

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION



BORING NO. B194

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION Connector Rd & Misc Municipal Rd Improvements

SHEET NO. 1 OF 1
STA. 1027+10 OFF. LT 19
BASELINE Connector Rd
ELEVATION (ft) 421.0
START/END 7/20/20 / 7/22/20
DRILLER Courser/Kibbee
INSPECTOR Doug Rogers
CLASSIFIER DRR
EAST/NORTH (ft) 1071206/141683

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	NW	
7/22/20	11:30 am	8.8	412.2	10.0	13.6	SIZE I.D. (in):	1.375	3	
7/22/20	12:00 pm	9.8	411.2	10.0	13.6	HAMMER WT. (lb):	140	DRILL RIG	
7/23/20	9:00 am	12.9	408.1	10.0	13.6	HAMMER FALL (in):	30	CME 45-C Track rig	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft)		BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
	DEPTH	ELEVATION						
0	0.3	420.8	1			0.0	Dark greyish brown, fibrous TOPSOIL	
			5	S1	1.2 [60]	2.0	Loose, dark yellowish brown and greyish brown, FINE SAND, some gravel, some silt to "silty", little coarse-medium sand, occasional severely weathered rock fragment	
			6			2.0		
			14	S2	1.3 [65]	4.0	Medium dense, greyish brown, silty FINE SAND, some gravel, some-little coarse sand, occasional severely weathered rock fragment	
			11					
			12					
5			21	S3	1.1 [55]	5.0	Very dense, greyish brown-olive grey, silty FINE SAND/fine sandy SILT, some-little gravel, trace coarse-medium sand, occasional weathered rock fragment	
			22					
			39					
			30			7.0		
							-GLACIAL TILL-	
10			43	S4	1.0 [83]	10.0	Light olive brown and olive grey, silty FINE SAND, some-little gravel, little coarse-medium sand, small cobble at 11.2'	
			59			11.2		
			50/0.2					
			33	S5	1.3 [72]	13.5	Light olive brown and olive grey, silty FINE SAND, some-little gravel, little coarse-medium sand, occasional severely-very severely weathered rock fragment	
15			55			15.3		
			61					
			60/0.3					
							Bottom of Exploration @ 15.3 ft (El. 405.7)	

11:11:15 AM TB-12

Sampler	Identification	COHESIVE SOILS		NON-COHESIVE SOILS		Soil Descriptions	Proportion
S	Standard Split Spoon	Blows/foot (N)	Consistency	Blows/foot (N)	Apparent Density	Capitalized Soil Name	Major Component
SL	Large Spoon (O.D.= 3 in)	0 - 1	Very Soft	0 - 4	Very Loose	Lower Case Adjective	35% - 50%
T	Thin Wall Tube	2 - 4	Soft	5 - 10	Loose	Some	20% - 35%
U	Undisturbed Piston	5 - 8	Medium Stiff	11 - 30	Medium Dense	Little	10% - 20%
O	Open End Rod	9 - 15	Stiff	31 - 50	Dense	Trace	1% - 10%
A	Auger Flight	16 - 30	Very Stiff	> 50	Very Dense		
C	Core Barrel	> 30	Hard	WOR - Weight of Rod		ENGLISH	
NR	Not Recorded			WOH - Weight of Hammer			

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION



BORING NO. B195

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION Connector Rd & Misc Municipal Rd Improvements

SHEET NO. 1 OF 1
STA. 1029+99 OFF. LT 34
BASELINE Connector Rd
ELEVATION (ft) 391.0
START/END 7/16/20 / 7/16/20
DRILLER J. Kibbee (NH DOT)
INSPECTOR Doug Rogers
CLASSIFIER DRR
EAST/NORTH (ft) 1071489/141745

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	NW	NX
7/16/20	12:30 pm	15.4	375.6	5.0	16.5	SIZE I.D. (in):	1.375	3	1.875
7/16/20	1:00 pm	15.4	375.6	5.0	16.5	HAMMER WT. (lb):	140		
						HAMMER FALL (in):	30		
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft)		BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
	DEPTH	ELEVATION						
0	0.2	390.8	WOH			0.0	Very dark greyish brown, fibrous TOPSOIL	
	0.9	390.1	1	S1	1.4 [70]		Dark yellowish brown, FINE SAND, some silt to "silty", few root fibers	
			2			2.0	-SUBSOIL-	
							Yellowish brown and light olive brown, silty FINE SAND, little fine gravel, little coarse sand, trace medium sand	
							-GLACIAL TILL-	
	4.3	386.7					Advanced hole - drove 3" drill casing to 5.0' Note: observed abrupt washwater return color change to dark greyish brown and dark grey from approximately 4.3'	
5							-APPROXIMATE BEDROCK SURFACE-	
			18	S2	1.0 [77]	5.0	Dark greyish brown w/ trace dark yellowish brown, completely and very severely weathered, ROCK and ROCK FRAGMENTS	
			38			6.3		
			50/0.3					
				C1	3.6 [72]		Moderately hard to hard, moderately to slightly weathered, moderately to slightly fractured, dark greyish brown to grey, fine-grained, MICA SCHIST. Occasional small quartz inclusion present. Zone of very severe to complete weathering from start of run to approximately 7.9'. Joints/fractures are closely spaced and shallow to moderately dipping. All joint surfaces are discolored/stained, few are silt-coated. RQD: 2.4 / 5.0 = 48%	
10						11.5		
				C2	4.8 [96]		Hard, very slightly to moderately weathered, slightly to moderately fractured, grey to brownish grey, fine-grained, MICA SCHIST. Occasionally interbedded w/ QUARTZITE. Most all joint surfaces are heavily stained. Joints/fractures are closely spaced and shallow dipping. Isolated near-vertical fracture extends from 15.7-16.3'. RQD: 3.4 / 5.0 = 68%	
15						16.5		
							Bottom of Exploration @ 16.5 ft (El. 374.5)	
20								
25								

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Sampler	Identification	COHESIVE SOILS		NON-COHESIVE SOILS		Soil Descriptions	Proportion
		Blows/foot (N)	Consistency	Blows/foot (N)	Apparent Density		
S	Standard Split Spoon	0 - 1	Very Soft	0 - 4	Very Loose	Lower Case Adjective	35% - 50%
SL	Large Spoon (O.D.= 3 in)	2 - 4	Soft	5 - 10	Loose	Some	20% - 35%
T	Thin Wall Tube	5 - 8	Medium Stiff	11 - 30	Medium Dense	Little	10% - 20%
U	Undisturbed Piston	9 - 15	Stiff	31 - 50	Dense	Trace	1% - 10%
O	Open End Rod	16 - 30	Very Stiff	> 50	Very Dense		
A	Auger Flight	> 30	Hard				
C	Core Barrel						
NR	Not Recorded						

ENGLISH

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION



BORING NO. B196

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION Connector Rd & Misc Municipal Rd Improvements

SHEET NO. 1 OF 1
STA. 1033+06 OFF. LT 41
BASELINE Connector Rd
ELEVATION (ft) 391.8
START/END 7/16/20 / 7/16/20
DRILLER J. Kibbee (NHDOT)
INSPECTOR Doug Rogers
CLASSIFIER DRR
EAST/NORTH (ft) 1071790/141803

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	NW	NX
7/16/20	12:30 pm	13.1	378.7	N/A	16.0	SIZE I.D. (in):	1.375	3	1.875
7/16/20	1:00 pm	13.2	378.6	N/A	16.0	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30		
						HAMMER TYPE:	Automatic	CME 45-C Track rig	

DEPTH (ft)	STRATUM CHANGE (ft)		BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
	DEPTH	ELEVATION						
0	0.2	391.6	WOH			0.0	Very dark greyish brown, fibrous TOPSOIL Dark yellowish brown, FINE SAND, some silt to "silty", trace coarse-medium sand, occasional root fiber -SUBSOIL- Very loose, yellowish brown-light olive brown, FINE SAND, some silt, little-trace gravel, trace coarse-medium sand -GLACIAL TILL- Advanced hole to 5.0'; drove 3" casing Note: observed washwater color change at approximately 4.4' from yellowish brown to dark grey and dark greyish brown	
	0.7	391.1	2 2	S1	1.1 [55]	2.0		
5	4.4	387.4	16	S2	0.7 [70]	5.0	-APPROXIMATE BEDROCK SURFACE- Dark grey-dark greyish brown, completely to very severely weathered ROCK and ROCK FRAGMENTS Medium to moderately hard, severely to moderately severely weathered, extremely to slightly fractured, dark greyish brown to brownish grey, fine-grained, MICA SCHIST. Isolated thin veins of quartz present. Entire core is discolored w/ isolated cracking and pitting. Joints/fractures are very close to closely spaced and shallow to steeply dipping. Foliation is steep, where discernible, and poorly defined. Note: RQD measurement penalizes 0.8' of core due to severe loss in strength. RQD: 0.8 / 5.0 = 16%	
			50	C1	2.8 [56]	6.0		
10				C2	5.0 [100]	11.0		
15						16.0	Moderately hard to hard, moderately severe to moderately weathered, extremely fractured to sound, dark greyish brown to grey, fine-grained, MICA SCHIST. Joints/fractures are close to moderately closely spaced and shallow dipping w/ exception of near vertical fracture from start of run extending to approximately 11.9'. RQD: 3.1 / 5.0 = 62%	
							Bottom of Exploration @ 16.0 ft (El. 375.8)	
20								
25								

Sampler	Identification	COHESIVE SOILS		NON-COHESIVE SOILS		Soil Descriptions	Proportion
		Blows/foot (N)	Consistency	Blows/foot (N)	Apparent Density		
S	Standard Split Spoon	0 - 1	Very Soft	0 - 4	Very Loose	Capitalized Soil Name	Major Component
SL	Large Spoon (O.D.= 3 in)	2 - 4	Soft	5 - 10	Loose	Lower Case Adjective	35% - 50%
T	Thin Wall Tube	5 - 8	Medium Stiff	11 - 30	Medium Dense	Some	20% - 35%
U	Undisturbed Piston	9 - 15	Stiff	31 - 50	Dense	Little	10% - 20%
O	Open End Rod	16 - 30	Very Stiff	> 50	Very Dense	Trace	1% - 10%
A	Auger Flight						
C	Core Barrel						
NR	Not Recorded					ENGLISH	

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TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION



BORING NO. B197

PROJECT NAME **DERRY-LONDONDERRY 13065** BRIDGE NO. N/A
DESCRIPTION Connector Rd & Misc Municipal Rd Improvements

SHEET NO. 1 OF 1
STA. 1034+94 OFF. LT 53
BASELINE Connector Rd
ELEVATION (ft) 384.2
START/END 7/15/20 / 7/15/20
DRILLER J. Kibbee (NHDOT)
INSPECTOR Doug Rogers
CLASSIFIER DRR
EAST/NORTH (ft) 1071974/141845

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	NW	NX
7/15/20	12:05 pm	12.4	371.8	5.0	18.0	SIZE I.D. (in):	1.375	3	1.875
7/15/20	1:00 pm	13.4	370.8	N/A	18.0	HAMMER WT. (lb):	140	DRILL RIG	
7/16/20	8:30 am	15.4	368.8	N/A	18.0	HAMMER FALL (in):	30		
						HAMMER TYPE:	Automatic	CME 45-C Track rig	

DEPTH (ft)	STRATUM CHANGE (ft)		BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
	DEPTH	ELEVATION						
0	0.3	383.9	WOH			0.0	Dark greyish brown, fibrous TOPSOIL	
	0.6	383.6	WOH 1	S1	0.8 [40]	2.0	Dark yellowish brown, FINE SAND, some silt, w/ root fibers -SUBSOIL- Very loose, yellowish brown and greyish brown, FINE SAND, some silt to "silty", little gravel, trace coarse-medium sand	
							Advanced hole w/ 3" roller bit into glacial till soils; occasional small cobble encountered	
							-GLACIAL TILL-	
5			10			5.0	Dark greyish brown and grey w/ traces of light olive brown, very severely to completely weathered ROCK FRAGMENTS, some-little fine sand	
	6.2	378.0	12 25/0.2	S2	0.8 [67]	6.2	-APPROXIMATE BEDROCK SURFACE-	
							Advanced to 8.0' into very severe to severely weathered BEDROCK; bit cutting slow and steady	
10						8.0	Moderately hard to hard, severely and moderately severely to slightly weathered, extremely to moderately fractured, dark greyish brown to grey, fine-grained, MICA SCHIST. Occasional thin vein of quartz. Joints/fractures are very close to closely spaced and shallow to moderately dipping. near-vertical fractures extend from 8.0-8.7' and 9.0-9.2'. Few cracks in core surface are present. Sudden, total loss of washwater return from approximately 8.7' to end of run. RQD: 0.8 / 5.0 = 16%	
						13.0		
15						13.0	Hard, very slightly to slightly weathered, moderately fractured to sound, grey and brownish grey, fine-grained, MICA SCHIST. Few small veins and an isolated inclusion of quartz present. Zone of very severe to near-complete weathering and extreme fracturing from 15.6-16.0'. Joints are close to moderately closely spaced and shallow dipping. Few joint surfaces are silt-coated and/or discolored due to iron staining. RQD: 3.7 / 5.0 = 74%	
						18.0		
							Bottom of Exploration @ 18.0 ft (El. 366.2)	
20								
25								

Sampler	Identification	COHESIVE SOILS		NON-COHESIVE SOILS		Soil Descriptions	Proportion
		Blows/foot (N)	Consistency	Blows/foot (N)	Apparent Density		
S	Standard Split Spoon	0 - 1	Very Soft	0 - 4	Very Loose	Lower Case Adjective	35% - 50%
SL	Large Spoon (O.D.= 3 in)	2 - 4	Soft	5 - 10	Loose	Some	20% - 35%
T	Thin Wall Tube	5 - 8	Medium Stiff	11 - 30	Medium Dense	Little	10% - 20%
U	Undisturbed Piston	9 - 15	Stiff	31 - 50	Dense	Trace	1% - 10%
O	Open End Rod	16 - 30	Very Stiff	> 50	Very Dense		
A	Auger Flight	> 30	Hard	WOR - Weight of Rod		ENGLISH	
C	Core Barrel			WOH - Weight of Hammer			
NR	Not Recorded						

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