB-ECR-204A, Run No. R5 29.1 (left) to 33.5 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ECR-204A, Run No. R6 33.5 (left) to 36.0 (middle), Run No. R7 36.0 (middle) to 40.5 (right)

Middle Row: BB-ECR-204A, Run No. R7 continued 36.0 (left) to 40.5 (right)

Bottom Row: BB-ECR-204A, Run No. R8 40.5 (left) to 45.5 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ECR-205, Run No. R1 15.0 (left) to 17.0 (middle-left), Run No. R2 17.0 (middle-left) to 20.0 (right)

Top Middle Row: BB-ECR-205, Run No. R3 20.0 (left) to 21.3 (middle-left), Run No. R4 21.3 (middle-left) to 22.1 (middle-right), Run No. R5 22.1 (middle-right) to 23.1 (right)

Bottom Middle Row: BB-ECR-205, Run No. R6 23.1 (left) to 25.0 (middle-left), Run No. R7 25.0 (middle-left) to 30.0 (right)

Bottom Row: BB-ECR-205, Run No. R7 continued 25.0 (left) to 30.0 (middle-left), Run No. R8 30.0 (middle-left) to 35.0 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ECR-206, Run No. R1 12.0 (left) to 14.1 (middle), Run No. R2 14.1 (middle) to 16.1 (right)
Top Middle Row: BB-ECR-203, Run No. R1 15.0 (left) to 17.5 (middle), Run No. R2 17.5 (middle) to 20.0 (right)
Bottom Middle Row: BB-ELER-206, Run No. R1 11.0 (left) to 13.6 (middle), Run No. R2 13.6 (middle) to 16.0 (right)
Bottom Row: BB-ELER-203, Run No. R1 15.3 (left) to 20.3 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ECR-206A, Run No. R1 25.0 (left) to 30.0 (middle), Run No. R2 30.0 (middle) to 33.2 (right)
Middle Row: BB-ECR-206A, Run No. R2 continued 30.0 (left) to 33.2 (middle), Run No. R3 33.2 (middle) to 38.2 (right)
Bottom Row: BB-ECR-206A, Run No. R3 continued 33.2 (left) to 38.2 (right)

**ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE**



Top Row: BB-ECR-206A, Run No. R4 38.2 (left) to 43.2 (right)
Middle Row: BB-ECR-206A, Run No. R5 43.2 (left) to 47.5 (middle), Run No. R6 47.5 (middle) to 50.3 (right)
Bottom Row: BB-ECR-206A, Run No. R6 continued 47.5 (left) to 50.3 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ELER-202, Run No. R1 17.0 (left) to 21.0 (right)
Top Middle Row: BB-ELER-202, Run No. R2 21.0 (left) to 25.8 (middle), Run No. R3 25.8 (middle) to 29.8 (right)
Bottom Middle Row: BB-ELER-202, Run No. R3 continued 25.8 (left) to 29.8 (middle), Run No. R4 29.8 (middle) to 34.8 (right)
Bottom Row: BB-ELER-202, Run No. R4 continued 29.8 (left) to 34.8 (middle), Run No. R5 34.8 (middle) to 37.0 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ELER-205, Run No. R1 15.0 (left) to 18.0 (middle), Run No. R2 18.0 (middle) to 20.0 (right)
Top Middle Row: BB-ELER-205, Run No. R3 20.0 (left) to 22.6 (middle), Run No. R4 22.6 (middle) to 25.0 (right)
Bottom Middle Row: BB-ELER-205, Run No. R5 25.0 (left) to 30.0 (right)
Bottom Row: BB-ELER-205, Run No. R6 30.0 (left) to 35.0 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ELER-206A, Run No. R1 10.0 (left) to 15.0 (right)

Middle Row: BB-ELER-206A, Run No. R2 15.0 (left) to 20.0 (right)

Bottom Row: BB-ELER-206A, Run No. R3 20.0 (left) to 22.0 (middle left), Run No. R4 22.0 (middle left) to 22.8 (middle right), Run No. R5 22.8 (middle right) to 25.0 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ELER-206A, Run No. R6 25.0 (left) to 29.0 (right)
Middle Row: BB-ELER-206A, Run No. R7 29.0 (left) to 32.2 (middle), Run No. R8 32.2 (middle) to 34.4 (right)
Bottom Row: BB-ELER-206A, Run No. R9 34.4 (left) to 37.0 (right)

**ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE**



Top Row: BB-ELAR-201, Run No. R1 3.4 (left) to 8.4 (right)
Top Middle Row: BB-ELAR-201A, Run No. R1 4.7 (left) to 9.7 (right)
Bottom Middle Row: BB-ELAR-201A, Run No. R2 9.7 (left) to 14.7 (right)
Bottom Row: BB-ELAR-202, Run No. R1 8.5 (left) to 13.5 (right)

**ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE**



Top Row: BB-ELAR-202, Run No. R2 13.5 (left) to 14.5 (right)
Top Middle Row: BB-BEB-204A, Run No. R1 80.1 (left) to 85.1 (right)
Bottom Middle Row: BB-BEB-204A, Run No. R2 85.1 (left) to 90.1 (right)
Bottom Row: BB-BEB-204A, Run No. R2 continued 85.1 (left) to 90.1 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: BB-ELAR-203, Run No. R1 1.5 (left) to 3.8 (middle), Run No. R2 3.8 (middle) to 6.8 (right)

Top Middle Row: BB-ELAR-203, Run No. R2 continued 3.8 (left) to 6.8 (middle-left); BB-ELAR-203A, Run No. R1 6.0 (middle-left) to 11.0 (right)

Bottom Middle Row: BB-ELAR-203A, Run No. R2 11.0 (left) to 13.0 (right)

Bottom Row: BB-ELAR-203A, Run No. R3 13.0 (left) to 17.0 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-228, Run No. R1 11.0 (left) to 14.1 (middle-left), Run No. R2 14.1 (middle-left) to 17.0 (middle-right), Run No. R3 17.0 (middle-right) to 21.0 (right)

Top Middle Row: HB-BE-229, Run No. R1 12.0 (left) to 15.4 (middle-right), Run No. R2 15.4 (middle-right) to 17.0 (right)

Bottom Middle Row: HB-BE-230, Run No. R1 20.0 (left) to 24.1 (right)

Bottom Row: HB-BE-230, Run No. R2 24.1 (left) to 29.0 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-231, Run No. R1 13.0 (left) to 16.0 (middle), Run No. R2 16.0 (middle) to 19.3 (right)

Top Middle Row: HB-BE-231, Run No. R3 19.3 (left) to 23.3 (right)

Bottom Middle Row: HB-BE-231, Run No. R4 23.3 (left) to 27.3 (right)

Bottom Row: HB-BE-231, Run No. R5 27.3 (left) to 31.3 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-231, Run No. R6 33.3 (left) to 38.3 (right)
Top Middle Row: BB-ECR-204, Run No. R1 7.0 (left) to 12.0 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-232, Run No. R1 16.0 (left) to 21.0 (right)
Top Middle Row: HB-BE-232, Run No. R2 21.0 (left) to 26.0 (right)
Bottom Middle Row: HB-BE-232, Run No. R3 26.0 (left) to 31.0 (right)
Bottom Row: HB-BE-232, Run No. R4 31.0 (left) to 36.0 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-235, Run No. R4 21.8 (left) to 27.0 (right)

Top Middle Row: HB-BE-235, Run No. R5 27.0 (left) to 29.0 (middle); BB-ELER-201, Run No. R1 21.3 (middle) to 26.3 (right)

Bottom Middle Row: BB-ELER-201, Run No. R1 continued 21.3 (left) to 26.3 (middle-left), Run No. R2 26.3 (middle left) to 28.5 (middle-right);
HB-BB-237, Run No. R1 10.0 (middle-right) to 13.5 (right)

Bottom Row: HB-BE-237, Run No. R1 continued 10.0 (left) to 13.5 (middle-left), Run No. R2 13.5 (middle-left) to 17.5 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-237, Run No. R3 17.5 (left) to 21.5 (right)

Top Middle Row: HB-BE-237, Run No. R4 21.5 (left) to 26.4 (middle-right), Run No. R5 26.4 (middle-right) to 29.0 (right)

Bottom Middle Row: HB-BE-237, Run No. R5 continued 26.4 (left) to 29.0 (middle-left); BB-ELAR-204, Run No. R1 6.5 (middle-right) to 11.5 (right)

Bottom Row: BB-ELAR-204, Run No. R1 continued 6.5 (left) to 11.5 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE



Top Row: HB-BE-236, Run No. R1 15.0 (left) to 19.0 (right)
Top Middle Row: HB-BE-236, Run No. R2 19.0 (left) to 24.0 (right)
Bottom Middle Row: HB-BE-236, Run No. R3 24.0 (left) to 29.0 (right)
Bottom Row: HB-BE-236, Run No. R4 29.0 (left) to 34.0 (right)

**ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE**



Top Row: HB-BE-343, Run No. R1 17.5 (left) to 22.5 (right)
Top Middle Row: HB-BE-343, Run No. R1 continued 17.5 (left) to 22.5 (right)

ROCK CORE PHOTOGRAPHS
I-395/ROUTE 9 CONNECTOR
MAINEDOT WIN 018915.00
BREWER/EDDINGTON, MAINE




Top Row: HB-BE-349, Run No. R1 12.0 (left) to 17.0 (middle), Run No. R2 17.0 (left) to 22.0 (right)

Top Middle Row: HB-BE-349, Run No. R2 continued 17.0 (left) to 22.0 (right)

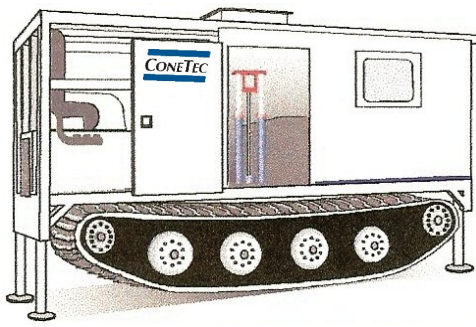
APPENDIX B

Test Boring Logs and CPT Reports by Others

Maine Department of Transportation						Project: I-395, UMO RESEARCH PROJECT			Boring No.: HB-BREW-101										
Soil/Rock Exploration Log US CUSTOMARY UNITS						Location: Brewer, Maine			WIN: 19252.00										
Driller: Maine Test Boring				Elevation (ft.)				Auger ID/OD: 5" Solid Stem											
Operator: Tom/Ed				Datum: NAVD88				Sampler: Standard Split Spoon											
Logged By: B. Wilder				Rig Type: Mobile B53 Track				Hammer Wt./Fall: 140#/30"											
Date Start/Finish: 3/6/13; 08:00-15:30				Drilling Method: Cased Wash Boring				Core Barrel: N/A											
Boring Location: N463914.127 E1745570.503				Casing ID/OD: HW				Water Level*: 0.2 ft bgs.											
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger						Definitions: S_u = Insitu Field Vane Shear Strength (psf) T_v = Pocket Torvane Shear Strength (psf) q_p = Unconfined Compressive Strength (ksf) $S_{u(lab)}$ = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing						Definitions: WC = water content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
										Sample Information									
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / (6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks					Laboratory Testing Results/ AASHTO and Unified Class					
25	6D	24/24	25.00 - 27.00	WOR/WOR/WOR/	---														
	V8		25.57 - 26.00	Su=302/82 psf															
	V9		26.57 - 27.00	Su=302/96 psf															
						a15	-27.70		Grey, wet, soft, silty CLAY. 65x130 mm vane raw torque readings: V8: 11.0-3.0 ft-lbs V9: 11.0/3.5 ft-lbs a15 blows for 0.3 ft. Grey, wet, medium dense, fine to coarse SAND, some gravel, trace silt.										
						76													
							76												
30	7D	24/17	30.00 - 32.00	20/10/8/8	18	65	-30.50		Grey, wet, medium dense, fine to coarse SAND, trace gravel, trace silt.										
							62												
							84												
						75		b80 blows for 0.4 ft. Refusal on Casing, Roller Coned ahead to 35.5 ft bgs., no breaks.											
						b80													
35							-35.50		Bottom of Exploration at 35.50 feet below ground surface. GOOD ROLLER CONE REFUSAL										
40																			
45																			
50																			
Remarks:																			
Coord System: Maine 2000 Central Zone NAD83 (1996)										HB-BREW-101 Stationing in Reference to the Connector Road Baseline is: STA 53+05.8 113.0 L									
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 2 of 2									
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BREW-101									

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: I-395, UMO RESEARCH PROJECT Location: Brewer, Maine				Boring No.: HB-BREW-102 WIN: 19252.00						
Driller: Maine Test Boring				Elevation (ft.)				Auger ID/OD: 5" Solid Stem						
Operator: Tom/Ed				Datum: NAVD88				Sampler: Standard Split Spoon						
Logged By: B. Wilder				Rig Type: Mobile B53 Track				Hammer Wt./Fall: 140#/30"						
Date Start/Finish: 3/8/13; 07:30-17:30				Drilling Method: Cased Wash Boring				Core Barrel: N/A						
Boring Location: N463970.473 E1745521.771				Casing ID/OD: HW				Water Level*: at Ground Surface						
Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger				Definitions: S _U = Insitu Field Vane Shear Strength (psf) T _V = Pocket Torvane Shear Strength (psf) q _p = Unconfined Compressive Strength (ksf) S _{U(lab)} = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing				Definitions: WC = water content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test						
Sample Information										Visual Description and Remarks				Laboratory Testing Results/ AASHTO and Unified Class
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log						
0						SSA	-0.40		TOPSOIL, (Roots, Grass, Sod). -0.40					
	1U	24/18	3.00 - 5.00	Hydraulic Push	---	HYD. PUSH			Olive grey, fine sandy SILT, trace clay. Roller Coned ahead to 6.0 ft bgs, set tube.					
5														
	a2U	24/24	6.00 - 8.00	Hydraulic Push	---		-6.00		Grey, clayey SILT. a#U = Used Piston Sample -6.00					
	3U	24/24	9.00 - 11.00	Hydraulic Push	---				Similar to above. Roller Coned ahead to 12.0 ft bgs, set tube.					
10														
	a4U	24/24	12.00 - 14.00	Hydraulic Push	---				Blue, clayey SILT.					
15	a5U	24/24	15.00 - 17.00	Hydraulic Push	---				Simiular to above. Roller Coned ahead to 18.0 ft bgs, set tube.					
	a6U	24/24	18.00 - 20.00	Hydraulic Push	---				Dark grey, clayey-SILT.					
20														
	a7U	24/24	21.00 - 23.00	Hydraulic Push	---				Similar to above.					
25	a8U	24/20	24.00 - 26.00	Hydraulic Push	---				Similar to above. 4" of material slipped out of tube, put in sample cup.					
Remarks: Coord System: Maine 2000 Central Zone NAD83 (1996) Artesian Water Pressure, lifted water 2.1 ft above ground level. Soils were very similar to HB-BREW-101.														
HB-BREW-102 Stationing in Reference to the Connector Road Baseline is: STA 52+93.6 186.5 L														
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.										Page 1 of 2				
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No.: HB-BREW-102				

[illegible]



Geotechnical and Environmental In Situ Testing Contractors

ConeTec Field Report

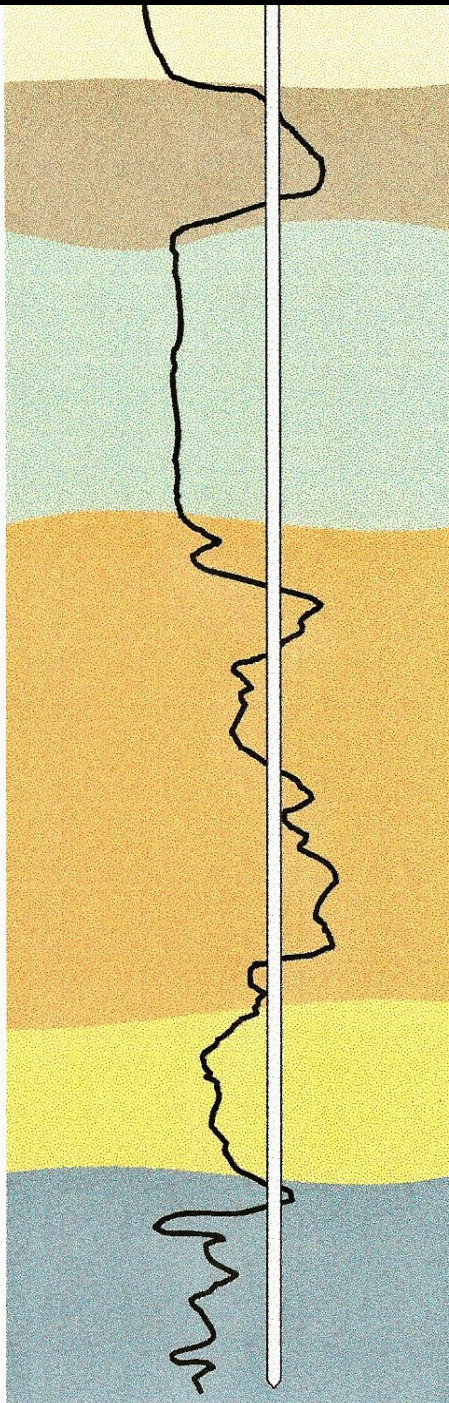
**Presentation of
In Situ Test Results for:**

**Brewer Wilson
Brewer, Maine**

Presented to: Maine Dept. of Transportation

Date: March 11th, 2013

Presented by: ConeTec, Inc.
436 Commerce Lane
Unit C
West Berlin, NJ 08091
(856) 767-8600



PRESENTATION OF IN SITU TESTING PROGRAM RESULTS

**Brewer Wilson
Brewer, Maine**

March 7th, 2013

Prepared for:

**Maine Department of Transportation
Augusta, ME**

Prepared by:

**ConeTec Inc.
West Berlin, NJ**

March 11th, 2013

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APPENDIX D	Dissipation Test Data
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1.0 INTRODUCTION

This report presents the results of a piezocone penetrometer testing (CPTU; also CPT) program carried out on the Brewer Wilson Site located in Brewer Maine. The work was performed under subcontract to Maine Department of Transportation of Augusta, Maine. The CPT program took place on March 7th, 2013.

A total of six soundings were completed at six different sounding locations. The CPT program was performed to evaluate the in situ geotechnical criteria relative to the soils.

In addition to the CPT soundings, shear wave velocity tests were performed at four of the locations with testing at one meter depth intervals.

CPT sounding locations were selected and numbered under the direction and supervision of Maine DOT personnel.

2.0 FIELD EQUIPMENT AND PROCEDURES

2.1 CONE PENETRATION TESTING

The cone penetrometer tests were carried out using an integrated electronic piezocone manufactured by ConeTec in Vancouver, Canada. The piezocone used was a compression model cone penetrometer with a 15 cm² tip and a 225 cm² friction sleeve. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.80. The piezocone dimensions and the operating procedure were in accordance with ASTM standard D-5778-07. A diagram of the cone penetrometer used for this project is shown as Figure 1.

Pore pressure filter elements, made of porous plastic, were saturated under a vacuum using silicone fluid as the saturating medium. The pore pressure element was six millimeters thick and was located immediately behind the tip (the u_2 location) for all soundings.

The cone was advanced using a CME 55 drill rig mounted on a Morooka carrier. The following data were recorded onto magnetic media every five centimeters (approximately every two inches) as the cone was advanced into the ground:

- Tip Resistance (q_c)
- Sleeve Friction (f_s)
- Dynamic Pore Pressure (u)

Before each sounding a complete set of analog baseline readings are taken with a multi-meter and compared with the digitized value on the computer screen. This provides a check on the analog to digital conversion board.

Evaluation of the analog baselines is key to consistent readings. The baseline data should be stable and should not wander excessively during the course of a sounding. Baseline data can be used to apply corrections to the cone data where necessary. For this project, the baseline shift from sounding to sounding was small, typically less than 0.1% of full scale, and no data corrections were applied.

During seismic testing, the seismic signals were recorded using a geophone mounted in the cone as shown in Figure 1 and an up-hole digital oscilloscope. A hydraulic hammer, struck against a steel I-beam was used as the seismic source. Normal reaction for the beam was provided by the dead weight of the rig placed upon the beam. A schematic of the shear wave testing configuration used with our truck rigs is shown in Figure 2.

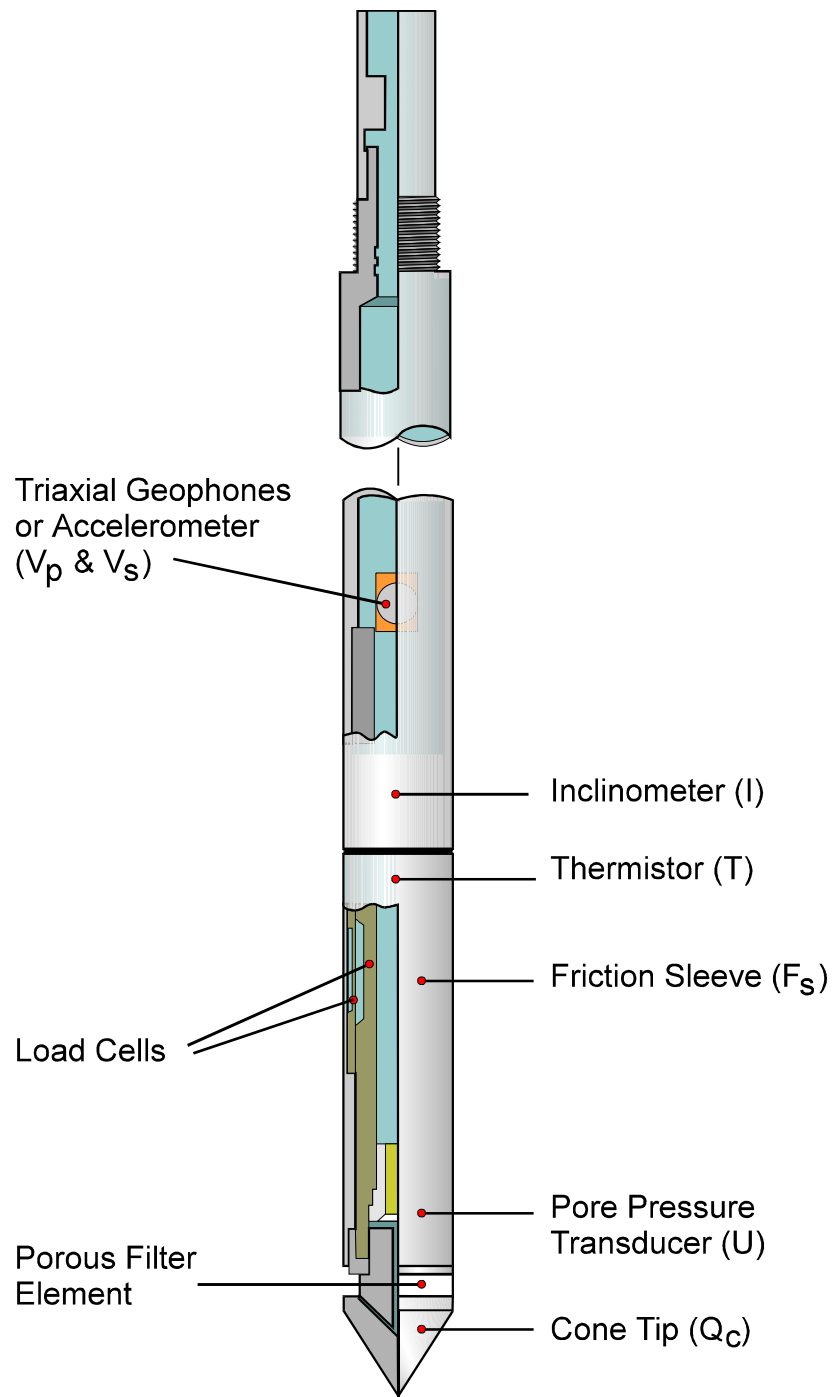


FIGURE 1 - TYPICAL CONE PENETROMETER

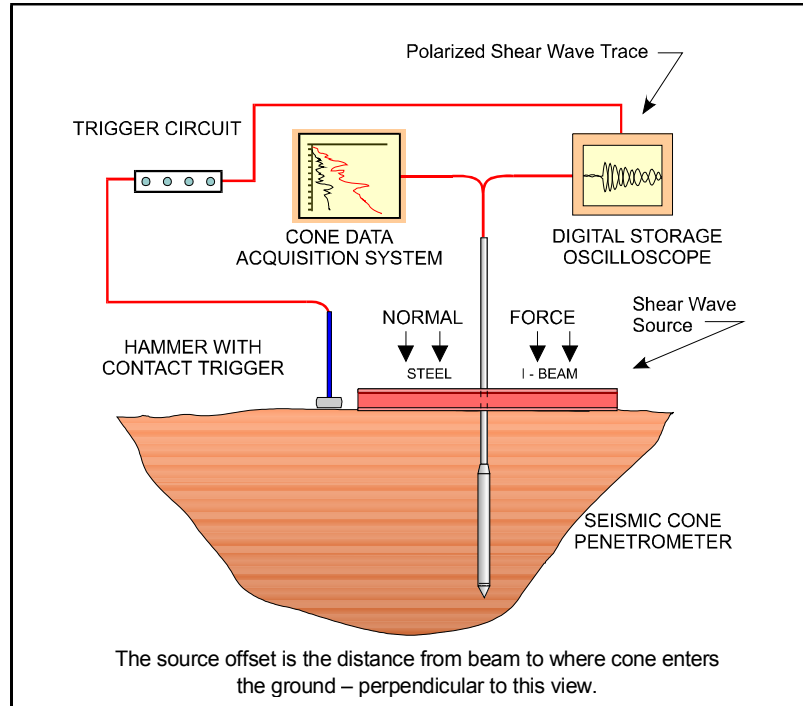


FIGURE 2 - SCHEMATIC OF SHEAR WAVE TESTING CONFIGURATION

2.2 PORE PRESSURE DISSIPATION TESTS

When cone penetration is stopped, the piezocone essentially becomes a piezometer. While stopped, pore water pressures are automatically recorded at five-second intervals and the readings are stored in a dissipation file (.ppd). Dissipation data can then be plotted onto a graph displaying a dissipation curve consisting of pore water pressure (u) versus time (t). The shapes of dissipation curves are very useful in evaluating soil type, drainage characteristics and in situ static water level.

A flat curve that stabilizes quickly (i.e. less than 30 seconds) is typical of a free draining soil, generally sand. In this case, the final measured pore water represents the hydrostatic pressure in situ.

Soils that generate excess dynamic pore water pressure during penetration will dissipate this excess pressure when penetration stops. The shape of the dissipation curve and the time of dissipation can be used to estimate C_h , the coefficient of consolidation that can in turn be used to calculate K_h , the horizontal hydraulic conductivity.

Figure 3 shows some idealized shapes of various pore water pressure dissipation curves. The reader is referred Robertson et. al., 1992 to reference dissipation test data analytical techniques.

Estimation of Ground Water Table from CPT Dissipation Tests

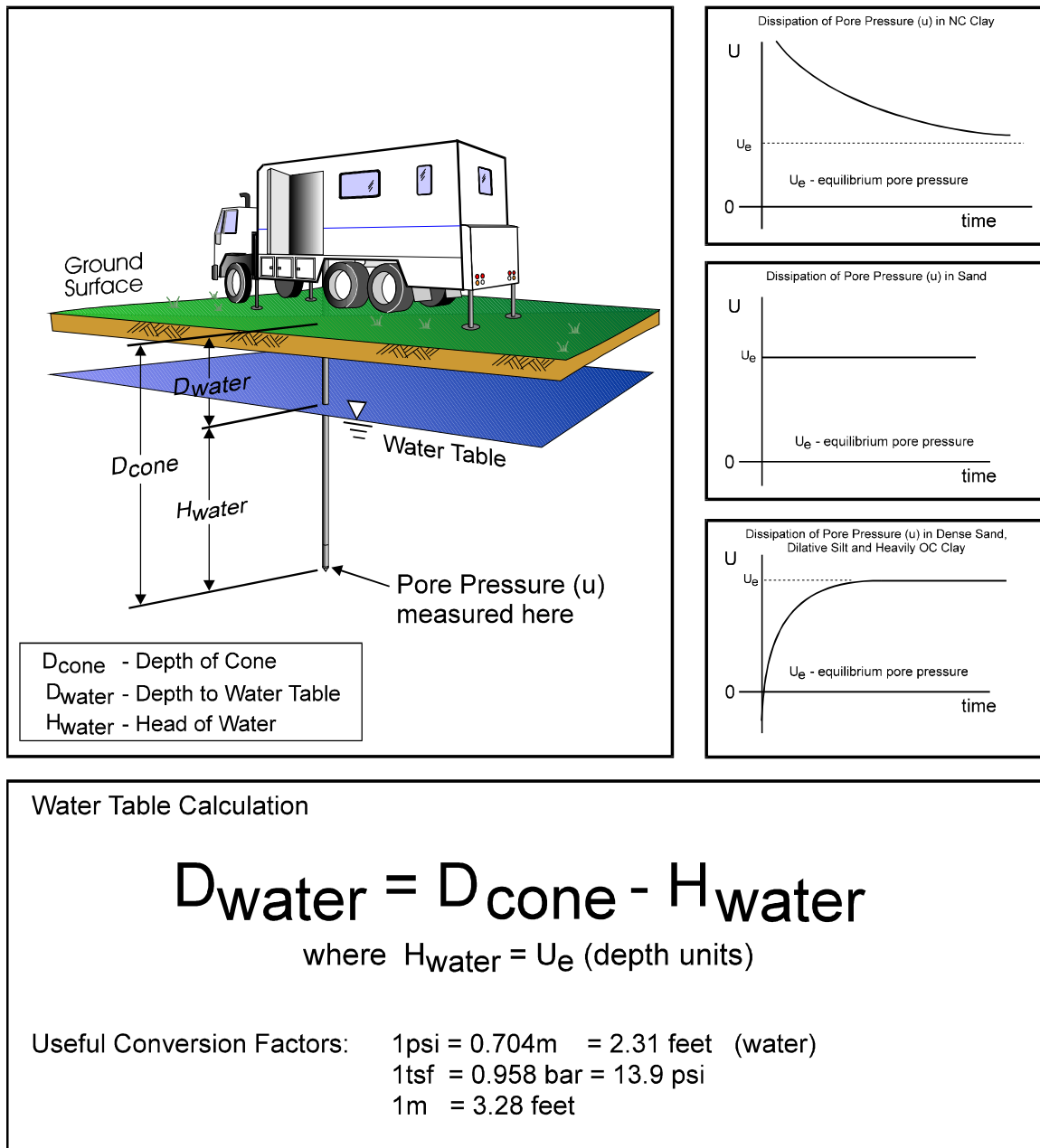


FIGURE 3 - TYPICAL DISSIPATION TESTS

3.0 CONE PENETRATION TEST DATA AND INTERPRETATION

3.1 ANALYSIS OF PIEZOCONE DATA - GENERAL

A total of six CPT soundings, involving approximately 173.06 feet of testing, were completed at six locations.

The interpretation of cone data is based on the relationship between cone bearing, q_c , sleeve friction, f_s , and penetration pore water pressure, u . The friction ratio, R_f , (sleeve friction divided by cone bearing) is a calculated parameter which is used to infer soil behavior type. Generally, saturated cohesive soils have low tip resistance, high friction ratios and generate large excess pore water pressures. Cohesionless soils have higher tip resistances, lower friction ratios and do not generate significant excess pore water pressure.

The interpretation of soils encountered on this project was carried out using correlations developed by Robertson et al., 1992. It should be noted that it is not always possible to clearly identify a soil type based on q_c , f_s and u . Occasionally soils will fall within different soil categories on the classification charts. In these situations, experience and judgment and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type. Computer tabulations of the interpreted soil types along with certain other geotechnical parameters for each sounding are presented in Appendix B.

Each of the parameters measured in the sounding are discussed briefly below. A detailed explanation of CPT testing and interpretation of the results can be found in Robertson, 1989.

TIP RESISTANCE (q_c): The resistance to penetration, measured at the cone tip, provides an accurate profile of subsurface strata. The recorded tip resistance is a composite of the penetration resistance of the soils located five to ten cone diameters (7 to 14 inches) in front of and behind the tip. The actual resistance "sensed" by the tip depends on the soil properties and on the relative stiffness of the layers encountered. Tip resistance is often corrected for pore pressure effects when testing in soft saturated cohesive soils.

For this project the correction was made and the tip resistance shown, q_t is the corrected tip resistance.

The correction used is: $q_t = q_c + (1-a)u$

Where:

- q_t = corrected tip resistance
- q_c = measured tip resistance
- a = net area ratio for cone (0.80 for this project)
- u = dynamic pore water pressure measured behind tip

SLEEVE FRICTION (f_s) The resistance recorded on the friction sleeve, is a measure of the remolded strength of the soil. Values of sleeve friction in very soft soils (such as peat) may fluctuate due to the measured force being small relative to the capacity of the measuring load cell.

FRICTION RATIO (R_f) The ratio of sleeve friction to tip resistance expressed as a percentage, is an indicator of soil type. Cohesive soils generally have friction ratios that are greater than two, while sands and non-plastic silts have friction ratios that are lower than two.

PORE PRESSURE (u) Dynamic pore water pressure is measured during penetration. Dynamic pore water pressure data can be found in the .cor and ifi.xls files. Static pore water pressure is measured when cone penetration is stopped. Static pore water pressure data can be found in the .ppd and -ppd.xls files. The measured dynamic pore water pressure changes with the location of the porous filter and negative readings are possible when the filter is located behind the tip.

It is important to note that the CPT classifies soil by physical behavior, not by grain size; therefore, the CPT classification should be verified against samples obtained from a conventional drilling program. While the CPT soil classification may not always be accurate in terms of the actual label it applies to a particular soil, it is very accurate in grouping soils with similar mechanical properties.

Table 1 presents a summary of CPT soundings, including sounding depths and pore pressure dissipation test results (when appropriate).

3.2 CONE PLOTS

The data from each sounding was plotted using the computer program SCREENzW. The plots are included in Appendix A. SCREENzW was developed by ConeTec Inc. and it incorporates soil behavior type (SBT) classification as part of the plot. The soil classification is based on the classification chart reproduced in Appendix B.

3.3 PORE PRESSURE DISSIPATION TEST RESULTS

When conducting CPT investigations, pore water pressure dissipations are automatically recorded during pauses in penetration. The pore water pressure dissipation data is recorded at five second intervals. Dynamic and static pore pressure measurements, for each CPT, are included in the electronic data package. A few pore water dissipation tests were completed during this project. Those plots can be found in Appendix D.

3.4 SHEAR WAVE VELOCITY MEASUREMENTS

Shear wave velocity measurements were conducted during four of the CPT soundings. Shear wave velocity measurements were recorded at one meter depth intervals. The shear wave velocity data can be found in Appendix C.

3.5 CPT DATA PROCESSING

The electronic data files were processed using the program SCREENzW. SCREENzW is a program developed by ConeTec to calculate common engineering parameters from CPT data. The data files (.xls) can be found in the electronic data package. The calculations used are summarized in the table found in Appendix B. Each calculation is derived according to the referenced article.

For this project, the piezometric surface was determined from the pore water pressure dissipation tests and the dynamic pore water pressure responses recorded during the CPT. The exact depth used can be found in the headers of the IFI.xls files.

3.6 ELECTRONIC DATA PACKAGE

Along with the report, all of the project data can be downloaded from ConeTec's "ConeTec Data Services" (CDS) website (www.conetecdataservices.com) using a secure, project-specific user name and password. These electronic files contain all important project information including tabular data (.xls and ASCII formats), GPS coordinates of approximate sounding locations, dynamic and static pore water pressure and some basic interpretation files in Microsoft™ Excel format (.xls). Information regarding the digital file formats of the electronic files is included in Appendix E.

5.0 REFERENCES

Robertson, P.K., 1989, "Soil Classification using the Cone Penetration Test", Canadian Geotechnical Journal, vol. 27, pages 151-158.

Robertson, P.K., Sully, J., Woeller, D.G., Lunne, T., Powell, J.M., and Gillespie, D.J., 1992, "Estimating Coefficient of Consolidation from Piezocone Tests", Canadian Geotechnical Journal, vol. 29, pages 539-550.

Appendix A



TABLE 1 - SUMMARY OF CPT SOUNDINGS

Job No.: 13-53015
Location: Brewer Wilson - Brewer, Maine
Client: Maine DOT
Date: March 7, 2013

Date	CPTU Sounding	Filename	Total Depth (ft)	Shear Wave Velocity Tests	Northing UTM ZONE 19 (m)	Easting UTM ZONE 19 (m)
03/07/13	SCPT-01	13-53015_SP01.COR	29.69	9	4957652	522146
03/07/13	CPT-02	13-53015_CP02.COR	25.26		4957640	522160
03/07/13	CPT-03	13-53015_CP03.COR	31.66		4957568	522184
03/07/13	SCPT-04	13-53015_SP04.COR	27.07	7	4957636	522192
03/07/13	SCPT-05	13-53015_SP05.COR	29.86	9	4957662	522175
03/07/13	SCPT-06	13-53015_SP06.COR	29.53	8	4957664	522131
Totals:		6	173.06	33		

Note: Coordinates are in UTM-NAD83 (meters) Zone 19.

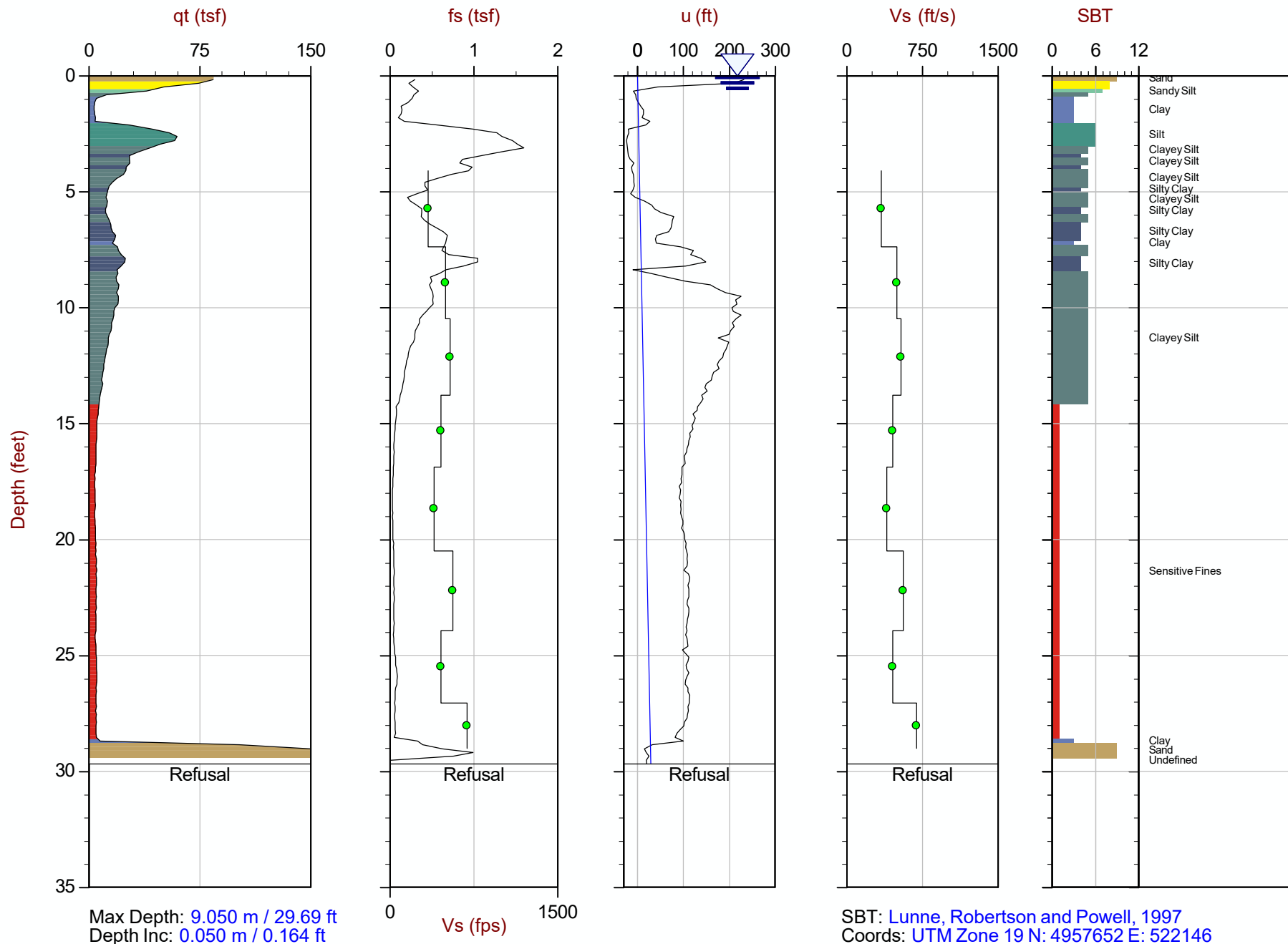
Shear Wave Velocity CPT Plots



Maine DOT

Job No: 13-53015
Date: 03:07:13 09:47
Site: Brewer, ME

Sounding: SCPT-01
Cone: 301:T1500F15U500

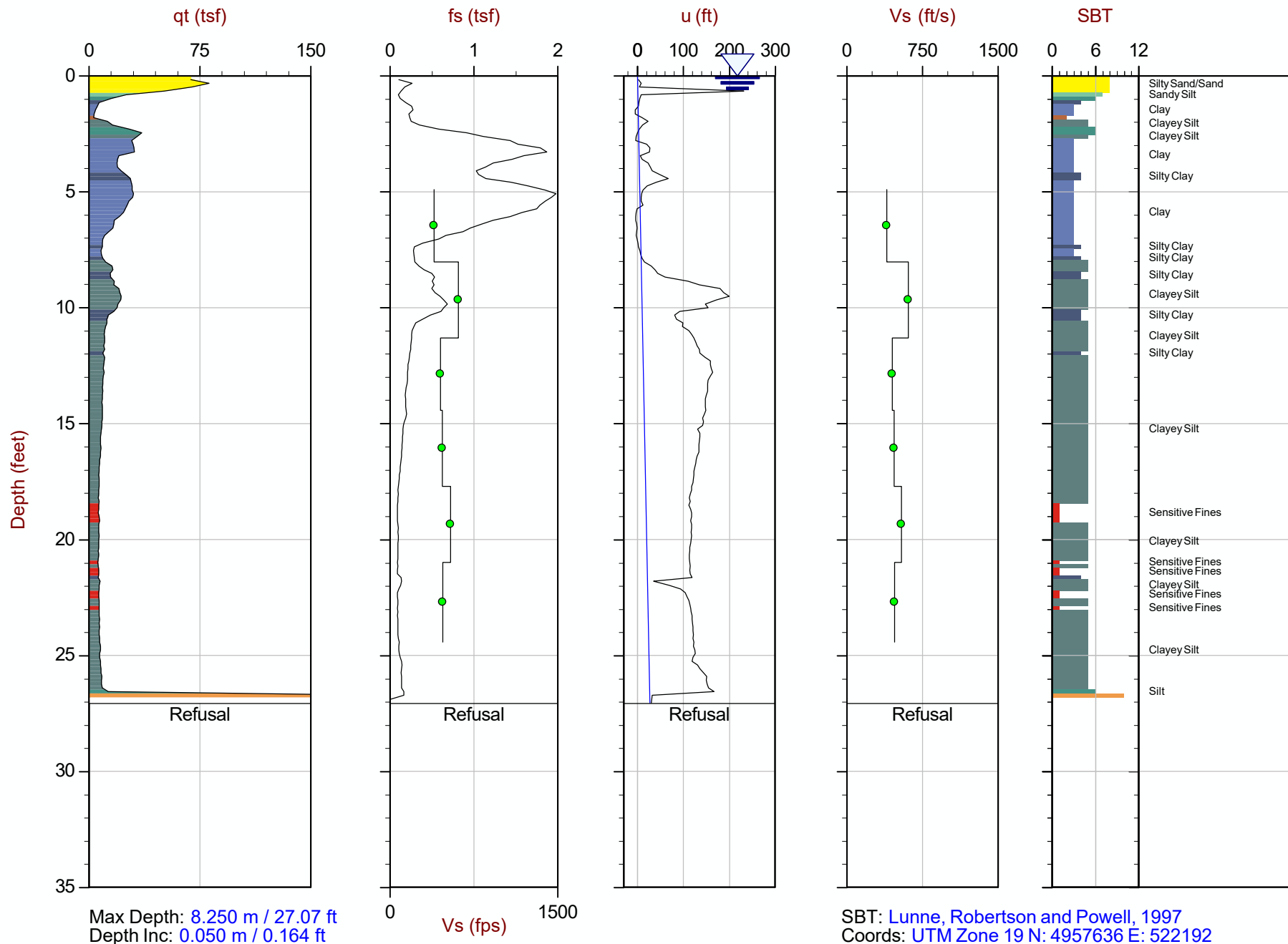




Maine DOT

Job No: 13-53015
Date: 03:07:13 13:33
Site: Brewer, ME

Sounding: SCPT-04
Cone: 301:T1500F15U500

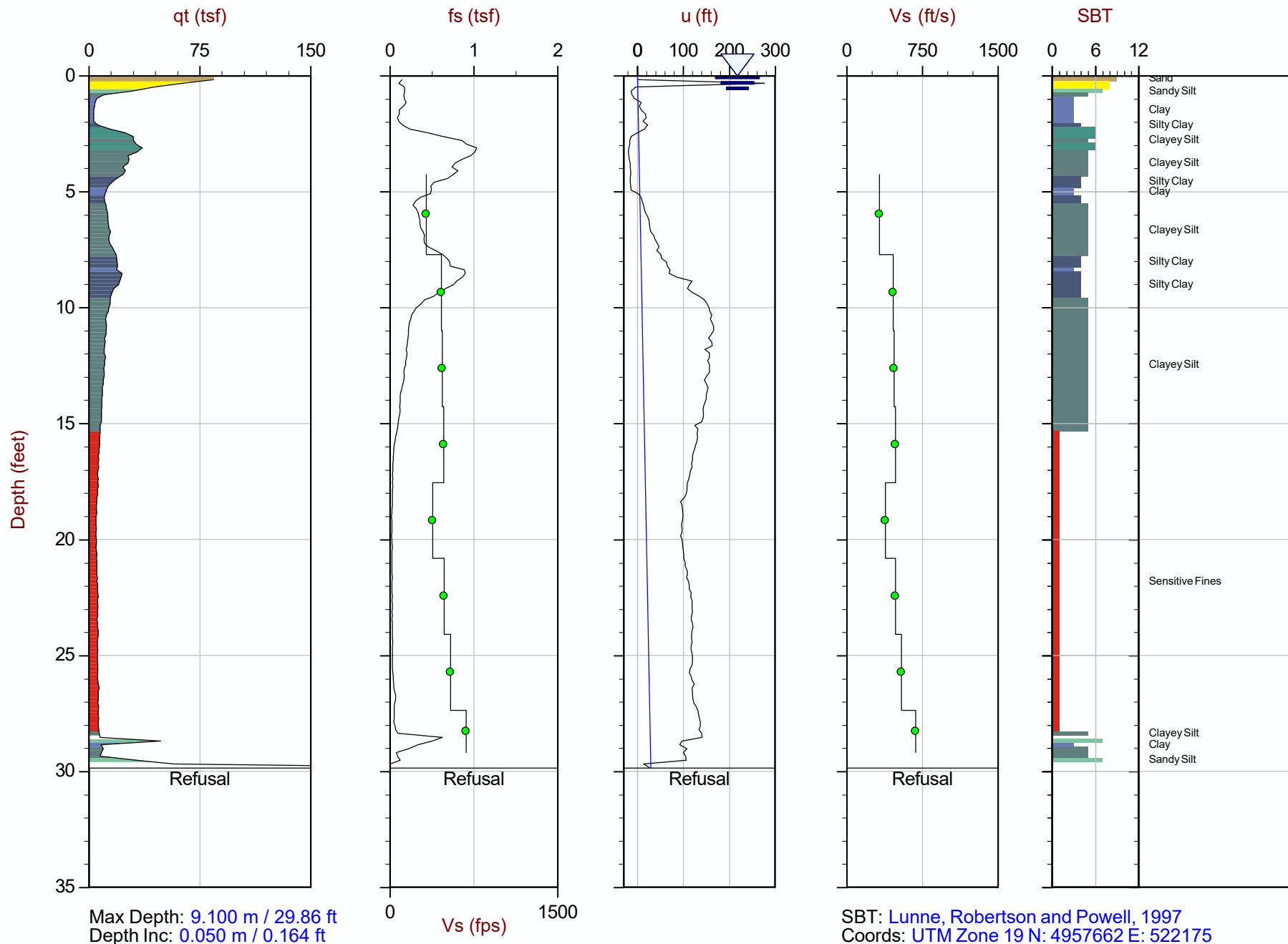




Maine DOT

Job No: 13-53015
Date: 03:07:13 15:20
Site: Brewer, ME

Sounding: SCPT-05
Cone: 301:T1500F15U500

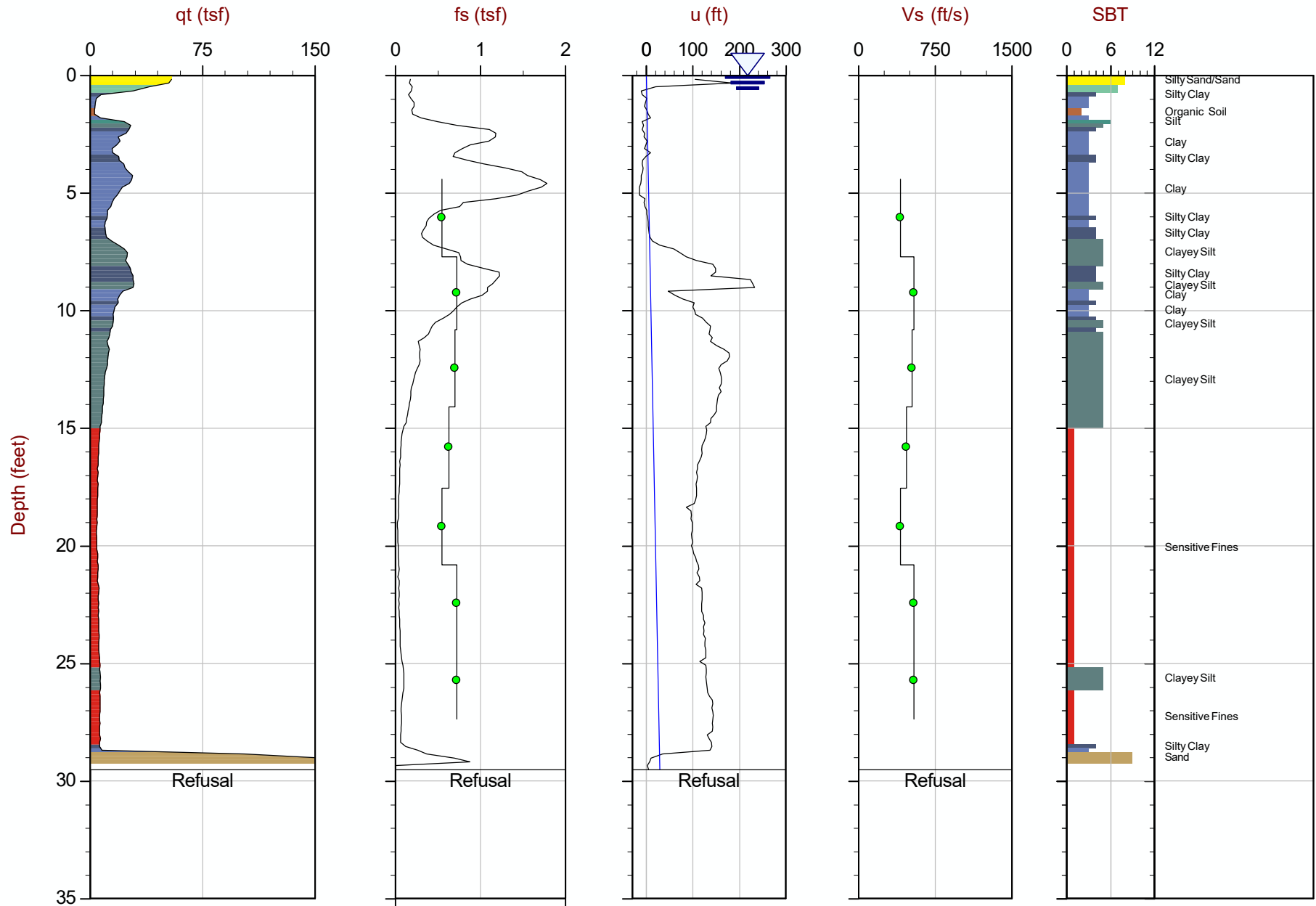




Maine DOT

Job No: 13-53015
Date: 03:07:13 15:58
Site: Brewer, ME

Sounding: SCPT-06
Cone: 301:T1500F15U500



Max Depth: 9.000 m / 29.53 ft
Depth Inc: 0.050 m / 0.164 ft

0 Vs (fps) 1500

SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 19 N: 4957664 E: 522131

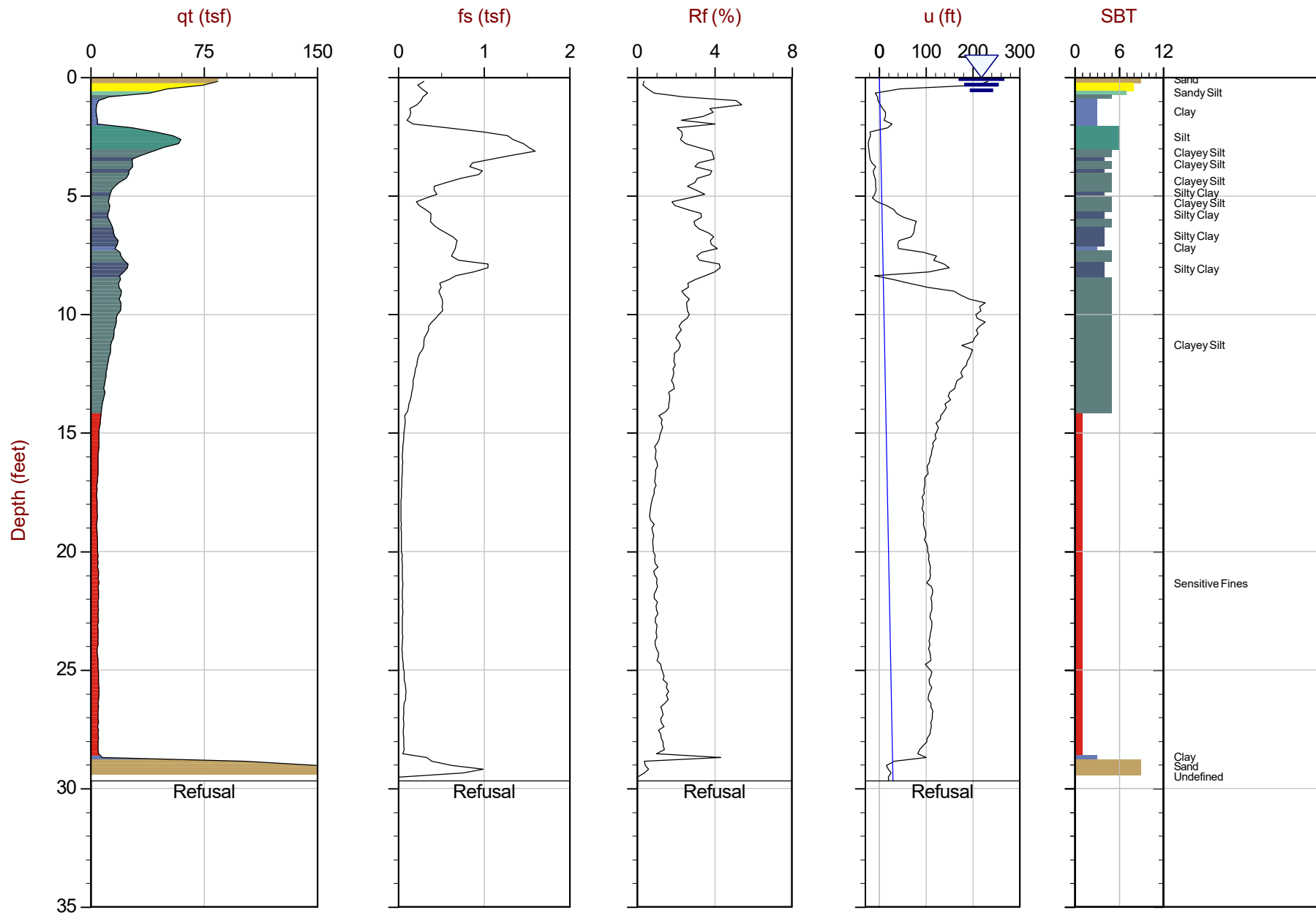
Non-Normalized CPT Plots



Maine DOT

Job No: 13-53015
Date: 03:07:13 09:47
Site: Brewer, ME

Sounding: SCPT-01
Cone: 301:T1500F15U500



Max Depth: 9.050 m / 29.69 ft
Depth Inc: 0.050 m / 0.164 ft

File: 13-53015_SP01.COR

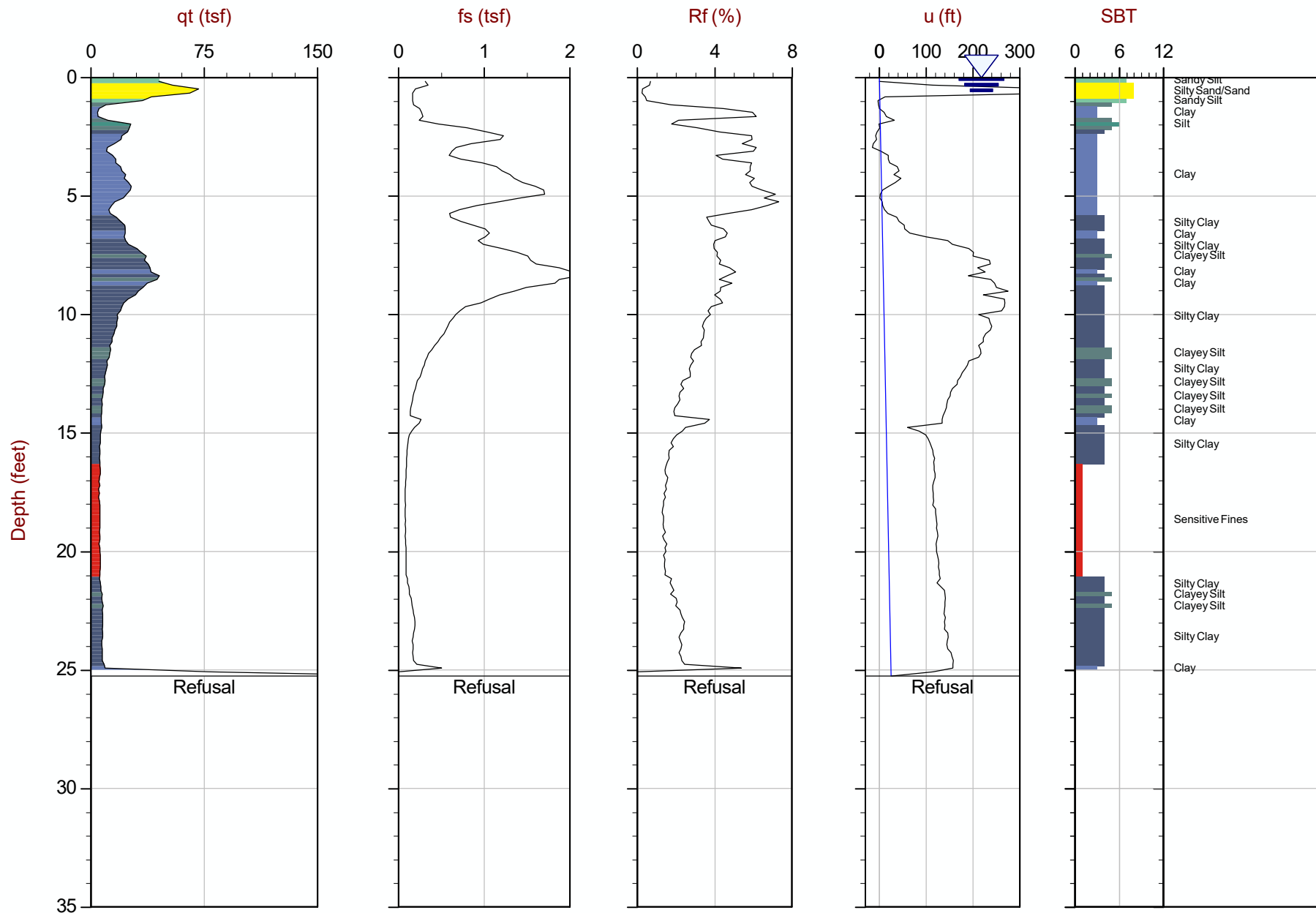
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Coords: UTM Zone 19 N: 4957652 E: 522146



Maine DOT

Job No: 13-53015
Date: 03:07:13 10:59
Site: Brewer, ME

Sounding: CPT-02
Cone: 301:T1500F15U500



Max Depth: 7.700 m / 25.26 ft
Depth Inc: 0.050 m / 0.164 ft

File: 13-53015_CP02.COR

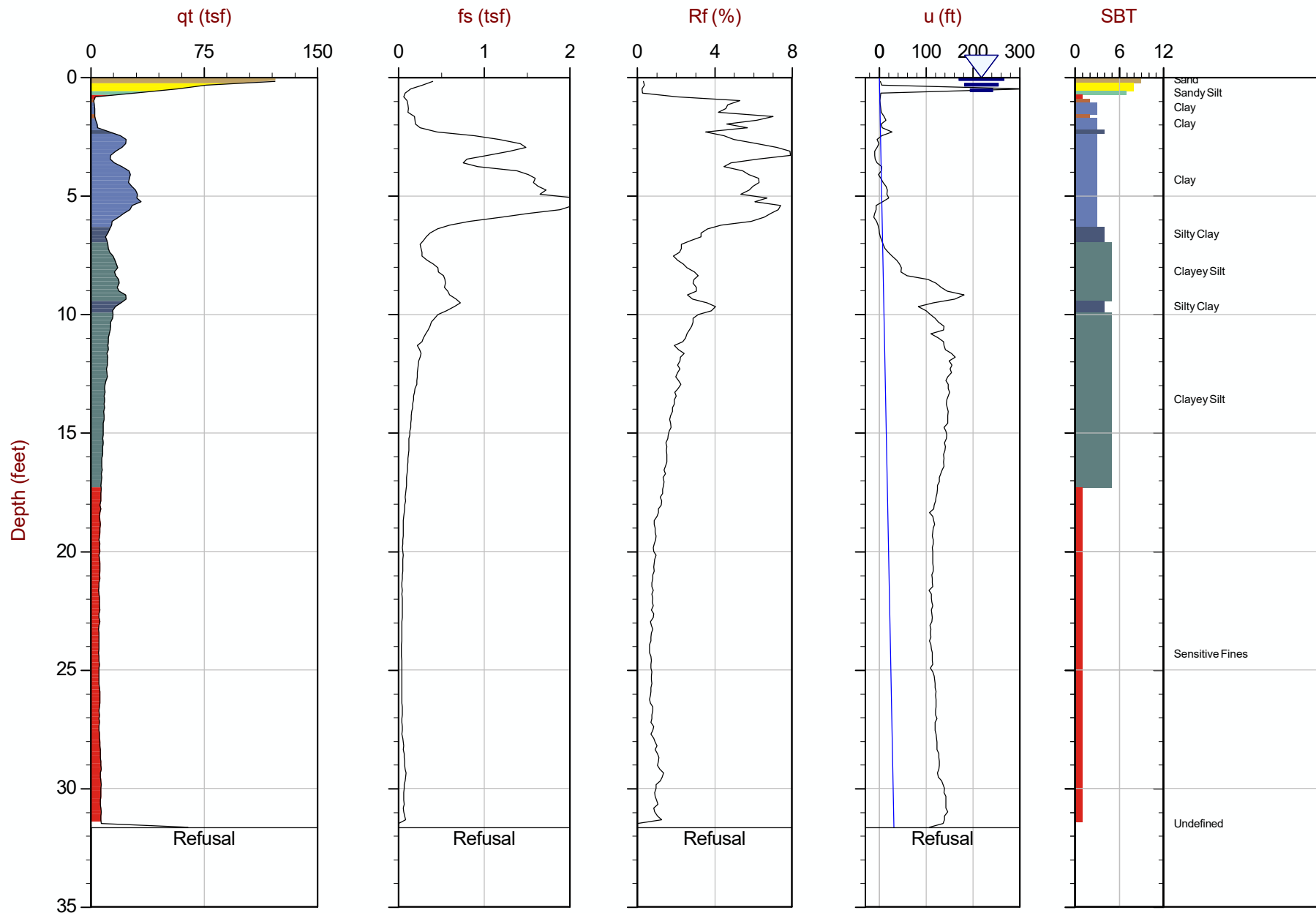
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 19 N: 4957640 E: 522160



Maine DOT

Job No: 13-53015
Date: 03:07:13 12:56
Site: Brewer, ME

Sounding: CPT-03
Cone: 301:T1500F15U500



Max Depth: 9.650 m / 31.66 ft
Depth Inc: 0.050 m / 0.164 ft

File: 13-53015_CP03.COR

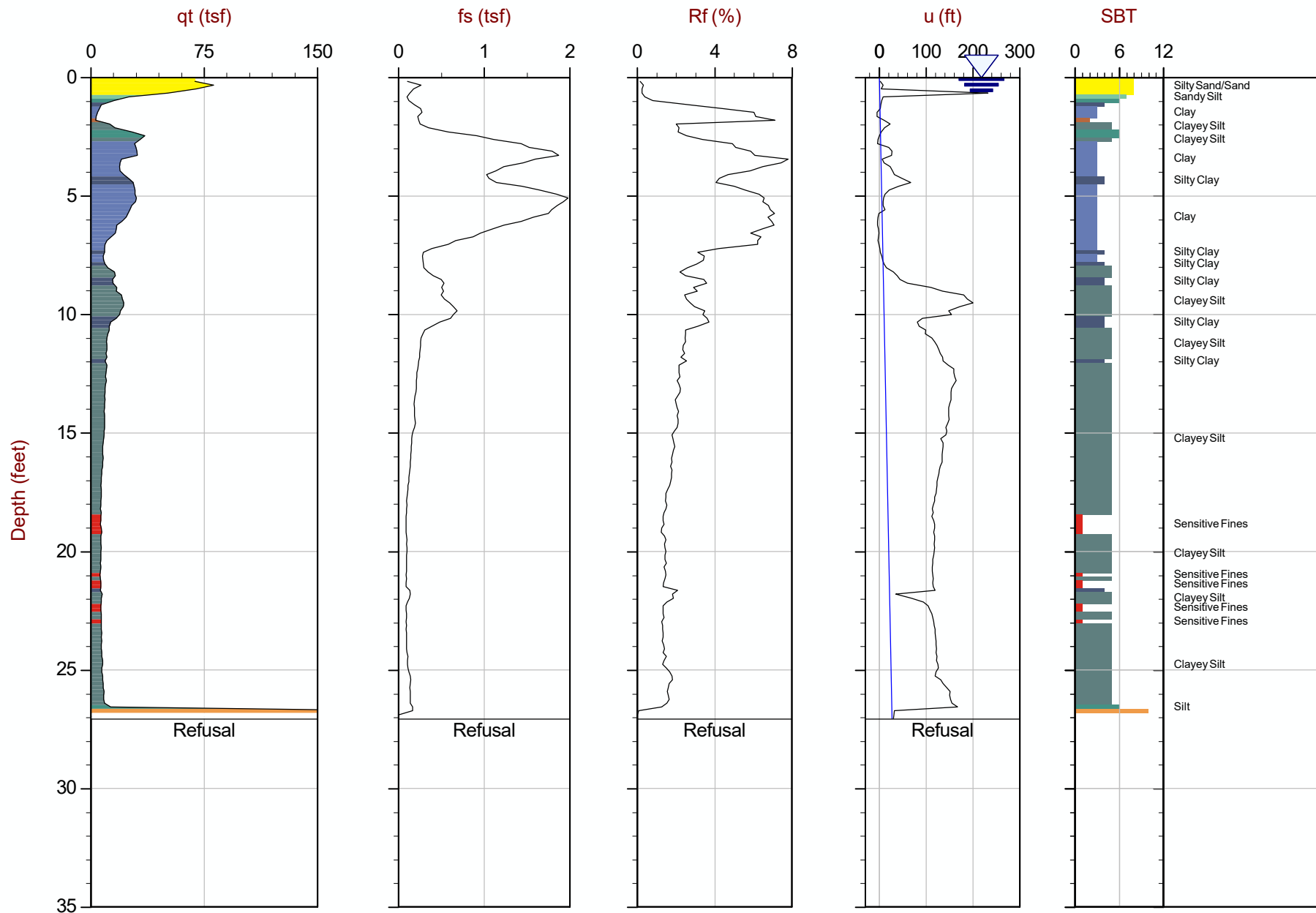
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 19 N: 4957568 E: 522184



Maine DOT

Job No: 13-53015
Date: 03:07:13 13:33
Site: Brewer, ME

Sounding: SCPT-04
Cone: 301:T1500F15U500



Max Depth: 8.250 m / 27.07 ft
Depth Inc: 0.050 m / 0.164 ft

File: 13-53015_SP04.COR

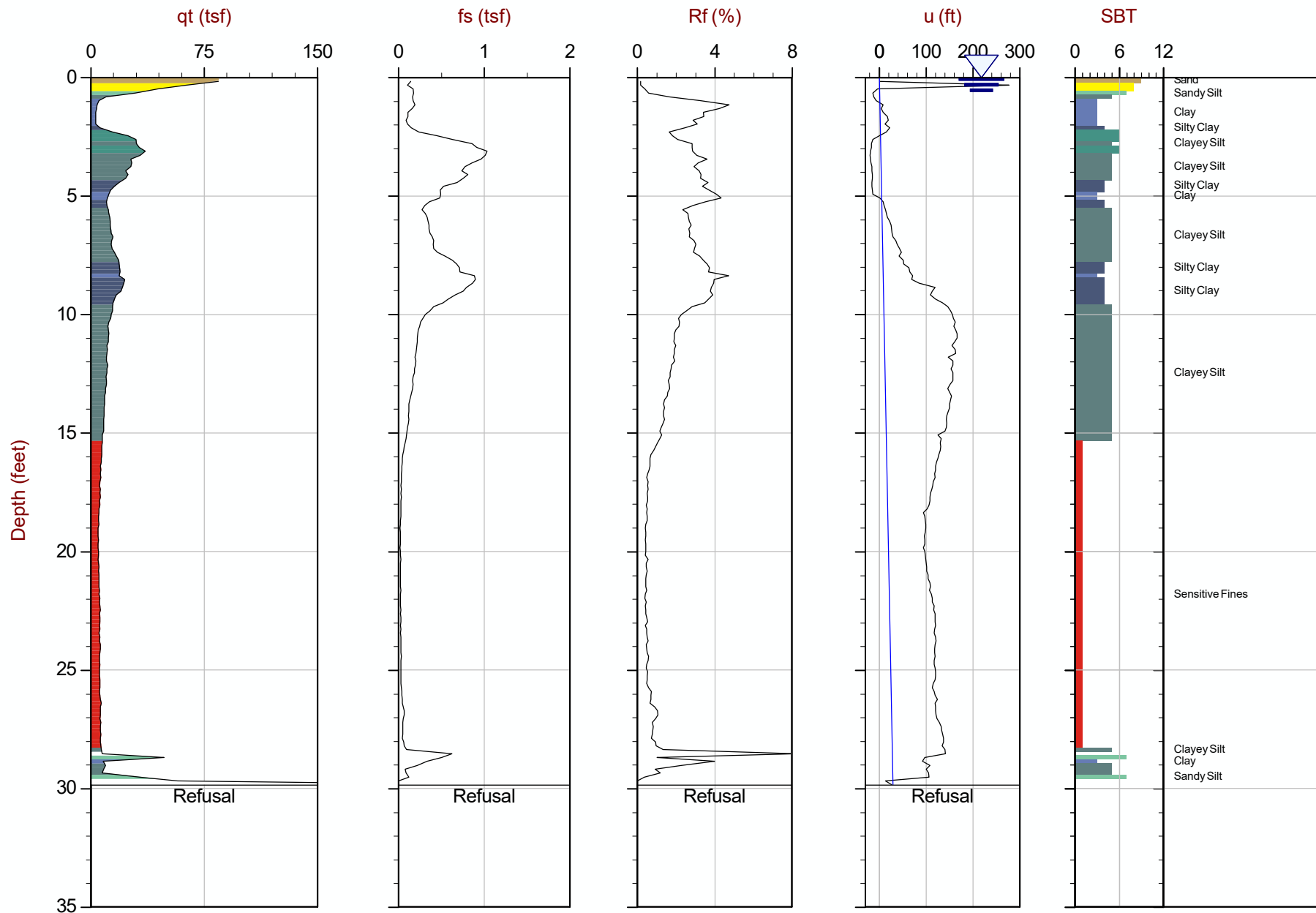
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Coords: UTM Zone 19 N: 4957636 E: 522192



Maine DOT

Job No: 13-53015
Date: 03:07:13 15:20
Site: Brewer, ME

Sounding: SCPT-05
Cone: 301:T1500F15U500



Max Depth: 9.100 m / 29.86 ft
Depth Inc: 0.050 m / 0.164 ft

File: 13-53015_SP05.COR

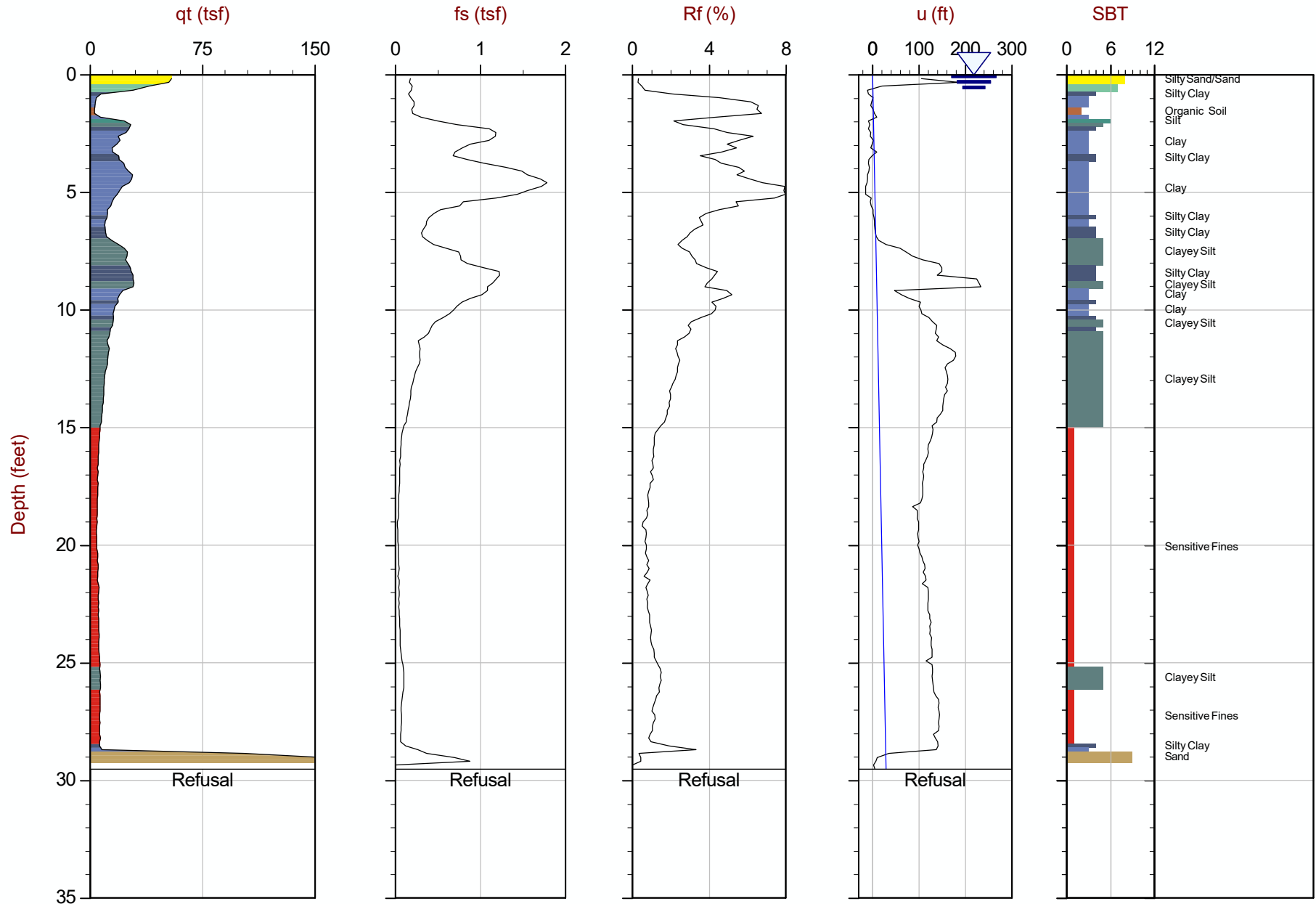
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 19 N: 4957662 E: 522175



Maine DOT

Job No: 13-53015
Date: 03:07:13 15:58
Site: Brewer, ME

Sounding: SCPT-06
Cone: 301:T1500F15U500



Max Depth: 9.000 m / 29.53 ft
Depth Inc: 0.050 m / 0.164 ft

File: 13-53015_SP06.COR

SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 19 N: 4957664 E: 522131

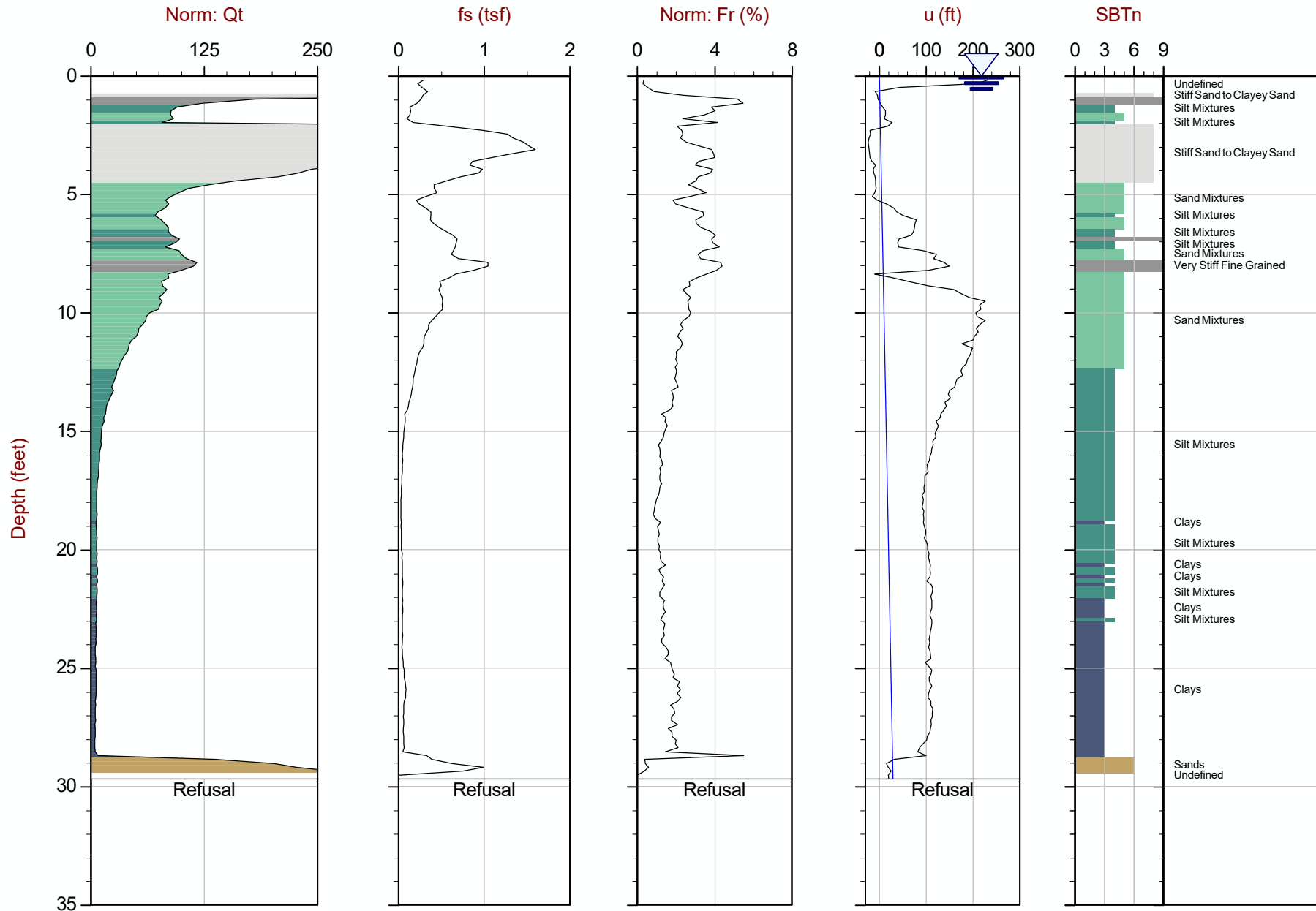
Normalized CPT Plots



Maine DOT

Job No: 13-53015
Date: 03:07:13 09:47
Site: Brewer, ME

Sounding: SCPT-01
Cone: 301:T1500F15U500



Max Depth: 9.050 m / 29.69 ft
Depth Inc: 0.050 m / 0.164 ft

File: 13-53015_SP01.COR

SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 19 N: 4957652 E: 522146



File: 13-53015_CP02.COR

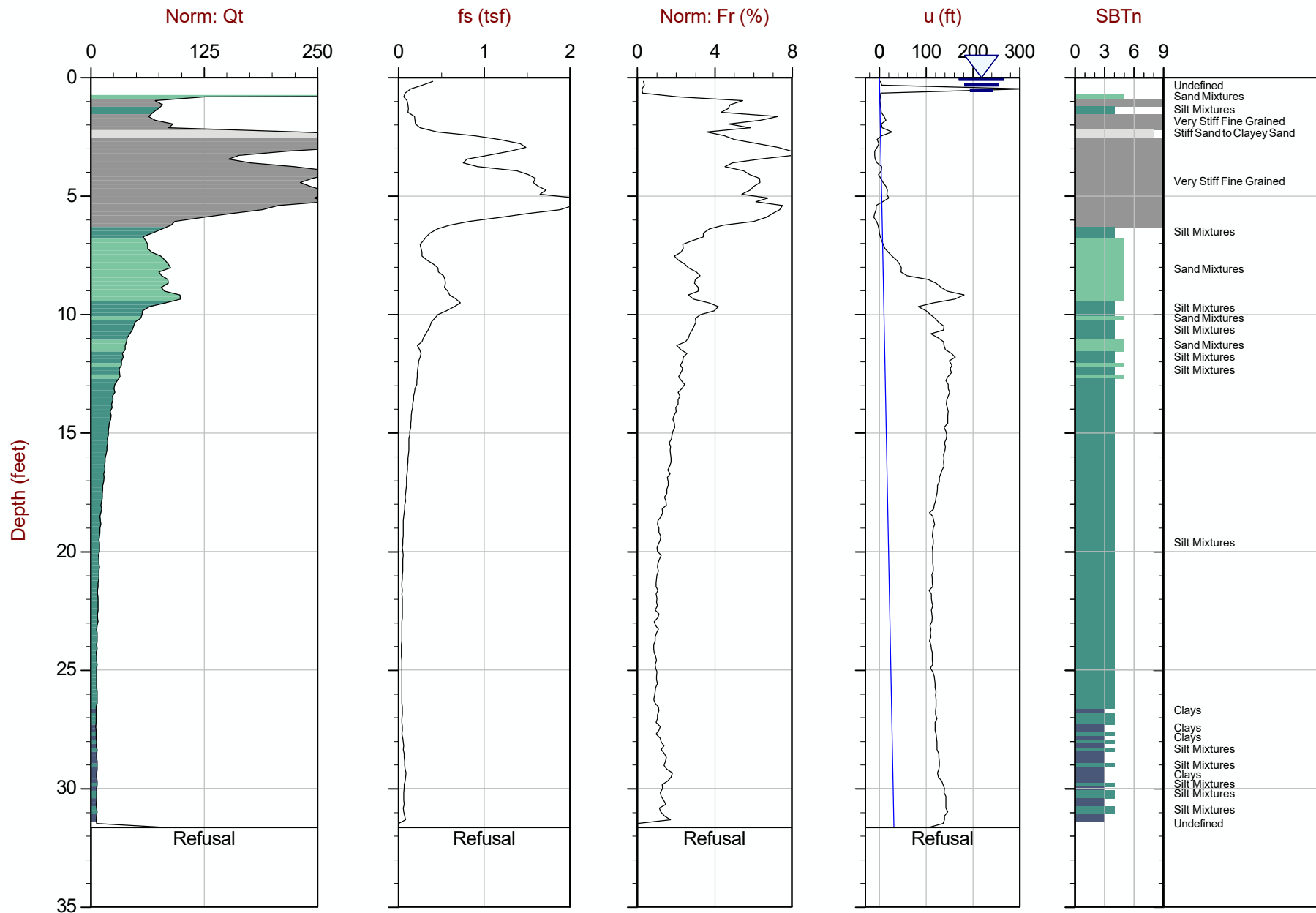
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Coords: UTM Zone 19 N: 4957640 E: 522160



Maine DOT

Job No: 13-53015
Date: 03:07:13 12:56
Site: Brewer, ME

Sounding: CPT-03
Cone: 301:T1500F15U500



Max Depth: 9.650 m / 31.66 ft
Depth Inc: 0.050 m / 0.164 ft

File: 13-53015_CP03.COR

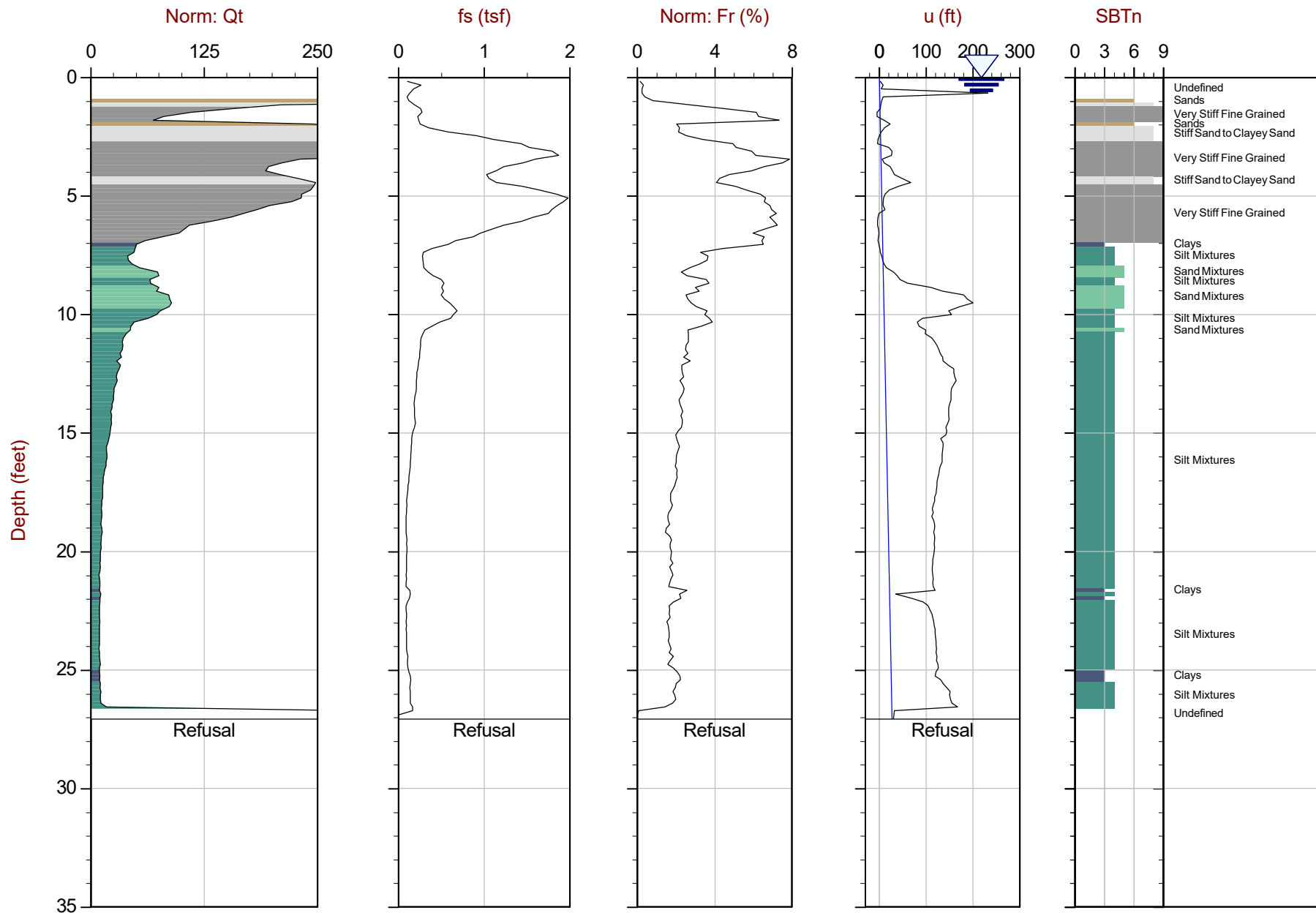
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 19 N: 4957568 E: 522184



Maine DOT

Job No: 13-53015
Date: 03:07:13 13:33
Site: Brewer, ME

Sounding: SCPT-04
Cone: 301:T1500F15U500



Max Depth: 8.250 m / 27.07 ft
Depth Inc: 0.050 m / 0.164 ft

File: 13-53015_SP04.COR

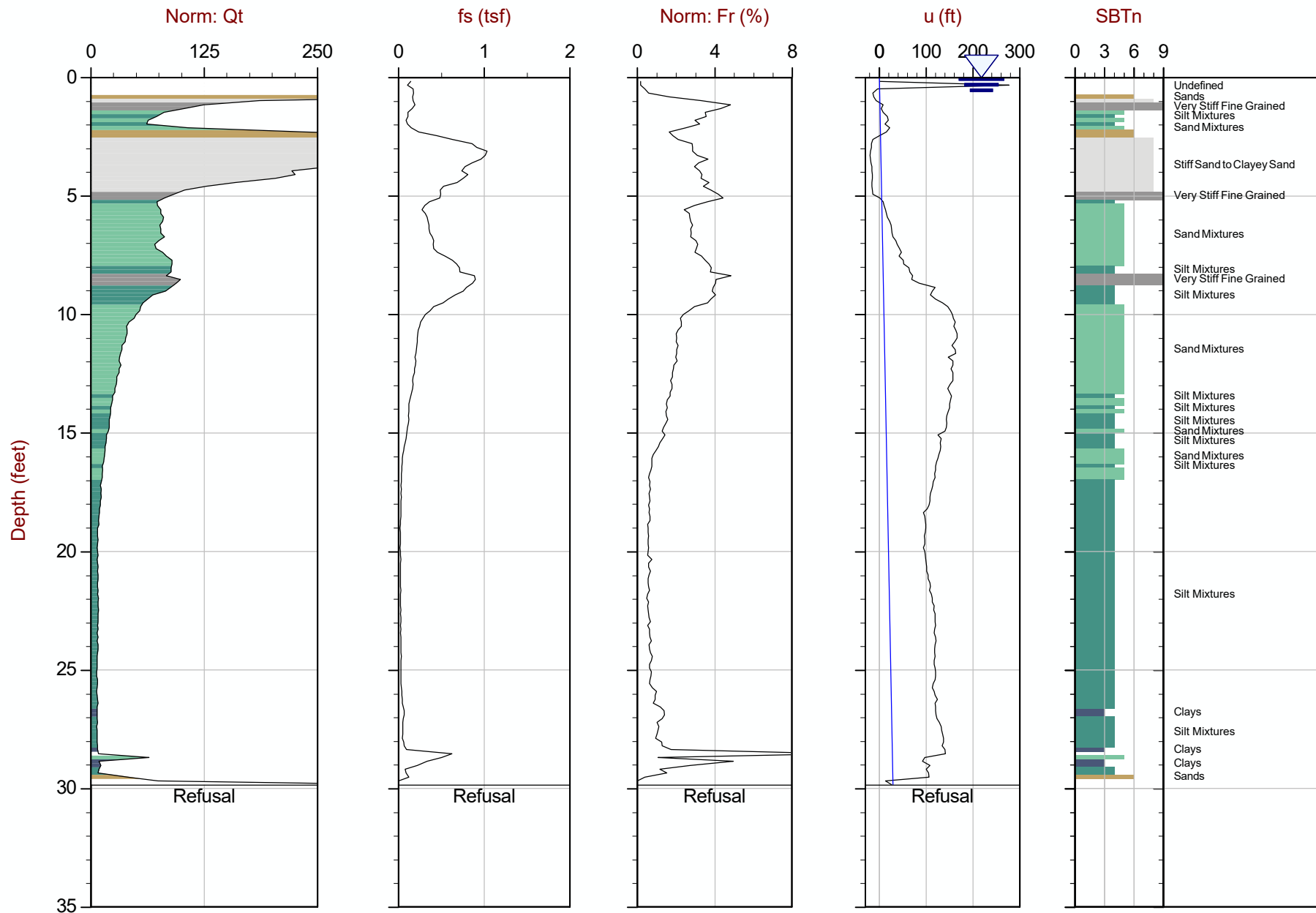
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Coords: UTM Zone 19 N: 4957636 E: 522192



Maine DOT

Job No: 13-53015
Date: 03:07:13 15:20
Site: Brewer, ME

Sounding: SCPT-05
Cone: 301:T1500F15U500



Max Depth: 9.100 m / 29.86 ft
Depth Inc: 0.050 m / 0.164 ft

File: 13-53015_SP05.COR

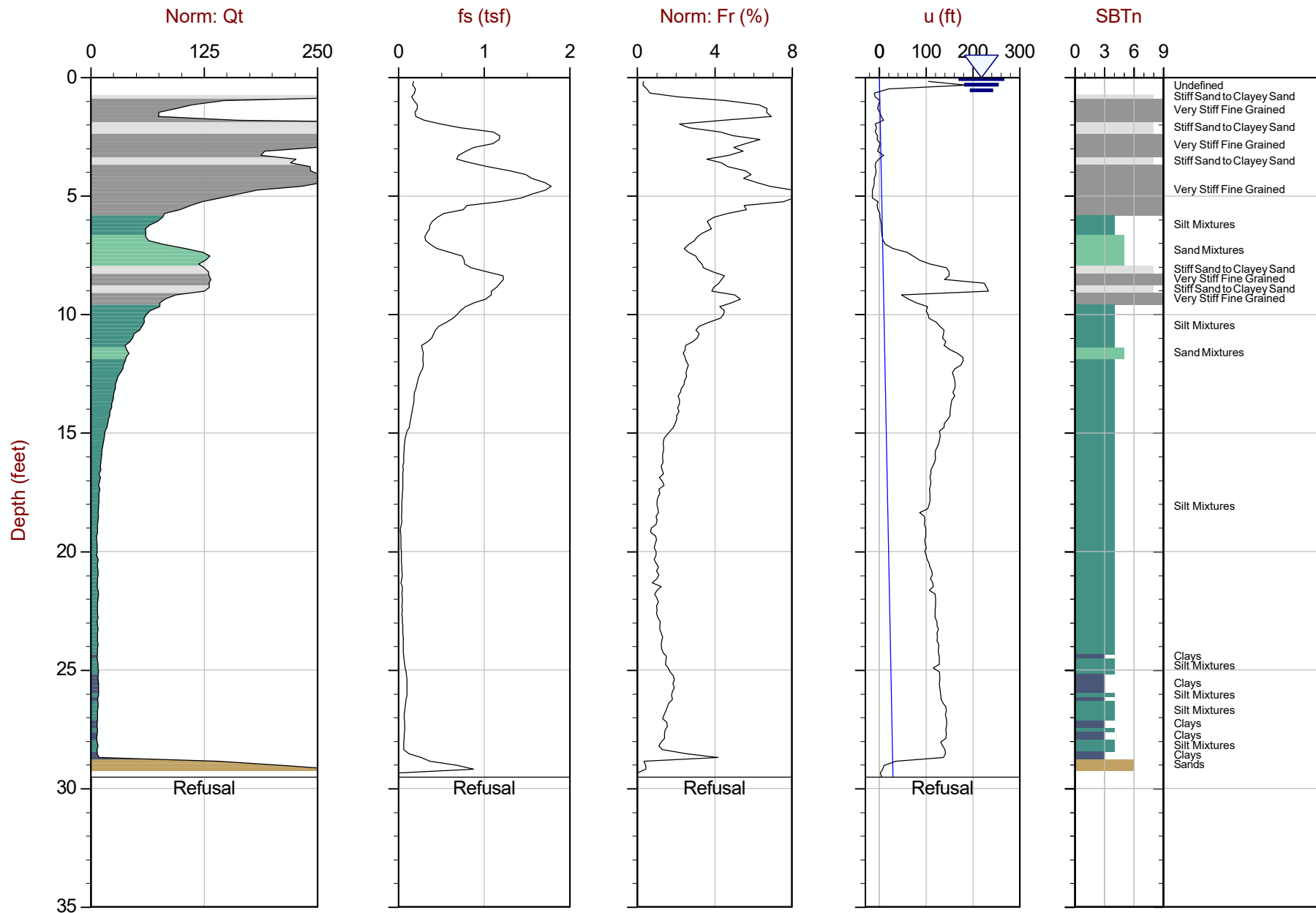
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 19 N: 4957662 E: 522175



Maine DOT

Job No: 13-53015
Date: 03:07:13 15:58
Site: Brewer, ME

Sounding: SCPT-06
Cone: 301:T1500F15U500



Max Depth: 9.000 m / 29.53 ft
Depth Inc: 0.050 m / 0.164 ft

File: 13-53015_SP06.COR

SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 19 N: 4957664 E: 522131

Appendix B

A Detailed Description of the Methods Used in ConeTec's CPT Interpretation and Plotting Software



Revision SZW-Rev 05
January 16, 2011

Prepared by Jim Greig





ConeTec Interpretations as of January 16, 2011

ConeTec's interpretation routine provides a tabular output of geotechnical parameters based on current published CPT correlations and is subject to change to reflect the current state of practice. The interpreted values are not considered valid for all soil types. The interpretations are presented only as a guide for geotechnical use and should be carefully scrutinized for consideration in any geotechnical design. Reference to current literature is strongly recommended. ConeTec does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the program and does not assume liability for any use of the results in any design or review. Representative hand calculations should be made for any parameter that is critical for design purposes. The end user of the interpreted output should also be fully aware of the techniques and the limitations of any method used in this program. The purpose of this document is to inform the user as to which methods were used and what the appropriate papers and/or publications are for further reference.

The CPT interpretations are based on values of tip, sleeve friction and pore pressure averaged over a user specified interval (e.g. 0.20m). Note that q_t is the tip resistance corrected for pore pressure effects and q_c is the recorded tip resistance. Since all ConeTec cones have equal end area friction sleeves, pore pressure corrections to sleeve friction, f_s , are not required.

The tip correction is: $q_t = q_c + (1-a) \cdot u_2$

where: q_t is the corrected tip resistance

q_c is the recorded tip resistance

u_2 is the recorded dynamic pore pressure behind the tip (u_2 position)

a is the Net Area Ratio for the cone (typically 0.80 for ConeTec cones)

The total stress calculations are based on soil unit weights that have been assigned to the Soil Behavior Type zones, from a user defined unit weight profile or by using a single value throughout the profile.

Effective vertical overburden stresses are calculated based on a hydrostatic distribution of equilibrium pore pressures below the water table or from a user defined equilibrium pore pressure profile (this can be obtained from CPT dissipation tests). For over water projects the effects of the column of water have been taken into account as has the appropriate unit weight of water. How this is done depends on where the instruments were zeroed (i.e. on deck or at mud line).

Details regarding the interpretation methods for all of the interpreted parameters are provided in Table 1. The appropriate references cited in Table 1 are listed in Table 2. Where methods are based on charts or techniques that are too complex to describe in this summary the user should refer to the cited material.

The estimated Soil Behavior Types (normalized and non-normalized) are based on the charts developed by Robertson and Campanella shown in Figures 1 and 2. Alternate classification charts, such as the Bq SBTcharts, are shown in Figure 3.

Where the results of a calculation/interpretation are declared 'invalid' the value will be represented by the text strings "-9999" or "-9999.0". In some cases the value 0 will be used. Invalid results will occur because of (and not limited to) one or a combination of:

1. Invalid or undefined CPT data (e.g. drilled out section or data gap).
2. Where the interpretation method is inappropriate, for example, drained parameters in an undrained material (and vice versa).
3. Where interpretation input values are beyond the range of the referenced charts or specified limitations of the interpretation method.
4. Where pre-requisite or intermediate interpretation calculations are invalid.

The parameters selected for output from the program are often specific to a particular project. As such, not all of the interpreted parameters listed in Table 1 may be included in the output files delivered with this report.

The output files are provided in Microsoft Excel XLS format. The ConeTec software has several options for output depending on the number or types of interpreted parameters desired. Each output file will be named using the original COR file basename followed by a three or four letter indicator of the interpretation set selected (e.g. BSC, TBL, NLI or IFI) and possibly followed by an operator selected suffix identifying the characteristics of the particular interpretation run.

Table 1
CPT Interpretation Methods

Interpreted Parameter	Description	Equation	Ref
Depth	Mid Layer Depth <i>(where interpretations are done at each point then Mid Layer Depth = Recorded Depth)</i>	$Depth (Layer Top) + Depth (Layer Bottom) / 2.0$	
Elevation	Elevation of Mid Layer based on sounding collar elevation supplied by client	Elevation = Collar Elevation - Depth	
Avgqc	Averaged recorded tip value (q_c)	$Avgqc = \frac{1}{n} \sum_{i=1}^n q_c$ $n=1$ when interpretations are done at each point	
Avgqt	Averaged corrected tip (q_t) where: $q_t = q_c + (1 - a) \cdot u$	$Avgqt = \frac{1}{n} \sum_{i=1}^n q_t$ $n=1$ when interpretations are done at each point	
Avgfs	Averaged sleeve friction (f_s)	$Avgfs = \frac{1}{n} \sum_{i=1}^n f_s$ $n=1$ when interpretations are done at each point	
AvgRf	Averaged friction ratio (Rf) where friction ratio is defined as: $Rf = 100\% \cdot \frac{f_s}{qt}$	$AvgRf = 100\% \cdot \frac{Avgfs}{Avgqt}$ $n=1$ when interpretations are done at each point	
Avgu	Averaged dynamic pore pressure (u)	$Avgu = \frac{1}{n} \sum_{i=1}^n u_i$ $n=1$ when interpretations are done at each point	
AvgRes	Averaged Resistivity (this data is not always available since it is a specialized test requiring an additional module)	$Avgu = \frac{1}{n} \sum_{i=1}^n RESISTIVITY_i$ $n=1$ when interpretations are done at each point	
AvgUVIF	Averaged UVIF ultra-violet induced fluorescence (this data is not always available since it is a specialized test requiring an additional module)	$Avgu = \frac{1}{n} \sum_{i=1}^n UVIF_i$ $n=1$ when interpretations are done at each point	
AvgTemp	Averaged Temperature (this data is not always available since it is a specialized test)	$Avgu = \frac{1}{n} \sum_{i=1}^n TEMPERATURE_i$ $n=1$ when interpretations are done at each point	
AvgGamma	Averaged Gamma Counts (this data is not always available since it is a specialized test requiring an additional module)	$Avgu = \frac{1}{n} \sum_{i=1}^n GAMMA_i$ $n=1$ when interpretations are done at each point	
SBT	Soil Behavior Type as defined by Robertson and Campanella	See Figure 1	2, 5

Interpreted Parameter	Description	Equation	Ref
U.Wt.	Unit Weight of soil determined from one of the following user selectable options: 1) uniform value 2) value assigned to each SBT zone 3) user supplied unit weight profile	See references	5
T. Stress σ_v	Total vertical overburden stress at Mid Layer Depth. <i>A layer is defined as the averaging interval specified by the user. For data interpreted at each point the Mid Layer Depth is the same as the recorded depth.</i>	$TStress = \sum_{i=1}^n \gamma_i h_i$ where γ_i is layer unit weight h_i is layer thickness	
E. Stress σ_v	Effective vertical overburden stress at Mid Layer Depth	$Estress = Tstress - u_{eq}$	
Ueq	Equilibrium pore pressure determined from one of the following user selectable options: 1) hydrostatic from water table depth 2) user supplied profile	For hydrostatic option: $u_{eq} = \gamma_w \cdot (D - D_{wt})$ where u_{eq} is equilibrium pore pressure γ_w is unit weight of water D is the current depth D_{wt} is the depth to the water table	
Cn	SPT N_{60} overburden correction factor	$Cn = (\sigma_v')^{-0.5}$ where σ_v' is in tsf $0.5 < Cn < 2.0$	
N_{60}	SPT N value at 60% energy calculated from qt/N ratios assigned to each SBT zone. This method has abrupt N value changes at zone boundaries.	See Figure 1	4, 5
$(N_1)_{60}$	SPT N_{60} value corrected for overburden pressure	$(N_1)_{60} = Cn \cdot N_{60}$	4
N_{60lc}	SPT N_{60} values based on the lc parameter	$(qt/pa) / N_{60} = 8.5 (1 - lc/4.6)$	5
$(N_1)_{60lc}$	SPT N_{60} value corrected for overburden pressure (using N_{60lc}). User has 2 options.	1) $(N_1)_{60lc} = Cn \cdot (N_{60lc})$ 2) $q_{c1n} / (N_1)_{60lc} = 8.5 (1 - lc/4.6)$	4 5
$(N_1)_{60cslc}$	Clean sand equivalent SPT $(N_1)_{60lc}$. User has 3 options.	1) $(N_1)_{60cslc} = \alpha + \beta ((N_1)_{60lc})$ 2) $(N_1)_{60cslc} = K_{SPT} * ((N_1)_{60lc})$ 3) $q_{c1ncs} / (N_1)_{60cslc} = 8.5 (1 - lc/4.6)$ FC \leq 5%: $\alpha = 0, \beta = 1.0$ FC \geq 35%: $\alpha = 5.0, \beta = 1.2$ 5% < FC < 35%: $\alpha = \exp[1.76 - (190/FC^2)]$ $\beta = [0.99 + (FC^{1.5}/1000)]$	10 10 5
Su	Undrained shear strength based on q_t Su factor N_{kt} is user selectable	$Su = \frac{qt - \sigma_v}{N_{kt}}$	1, 5
Su	Undrained shear strength based on pore pressure Su factor $N_{\Delta u}$ is user selectable	$Su = \frac{u_2 - u_{eq}}{N_{\Delta u}}$	1, 5
k	Coefficient of permeability (assigned to each SBT zone)		5
Bq	Pore pressure parameter	$Bq = \frac{\Delta u}{qt - \sigma_v}$ where: $\Delta u = u - u_{eq}$ and u = dynamic pore pressure u_{eq} = equilibrium pore pressure	1, 5

Interpreted Parameter	Description	Equation	Ref
Q_t	Normalized q_t for Soil Behavior Type classification as defined by Robertson, 1990	$Q_t = \frac{qt - \sigma_v}{\sigma_v}$	2, 5
F_r	Normalized Friction Ratio for Soil Behavior Type classification as defined by Robertson, 1990	$Fr = 100\% \cdot \frac{fs}{qt - \sigma_v}$	2, 5
Net qt	Net tip resistance	$qt - \sigma_v$	
qe	Effective tip resistance	$qt - u_2$	
qeNorm	Normalized effective tip resistance	$\frac{qt - u_2}{\sigma_v}$	
SBTn	Normalized Soil Behavior Type as defined by Robertson and Campanella	See Figure 2	2, 5
SBT-BQ	Non-normalized Soil Behavior type based on the Bq parameter	See Figure 3	2, 5
SBT-BQn	Normalized Soil Behavior based on the Bq parameter	See Figure 3	2, 5
SBT-JandD	Soil Behaviour Type as defined by Jeffries and Davies	See Figure 3	7
SBT-BQn	Normalized Soil Behavior base on the Bq parameter	See Figure 3	2, 5
I_c	Soil index for estimating grain characteristics	$I_c = [(3.47 - \log_{10} Q)^2 + (\log_{10} Fr + 1.22)^2]^{0.5}$ Where: $Q = \left(\frac{qt - \sigma_v}{P_{a2}} \right) \left(\frac{P_a}{\sigma_v} \right)^n$ And Fr is in percent P_a = atmospheric pressure P_{a2} = atmospheric pressure n varies from 0.5 to 1.0 and is selected in an iterative manner based on the resulting I_c	3, 8
FC	Apparent fines content (%)	$FC = 1.75(I_c^{3.25}) - 3.7$ $FC = 100$ for $I_c > 3.5$ $FC = 0$ for $I_c < 1.26$ $FC = 5\%$ if $1.64 < I_c < 2.6$ AND $Fr < 0.5$	3
I_c Zone	This parameter is the Soil Behavior Type zone based on the I_c parameter (valid for zones 2 through 7 on SBTn chart)	$I_c < 1.31$ Zone = 7 $1.31 < I_c < 2.05$ Zone = 6 $2.05 < I_c < 2.60$ Zone = 5 $2.60 < I_c < 2.95$ Zone = 4 $2.95 < I_c < 3.60$ Zone = 3 $I_c > 3.60$ Zone = 2	3
PHI ϕ	Friction Angle determined from one of the following user selectable options: a) Campanella and Robertson b) Durgunoglu and Mitchel c) Janbu d) Kulhawy and Mayne	See reference	5 5 5 11
Dr	Relative Density determined from one of the following user selectable options: a) Ticino Sand b) Hokksund Sand c) Schmertmann 1976 d) Jamiolkowski - All Sands	See reference	5

Interpreted Parameter	Description	Equation	Ref
OCR	Over Consolidation Ratio	a) Based on Schmertmann's method involving a plot of $S_u/\sigma_v' / (S_u/\sigma_v')_{NC}$ and OCR where the S_u/p' ratio for NC clay is user selectable	9
State Parameter	The state parameter is used to describe whether a soil is contractive (SP is positive) or dilative (SP is negative) at large strains based on the work by Been and Jefferies	See reference	8, 6, 5
Es/qt	Intermediate parameter for calculating Young's Modulus, E, in sands. It is the Y axis of the reference chart.	Based on Figure 5.59 in the reference	5
Young's Modulus E	Young's Modulus based on the work done in Italy. There are three types of sands considered in this technique. The user selects the appropriate type for the site from: a) OC Sands b) Aged NC Sands c) Recent NC Sands Each sand type has a family of curves that depend on mean normal stress. The program calculates mean normal stress and linearly interpolates between the two extremes provided in the Es/qt chart.	Mean normal stress is evaluated from: $\sigma_m' = \frac{1}{3}(\sigma_v' + \sigma_h' + \sigma_h')$ where σ_v' = vertical effective stress σ_h' = horizontal effective stress and $\sigma_h = K_o \cdot \sigma_v'$ with K_o assumed to be 0.5	5
q_{c1}	q_t normalized for overburden stress used for seismic analysis	$q_{c1} = q_t \cdot (Pa/\sigma_v')^{0.5}$ where: Pa = atm. Pressure q_t is in MPa	3
q_{c1n}	q_{c1} in dimensionless form used for seismic analysis	$q_{c1n} = (q_{c1} / Pa)(Pa/\sigma_v')^n$ where: Pa = atm. Pressure and n ranges from 0.5 to 0.75 based on I_c .	3
K_{SPT}	Equivalent clean sand factor for $(N_1)_{60}$	$K_{SPT} = 1 + ((0.75/30) \cdot (FC - 5))$	10
K_{CPT}	Equivalent clean sand correction for q_{c1n}	$K_{cpt} = 1.0$ for $I_c \leq 1.64$ $K_{cpt} = f(I_c)$ for $I_c > 1.64$ (see reference)	10
q_{c1ncs}	Clean sand equivalent q_{c1n}	$q_{c1ncs} = q_{c1n} \cdot K_{cpt}$	3
CRR	Cyclic Resistance Ratio (for Magnitude 7.5)	$q_{c1ncs} < 50$: $CRR_{7.5} = 0.833 [(q_{c1ncs}/1000) + 0.05]$ $50 \leq q_{c1ncs} < 160$: $CRR_{7.5} = 93 [(q_{c1ncs}/1000)^3 + 0.08]$	10
CSR	Cyclic Stress Ratio	$CSR = (\tau_{av}/\sigma_v') = 0.65 (a_{max} / g) (\sigma_v / \sigma_v') r_d$ $r_d = 1.0 - 0.00765 z$ $z \leq 9.15m$ $r_d = 1.174 - 0.0267 z$ $9.15 < z \leq 23m$ $r_d = 0.744 - 0.008 z$ $23 < z \leq 30m$ $r_d = 0.50$ $z > 30m$	10

Interpreted Parameter	Description	Equation	Ref
MSF	Magnitude Scaling Factor	See Reference	10
FofS	Factor of Safety against Liquefaction	$FS = (CRR_{7.5} / CSR) MSF$	10
Liquefaction Status	Statement indicating possible liquefaction	Takes into account FofS and limitations based on I_c and q_{c1ncs} .	10
Cont/Dilat Tip	Contractive / Dilative q_{c1} Boundary based on $(N_1)_{60}$	$(\sigma'_v)_{boundary} = 9.58 \times 10^{-4} [(N_1)_{60}]^{-4.79}$ q_{c1} is calculated from specified $qt(MPa)/N$ ratio	11
Su(Liq)/s'v	Liquefied Shear Strength Ratio	$\frac{Su(Liq)}{\sigma'_v} = 0.03 + 0.0143(q_{c1})$	12

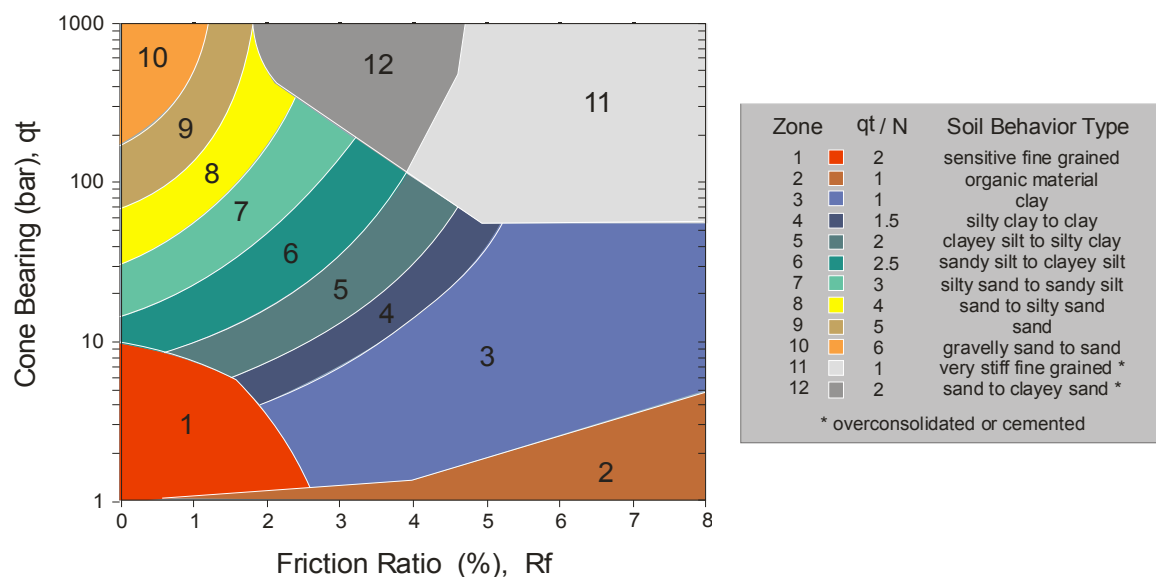


Figure 1 Non-Normalized Behavior Type Classification Chart

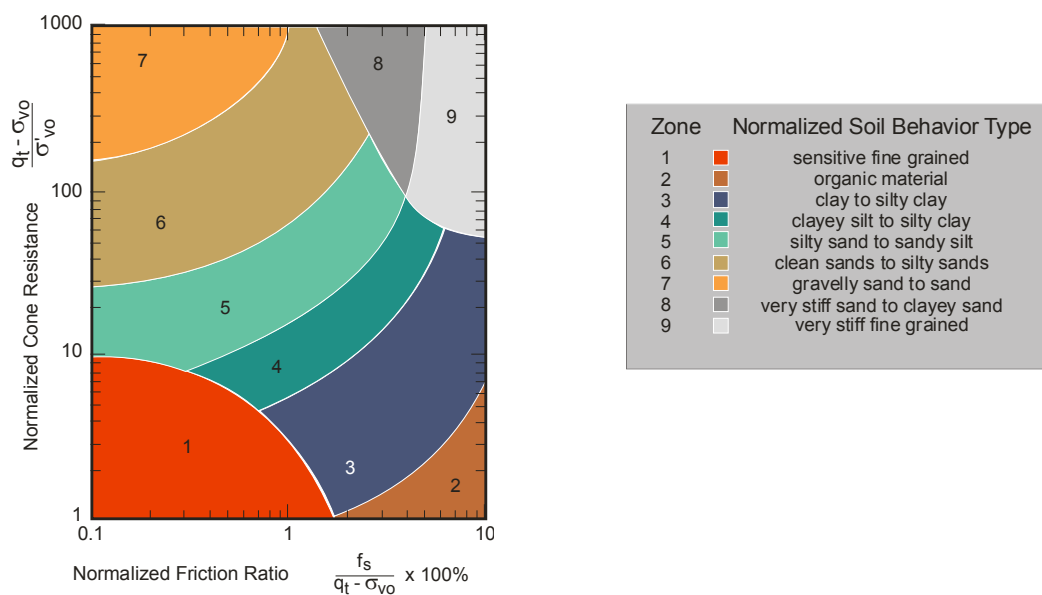


Figure 2 Normalized Behavior Type Classification Chart

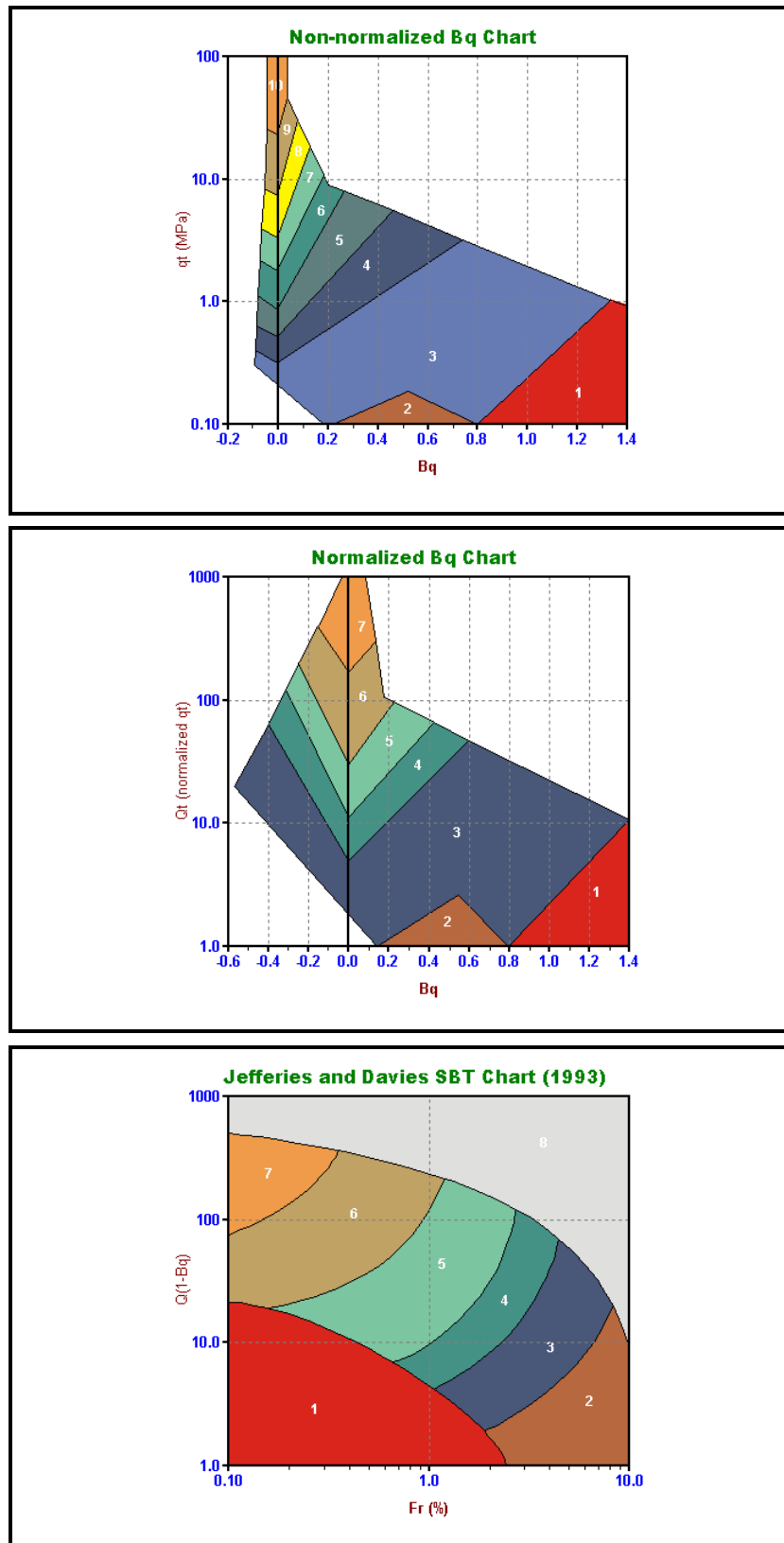


Figure 3 – Alternate Soil Behaviour Type Charts

Table 2 References

No.	References
1	Robertson, P.K., Campanella, R.G., Gillespie, D. and Greig, J., 1986, "Use of Piezometer Cone Data", Proceedings of InSitu 86, ASCE Specialty Conference, Blacksburg, Virginia.
2	Robertson, P.K., 1990, "Soil Classification Using the Cone Penetration Test", Canadian Geotechnical Journal, Volume 27.
3	Robertson, P.K. and Fear, C.E., 1998, "Evaluating cyclic liquefaction potential using the cone penetration test", Canadian Geotechnical Journal, 35: 442-459.
4	Robertson, P.K. and Wride, C.E., 1998, "Cyclic Liquefaction and its Evaluation Based on SPT and CPT", NCEER Workshop Paper, January 22, 1997
5	Lunne, T., Robertson, P.K. and Powell, J. J. M., 1997, "Cone Penetration Testing in Geotechnical Practice," Blackie Academic and Professional.
6	Plewes, H.D., Davies, M.P. and Jefferies, M.G., 1992, "CPT Based Screening Procedure for Evaluating Liquefaction Susceptibility", 45th Canadian Geotechnical Conference, Toronto, Ontario, October 1992.
7	Jefferies, M.G. and Davies, M.P., 1993. "Use of CPTu to Estimate equivalent N_{60} ", Geotechnical Testing Journal, 16(4): 458-467.
8	Been, K. and Jefferies, M.P., 1985, "A state parameter for sands", Geotechnique, 35(2), 99-112.
9	Schmertmann, 1977, "Guidelines for Cone Penetration Test Performance and Design", Federal Highway Administration Report FHWA-TS-78-209, U.S. Department of Transportation
10	Proceedings of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils, Salt Lake City, 1996. Chaired by Leslie Youd. 11
11	Kulhawy, F.H. and Mayne, P.W., 1990, "Manual on Estimating Soil Properties for Foundation Design, Report No. EL-6800", Electric Power Research Institute, Palo Alto, CA, August 1990, 306 p.
12	Oslon, Scott M. and Stark, Timothy D., 2003, "Yield Strength Ratio and Liquefaction Analysis of Slopes and Embankments", Journal of Geotechnical and Geoenvironmental Engineering, ASCE, August 2003.

Appendix C



Job No 13-53015
Client Maine DOT
Project Title Brewer Wilson
Hole SCPT-01
Site Brewer, ME
Date 3/7/2013

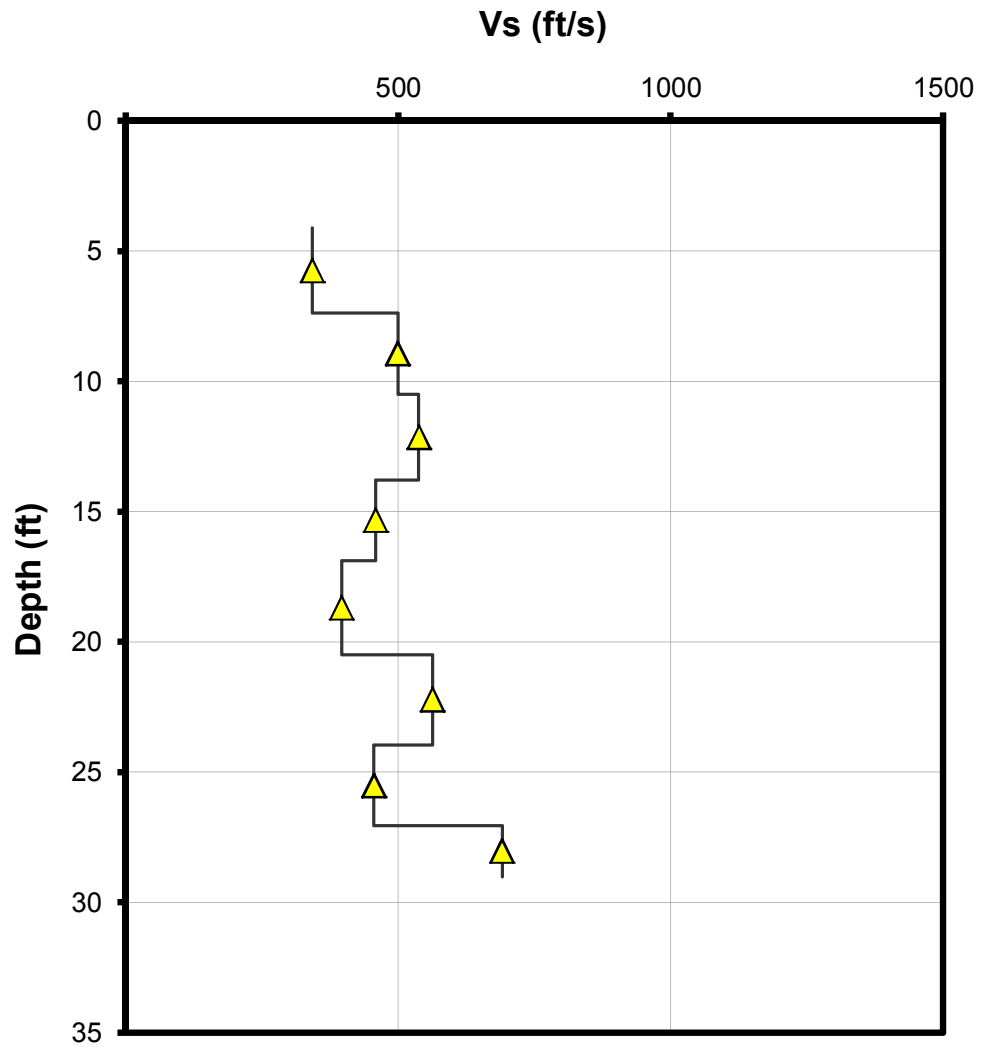
Seismic Source: Beam
Source Offset: 2.50 (ft)
Source Depth: 0.00 (ft)
Geophone Offset: 0.66 (ft)

SEISMIC TEST RESULTS - Vs

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Depth Interval (ft)	Time Interval (ms)	Mid-layer Depth (ft)	Vs Interval Velocity (ft/s)
4.76	4.10	4.81				
8.04	7.38	7.80	2.99	8.73	5.74	343
11.15	10.49	10.79	2.99	5.99	8.94	499
14.44	13.78	14.01	3.22	5.99	12.14	538
17.55	16.89	17.08	3.07	6.70	15.34	458
21.16	20.50	20.66	3.58	9.04	18.70	396
24.61	23.95	24.08	3.43	6.09	22.23	563
27.72	27.06	27.18	3.10	6.80	25.51	455
29.69	29.03	29.14	1.96	2.84	28.05	691



Job No: 13-53015
Client: Maine DOT
Project: Brewer Wilson
Sounding: SCPT-01
Date: March 7, 2013





Job No 13-53015
Client Maine DOT
Project Title Brewer Wilson
Hole SCPT-04
Site Brewer, ME
Date 3/7/2013

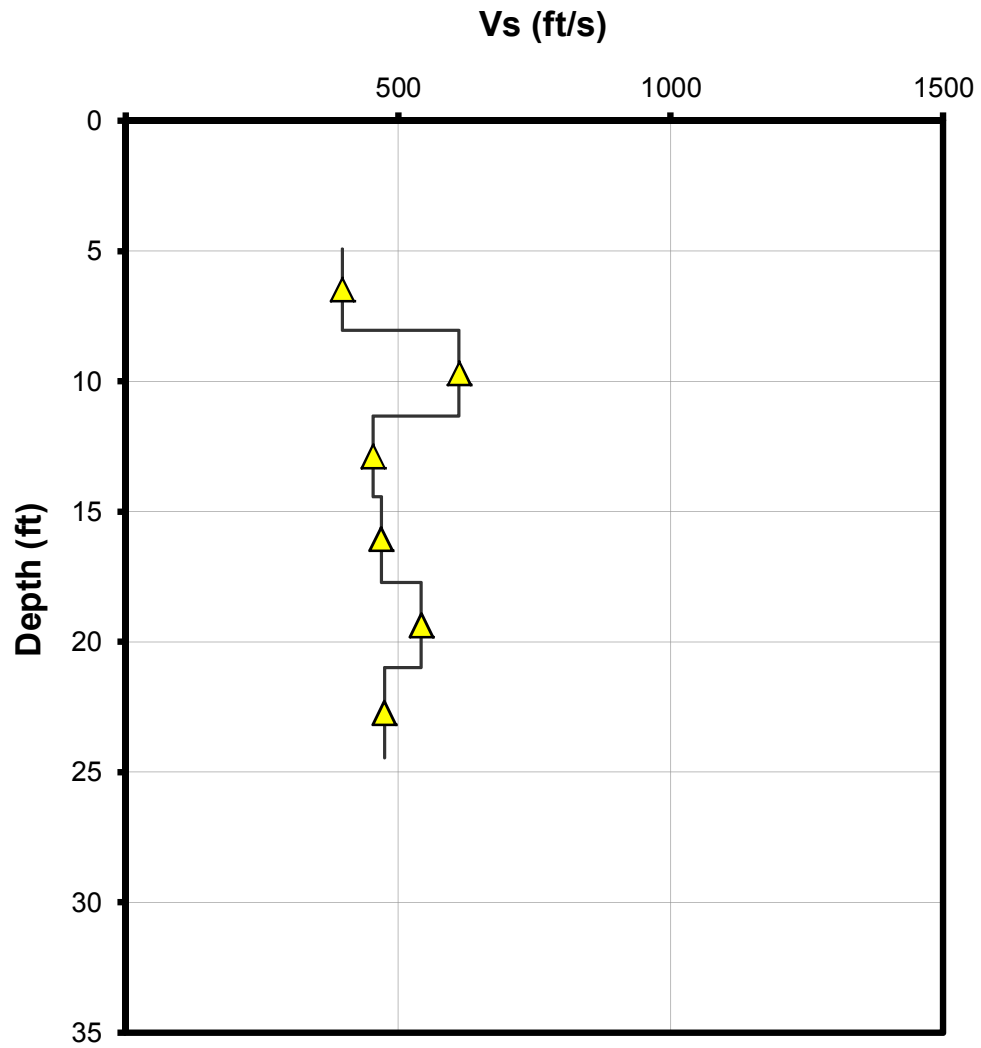
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Source Depth: 0.00 (ft)
Geophone Offset: 0.66 (ft)

SEISMIC TEST RESULTS - Vs

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Depth Interval (ft)	Time Interval (ms)	Mid-layer Depth (ft)	Vs Interval Velocity (ft/s)
5.58	4.92	5.60				
8.69	8.03	8.47	2.86	7.21	6.48	397
11.98	11.32	11.63	3.17	5.18	9.68	612
15.09	14.43	14.68	3.04	6.70	12.88	454
18.37	17.71	17.91	3.24	6.90	16.07	469
21.65	20.99	21.16	3.25	5.99	19.35	542
25.10	24.44	24.59	3.43	7.21	22.72	475



Job No: 13-53015
Client: Maine DOT
Project: Brewer Wilson
Sounding: SCPT-04
Date: March 7, 2013





Job No 13-53015
Client Maine DOT
Project Title Brewer Wilson
Hole SCPT-05
Site Brewer, ME
Date 3/7/2013

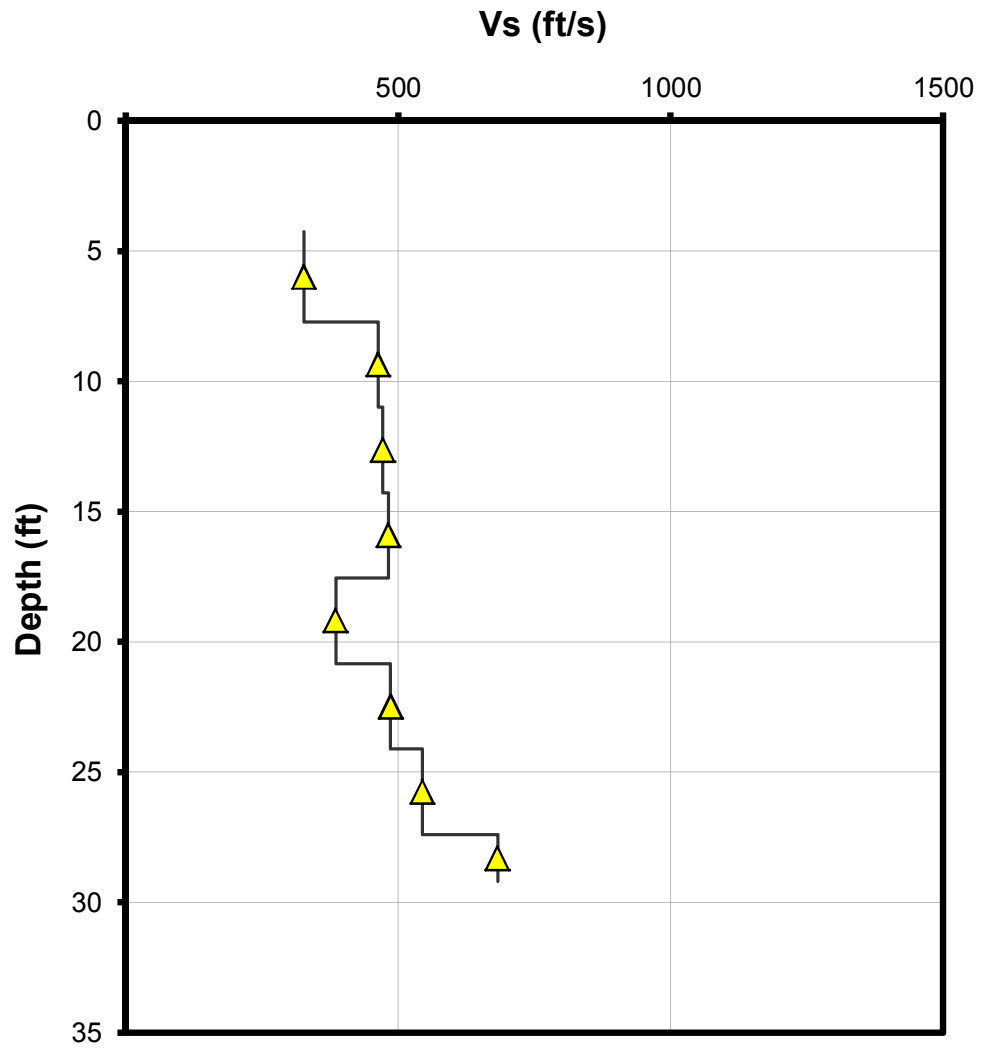
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Geophone Offset: 0.66 (ft)

SEISMIC TEST RESULTS - Vs

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Depth Interval (ft)	Time Interval (ms)	Mid-layer Depth (ft)	Vs Interval Velocity (ft/s)
4.92	4.26	5.05				
8.37	7.71	8.18	3.12	9.54	5.99	327
11.65	10.99	11.32	3.15	6.80	9.35	463
14.93	14.27	14.53	3.21	6.80	12.63	471
18.21	17.55	17.76	3.23	6.70	15.91	483
21.49	20.83	21.01	3.25	8.43	19.19	385
24.77	24.11	24.27	3.26	6.70	22.47	486
28.05	27.39	27.53	3.26	5.99	25.75	545
29.86	29.20	29.33	1.80	2.64	28.30	682



Job No: 13-53015
Client: Maine DOT
Project: Brewer Wilson
Sounding: SCPT-05
Date: March 7, 2013





Job No 13-53015
Client Maine DOT
Project Title Brewer Wilson
Hole SCPT-06
Site Brewer, ME
Date 3/7/2013

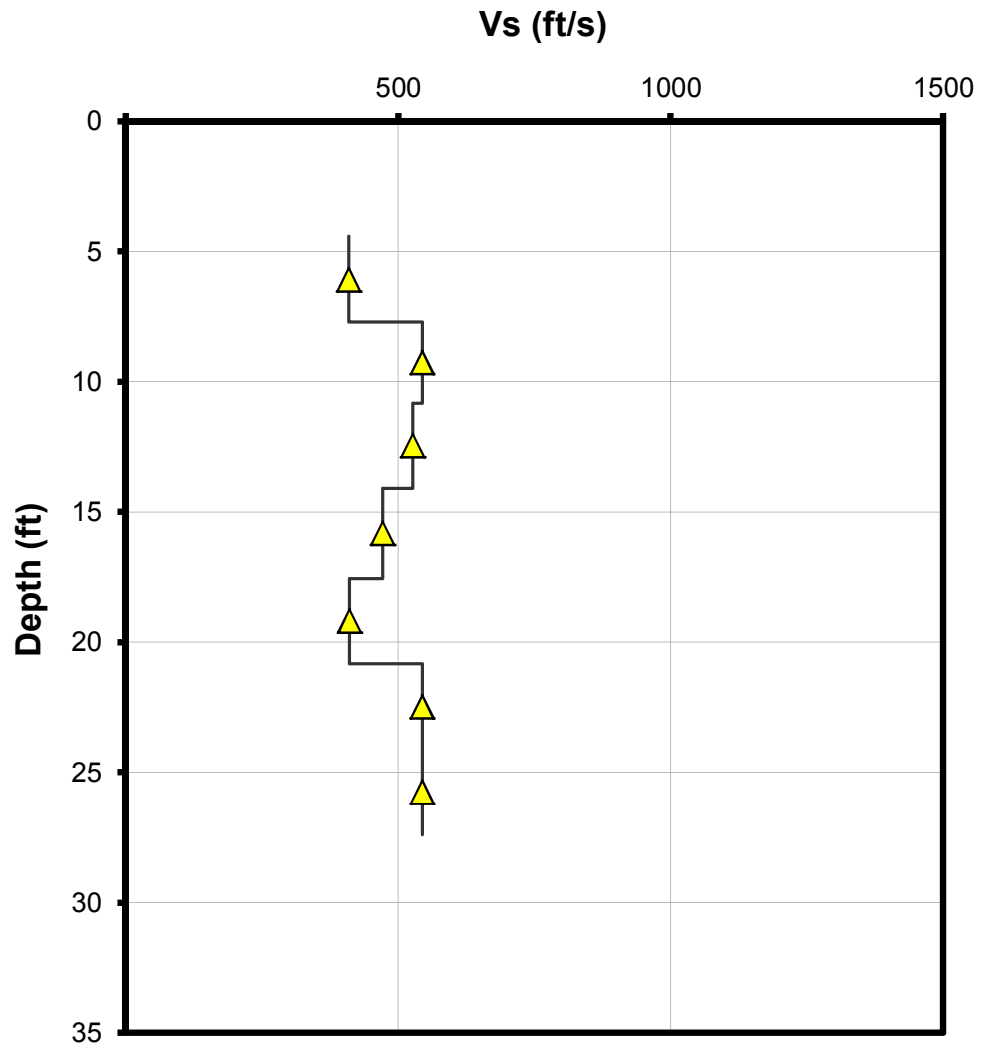
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Source Depth: 0.00 (ft)
Geophone Offset: 0.66 (ft)

SEISMIC TEST RESULTS - Vs

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Depth Interval (ft)	Time Interval (ms)	Mid-layer Depth (ft)	Vs Interval Velocity (ft/s)
5.08	4.42	5.17				
8.37	7.71	8.16	3.00	7.31	6.07	410
11.48	10.82	11.15	2.99	5.48	9.27	545
14.76	14.10	14.35	3.21	6.09	12.46	526
18.21	17.55	17.76	3.40	7.21	15.83	472
21.49	20.83	21.00	3.25	7.92	19.19	410
24.77	24.11	24.26	3.26	5.99	22.47	544
28.05	27.39	27.52	3.26	5.99	25.75	545



Job No: 13-53015
Client: Maine DOT
Project: Brewer Wilson
Sounding: SCPT-06
Date: March 7, 2013



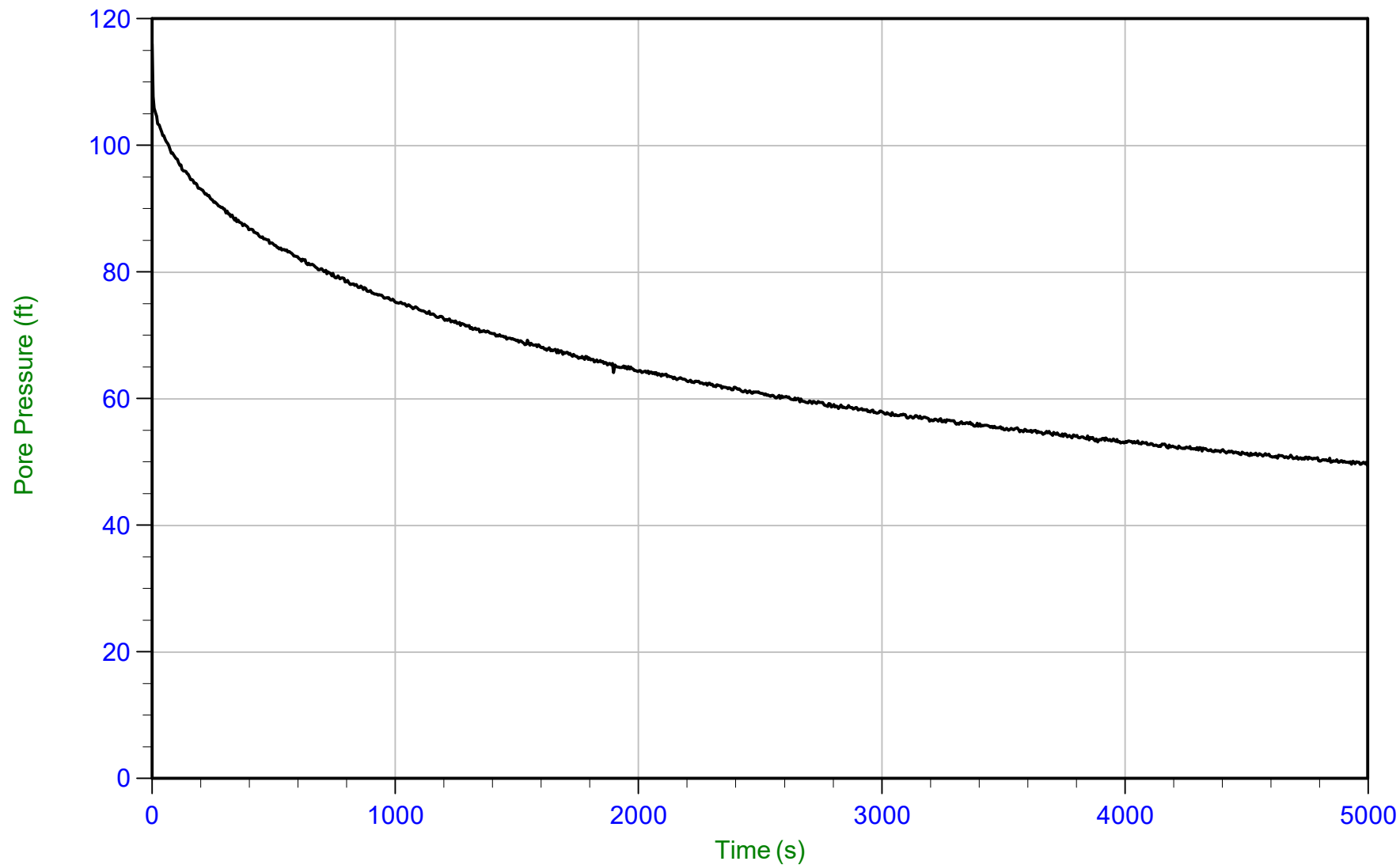
Appendix D



Maine DOT

Job No: 13-53015
Date: 03/07/2013 10:59
Site: Brewer, ME

Sounding: CPT-02
Cone: 301:T1500F15U500
Cone Area: 15 sq cm



Trace Summary:

Filename: 13-53015_CP02.PPD
Depth: 4.450 m / 14.600 ft
Duration: 5000.0 s

U Min: 49.5 ft
U Max: 116.0 ft

WT: 0.000 m / 0.000 ft
Ueq: 14.6 ft
U(50): 65.32 ft

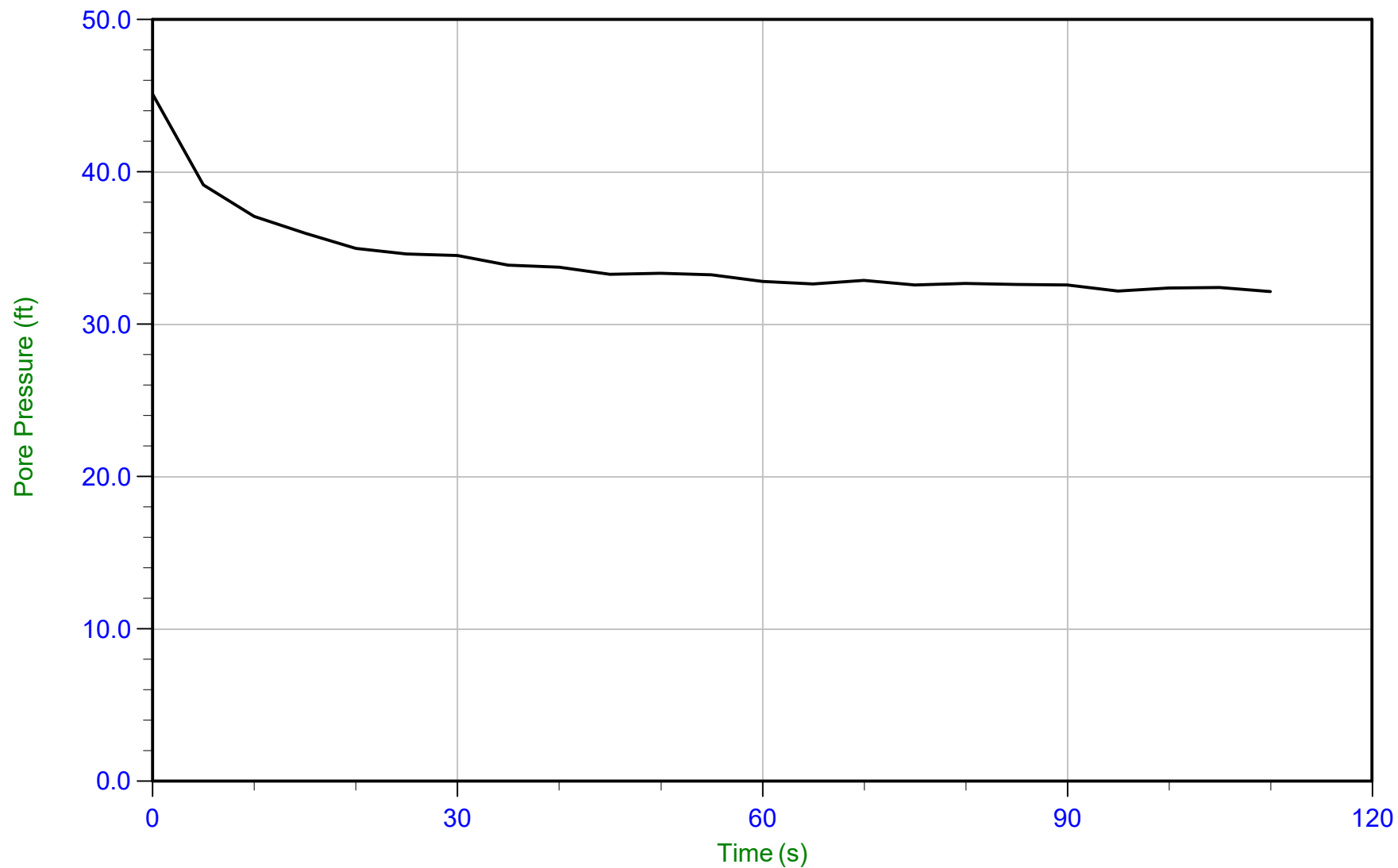
T(50): 1895.9 s
Ir: 100
Ch: 0.4 sq cm/min



Maine DOT

Job No: 13-53015
Date: 03/07/2013 12:56
Site: Brewer, ME

Sounding: CPT-03
Cone: 301:T1500F15U500
Cone Area: 15 sq cm



Trace Summary:

Filename: 13-53015_CP03.PPD
Depth: 9.650 m / 31.660 ft
Duration: 110.0 s

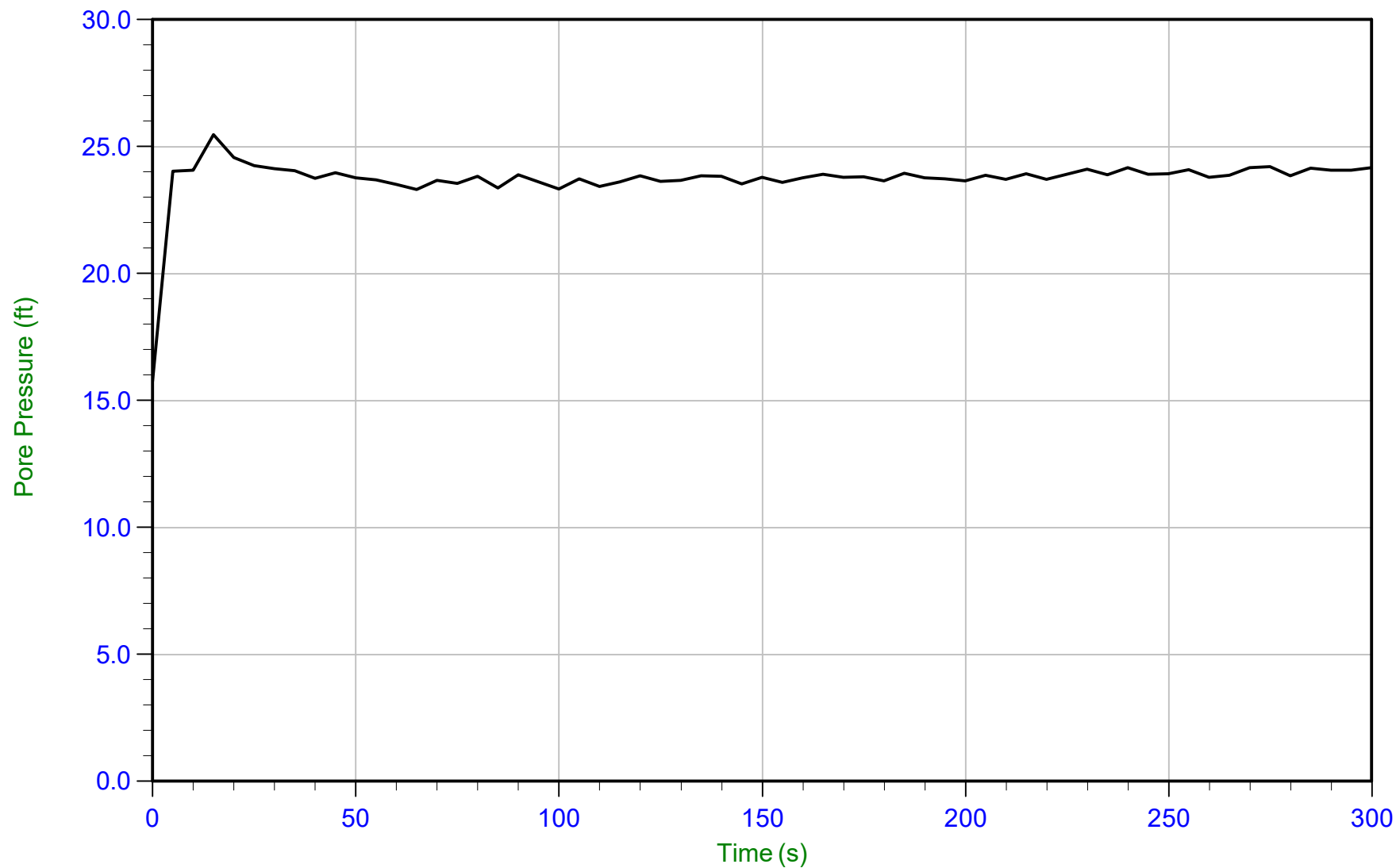
U Min: 32.1 ft
U Max: 45.1 ft



Maine DOT

Job No: 13-53015
Date: 03/07/2013 09:47
Site: Brewer, ME

Sounding: SCPT-01
Cone: 301:T1500F15U500
Cone Area: 15 sq cm



Trace Summary:

Filename: 13-53015_SP01.PPD
Depth: 9.050 m / 29.691 ft
Duration: 300.0 s

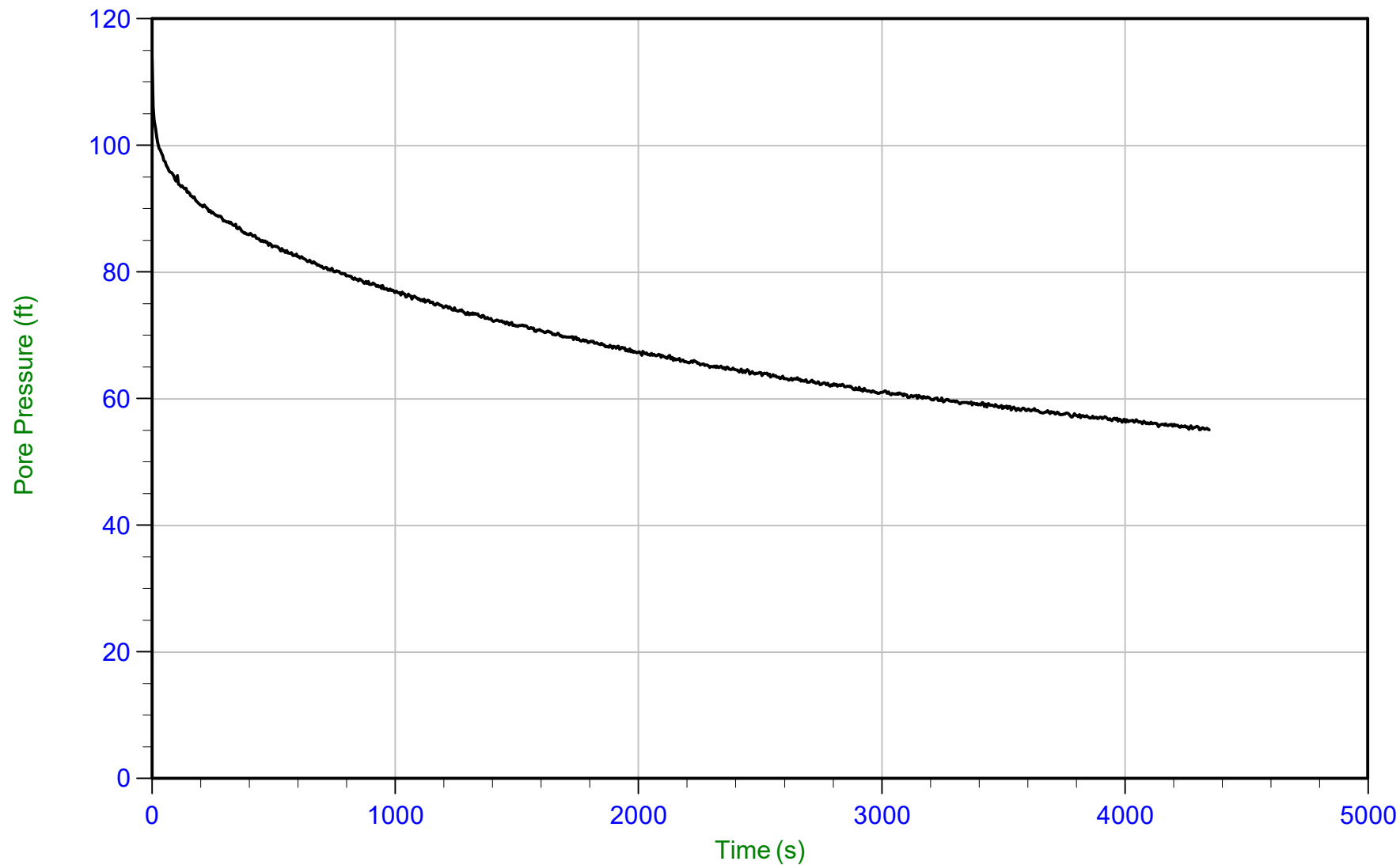
U Min: 15.8 ft
U Max: 25.5 ft



Maine DOT

Job No: 13-53015
Date: 03/07/2013 13:33
Site: Brewer, ME

Sounding: SCPT-04
Cone: 301:T1500F15U500
Cone Area: 15 sq cm



Trace Summary:

Filename: 13-53015_SP04.PPD
Depth: 6.600 m / 21.653 ft
Duration: 4350.0 s

U Min: 55.1 ft
U Max: 113.6 ft

WT: 0.000 m / 0.000 ft
Ueq: 21.7 ft
U(50): 67.64 ft

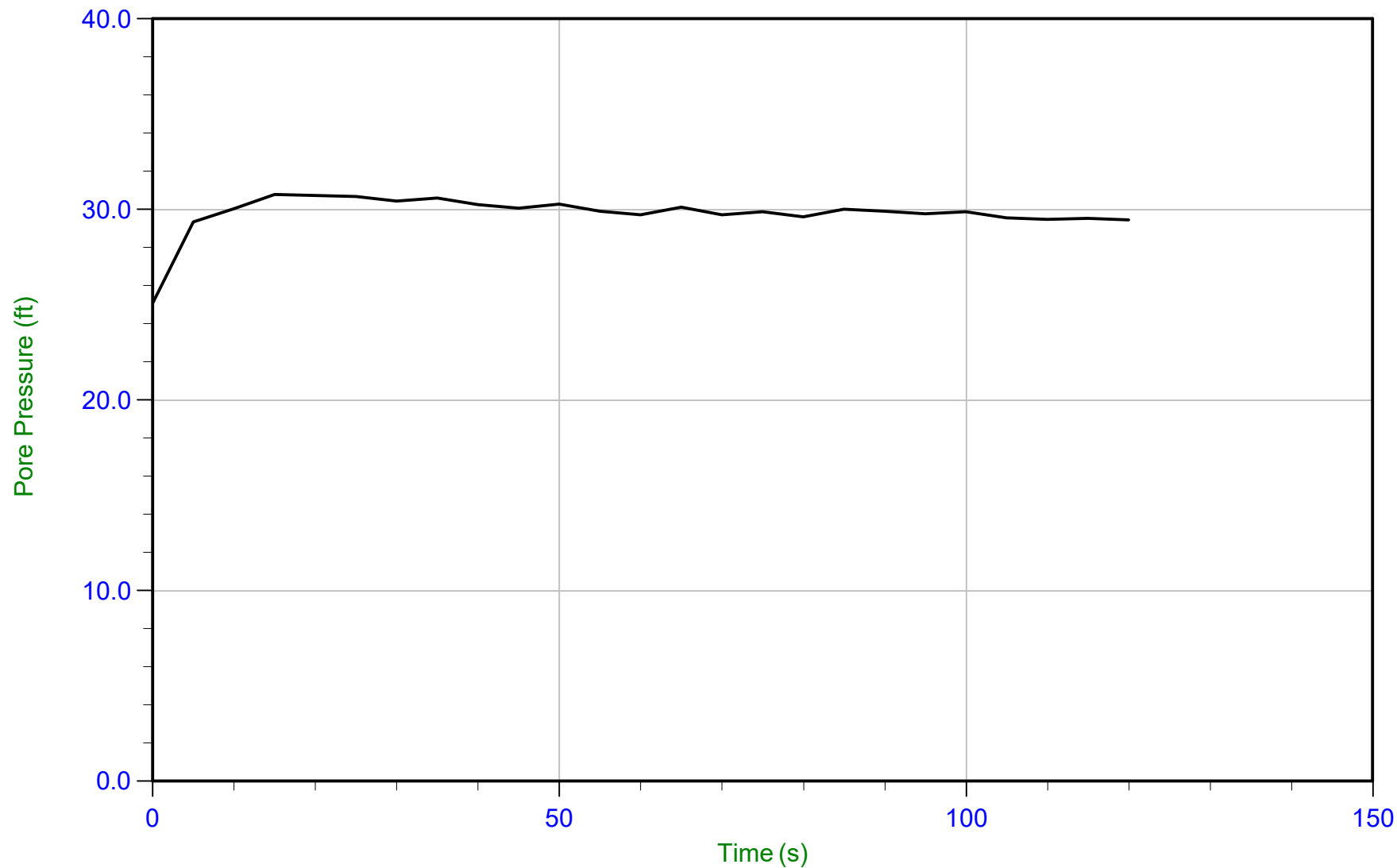
T(50): 1949.2 s
Ir: 100
Ch: 0.4 sq cm/min



Maine DOT

Job No: 13-53015
Date: 03/07/2013 13:33
Site: Brewer, ME

Sounding: SCPT-04
Cone: 301:T1500F15U500
Cone Area: 15 sq cm



Trace Summary:

Filename: 13-53015_SP04.PPD
Depth: 8.250 m / 27.067 ft
Duration: 120.0 s

U Min: 25.1 ft
U Max: 30.8 ft

Appendix E



Electronic Data Files

The released data contains the following folders:

1. CPT Data - .cor files in ASCII format, and or .xls files.
2. Pore Pressure Dissipation Data - .ppd files in Excel format
3. CPT Plots - .pdf files
4. Data Interpretation - .xls files contain common engineering values
5. Shear Wave Velocity Data - .pdf files of tabular and graphical seismic data.

ConeTec Digital File Formats

CPT Data Files (COR Extension)

ConeTec data files are stored in ASCII text files that are readable by almost any text editor. ConeTec CPT data files are named such that the first 3 characters contain the job number, the next two characters are CP followed by two characters indicating the sounding number. The last 8th character position is reserved for the letters a, b, c, d etc to uniquely identify multiple soundings at the same location. The CPT sounding file has the extension COR, and pore pressure dissipation files have the extension PPD or PPF. As an example, for job number 06-127 the first sounding will have file names 127CP01.COR and 127CP01.PPD.

The sounding (COR) file consists of the following components:

1. Two lines of header information
2. Data records
3. End of data marker
4. Units information

Header Lines

Line 1: Columns 1-6 may be blank or may indicate the version number of the recording software
 Columns 7-21 contain the sounding Date and Time
 Columns 22-36 contain the sounding Operator

Line 2: Columns 1-16 contain the Job Location
 Columns 17-31 contain the Cone ID
 Columns 32-47 contain the sounding number

Data Records

The data records contain 4 or more columns of data in floating point format. A comma (and spaces) separates each data item:

Column 1:	Sounding Depth (meters)
Column 2:	Tip (q_c) data uncorrected for pore pressure effects. Recorded in units selected by the operator.
Column 3:	Sleeve (f_s) data. Recorded in units selected by the operator
Column 4:	Dynamic pore pressure readings. Recorded in units selected by the operator
Column 5:	Empty, Resistivity, UVIF or Gamma data

End of Data Marker

After the last line of data there will be a line containing ASCII 26 (CTL-Z) and a newline (carriage return/ line feed) character. This is used to mark the end of data.

Units Information

The last section of the file contains information about the units that were selected for the sounding. A separator bar makes up the first line. The second line contains the type of units used for depth, q_c , f_s and u. The third line contains the conversion values required for ConeTec's software to convert the recorded data to an internal set of base units (bar for q_c , bar for f_s and meters for u).

CPT Dissipation Files (PPx Extension)

CPT Dissipation files have the same naming convention as the CPT sounding files and have the extension PPD, PPF or PPM. PPF (PPM and PPD) files consist of the following components:

1. Two lines of header information
2. Data records

Header Lines (same as COR file):

Line 1: Columns 1-6 may be blank or may indicate the version number of the recording software
Columns 7-21 contain the sounding Date and Time
Columns 22-36 contain the sounding Operator

Line 2: Columns 1-16 contain the Job Location
Columns 17-31 contain the Cone ID
Columns 32-47 contain the sounding number

Data Records

The data records immediately follow the header lines. Each data record can occupy several lines in the file and is a complete record of a dissipation test at a particular depth. Each data record starts with a line containing two values separated by spaces; the first value being an index number (not currently used by the Software) and the second being the dissipation test depth in meters. Following this line are the dissipation pore pressure values stored at 5 second intervals with a maximum of 12 entries per line. The last line of the dissipation record may not contain a full 12 entries. The data record is terminated with an ASCII 30 character (appears as a triangle in some editors).

This sequence is repeated for every dissipation test in the sounding. No marker is used to indicate end of file. Units information is not stored in this file. Users need to check the CPT file for the units that were used.

CPT Basic Interpretations (TBL Extension)

ConeTec's basic CPT interpretation output files are generally delivered in text files with a TBL extension. The root file name is the same as the COR files. A number of calculated geotechnical parameters are presented in these files. The files are stored as ASCII text files that can be viewed using any text editor such as Notepad or Wordpad. The files do not contain any page formatting. These files are not distributed if the enhanced interpretation files are provided.

CPT Enhanced Interpretations (IFI, IFP, XLS Extension)

ConeTec's enhanced CPT interpretation output files are delivered in several formats, each file type containing the exact same information but formatted slightly differently. The files typically have any of the following file extensions:

1. IFI an importable TAB delimited ASCII text file containing approximately 47 data columns of geotechnical interpretations. The file is designed for easy import to Excel. A companion document describes the techniques used for the interpretations (usually reproduced at the beginning of the Interpretation Appendix). Text editors can be used to view the file contents, however, they may remove the tabs or replace the tabs with spaces upon saving the file destroying the feature that makes them easy to import into Excel.

Because Excel imports the data as text and the sheet is protected two steps may be necessary to modify the data or use the values in certain Excel functions:

- a) Under Tools (Excel 2000) Select the Protection Option and then Unprotect the sheet
- b) Select the entire sheet, copy and then use Paste Special to paste as values to a second sheet.

Future versions of our interpretation routine will address these inconveniences.

2. IFP a printable ASCII text file containing the same 47 columns of geotechnical interpretations as the IFI file. This file type has been formatted as a multi-page document with up to 132 characters per line and up to 68 lines per page. Each page has been separated into multiple sections to accommodate all the data fields. Each physical page has a header section and a page/section number. The file is designed for direct printing to laser printers set into compressed font mode. This output is typically provided in the Interpretation Appendix.

An abbreviated set of interpretations (containing 36 columns of output) may be generated instead. These files usually have the extensions NLI and NLP. XLS files can be generated from these as well.

3. XLS an Excel format file that has been generated directly from the corresponding IFI file. IFI and IFP files are not distributed if the XLS files are generated. The XLS files may have been generated from abbreviated NLI interpretation files.

In each case root file name is the same as the COR files.

CPT Interpretations (Excel Format)

ConeTec's latest software (September 2007) outputs CPT interpretations directly to Excel format (XLS extension) without creating intermediate ASCII files. Because of the desires of various clients, there are several different configurations of output parameters in ConeTec's interpretation files. Since the Excel format file must have the XLS extension a suffix is used after the basename of the source CPT data file (COR) to identify the format of the file. The configurations still follow the formats described above and use the same extensions but now as suffixes. To allow for various runs (e.g. using a different water table, or user supplied equilibrium profile, or different methods for a particular parameter) of the same data an additional suffix may be specified by the engineer post processing the data to identify each particular run. This suffix will follow the one used to identify the format of the file.

For example:

If the selected format is ConeTec's TBL configuration and each run is identified by a run number. The resultant files generated for 278CP01.COR would be:

78CP01-TBL-RUN01.XLS
78CP01-TBL-RUN02.XLS
78CP01-TBL-RUN03.XLS

CPT Data in Excel Format

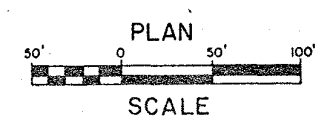
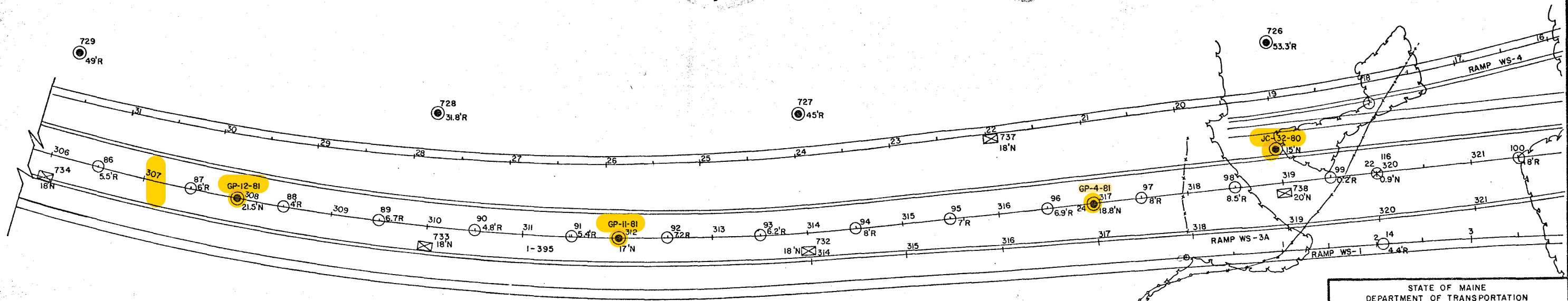
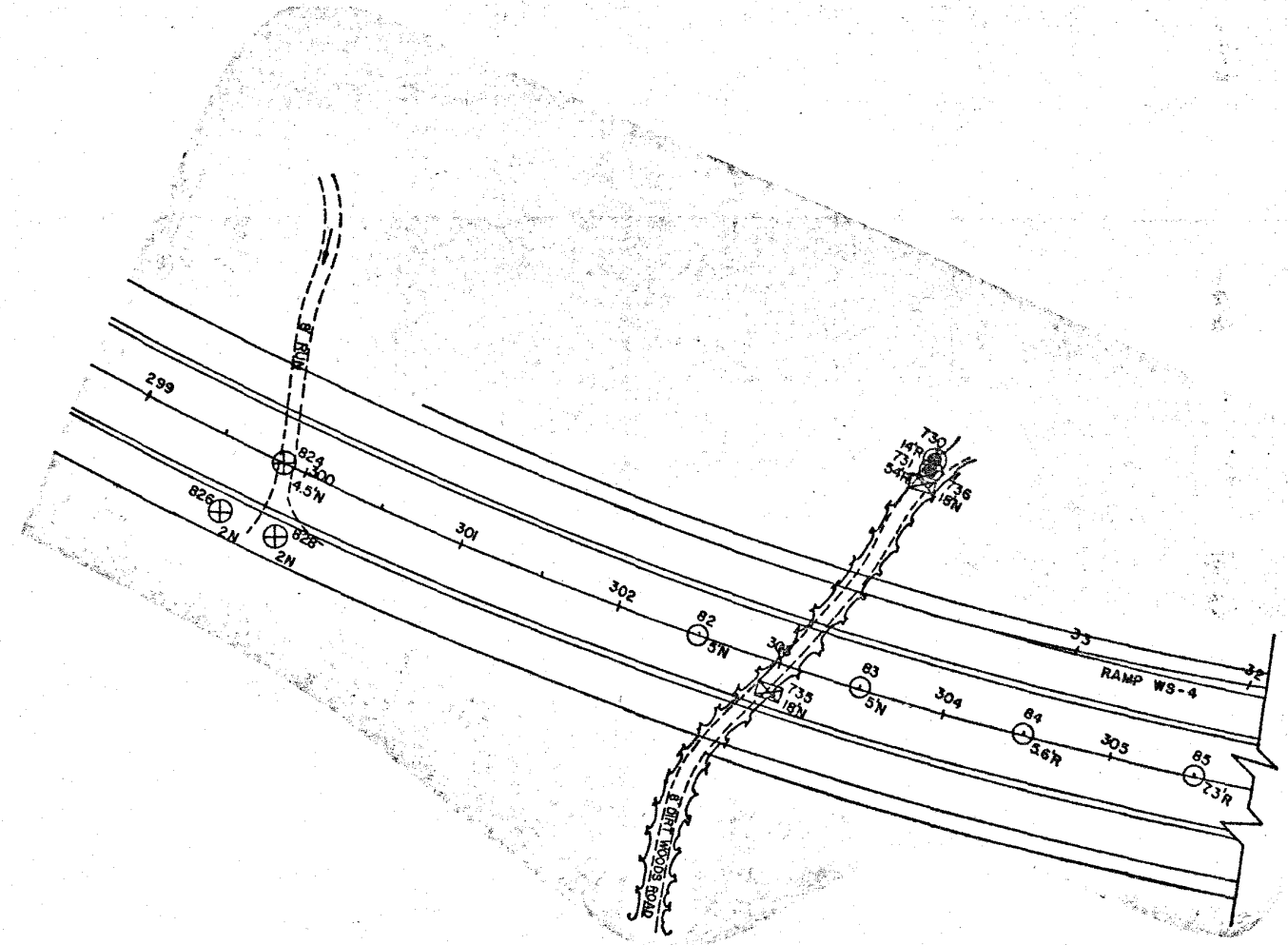
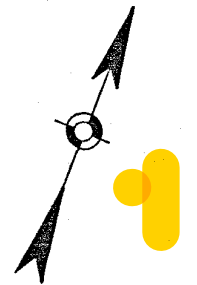
ConeTec can now provide the equivalent of the ASCII COR files in Excel Format. These files will have the same basename as the COR files and an XLS extension.

Pore Pressure Dissipation Data in Excel Format

ConeTec can now provide the equivalent of the ASCII PPD format files in Excel format. These files will contain each dissipation trace that exceeds a minimum duration (selected by the engineer during post-processing) in a particular Excel spreadsheet column. The first column (Column A) will contain the time in seconds and the second column (Column B) will contain the time in minutes. Subsequent columns will contain dissipation trace data. The time columns will extend to the longest trace of the data set.

Detailed header information is provided at the top of the spreadsheet. The test depth in meters and feet, the number of points in the trace and the particular units are identified at the top of each trace column.

The Excel format file names will have the same basename as the original PPD format file followed by the suffix -PPD and then followed by a second suffix that the engineer doing the post processing can specify. Because the engineer can select various types of units for the dissipation data output (which can be different from the units used in the original recording) the secondary suffix is often used to identify the units in the XLS file, however, the original recorded units and the output units are clearly identified within the XLS spreadsheet file.



PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED		
CHECKED		
REVISIONS		
FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BREWER
I-395 MAINLINE
395-8(79)

SHEET OF AUGUSTA, MAINE

BRUNING 44 132 45710

