Maine Department of Transportation
Highway Program

GEOTECHNICAL SERIES 100 REPORT

Route 8
Smithfield, Maine
Norridgewock, Maine

Prepared by:
Scott A. Hayden, C.G.
Soils Research Scientist

Somerset County

WIN 12776.00
Federal Number STP-1277(600)X
January 30, 2012

Soils Report 2012-108
TEDOCS# 1176400

Highway Program

Brad Foley, Program Manager

Memorandum

DATE: January 30, 2012

TO: Scott Rollins **DEPT:** Highway Program

FROM: Scott A. Hayden **DEPT:** Highway Program

SUBJECT: Solis Information (New Stationing) – Smithfield – Norridgewock Route 8, WIN 19187.00 Report # 2012-108 (Supersedes Report # 2011-116)

Please find attached the geotechnical information included from the October 2011 Soils Report 2011-116. The stationing has been converted to reflect current stationing (1/30/2012).

The new geotechnical information from what was known as the “GAP SECTION” is included with this information.

Highway Program

Brad Foley, Program Manager

Memorandum

DATE: October 26, 2011

TO: Scott Rollins **DEPT:** Highway Program

FROM: Scott A. Hayden **DEPT:** Highway Program

SUBJECT: Preliminary Soils – Roadway Performance Assessment / Failure Risk Identification
Smithfield – Norridgewock Route 8, PIN 12776.00
Report # 2011-116

NOTE: NEW STATIONING IN RED, as of 1/30/12)

Purpose

A pre-proposal "project kickoff" meeting was held in Augusta on August 30, 2011 for a 6.97 mile portion of Route 8 located in the towns of Smithfield and Norridgewock. This project is scoped as reconstruction but limited funding will require the team to minimize construction costs wherever possible while meeting safety standards. To meet these requirements Scott Rollins (MDOT- Project Manager I) , Kathy Kern (T.Y. LIN, Project Manager), and Joe Howe (T. Y. LIN, Designer) indicated that they would utilize the MeDOT Practical Design approach.

As part of this approach I was asked if I could provide a relative performance assessment for a 7.87 mile portion (including the "gap area") of Route 8 based upon preliminary geotechnical data. Specifically, I was asked if I could identify potential roadway segments that may be at a higher risk of pavement failure (requiring a more aggressive reconstruction/rehabilitation approach) compared to roadway segments that may be at a lower risk of pavement failure (requiring a less aggressive reconstruction/rehabilitation approach).

To achieve this assessment I have utilized a pavement performance tool, I developed, referred to as a "Performance Data Summary (PDS)". Potential performance differences have been identified along the entire 7.87 miles of roadway based upon 4 minimal performance criteria obtained from subsurface exploration data and falling weight deflectometer (FWD) data. This information should provide flexibility with respect to design and construction requirements resulting in cost savings.

Since the project manager(s) and designer for this project are unfamiliar with the use of the Performance Data Summaries included in this report, a meeting has been scheduled for October 27, 2011 to discuss this information.

The following report includes: performance data summaries, FWD analysis and plots, pavement core and ground penetrating radar pavement thickness estimates, soil sample data, and boring logs.

NOTE: NEW STATIONING IN RED, as of 1/30/12)

Project Description

Since this project is in the very beginning of the design stage, the exact project limits, preliminary horizontal line and station have not been established. Based upon discussions with the project manager(s) and designer during the August 30, 2011 pre-proposal "project kickoff" meeting and the availability of previous geotechnical data, the following project limits and stationing used in this report are listed below. All distances and stationing were determined using a distance measuring instrument (DMI) and are only approximate.

Section I

Section Limits: Beginning 1.84 miles northerly of Route 225 extending northerly 4.38 miles. Section I ends at the change of pavement.

Section Stationing: 0+00 – 231+39 (1+19 – 232+58, 1/30/12)

Gap Section

Section Limits: The beginning of the Gap Section adjoins to the end of Section I (6.22 miles northerly of Route 225) and extends northerly for 0.90 miles. There is a visible change in pavement between the end of Section I and the beginning of the Gap Section.

Section Stationing: 231+39 – 278+89 (232+58 – 280+08, 1/30/12)

Section II

Section II Limits: Section II begins at the end of the gap section located 0.705 miles north of the Smithfield, Norridgewock town line. There is a visible change in pavement between the Gap Section and the beginning of Section II. Section II extends northerly 2.01 miles to the intersection of Route 2.

Section II Stationing: 0+00 – 106+00 (280+08 – 386+08, 1/30/12)
A beginning station of 0+00 was utilized to match the 2007 power auger data.

Section III (Perkins Street)

Section III Limits: Section III begins at the intersection of Route 8 and Perkins Street and extends northerly on Perkins Street for 0.54 miles to the intersection of Route 2.

Section III Stationing: 0+00 – 28+50 (500+29 – 528+79, 1/30/12)

GEOTECHNICAL SERIES 100 REPORT
Route 8
Smithfield-Norridgewock, Maine
Soils Information

TABLE OF CONTENTS

I. Performance Data Summaries
a. Section I …….. 7 - 12
b. Gap Section …… 13
c. Section II …….. 14 - 16
d. Section III (Perkins Street) ……..... 17

II. Falling Weight Deflectometer (FWD) Analysis
a. Section I …… 21 - 24
b. Gap Section ……... 25
c. Section II …….. 26 - 27
d. Section III (Perkins Street) ……... 28
e. Deflection Plots …….. 29 - 36

III. Pavement Thickness Estimates
(Pavement Cores and Ground Penetrating Radar)
a. Section I (Pavement Cores Only) …….. 38
b. Section II (Pavement Cores Only) ……. 39
c. Perkins Street (Pavement Cores Only) ……. 40
d. Section I (GPR Only) …… 41 - 43
e. Gap Section (GPR Only) …… 43
f. Section II (GPR Only) …….. 43 - 44
g. Perkins Street (GPR Only) …… 45

IV. Soil Sample Data …… 47 - 55

V. Boring Logs …….. 57 – 107

VI. Geotechnical Test Reports ……. 109 - 149

PERFORMANCE DATA SUMMARY SHEETS

Performance Data Summary

Smithfield – Norridgewock Rte. 8
Highway Reconstruction
12776.00
(Stationing Used Based Upon 1/30/2012)

A Performance Data Summary (PDS) is included on the next pages. The purpose of the (PDS) is to identify potential performance differences by station based upon 4 minimal performance criteria obtained from subsurface exploration data and falling weight deflectometer (FWD) data. The 4 minimal criteria are:

1. existing pavement thickness (power auger borings)
2. existing base thickness (power auger borings)
3. subgrade resilient modulus (falling weight deflectometer)
4. existing/future structural number comparison (falling weight deflectometer)

The FWD data is calculated using the existing pavement thickness, base thickness and base quality, in order to determine the relative strength or weakness of the existing pavement structure.

The PDS sheets are color coded and should be printed in color to fully utilize the information. Green indicates the minimum performance criteria have been met. Red indicates the minimum performance criteria have failed to be met. The total number of failed performance criteria is presented in the deficient column (DEF) for each FWD test station.

If an area fails to meet 2 or more of the minimal performance criteria the area is shaded in the deficiency column (DEF). It is anticipated that existing pavement performance will be less in these shaded areas. In addition, the risk of future pavement failure could also be higher.

By identifying potential roadway performance disparities specific design and construction options can be potentially considered. This could provide greater design flexibility and reduce costs by eliminating the over design or under design of large portions of a project.

* SP = Solid Pavement Layer
* UP = Unbound Pavement Layer
SP+UP = Total Pavement Thickness
* Base Thickness = Red indicates presence of “treated base”

Performance Data Summary

Smithfield – Norridgewock Rte. 8
Highway Reconstruction
12776.00
(Stationing Used Based Upon 1/30/2012)

Station (FWD)	DEF	Minimum Performance Data Criteria				Boring Location (Plan View)		Base Material		Subgrade Soils	
								AASHTO Class	% #200	AASHTO Class	% #200
						KEY					
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)		Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL					
3+70	2										
6+19	1							Elm Acres Lane 7+45			
8+70	2						6.0 SP - 12	SiGSa A-1-b S26	9 II Damp	SiSa A-4 S27	44 III Damp
11+20	1							White Burch Lane 12+72			
13+70	1										
16+20	0										
18+72	0										
21+20	1						7.2 SP 1.2 UP 60	SiSa A-1-b S28	14 II Damp	SiSa A-1-b S28	14 II Damp
23+70	1										
26+19	2					Strong Odor	8.4 SP - 19	SiGSa A-1-b S26	9 II Damp	SaSi A-4 S30	54 IV Moist
28+68	2										
31+21	2										
33+70	1										
36+24	0							Fairview Lane 35+81			
38+71	1										
41+19	1							Hainsville Woods Lane 42+24			
43+69	1										
46+21	1						6.0 SP - 60	SiGSa A-1-b S31	16 II Damp	SiGSa A-1-b S31	16 II Damp
48+69	1										
51+20	1						6.0 SP - 60	SiGSa A-1-b S31	16 II Damp	SiGSa A-1-b S31	16 II Damp
53+70	1										

Pavement Thickness (4 inches)
Base Thickness (18 inches)
Subgrade Modulus (3000 psi)
Structural Number

* SP = Solid Pavement Layer
* UP = Unbound Pavement Layer
SP+UP = Total Pavement Thickness
* Base Thickness = Red indicates presence of "treated base"

Performance Data Summary

Smithfield – Norridgewock Rte. 8
Highway Reconstruction
12776.00
(Stationing Used Based Upon 1/30/2012)

Station (FWD)	D E F	Minimum Performance Data Criteria				Boring Location (Plan View)	Base Material		Subgrade Soils	
							AASHTO Class	% #200	AASHTO Class	% #200
						KEY				
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)	Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL				
56+22	1									
58+72	1									
61+21	1						Merry Lane 62+00			
63+72	0									
66+22	1									
69+21	2					4.2 SP 3.6 UP 13	SiGSa A-1-b S32	14 II Damp	SiSa A-2-4 S33	33 II Damp
71+20	1						Lake View 72+19			
73+69	2									
76+19	3									
78+70	2					9.0 SP - 20	SiGSa A-1-b S26	9 II Damp	SaSi/ClSi A-4/A-7-5 S30, S18	54 – 83 IV Moist
81+19	2					6.6 SP 1.8 UP 13	SiGSa A-1-b S26	9 II Damp	ClSi A-7-5 S21	93 IV Moist
83+69	3									
86+23	3						Low Pipe (Winter) 905 Village Lane 85+19			
88+83	3					6.0 SP 2.4 UP 6	SiGSa A-1-b S26	9 II Damp	ClSi A-7-5 S34	97 IV Moist
91+19	2									
93+72	3									
96+21	3					11.4 SP - 8	SiGSa A-1-b S26	9 II Damp	SiSa/ClSi A-4/A-7-5 S35, S21	47 – 93 IV Moist
98+72	3									
101+19	3					8.4 SP - 6	SiGSa A-1-b S26	9 II Damp	SiSa/ClSi A-2-4/A-7-5 S36, S21	28 – 93 IV Moist

Pavement Thickness (4 inches)
Base Thickness (18 inches)
Subgrade Modulus (3000 psi)
Structural Number

* SP = Solid Pavement Layer
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SP+UP = Total Pavement Thickness
* Base Thickness = Red indicates presence of "treated base"

Performance Data Summary

Smithfield – Norridgewock Rte. 8
Highway Reconstruction
12776.00
(Stationing Used Based Upon 1/30/2012)

Station (FWD)	D E F	Minimum Performance Data Criteria				Boring Location (Plan View)	Base Material		Subgrade Soils	
							AASHTO Class	% #200	AASHTO Class	% #200
						KEY				
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)	Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL				
101+19	3					8.4 SP - 6	SiGSa A-1-b S26	9 II Damp	SiSa/ClSi A-2-4/A-7-5 S36, S21	28 – 93 IV Moist
103+69	2									
106+20	3									
108+70	3					Probe 10' No Ref				
111+21	2						Possible Heave Area 110+19 – 111+19 Adjacent Farm House Left			
113+76	3									
116+19	3									
118+72	2	Pavement Thickness (4inches)	Base Thickness (18 inches)	Subgrade Modulus (3000 psi)	Structural Number	8.4 SP - 11	SiGSa A-1-a S17	11 0 Damp	ClSi A-7-5 S16	94 IV Moist
121+23	3									
123+69	3									
126+20	3					8.4 SP 1.2 UP 17	SiGSa A-1-a S17	11 0 Damp	ClSi A-7-5 S18	83 IV Moist
128+69	2						Shallow Pipe (High) 129+55			
131+21	2									
133+74	2									
136+20	2									
138+71	2									
141+25	3									
143+69	3									
146+30	3									
148+72	3									
151+19	2					8.4 SP - 25	SiGSa A-1-a S17	11 0 Damp	ClSi A-7-5 S18	83 IV Moist

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SP+UP = Total Pavement Thickness
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Performance Data Summary

Smithfield – Norridgewock Rte. 8
Highway Reconstruction
12776.00
(Stationing Used Based Upon 1/30/2012)

Station (FWD)	DEF	Minimum Performance Data Criteria				Boring Location (Plan View)	Base Material		Subgrade Soils	
							AASHTO Class	% #200	AASHTO Class	% #200
						KEY				
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)	Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL				
151+19	2					8.4 SP - 25	SiGSa A-1-a S17	11 0 Damp	ClSi A-7-5 S18	83 IV Moist
153+70	2									
156+19	2									
158+82	2									
161+22	2									
163+69	2									
166+22	2									
168+69	2									
171+21	1									
173+74	2									
176+22	2					8.4 SP - 23	SiGSa A-1-a S17	11 0 Damp	ClSi A-7-5 S21	93 IV Moist
178+71	2									
181+22	2						Groves Flat Lane 182+35			
183+80	2									
186+36	3					9.6 SP - 16	SiGSa A-1-a S17	11 0 Damp	ClSi A-7-5 S21	93 IV Moist
188+70	3									
191+21	2									
193+68	3									
196+23	2									
198+68	3					4.8 SP 2.4 UP 13	SiGSa A-1-a S17	11 0 Damp	ClSi A-7-5 S22	94 IV Moist
201+19	2									
203+70	3									
206+20	3									

Pavement Thickness (4 inches)
Base Thickness (18 inches)
Subgrade Modulus (3000 psi)
Structural Number

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Performance Data Summary

Smithfield – Norridgewock Rte. 8
Highway Reconstruction
12776.00
(Stationing Used Based Upon 1/30/2012)

Station (FWD)	D E F	Minimum Performance Data Criteria				Boring Location (Plan View)	Base Material		Subgrade Soils	
							AASHTO Class	% #200	AASHTO Class	% #200
						KEY				
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)	Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL				
208+74	3					7.2 SP - 13	SiGSa A-1-a S17	11 0 Damp	ClSi A-7-5 S21	93 IV Moist
211+19	3									
213+71	3									
216+20	3									
218+69	3									
221+21	3					8.4 SP - 10	SiGSa A-1-a S17	11 0 Damp	ClSi A-7-5 S21	93 IV Moist
223+71	2						Miller Road 224+19			
226+19	3									
228+73	2									
231+19	2									
		Pavement Thickness (4 inches)	Base Thickness (18 inches)	Subgrade Modulus (3000 psi)	Structural Number					

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SP+UP = Total Pavement Thickness
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Performance Data Summary

Smithfield – Norridgewock Rte. 8
Highway Reconstruction
12776.00
(Stationing Used Based Upon 1/30/2012)

Station (FWD)	DEF	Minimum Performance Data Criteria				Boring Location (Plan View)	Base Material		Subgrade Soils	
							AASHTO Class	% #200	AASHTO Class	% #200
						KEY				
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)	Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL				
233+69	0									
236+19	0									
238+69	0					6.0 SP - 21.6	SiGSa A-1-b 201-S1	14 II Damp	SaSi A-4 201-S2	63 IV Wet 2.3’
241+19	0									
243+80	0									
246+22	0									
248+70	0									
251+20	0					6.0 SP - 30.0	SiGSa A-1-b 201-S1	14 II Damp	SiSa A-4 202-S3	36 III Moist
253+70	0									
256+20	0									
258+72	1									
261+20	0					5.5 SP - 30.5	SiGSa A-1-b 201-S1	14 II Damp	SiSa A-4 202-S3	36 III Wet 3.0’
263+72	0									
266+19	0									
268+73	1									
271+30	0									
273+71	0									
276+19	1					6.0 SP - 20.4	SiGSa A-1-b 204-S4	14 II Moist	SaSi A-4 204-S5	63 IV Wet 2.2’
278+70	1									

Pavement Thickness (4 inches)
Base Thickness (18 inches)
Subgrade Modulus (3000 psi)
Structural Number

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Performance Data Summary

Smithfield – Norridgewock Rte. 8
Highway Reconstruction
12776.00
(Stationing Used Based Upon 1/30/2012)

Station (FWD)	D E F	Minimum Performance Data Criteria				Boring Location (Plan View)		Base Material		Subgrade Soils	
								AASHTO Class	% #200	AASHTO Class	% #200
						KEY					
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)		Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL					
281+21	3										
283+72	3										
286+22	2										
288+71	2						9.0 SP - 13	SiGSa A-1-b S1	15 II Damp	SaSi A-4 S2	50 III Damp
291+20	0						7.2 SP - 18	SiSaG A-1a S3	9 0 Damp	Possible Bedrock Refusal 2.9'	
295+19	1										
296+21	1										
298+70	2										
301+23	2										
303+71	2										
306+21	2						8.4 SP - 19.2	SiGSa A-1-b S4	11 0 Damp	SiSa A-4 S5	37 III Damp
308+72	2							Cobble pushing through pavement – Scarify Subgrade?			
311+21	1										
313+71	0							Dodlin Lane 34+00			
316+21	1							Heave Area 318+08 Adjacent pole CMP 65 Lt.			
318+77	2						4.2 SP 4.2 UP 13	SiGSa A-1-b S4	11 0 Damp	SiSa A-2-4 S7, S8	27-34 II Damp
321+20	1										
323+72	1										
326+20	1										
328+71	1										
331+21	1					Strong Odor	8.4 SP - 19	SiGSa A-1-b S4	11 0 Damp	SiSa A-4 S5	37 III Damp

Pavement Thickness (4 inches)
Base Thickness (18 inches)
Subgrade Modulus (3000 psi)
Structural Number

* SP = Solid Pavement Layer
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SP+UP = Total Pavement Thickness
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Performance Data Summary

Smithfield – Norridgewock Rte. 8
Highway Reconstruction
12776.00
(Stationing Used Based Upon 1/30/2012)

Station (FWD)	D E F	Minimum Performance Data Criteria				Boring Location (Plan View)	Base Material		Subgrade Soils	
							AASHTO Class	% #200	AASHTO Class	% #200
						KEY				
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)	Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL				
333+75	2									
336+22	2									
338+71	2									
341+32	2					4.2 SP 3.0 UP 10	SiGSa A-1-b S9	16 II Damp	SiSa A-2-4 S7	24 II Moist
343+70	2									
346+22	2									
348+72	2									
351+23	1									
353+73	2									
356+20	3					8.4 SP - 17	SiGSa A-1-b S9	16 II Damp	SiSa A-2-4 S8	18 II Damp
358+72	2									
361+20	2									
363+82	2									
366+74	2									
368+70	2					6.6 SP - 17	SiGSa A-1-b S24	12 0 Damp	SiSa A-2-4 S25	31 II Moist
371+22	2									
373+71	3									
376+21	3									
378+73	3					4.2 SP 2.4 UP 17	SiGSa A-1-b S24	12 0 Damp	ClSi A-7-5 S21	93 IV Moist

Pavement Thickness (4 inches)
Base Thickness (18 inches)
Subgrade Modulus (3000 psi)
Structural Number

* SP = Solid Pavement Layer
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Performance Data Summary

Smithfield – Norridgewock Rte. 8
Highway Reconstruction
12776.00
(Stationing Used Based Upon 1/30/2012)

Station (FWD)	D E F	Minimum Performance Data Criteria				Boring Location (Plan View)		Base Material		Subgrade Soils	
								AASHTO Class	% #200	AASHTO Class	% #200
						KEY					
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)		Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL					
381+21	3					6.0 SP 1.2 UP 14	Strong Odor 1.8'-3.3'	SiGSa A-1-b S24	12 0 Damp	ClSi A-7-5 S21	93 IV Moist
383+69	3										
385+63	3										
		Pavement Thickness (4 inches)	Base Thickness (18 inches)	Subgrade Modulus (3000 psi)	Structural Number						

* SP = Solid Pavement Layer
* UP = Unbound Pavement Layer
SP+UP = Total Pavement Thickness
* Base Thickness = Red indicates presence of "treated base"

Performance Data Summary

Smithfield – Norridgewock Rte. 8
Highway Reconstruction
Perkins Street
12776.00
(Stationing Used Based Upon 1/30/2012)

Station (FWD)	DEF	Minimum Performance Data Criteria				Boring Location (Plan View)	Base Material		Subgrade Soils	
							AASHTO Class	% #200	AASHTO Class	% #200
						KEY				
Station		Red – Fail Green - Met				Solid Pave Thick Unbound Pave - UP Base Thickness (inches)	Soil Type AASHTO Sample #	% 200 Frost Moisture	Soil Type AASHTO Sample #	% 200 Frost Moisture
						CL				
502+08	2									
505+02	3									
506+31	3					6.0 SP 2.4 UP 17	SiGSa A-1-b S10	15 II Damp	SiSa A-4 S11	38 III Wet 4.4’
508+31	2									
510+29	3					8.4 SP - 13	SiGSa A-1-b S10	15 II Damp	ClSi A-7-5 S12	96 IV Moist
512+32	1					5.4 SP - 21	SiGSa A-1-b S10	15 II Damp	ClSi A-7-5 S12, S13	87-96 IV Moist
514+79	1									
516+34	2					4.2 SP 3.0 UP 25	SiGSa A-1-b S14	18 II Damp	ClSi A-7-5 S12, S15	96-98 IV Moist
518+31	3									
520+30	3									
523+18	1					7.2 SP 1.2 UP 14	SiGSa A-1-b S14	18 II Damp	SiSa A-2-4 S7	24 II Moist
525+29	1					4.8 SP - 11	SiGSa A-1-b S14	18 II Damp	SiSa A-2-4 S8	18 II Moist
527+30	1									

Pavement Thickness (4 inches)
Base Thickness (18 inches)
Subgrade Modulus (3000 psi)
Structural Number

* SP = Solid Pavement Layer
* UP = Unbound Pavement Layer
SP+UP = Total Pavement Thickness
* Base Thickness = Red indicates presence of “treated base”

FWD ANALYSIS

January 25, 2012

Falling Weight Deflectometer (FWD)
Summary Sheet

Project #: 12776.00
Town(s): Smithfield-Norridgewock
Route(s): 8/Perkins Street
Date Tested: 09/09/2011
Requested By: S. Hayden
Direction of Testing: South to North – Route 8 East to West – Perkins Street

Of FWD tests: 167
Of Power Augers/Spoons - 35
Design Life: 12 Yrs
Future 18-kip ESALs (Design Life): See Below
Initial Serviceability: 4.5
Terminal Serviceability: 2.5
Reliability Level: 90
Overall Standard Deviation: .45

Locations

Station (Feet)	Description
Project Stationing	

Comments:

The Future 18-kip ESAL's (Design Life) used for the Route #8 portion of this project was 1,533,000. For Perkins Street, a value of 810,300 was used.

Pavement depths used for the analysis of the FWD data were developed utilizing pavement cores and information from the Departments Ground Penetrating Radar (GPR) equipment. The GPR information is also summarized and reported separately for this project.

STATE OF MAINE

INTERDEPARTMENTAL MEMORANDUM

File: Rte. 8
Copy: Rte. 137
TEDOCS #

Date of Request: **11/10/2010**
Latest Date Needed By: **1/10/2011**
Return: **12/7/10**

To: **Ed Hanscom** Dept.: **MDOT, Bureau of Planning**

From: **Mark Shibles** Dept.: **Western Region**

Subject: **Request for Traffic Information** Project Manager: **Heath Cowan**

TOWN(S): **Smithfield** **Norridgewock** P.I.N. **12776.00** Consultant Proj

COUNTY: **Somerset** ROUTE: **SR 8 & Perkins St.**

LOCATION/ DESCRIPTION:
Section 1: Route 8: Beginning 1.84 miles north of Route 225 and extending north 4.37 miles.
Section 2: Route 8: Beginning 0.75 of a mile north of the Smithfield/Norridgewock town line and extending north 2.01 miles to Route 2.
Section 3: Perkins St: Beginning at Route 8 and extending 0.54 of a mile to Route 2.

	Roadway Changes or Relocation (Attach Sketch)	Turning Movement needed (Provide Locations under Comments)	Other Please Describe Under Comments
Please Check Box if Applicable:			

Prep By: RLD

		Sec. 1	Sec. 2	Sec. 3	Sec. 4	Sec. 5
	Town	Smithfield	Norridgewock	Norridgewock		
	Description of Sections	SR 8/137 (VILLAGE) SE/O SR 8 @ BR# 3466	SR 8 (SMITHFIELD RD) S/O PERKINS ST	PERKINS ST SE/O US 2/201A/SR 8 (MAIN ST)		
1	Latest AADT (Year)	2100(2008)	2950(2006)	2240(2008)		
2	Current **2013** AADT	2100	2950	2240		
3	Future **2025** AADT	2600	3660	2780		
4	Future AADT					
5	DHV - % of AADT	10%	12%	10%	%	%
6	Design Hourly Volume	260	439	278		
7	% Heavy Trucks (AADT)	12%	12%	7%	%	%
8	% Heavy Trucks (DHV)	8%	6%	4%	%	%
9	Direct.Dist. (DHV)	52%	51%	57%	%	%
10	18-KIP Equivalent P 2.0	282	367	194		
11	18-KIP Equivalent P 2.5	269	350	185		

Notes or Remarks: 18-Kip ESALS is based on 12 year life

PLEASE PROVIDE: (1) PIN NUMBER, (2) THE CURRENT & FUTURE YEARS FOR WHICH YOU WANT AADT CALCULATED, AND SEND TO MIKE MORGAN. (A LOCATION MAP IS NO LONGER NEEDED.)

TRAFFIC REQUESTS WILL BE FILLED ON A FIRST COME / SERVE BASIS. PLEASE SEND WHEN PROJECT KICKS OFF!!!

Need Only Data Items Numbered

Comments: These are the high volumes for section 1, section 2 and section 3 of the project

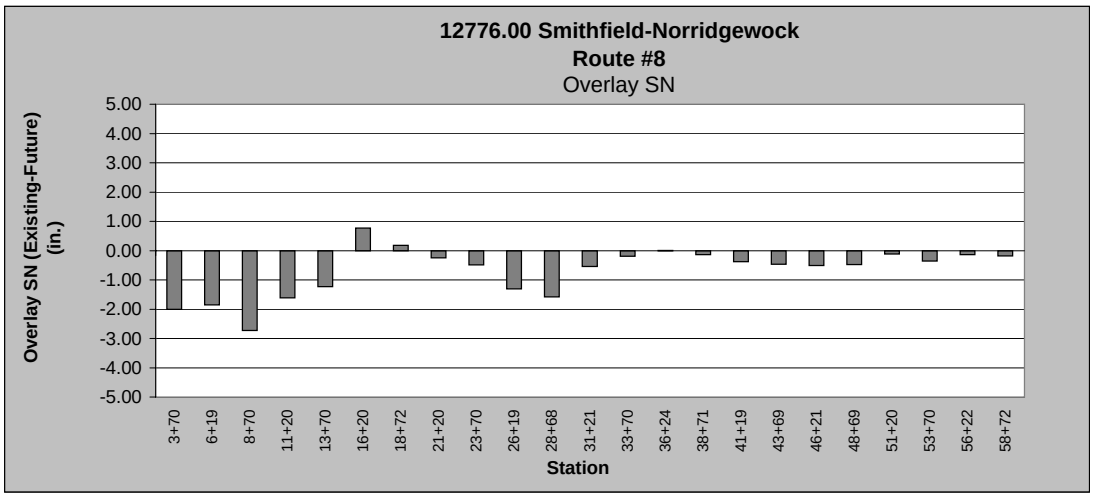
12776.00 Smithfield-Norridgewock
Route #8

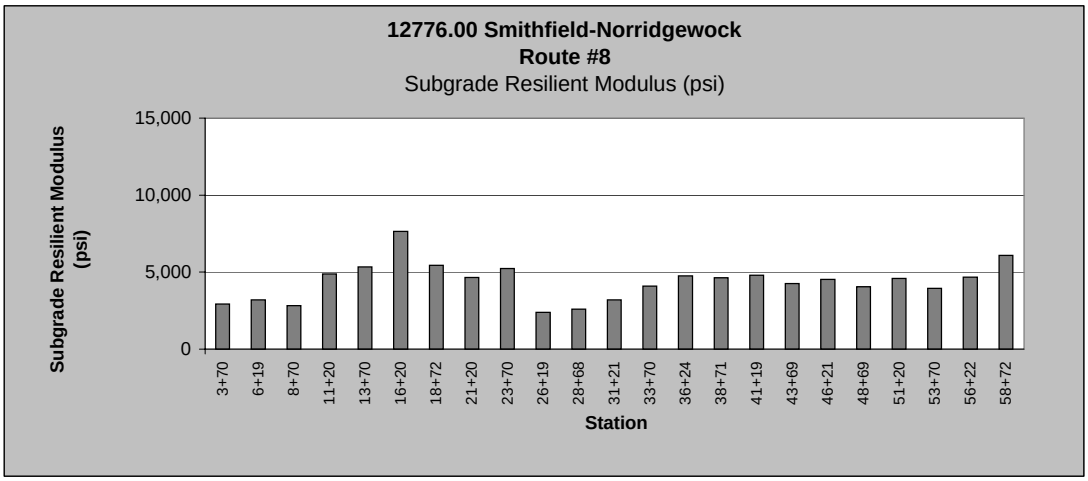
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	Combined Pavement/Gravel Depth Used for Calculation (in)
3+70	2.94	4.95	**-2.01**	**4.57**	58,733	**2,930**	6.6	**16.8**
6+19	2.95	4.80	**-1.85**	**4.23**	58,082	3,209	6.7	**16.9**
8+70	2.28	5.01	**-2.73**	**6.20**	27,811	**2,823**	6.5	**16.7**
11+20	2.57	4.18	**-1.61**	**3.66**	45,692	4,877	5.8	**16.0**
13+70	2.83	4.06	**-1.23**	**2.80**	52,581	5,338	6.6	**16.8**
16+20	4.35	3.58	0.77	-	49,229	7,648	6.8	26.4
18+72	4.21	4.03	0.18	-	46,087	5,433	6.5	26.1
21+20	4.00	4.25	**-0.25**	**0.57**	38,518	4,661	6.7	26.3
23+70	3.59	4.08	**-0.49**	**1.11**	32,987	5,238	5.3	24.9
26+19	3.97	5.28	**-1.31**	**2.98**	58,051	**2,379**	6.5	22.8
28+68	3.55	5.13	**-1.58**	**3.59**	42,431	**2,607**	6.3	22.6
31+21	4.27	4.81	**-0.54**	**1.23**	43,464	3,191	6.6	27.0
33+70	4.25	4.44	**-0.19**	**0.43**	40,549	4,083	7.1	27.5
36+24	4.23	4.22	0.01	-	40,897	4,757	6.9	27.3
38+71	4.11	4.25	**-0.14**	**0.32**	44,406	4,643	5.4	25.8
41+19	3.82	4.20	**-0.38**	**0.86**	41,601	4,807	4.1	24.5
43+69	3.92	4.38	**-0.46**	**1.05**	41,893	4,263	4.7	25.1
46+21	3.78	4.29	**-0.51**	**1.16**	37,395	4,531	4.7	25.1
48+69	3.99	4.46	**-0.47**	**1.07**	43,473	4,041	4.8	25.2
51+20	4.15	4.27	**-0.12**	**0.27**	49,590	4,594	4.7	25.1
53+70	4.14	4.49	**-0.35**	**0.80**	47,406	3,939	5.0	25.4
56+22	4.10	4.24	**-0.14**	**0.32**	50,746	4,672	4.2	24.6
58+72	3.70	3.88	**-0.18**	**0.41**	36,890	6,078	4.3	24.7

Possible Weak Soils (<3000)

Possible Shallow Bedrock (>8000)

For actual Gravel Depths, see logdraft forms - Pavement depths were taken from Ground Penetrating Radar Summary Sheet.





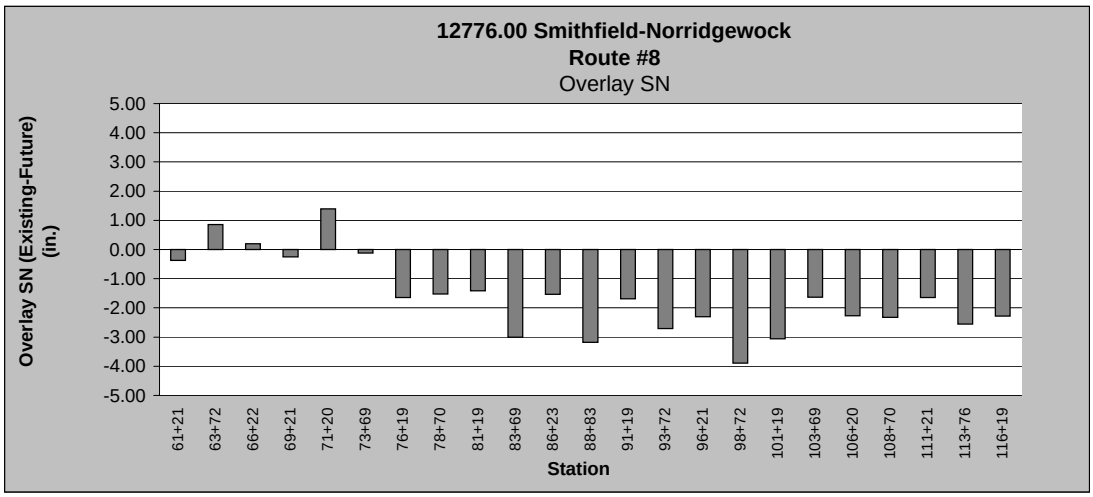
12776.00 Smithfield-Norridgewock
Route #8

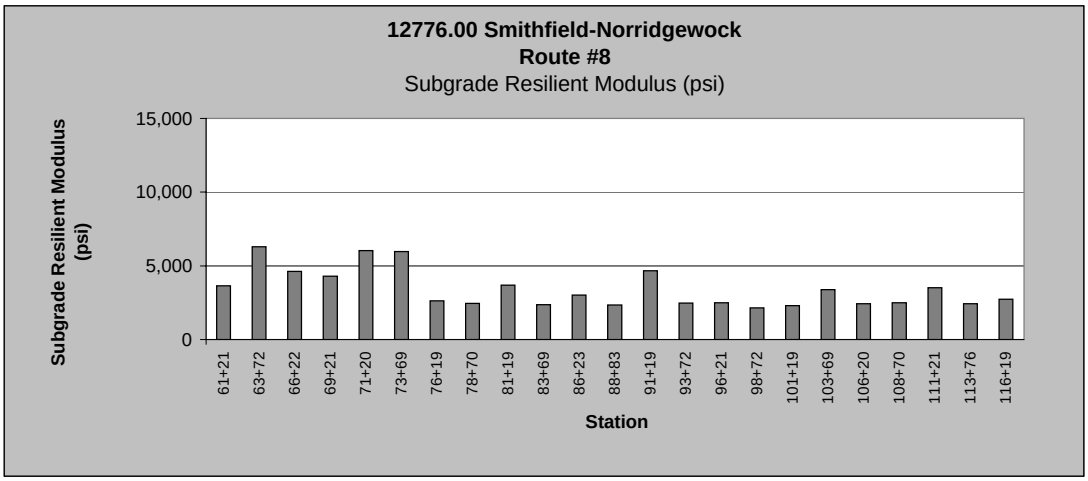
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	Combined Pavement/Gravel Depth Used for Calculation (in)
61+21	4.24	4.61	**-0.37**	**0.84**	63,592	3,647	4.5	23.6
63+72	4.68	3.83	0.85	-	74,628	6,304	5.6	24.7
66+22	4.46	4.26	0.20	-	61,725	4,613	6.0	25.1
69+21	4.11	4.36	**-0.25**	**0.57**	42,234	4,303	7.1	26.2
71+20	5.28	3.89	1.39	-	83,078	6,044	7.8	26.9
73+69	3.79	3.91	**-0.12**	**0.27**	42,128	5,960	7.4	24.2
76+19	3.48	5.12	**-1.64**	**3.73**	36,073	**2,622**	6.6	23.4
78+70	3.71	5.23	**-1.52**	**3.45**	42,463	**2,456**	6.8	23.6
81+19	3.18	4.59	**-1.41**	**3.20**	58,464	3,686	5.2	**18.2**
83+69	2.29	5.29	**-3.00**	**6.93**	18,679	**2,363**	5.8	**18.8**
86+23	3.36	4.90	**-1.54**	**3.50**	60,424	3,016	6.0	**19.0**
88+83	2.13	5.31	**-3.18**	**7.23**	31,621	**2,344**	7.5	**15.0**
91+19	2.56	4.25	**-1.69**	**3.84**	70,170	4,657	7.2	**13.8**
93+72	2.51	5.22	**-2.71**	**6.16**	65,943	**2,474**	7.2	**13.8**
96+21	2.91	5.21	**-2.30**	**5.23**	90,916	**2,489**	7.8	**14.4**
98+72	1.57	5.46	**-3.89**	**8.84**	20,357	**2,139**	6.2	**12.8**
101+19	2.28	5.34	**-3.06**	**6.95**	19,633	**2,299**	5.9	**18.8**
103+69	3.09	4.72	**-1.63**	**3.70**	52,074	3,393	5.5	**18.4**
106+20	2.98	5.25	**-2.27**	**5.16**	39,971	**2,432**	6.5	**19.4**
108+70	2.88	5.20	**-2.32**	**5.27**	35,852	**2,507**	6.5	**19.4**
111+21	3.01	4.66	**-1.65**	**3.75**	46,642	3,526	5.7	**18.6**
113+76	2.69	5.25	**-2.56**	**5.82**	36,432	**2,429**	5.1	**18.0**
116+19	2.77	5.05	**-2.28**	**5.18**	45,087	**2,745**	4.4	**17.3**

Possible Weak Soils (<3000)

Possible Shallow Bedrock (>8000)

For actual Gravel Depths, see logdraft forms - Pavement depths were taken from Ground Penetrating Radar Summary Sheet.





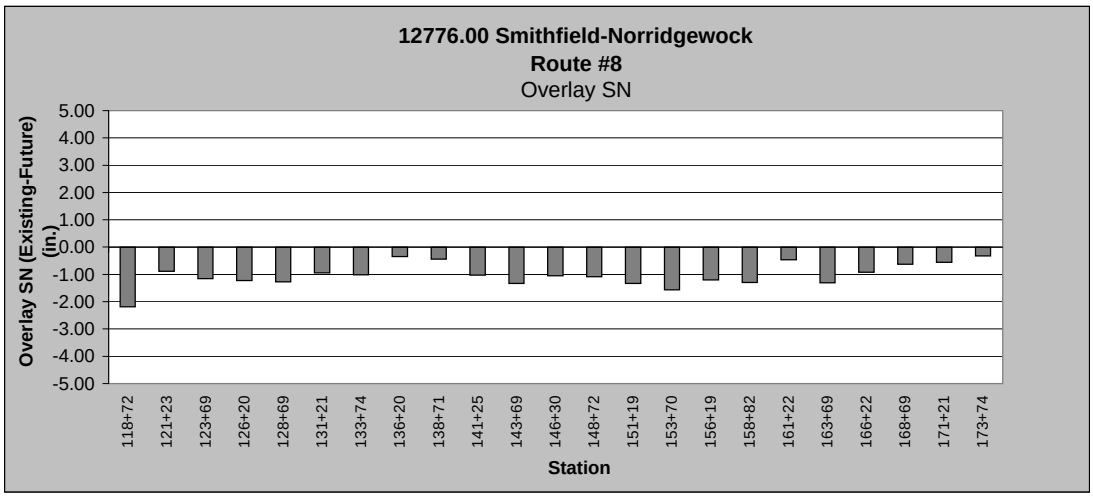
12776.00 Smithfield-Norridgewock
Route #8

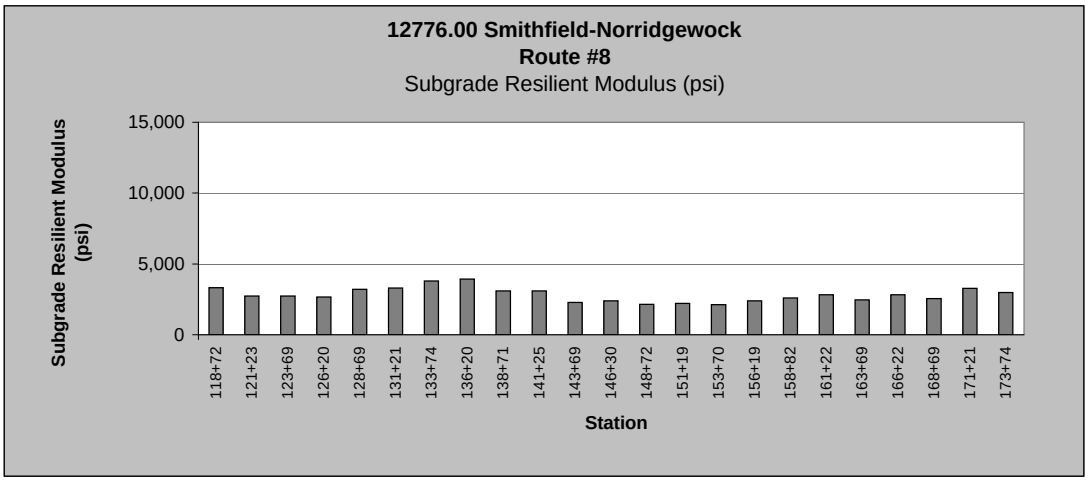
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	Combined Pavement/Gravel Depth Used for Calculation (in)
118+72	2.56	4.75	**-2.19**	**4.98**	47,328	3,318	4.9	**15.7**
121+23	4.17	5.05	**-0.88**	**2.00**	71,972	**2,738**	4.3	22.3
123+69	3.90	5.06	**-1.16**	**2.64**	61,214	**2,724**	4.0	22.0
126+20	3.88	5.10	**-1.22**	**2.77**	60,226	**2,656**	4.0	22.0
128+69	3.54	4.81	**-1.27**	**2.89**	47,532	3,201	3.7	21.7
131+21	3.82	4.76	**-0.94**	**2.14**	56,051	3,299	4.2	22.2
133+74	3.53	4.54	**-1.01**	**2.30**	44,742	3,806	4.1	22.1
136+20	4.14	4.49	**-0.35**	**0.80**	74,259	3,935	3.9	21.9
138+71	4.42	4.86	**-0.44**	**1.00**	52,250	3,103	4.7	26.3
141+25	3.83	4.86	**-1.03**	**2.34**	33,949	3,097	4.7	26.3
143+69	4.03	5.36	**-1.33**	**3.02**	37,625	**2,275**	5.1	26.7
146+30	4.22	5.27	**-1.05**	**2.39**	42,272	**2,393**	5.3	26.9
148+72	4.38	5.46	**-1.08**	**2.45**	48,549	**2,146**	5.1	26.7
151+19	4.07	5.40	**-1.33**	**3.02**	39,286	**2,218**	5.0	26.6
153+70	3.92	5.48	**-1.56**	**3.55**	34,748	**2,114**	5.1	26.7
156+19	4.07	5.27	**-1.20**	**2.73**	41,673	**2,399**	4.5	26.1
158+82	3.85	5.14	**-1.29**	**2.93**	33,910	**2,597**	4.8	26.4
161+22	4.54	5.00	**-0.46**	**1.05**	56,506	**2,825**	4.7	26.3
163+69	3.91	5.22	**-1.31**	**2.98**	33,643	**2,468**	5.3	26.9
166+22	4.09	5.01	**-0.92**	**2.09**	37,353	**2,821**	5.6	27.2
168+69	4.54	5.17	**-0.63**	**1.43**	49,770	**2,550**	5.8	27.4
171+21	4.21	4.77	**-0.56**	**1.27**	40,266	3,286	5.7	27.3
173+74	4.60	4.92	**-0.32**	**0.73**	48,774	**2,976**	6.4	28.0

Possible Weak Soils (<3000)

Possible Shallow Bedrock (>8000)

For actual Gravel Depths, see logdraft forms - Pavement depths were taken from Ground Penetrating Radar Summary Sheet.





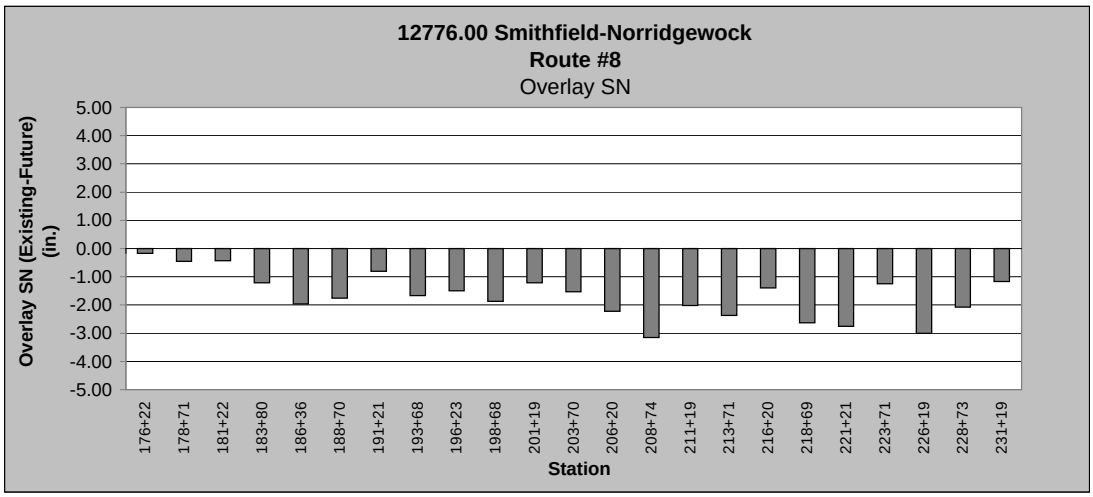
12776.00 Smithfield-Norridgewock
Route #8

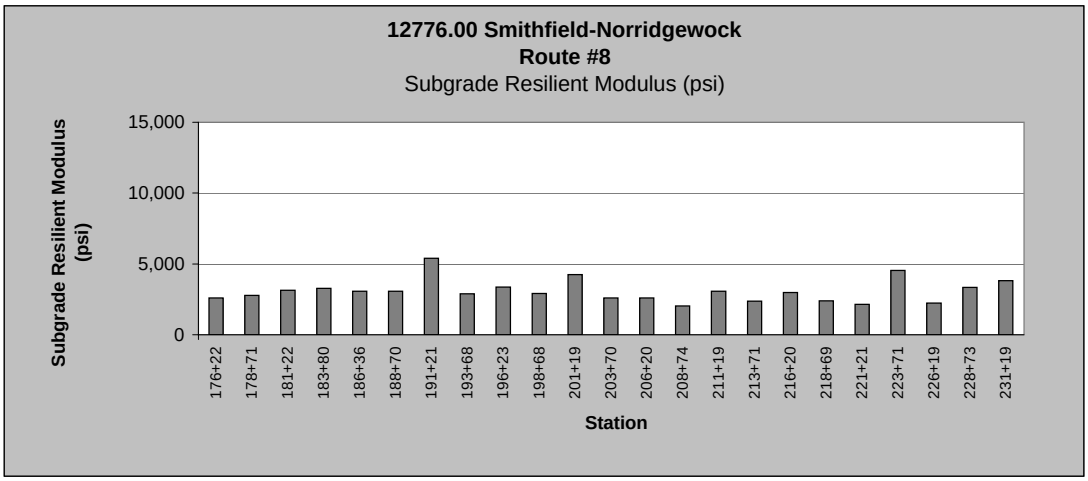
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	Combined Pavement/Gravel Depth Used for Calculation (in)
176+22	4.97	5.14	**-0.17**	**0.39**	64,021	**2,591**	6.0	27.6
178+71	4.58	5.03	**-0.45**	**1.02**	52,853	**2,789**	5.5	27.1
181+22	4.41	4.84	**-0.43**	**0.98**	48,507	3,131	5.3	26.9
183+80	3.57	4.78	**-1.21**	**2.75**	24,856	3,267	5.6	27.2
186+36	2.91	4.87	**-1.96**	**4.45**	27,845	3,078	5.7	21.3
188+70	3.11	4.87	**-1.76**	**4.00**	39,612	3,069	4.7	20.3
191+21	3.24	4.04	**-0.80**	**1.82**	42,746	5,398	5.0	20.6
193+68	3.29	4.96	**-1.67**	**3.80**	42,075	**2,901**	5.4	21.0
196+23	3.23	4.73	**-1.50**	**3.41**	41,881	3,367	5.1	20.7
198+68	3.08	4.95	**-1.87**	**4.25**	37,656	**2,917**	4.8	20.4
201+19	3.17	4.38	**-1.21**	**2.75**	39,948	4,249	5.0	20.6
203+70	3.61	5.14	**-1.53**	**3.48**	88,658	**2,602**	4.8	**18.0**
206+20	2.91	5.13	**-2.22**	**5.05**	44,774	**2,605**	5.0	**18.2**
208+74	2.40	5.55	**-3.15**	**7.16**	23,915	**2,026**	5.3	**18.5**
211+19	2.86	4.88	**-2.02**	**4.59**	33,086	3,062	6.6	**19.8**
213+71	2.91	5.28	**-2.37**	**5.39**	34,216	**2,381**	6.7	**19.9**
216+20	3.53	4.92	**-1.39**	**3.16**	60,299	**2,982**	6.8	20.0
218+69	2.64	5.27	**-2.63**	**5.98**	24,067	**2,393**	7.1	20.3
221+21	2.70	5.46	**-2.76**	**6.27**	45,727	**2,144**	7.2	**16.8**
223+71	3.04	4.29	**-1.25**	**2.84**	61,710	4,538	7.5	**17.1**
226+19	2.38	5.39	**-3.01**	**6.84**	32,939	**2,235**	6.9	**16.5**
228+73	2.66	4.74	**-2.08**	**4.73**	41,229	3,352	7.5	**17.1**
231+19	3.37	4.54	**-1.17**	**2.66**	88,202	3,829	7.2	**16.8**

Possible Weak Soils (<3000)

Possible Shallow Bedrock (>8000)

For actual Gravel Depths, see logdraft forms - Pavement depths were taken from Ground Penetrating Radar Summary Sheet.





12776.00 Smithfield-Norridgewock
Route #8

Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	Combined Pavement/Gravel Depth Used for Calculation (in)
233+70	5.14	4.18	0.96	-	77,606	4,896	8.8	26.8
236+20	5.30	3.65	1.65	-	84,652	7,242	8.8	26.8
238+69	5.00	3.63	1.37	-	78,960	7,324	7.9	25.9
241+18	5.49	3.96	1.53	-	100,060	5,705	8.3	26.3
243+80	4.80	3.86	0.94	-	69,879	6,160	7.9	25.9
246+22	4.77	4.28	0.49	-	44,005	4,558	8.4	30.0
248+70	5.07	4.21	0.86	-	53,045	4,772	8.1	30.0
251+20	5.25	4.27	0.98	-	58,683	4,595	8.1	30.0
253+70	5.23	4.32	0.91	-	58,206	4,435	8.2	30.0
256+20	5.12	4.46	0.66	-	54,676	4,038	8.2	30.0
258+72	4.53	4.54	**-0.01**	**0.02**	37,664	3,806	8.7	30.0
261+20	4.61	4.57	0.04	-	39,911	3,746	8.2	30.0
263+72	4.64	4.38	0.26	-	40,560	4,267	6.3	30.0
266+19	4.79	4.40	0.39	-	44,760	4,183	6.0	30.0
268+73	3.98	4.31	**-0.33**	**0.75**	56,972	4,465	6.0	23.0
271+30	4.05	4.79	-0.74	1.68	62,214	3,247	5.7	22.7
273+71	4.56	4.22	0.34	-	87,808	4,739	5.8	22.8
276+19	3.32	4.73	**-1.41**	**3.20**	32,193	3,366	6.2	23.2
278+70	3.45	4.35	**-0.90**	**2.05**	37,894	4,349	5.8	22.8

Possible Weak Soils (<3000)

Possible Shallow Bedrock (>8000)

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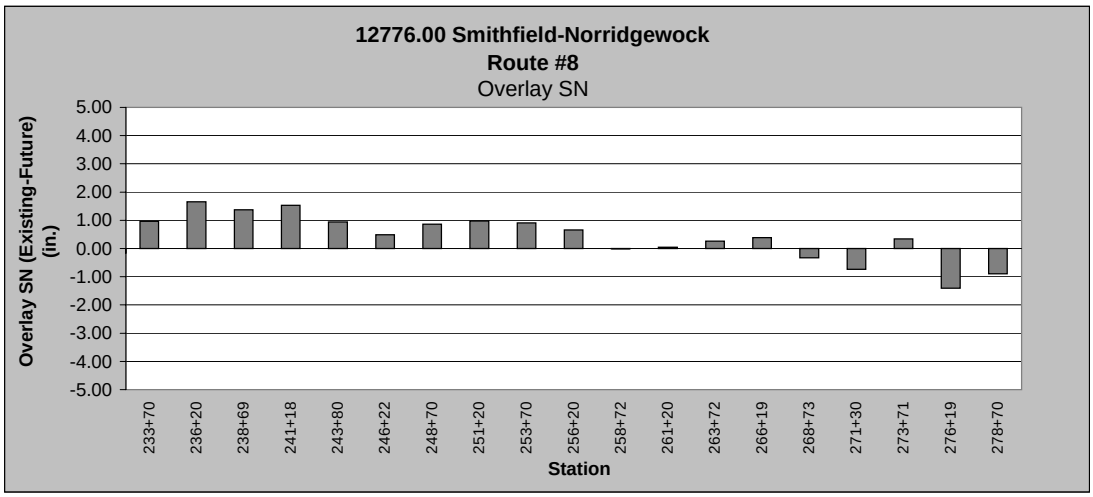
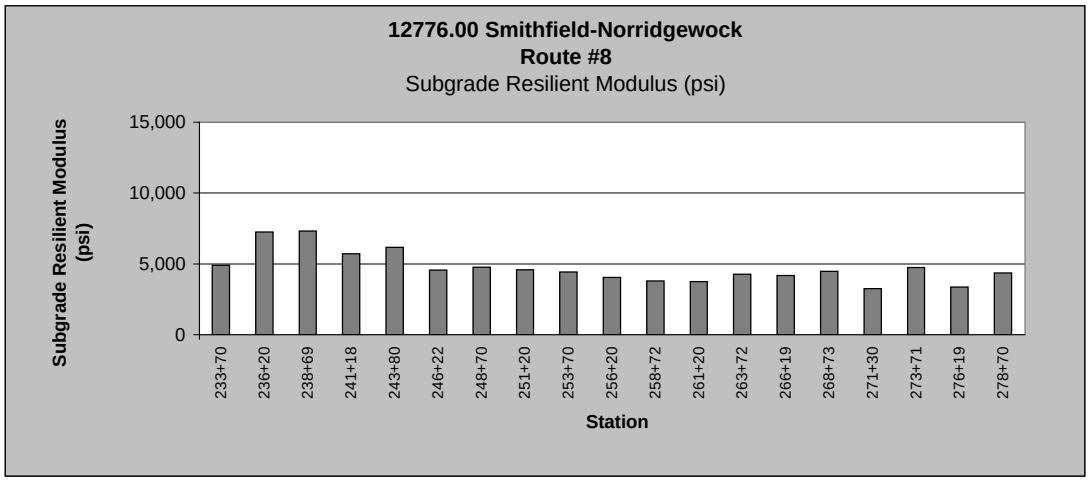




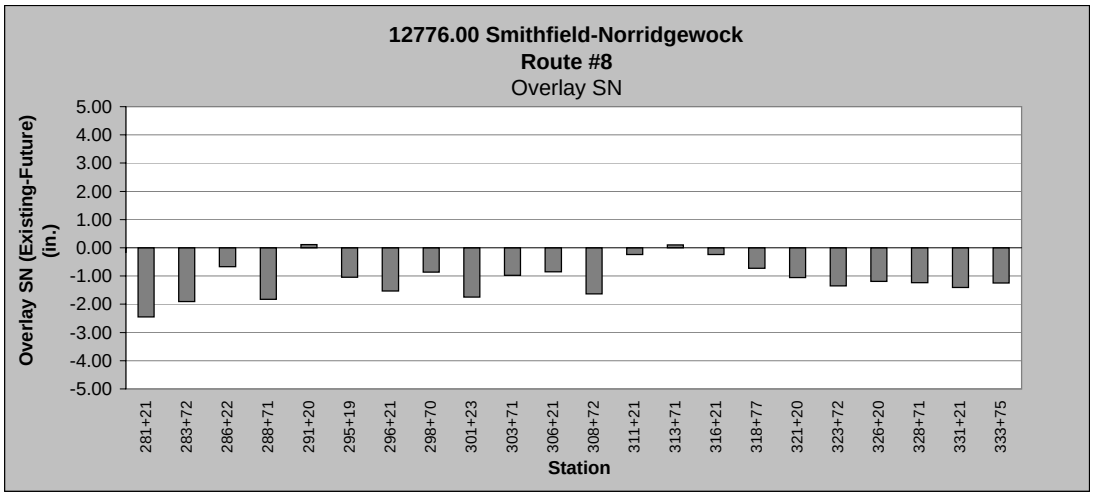
12776.00 Smithfield-Norridgewock
Route #8

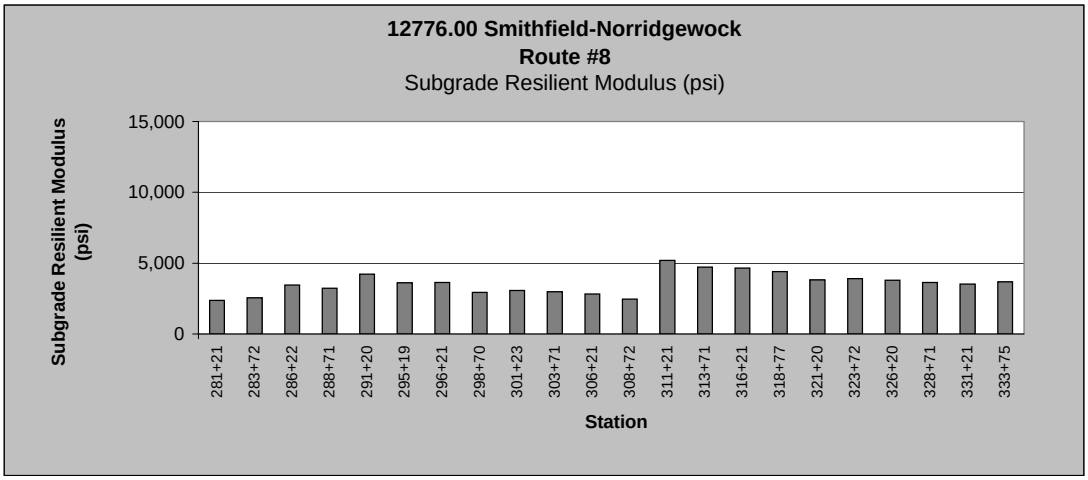
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	Combined Pavement/Gravel Depth Used for Calculation (in)
281+21	2.84	5.29	**-2.45**	**5.57**	54,225	**2,366**	6.0	**16.7**
283+72	3.26	5.17	**-1.91**	**4.34**	94,926	**2,553**	5.2	**15.9**
286+22	4.02	4.69	**-0.67**	**1.52**	174,219	3,449	5.3	**16.0**
288+71	2.97	4.79	**-1.82**	**4.14**	64,038	3,230	5.8	**16.5**
291+20	4.50	4.39	0.11	-	78,990	4,221	5.3	23.3
295+19	3.58	4.62	**-1.04**	**2.36**	50,070	3,616	5.3	21.6
296+21	3.09	4.62	**-1.53**	**3.48**	29,176	3,630	6.0	22.3
298+70	4.08	4.94	**-0.86**	**1.95**	71,102	**2,937**	5.6	21.9
301+23	3.12	4.87	**-1.75**	**3.98**	33,863	3,075	5.1	21.4
303+71	3.95	4.92	**-0.97**	**2.20**	69,225	**2,977**	5.1	21.4
306+21	4.16	5.01	**-0.85**	**1.93**	77,240	**2,817**	5.4	21.7
308+72	3.60	5.23	**-1.63**	**3.70**	48,114	**2,464**	5.7	22.0
311+21	3.86	4.10	**-0.24**	**0.55**	42,518	5,188	5.0	24.6
313+71	4.33	4.23	0.10	-	62,888	4,729	4.6	24.2
316+21	4.01	4.25	**-0.24**	**0.55**	43,115	4,648	5.8	25.4
318+77	3.60	4.33	**-0.73**	**1.66**	39,336	4,416	3.9	23.5
321+20	3.48	4.54	**-1.06**	**2.41**	50,646	3,828	4.6	20.9
323+72	3.16	4.51	**-1.35**	**3.07**	41,221	3,907	4.0	20.3
326+20	3.36	4.55	**-1.19**	**2.70**	48,219	3,796	4.2	20.5
328+71	3.37	4.61	**-1.24**	**2.82**	48,664	3,640	4.2	20.5
331+21	3.25	4.66	**-1.41**	**3.20**	34,073	3,516	4.5	22.3
333+75	3.34	4.59	**-1.25**	**2.84**	38,467	3,686	4.2	22.0

Possible Weak Soils (<3000)

Possible Shallow Bedrock (>8000)

For actual Gravel Depths, see logdraft forms - Pavement depths were taken from Ground Penetrating Radar Summary Sheet.



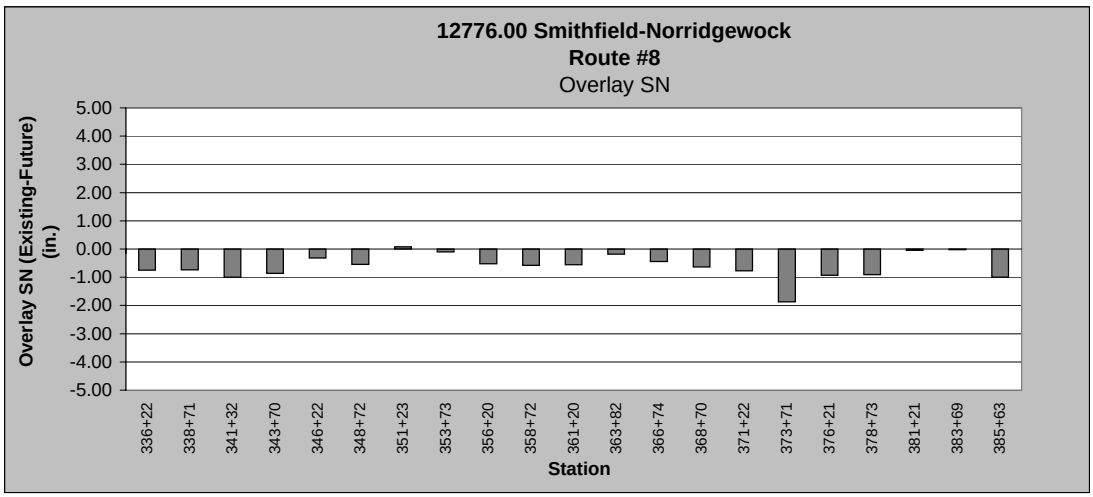


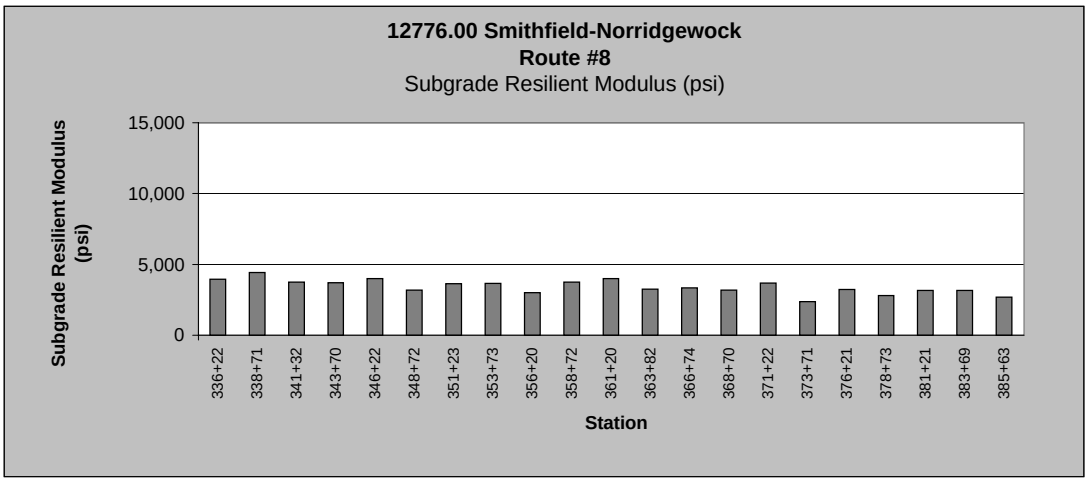
12776.00 Smithfield-Norridgewock
Route #8

Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	Combined Pavement/Gravel Depth Used for Calculation (in)
336+22	3.74	4.49	**-0.75**	**1.70**	56,254	3,944	3.9	21.7
338+71	3.58	4.32	**-0.74**	**1.68**	51,194	4,423	3.6	21.4
341+32	3.57	4.57	**-1.00**	**2.27**	50,872	3,751	3.6	21.4
343+70	3.73	4.59	**-0.86**	**1.95**	45,735	3,698	5.4	23.2
346+22	4.15	4.47	**-0.32**	**0.73**	71,556	3,991	5.5	22.2
348+72	4.28	4.82	**-0.54**	**1.23**	84,106	3,187	5.0	21.7
351+23	4.69	4.61	0.08	-	103,694	3,638	5.5	22.2
353+73	4.50	4.60	**-0.10**	**0.23**	86,702	3,662	5.9	22.6
356+20	4.38	4.90	**-0.52**	**1.18**	82,977	3,013	5.6	22.3
358+72	3.99	4.57	**-0.58**	**1.32**	65,564	3,753	5.3	22.0
361+20	3.91	4.47	**-0.56**	**1.27**	50,614	4,003	5.7	23.5
363+82	4.60	4.78	**-0.18**	**0.41**	89,889	3,250	5.0	22.8
366+74	4.31	4.75	**-0.44**	**1.00**	65,339	3,334	6.0	23.8
368+70	4.18	4.82	**-0.64**	**1.45**	69,644	3,182	4.8	22.6
371+22	3.83	4.60	**-0.77**	**1.75**	54,796	3,676	5.2	22.4
373+71	3.42	5.29	**-1.87**	**4.25**	43,692	**2,373**	4.4	21.6
376+21	3.86	4.79	**-0.93**	**2.11**	36,314	3,240	5.3	25.9
378+73	4.11	5.02	**-0.91**	**2.07**	43,990	**2,802**	5.3	25.9
381+21	4.79	4.83	**-0.04**	**0.09**	70,961	3,163	5.1	25.7
383+69	4.81	4.83	**-0.02**	**0.05**	64,863	3,153	6.0	26.6
385+63	4.09	5.09	**-1.00**	**2.27**	44,089	**2,684**	5.1	25.7

Possible Weak Soils (<3000)
Possible Shallow Bedrock (>8000)

For actual Gravel Depths, see logdraft forms - Pavement depths were taken from Ground Penetrating Radar Summary Sheet.





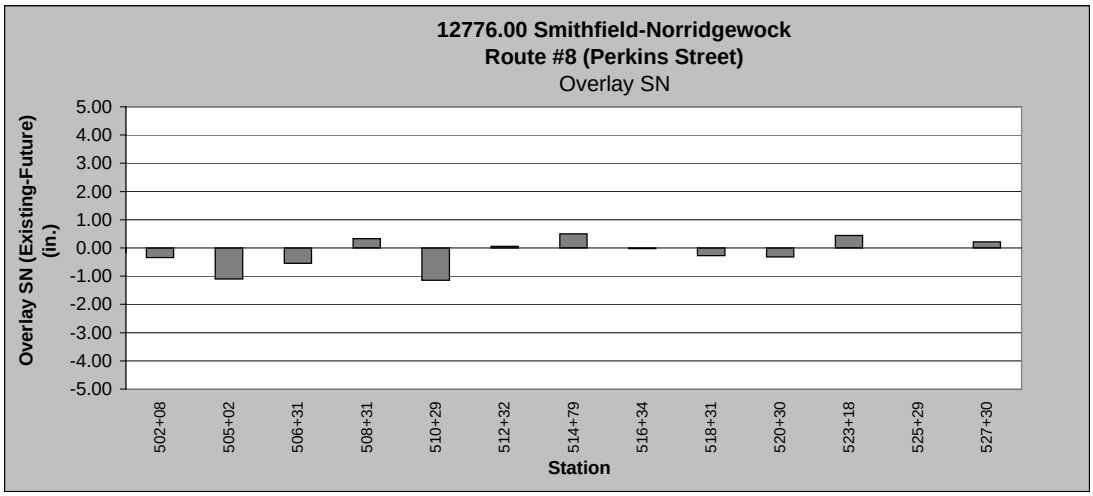
12776.00 Smithfield-Norridgewock
Perkins Street

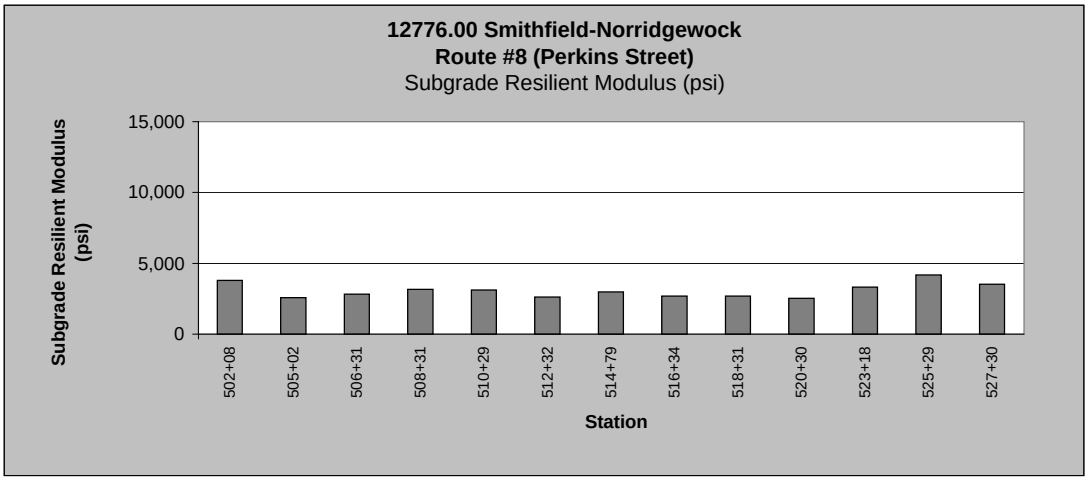
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	Combined Pavement/Gravel Depth Used for Calculation (in)
502+08	3.81	4.15	**-0.34**	**0.77**	45,109	3,788	5.1	23.8
505+02	3.62	4.72	**-1.10**	**2.50**	34,973	**2,568**	5.9	24.6
506+31	4.04	4.58	**-0.54**	**1.23**	49,168	**2,816**	5.8	24.5
508+31	4.74	4.41	0.33	-	127,703	3,161	5.5	20.9
510+29	3.29	4.43	**-1.14**	**2.59**	40,915	3,125	5.8	21.2
512+32	4.75	4.69	0.06	-	71,574	**2,625**	7.5	25.4
514+79	5.00	4.50	0.50	-	54,958	**2,972**	6.8	29.2
516+34	4.64	4.66	**-0.02**	**0.05**	44,437	**2,677**	6.7	29.1
518+31	4.39	4.66	**-0.27**	**0.61**	37,583	**2,678**	6.7	29.1
520+30	4.42	4.74	**-0.32**	**0.73**	66,103	**2,541**	7.3	24.3
523+18	4.78	4.34	0.44	-	98,494	3,319	6.6	23.0
525+29	4.01	4.01	0.00	-	60,693	4,185	6.3	22.7
527+30	4.46	4.25	0.21	-	82,992	3,531	6.3	22.7

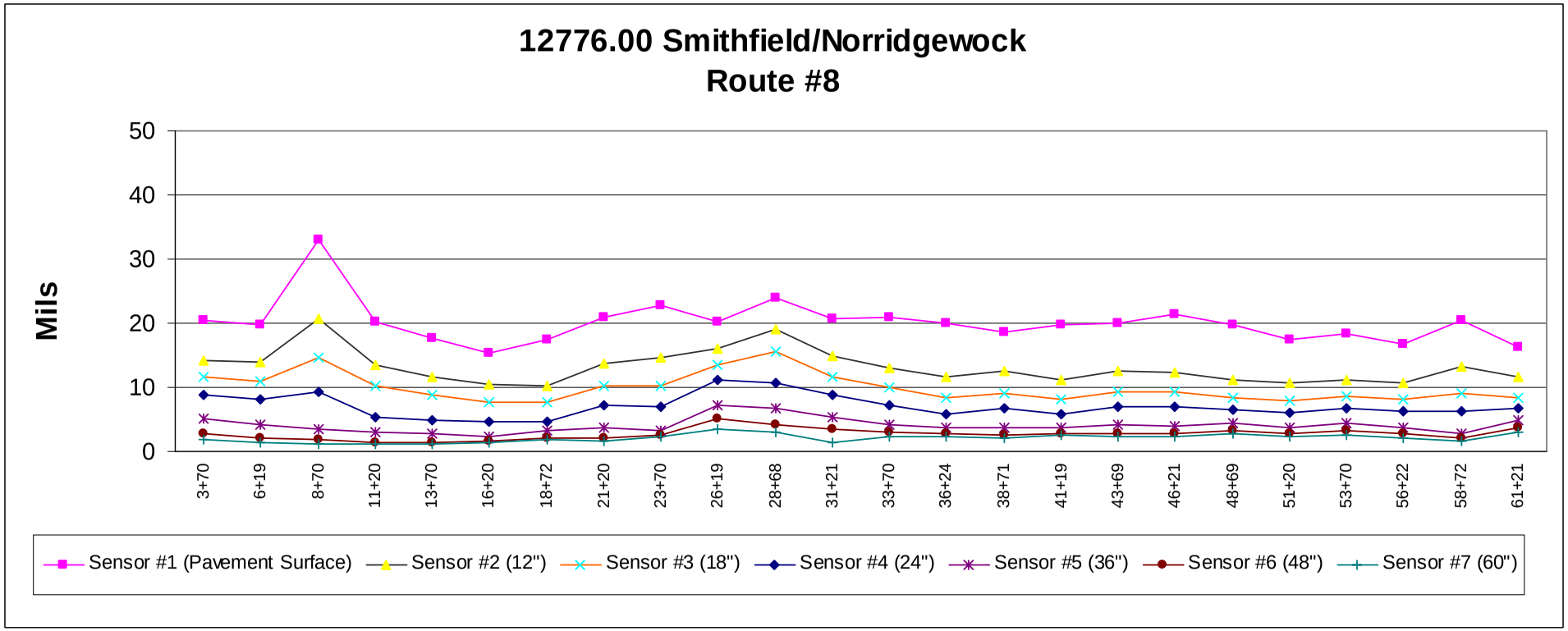
Possible Weak Soils (<3000)

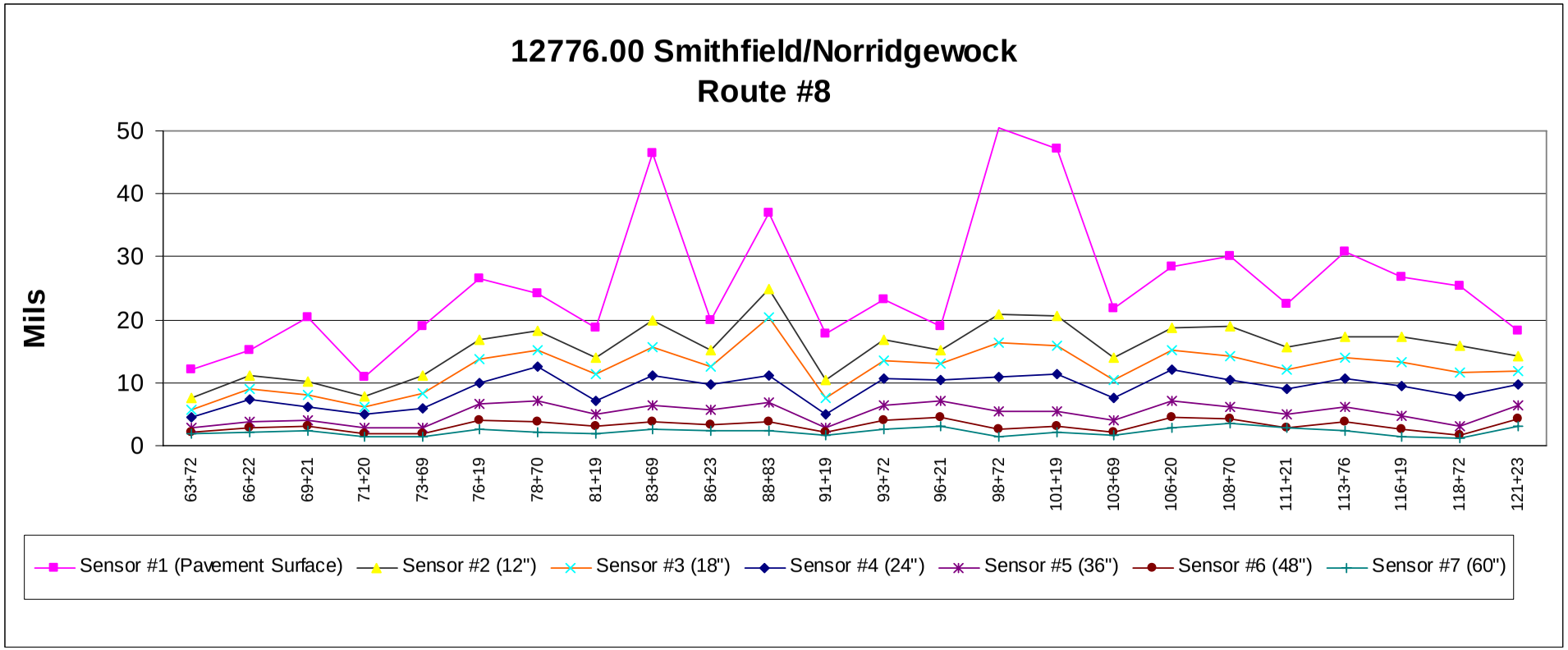
Possible Shallow Bedrock (>8000)

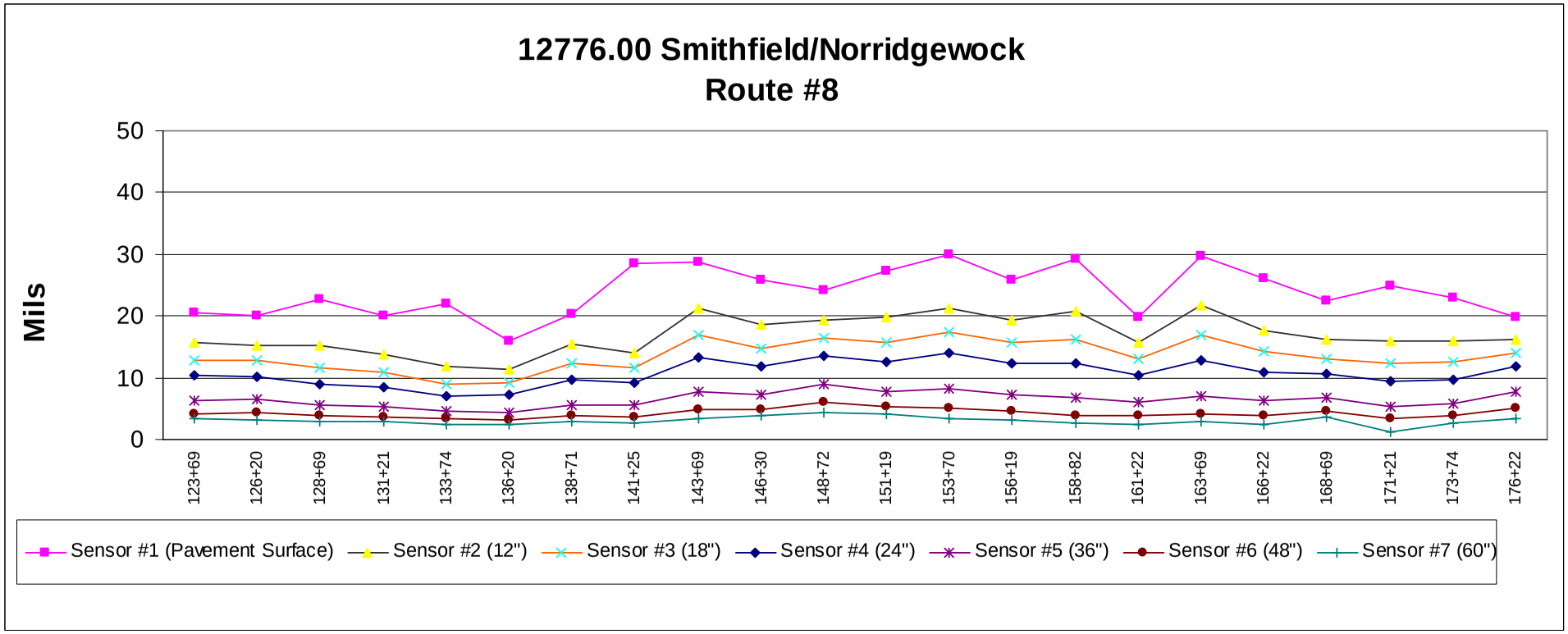
For actual Gravel Depths, see logdraft forms - Pavement depths were taken from Ground Penetrating Radar Summary Sheet.

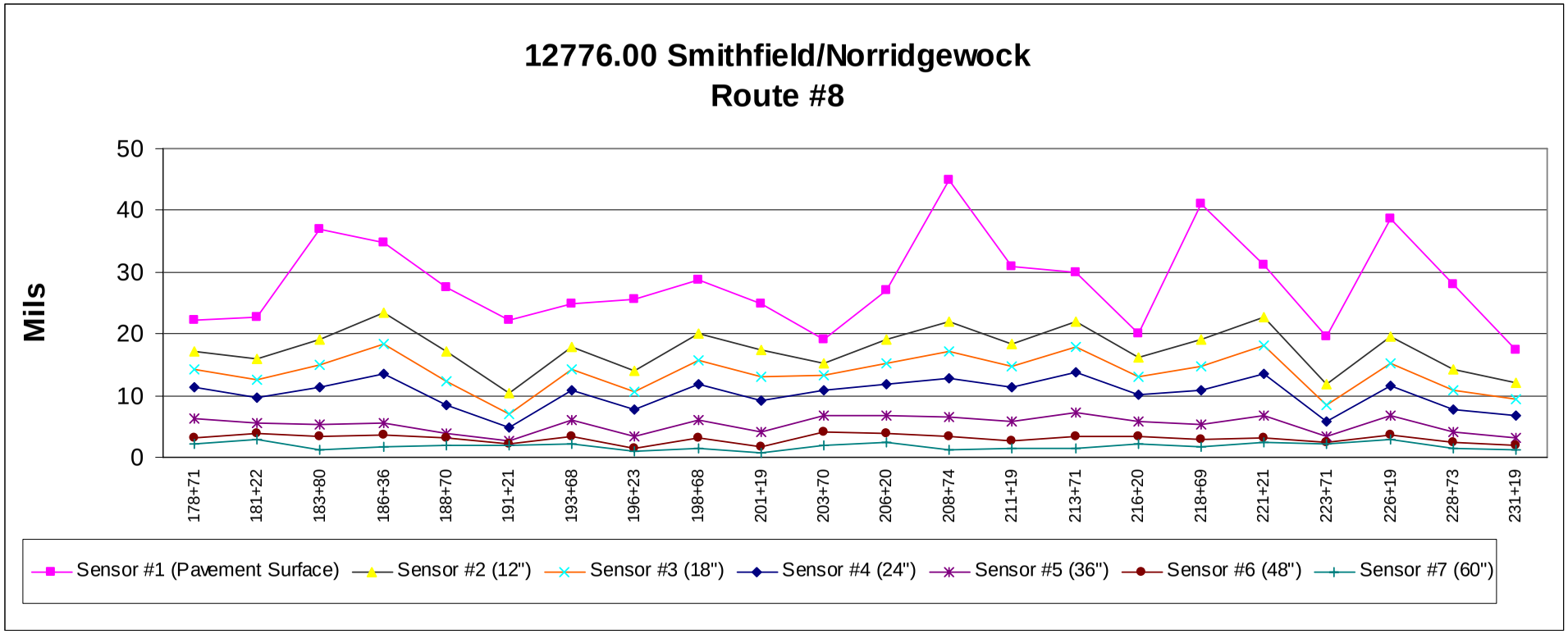


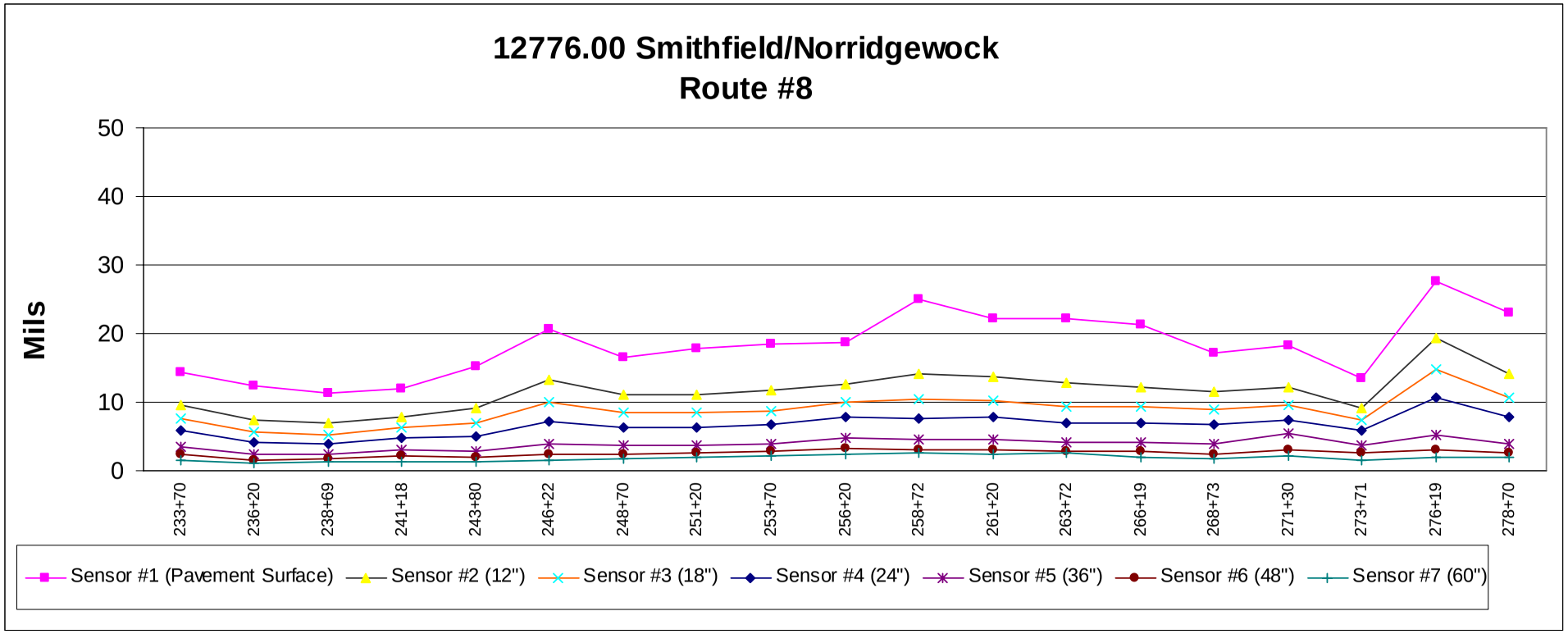


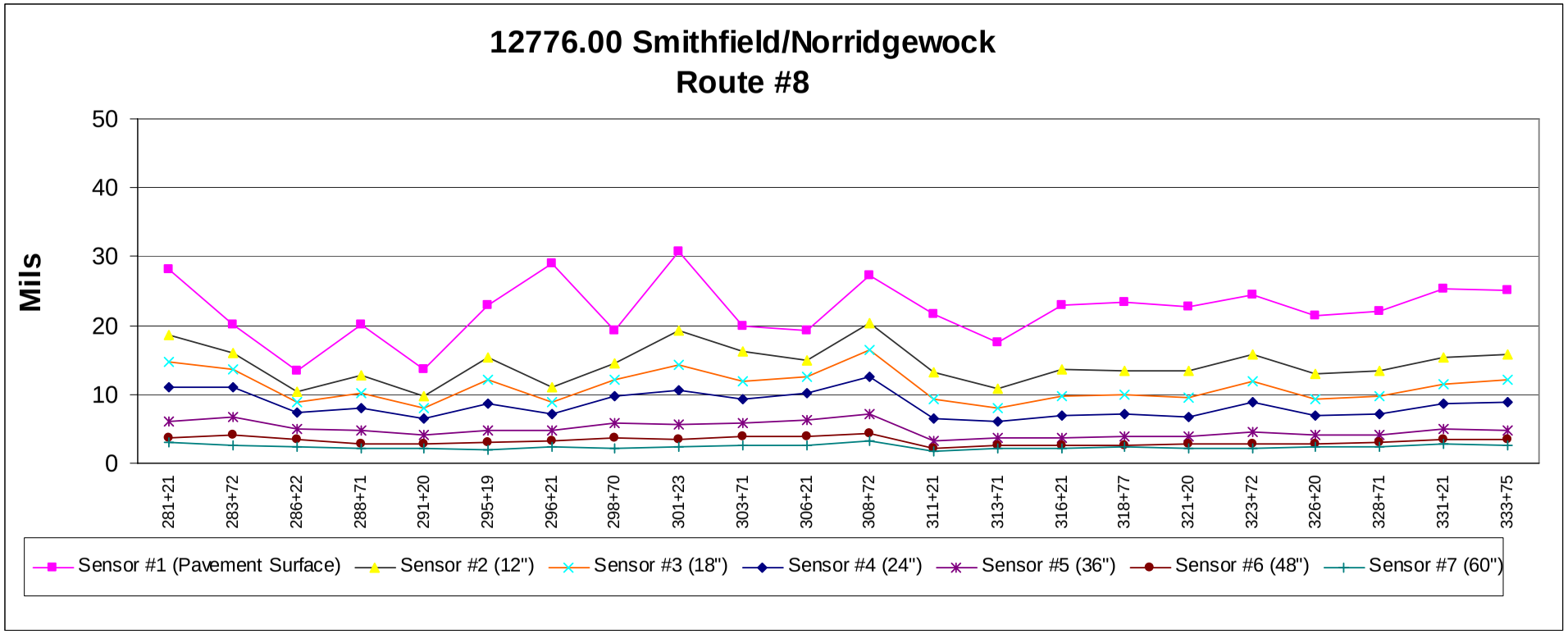

12776.00 Smithfield/Norridgewock
Route #8
Mils
50
40
30
20
10
0
3+70
6+19
8+70
11+20
13+70
16+20
18+72
21+20
23+70
26+19
28+68
31+21
33+70
36+24
38+71
41+19
43+69
46+21
48+69
51+20
53+70
56+22
58+72
61+21
Sensor #1 (Pavement Surface)
Sensor #2 (12")
Sensor #3 (18")
Sensor #4 (24")
Sensor #5 (36")
Sensor #6 (48")
Sensor #7 (60")

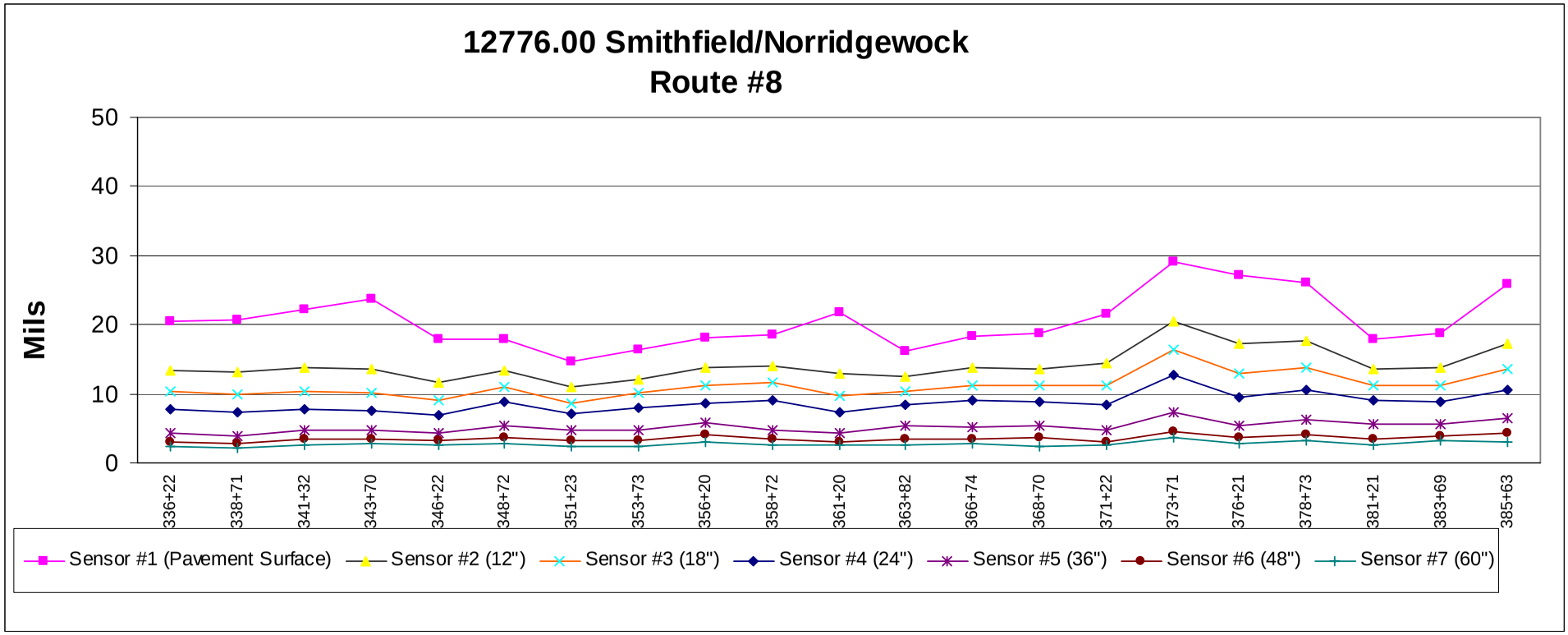

12776.00 Smithfield/Norridgewock
Route #8
Mils
50
40
30
20
10
0
63+72
66+22
69+21
71+20
73+69
76+19
78+70
81+19
83+69
86+23
88+83
91+19
93+72
96+21
98+72
101+19
103+69
106+20
108+70
111+21
113+76
116+19
118+72
121+23
Sensor #1 (Pavement Surface)
Sensor #2 (12")
Sensor #3 (18")
Sensor #4 (24")
Sensor #5 (36")
Sensor #6 (48")
Sensor #7 (60")


12776.00 Smithfield/Norridgewock
Route #8
Mils
50
40
30
20
10
0
123+69
126+20
128+69
131+21
133+74
136+20
138+71
141+25
143+69
146+30
148+72
151+19
153+70
156+19
158+82
161+22
163+69
166+22
168+69
171+21
173+74
176+22
Sensor #1 (Pavement Surface)
Sensor #2 (12")
Sensor #3 (18")
Sensor #4 (24")
Sensor #5 (36")
Sensor #6 (48")
Sensor #7 (60")


12776.00 Smithfield/Norridgewock
Route #8
Mils
50
40
30
20
10
0
178+71
181+22
183+80
186+36
188+70
191+21
193+68
196+23
198+68
201+19
203+70
206+20
208+74
211+19
213+71
216+20
218+69
221+21
223+71
226+19
228+73
231+19
Sensor #1 (Pavement Surface)
Sensor #2 (12")
Sensor #3 (18")
Sensor #4 (24")
Sensor #5 (36")
Sensor #6 (48")
Sensor #7 (60")


12776.00 Smithfield/Norridgewock
Route #8
Mils
50
40
30
20
10
0
233+70
236+20
238+69
241+18
243+80
246+22
248+70
251+20
253+70
256+20
258+72
261+20
263+72
266+19
268+73
271+30
273+71
276+19
278+70
Sensor #1 (Pavement Surface)
Sensor #2 (12")
Sensor #3 (18")
Sensor #4 (24")
Sensor #5 (36")
Sensor #6 (48")
Sensor #7 (60")


12776.00 Smithfield/Norridgewock
Route #8
Mils
50
40
30
20
10
0
281+21
283+72
286+22
288+71
291+20
295+19
296+21
298+70
301+23
303+71
306+21
308+72
311+21
313+71
316+21
318+77
321+20
323+72
326+20
328+71
331+21
333+75
Sensor #1 (Pavement Surface)
Sensor #2 (12")
Sensor #3 (18")
Sensor #4 (24")
Sensor #5 (36")
Sensor #6 (48")
Sensor #7 (60")


12776.00 Smithfield/Norridgewock
Route #8
Mils
50
40
30
20
10
0
336+22
338+71
341+32
343+70
346+22
348+72
351+23
353+73
356+20
358+72
361+20
363+82
366+74
368+70
371+22
373+71
376+21
378+73
381+21
383+69
385+63
Sensor #1 (Pavement Surface)
Sensor #2 (12")
Sensor #3 (18")
Sensor #4 (24")
Sensor #5 (36")
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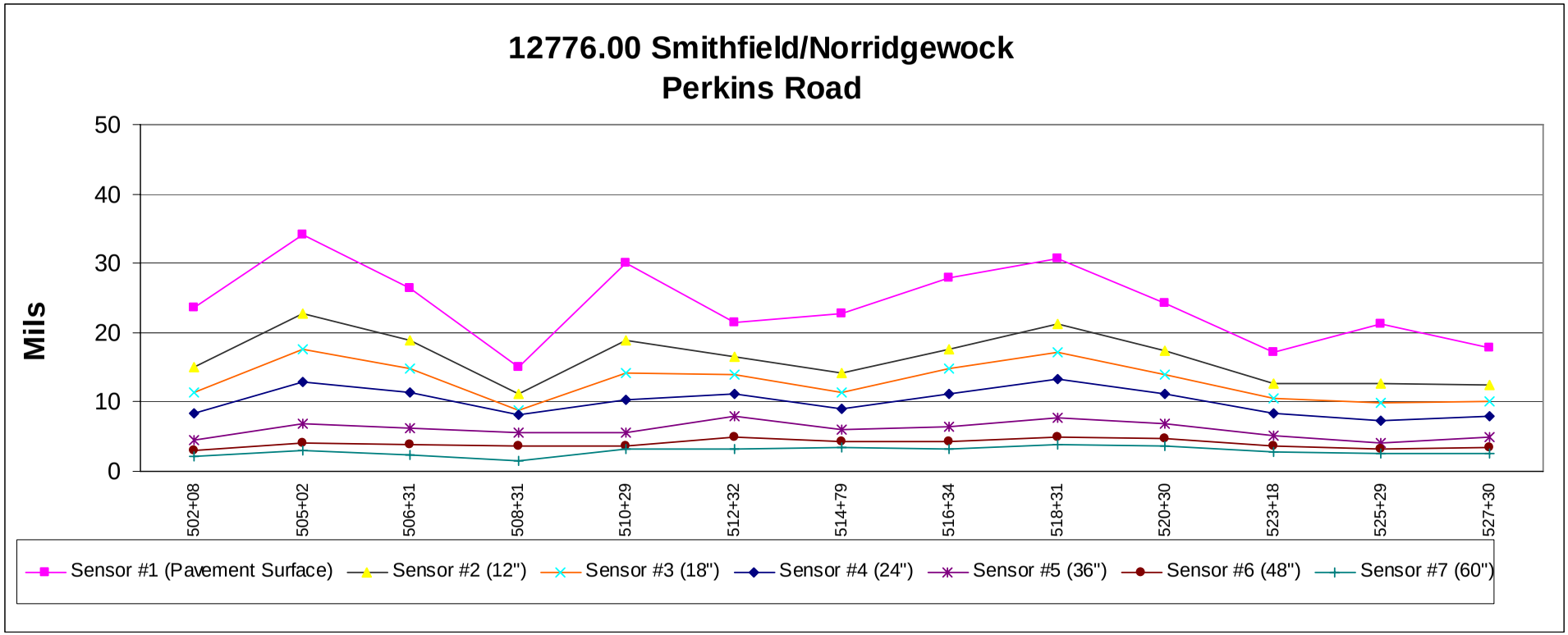
Sensor #7 (60")


12776.00 Smithfield/Norridgewock
Perkins Road
Mils
50
40
30
20
10
0
502+08
505+02
506+31
508+31
510+29
512+32
514+79
516+34
518+31
520+30
523+18
525+29
527+30
Sensor #1 (Pavement Surface)
Sensor #2 (12")
Sensor #3 (18")
Sensor #4 (24")
Sensor #5 (36")
Sensor #6 (48")
Sensor #7 (60")

PAVEMENT THICKNESS

Pavement Core Data
Ground Penetrating Radar

State of Maine - Department of Transportation

Pavement Core Summary Sheet

Town(s): Smithfield-Norridgewock Project Number: 12776.00

Station (Feet)	Offset (Feet)	Pavement Depth (Feet)	Unbound Pavement	PC-Number	Saved Core	Comments / Date 6/26,27,28/07
Section 1						
26+19	5.0 Rt.	0.60	0.6-0.7	49	yes	
26+19	CL	0.60	0.6-0.7	50	yes	
26+19	5.0 Lt.	0.40	0.4-0.6	51	yes	
26+19	10.0 Lt.	0.50	0.5-0.7	52	yes	
51+19	5.0 Rt.	0.40	---	53	no	
51+19	CL	0.45	---	54	no	
51+19	5.0 Lt.	0.50	---	55	no	
51+19	10.0 Lt.	0.40	0.4-0.55	56	no	
76+19	5.0 Rt.	0.40	0.4-0.65	57	no	
76+19	CL	0.30	0.3-0.5	58	no	
76+19	5.0 Lt.	0.70	---	59	no	
76+19	10.0 Lt.	0.80	---	60	no	
101+19	5.0 Rt.	0.50	0.5-0.65	61	---	
101+19	CL	0.58	---	62	---	
101+19	5.0 Lt.	0.45	0.45-0.6	63	---	
101+19	10.0 Lt.	0.0-0.2	0.2-0.4	64	---	
		0.4-0.5	0.5-0.7		---	
126+19	5.0 Rt.	0.35	0.35-0.5	25	yes	
126+19	CL	0.42	0.42-0.6	26	yes	
126+19	5.0 Lt.	0.35	0.35-0.6	27	yes	
126+19	10.0 Lt.	0.34	0.34-0.55	28	yes	
151+19	5.0 Rt.	0.25	0.25-0.45	29	no	
151+19	CL	0.72	---	30	no	
151+19	5.0 Lt.	0.40	0.4-0.6	31	no	
151+19	10.0 Lt.	0.43	0.43-0.6	32	no	
176+19	5.0 Rt.	0.30	0.3-0.5	33	no	
176+19	CL	0.57	---	34	no	
176+19	5.0 Lt.	0.52	0.52-0.6	35	no	
176+19	10.0 Lt.	0.65	---	36	no	
198+30	5.0 Rt.	0.40	---	37	yes	
198+30	CL	0.70	---	38	yes	
198+30	5.0 Lt.	0.30	0.3-0.4	39	yes	
198+30	10.0 Lt.	0.42	0.42-0.7	40	yes	
221+19	5.0 Rt.	0.65	---	41	no	
221+19	CL	0.62	---	42	no	
221+19	5.0 Lt.	0.50	0.5-0.65	43	no	
221+19	10.0 Lt.	0.50	0.5-0.7	44	no	

Logged By: G. Lidstone

2" Thinwall Core

State of Maine - Department of Transportation

Pavement Core Summary Sheet

Town(s): Smithfield-Norridgewock Project Number: 12776.00

Station (Feet)	Offset (Feet)	Pavement Depth (Feet)	Unbound Pavement	PC-Number	Saved Core	Comments / Date 6/25,27/07
305+08	5.0 Rt.	0.50	---	1	yes	
305+08	CL	0.45	---	2	yes	
305+08	5.0 Lt.	0.15	0.15-0.3	3	yes	
305+08	10.0 Lt.	0.60	---	4	yes	
330+08	5.0 Rt.	0.42	---	5	no	
330+08	CL	0.40	---	6	no	
330+08	5.0 Lt.	0.35	---	7	no	
330+08	10.0 Lt.	0.35	---	8	no	
355+08	5.0 Rt.	0.52	---	9	yes	
355+08	CL	0.57	---	10	yes	
355+08	5.0 Lt.	0.42	---	11	yes	
355+08	10.0 Lt.	0.38	---	12	yes	
380+08	10.0 Lt.	0.45	0.45-0.6	45	yes	
380+08	CL	0.35	0.35-0.6	46	yes	
380+08	5.0 Rt.	0.45	---	47	yes	
380+08	10.0 Rt.	0.45	0.45-0.55	48	yes	

State of Maine - Department of Transportation

Pavement Core Summary Sheet

Town(s): Smithfield-Norridgewock Project Number: 12776.00

Station (Feet)	Offset (Feet)	Pavement Depth (Feet)	Unbound Pavement	PC-Number	Saved Core	Comments / Date 6/25,26/07
Section 3						
506+29	5.0 Rt.	0.60	---	13	yes	
506+29	CL	0.42	---	14	yes	
506+29	5.0 Lt.	0.50	0.5-0.6	15	yes	
506+29	10.0 Lt.	0.53	0.53-0.6	16	yes	
516+29	5.0 Rt.	0.35	0.35-0.5	17	no	
516+29	CL	0.68	0.68-0.8	18	no	
516+29	5.0 Lt.	0.70	0.7-0.8	19	no	
516+29	10.0 Lt.	0.45	---	20	no	
522+29	10.0 Rt.	0.62	0.62-0.75	21	yes	
522+29	CL	0.70		22	yes	
522+29	5.0 Lt.	0.45		23	yes	
522+29	10.0 Lt.	0.60		24	yes	

12776.00 Smithfield-Norridgewock Route #8
Estimated Pavement Thickness
Ground Penetrating Radar (GPR)

Explanation of Ground Penetrating Radar (GPR) Data Collection and Analysis:
For Project 12776.00 (Smithfield-Norridgewock), GPR data was collected in the left and right wheel paths, in both the North and South bound lanes. Data was collected at 1 foot intervals along the entire section. Pavement thickness estimates were developed using Geophysical Survey Systems Inc. (GSSI) RADAN GPR Data Processing Software. Where available, pavement thicknesses from pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

GPR pavement thickness averages are to be considered for estimating purposes only.
Actual pavement thickness may vary.

Analysis Distance (ft) -	100	Overall Average Thickness (in.)	5.8	Overall Minimum Thickness (in.)	3.5	Overall Maximum Thickness (in.)	9.8

12776.00 Smithfield-Norridgewock Route #8

Station Limits		Average Depth (in)	Station Limits		Average Depth (in)	Station Limits		Average Depth (in)	Station Limits		Average Depth (in)
1+19	2+19	7.1	16+19	17+19	6.8	31+19	32+19	6.6	46+19	47+19	4.7
2+19	3+19	6.6	17+19	18+19	7.3	32+19	33+19	6.4	47+19	48+19	4.3
3+19	4+19	6.6	18+19	19+19	6.5	33+19	34+19	7.1	48+19	49+19	4.8
4+19	5+19	6.3	19+19	20+19	6.6	34+19	35+19	7.5	49+19	50+19	5.0
5+19	6+19	6.7	20+19	21+19	6.7	35+19	36+19	6.9	50+19	51+19	5.0
6+19	7+19	6.7	21+19	22+19	6.7	36+19	37+19	6.9	51+19	52+19	4.7
7+19	8+19	6.9	22+19	23+19	5.6	37+19	38+19	6.4	52+19	53+19	4.9
8+19	9+19	6.5	23+19	24+19	5.4	38+19	39+19	5.4	53+19	54+19	5.0
9+19	10+19	6.6	24+19	25+19	6.1	39+19	40+19	4.4	54+19	55+19	5.0
10+19	11+19	6.5	25+19	26+19	6.5	40+19	41+19	4.3	55+19	56+19	4.6
11+19	12+19	5.8	26+19	27+19	6.4	41+19	42+19	4.1	56+19	57+19	4.2
12+19	13+19	5.9	27+19	28+19	6.3	42+19	43+19	4.5	57+19	58+19	4.2
13+19	14+19	6.6	28+19	29+19	6.3	43+19	44+19	4.8	58+19	59+19	4.3
14+19	15+19	6.8	29+19	30+19	6.6	44+19	45+19	4.7	59+19	60+19	4.4
15+19	16+19	6.8	30+19	31+19	7.1	45+19	46+19	4.5	60+19	61+19	4.5

Station Limits		Average Depth (in)	Station Limits		Average Depth (in)	Station Limits		Average Depth (in)	Station Limits		Average Depth (in)
61+19	62+19	4.5	96+19	97+19	7.8	131+19	132+19	4.2	166+19	167+19	5.6
62+19	63+19	4.5	97+19	98+19	6.6	132+19	133+19	4.4	167+19	168+19	6.0
63+19	64+19	5.6	98+19	99+19	6.2	133+19	134+19	4.1	168+19	169+19	5.8
64+19	65+19	6.2	99+19	100+19	6.1	134+19	135+19	4.0	169+19	170+19	5.2
65+19	66+19	6.9	100+19	101+19	6.0	135+19	136+19	4.1	170+19	171+19	5.3
66+19	67+19	6.0	101+19	102+19	5.9	136+19	137+19	3.9	171+19	172+19	5.7
67+19	68+19	6.9	102+19	103+19	5.7	137+19	138+19	3.9	172+19	173+19	5.9
68+19	69+19	7.6	103+19	104+19	5.5	138+19	139+19	4.7	173+19	174+19	6.4
69+19	70+19	7.1	104+19	105+19	5.7	139+19	140+19	5.1	174+19	175+19	6.3
70+19	71+19	8.1	105+19	106+19	6.1	140+19	141+19	4.8	175+19	176+19	5.7
71+19	72+19	7.8	106+19	107+19	6.5	141+19	142+19	4.7	176+19	177+19	6.0
72+19	73+19	7.1	107+19	108+19	5.9	142+19	143+19	4.6	177+19	178+19	5.3
73+19	74+19	7.4	108+19	109+19	6.5	143+19	144+19	5.1	178+19	179+19	5.5
74+19	75+19	7.8	109+19	110+19	6.9	144+19	145+19	5.1	179+19	180+19	5.5
75+19	76+19	6.8	110+19	111+19	6.5	145+19	146+19	5.0	180+19	181+19	5.1
76+19	77+19	6.6	111+19	112+19	5.8	146+19	147+19	5.3	181+19	182+19	5.3
77+19	78+19	7.1	112+19	113+19	5.7	147+19	148+19	5.2	182+19	183+19	5.2
78+19	79+19	6.8	113+19	114+19	5.1	148+19	149+19	5.1	183+19	184+19	5.6
79+19	80+19	5.8	114+19	115+19	4.5	149+19	150+19	4.8	184+19	185+19	5.7
80+19	81+19	5.6	115+19	116+19	4.5	150+19	151+19	5.0	185+19	186+19	5.9
81+19	82+19	5.2	116+19	117+19	4.9	151+19	152+19	5.0	186+19	187+19	5.7
82+19	83+19	5.2	117+19	118+19	5.2	152+19	153+19	5.3	187+19	188+19	5.0
83+19	84+19	5.8	118+19	119+19	4.9	153+19	154+19	5.1	188+19	189+19	4.7
84+19	85+19	5.5	119+19	120+19	4.7	154+19	155+19	5.0	189+19	190+19	4.3
85+19	86+19	5.8	120+19	121+19	4.6	155+19	156+19	4.7	190+19	191+19	4.4
86+19	87+19	6.0	121+19	122+19	4.3	156+19	157+19	4.5	191+19	192+19	5.0
87+19	88+19	6.5	122+19	123+19	4.3	157+19	158+19	4.6	192+19	193+19	5.1
88+19	89+19	7.6	123+19	124+19	4.0	158+19	159+19	4.8	193+19	194+19	5.4
89+19	90+19	7.9	124+19	125+19	3.7	159+19	160+19	4.7	194+19	195+19	4.9
90+19	91+19	7.7	125+19	126+19	4.2	160+19	161+19	4.5	195+19	196+19	4.9
91+19	92+19	7.2	126+19	127+19	4.0	161+19	162+19	4.7	196+19	197+19	5.1
92+19	93+19	7.4	127+19	128+19	3.8	162+19	163+19	4.8	197+19	198+19	4.9
93+19	94+19	7.3	128+19	129+19	3.7	163+19	164+19	5.3	198+19	199+19	4.8
94+19	95+19	7.1	129+19	130+19	4.1	164+19	165+19	5.8	199+19	200+19	5.1
95+19	96+19	7.2	130+19	131+19	4.2	165+19	166+19	5.5	200+19	201+19	5.0

Station Limits		Average Depth (in)	Station Limits		Average Depth (in)	Station Limits		Average Depth (in)	Station Limits		Average Depth (in)
201+19	202+19	5.0	236+19	237+19	8.6	271+19	272+19	5.8	306+19	307+19	5.5
202+19	203+19	4.8	237+19	238+19	8.2	272+19	273+19	5.6	307+19	308+19	5.3
203+19	204+19	4.8	238+19	239+19	8.2	273+19	274+19	5.8	308+19	309+19	5.7
204+19	205+19	4.9	239+19	240+19	8.3	274+19	275+19	5.7	309+19	310+19	5.4
205+19	206+19	4.9	240+19	241+19	8.3	275+19	276+19	6.1	310+19	311+19	5.4
206+19	207+19	5.0	241+19	242+19	8.2	276+19	277+19	6.1	311+19	312+19	5.1
207+19	208+19	5.2	242+19	243+19	8.2	277+19	278+19	5.8	312+19	313+19	5.0
208+19	209+19	5.3	243+19	244+19	7.7	278+19	279+19	5.9	313+19	314+19	4.7
209+19	210+19	6.1	244+19	245+19	7.8	279+19	280+19	5.8	314+19	315+19	5.3
210+19	211+19	6.9	245+19	246+19	7.9	280+19	281+19	5.9	315+19	316+19	6.1
211+19	212+19	6.6	246+19	247+19	8.6	281+19	282+19	5.9	316+19	317+19	5.6
212+19	213+19	6.7	247+19	248+19	8.3	282+19	283+19	5.3	317+19	318+19	4.2
213+19	214+19	6.7	248+19	249+19	8.1	283+19	284+19	5.1	318+19	319+19	4.0
214+19	215+19	7.1	249+19	250+19	7.6	284+19	285+19	5.2	319+19	320+19	4.6
215+19	216+19	7.0	250+19	251+19	7.8	285+19	286+19	5.4	320+19	321+19	4.5
216+19	217+19	6.8	251+19	252+19	8.2	286+19	287+19	5.3	321+19	322+19	4.6
217+19	218+19	7.0	252+19	253+19	8.2	287+19	288+19	5.7	322+19	323+19	4.4
218+19	219+19	7.1	253+19	254+19	8.2	288+19	289+19	5.8	323+19	324+19	4.1
219+19	220+19	7.7	254+19	255+19	8.4	289+19	290+19	5.5	324+19	325+19	4.2
220+19	221+19	7.4	255+19	256+19	8.7	290+19	291+19	5.6	325+19	326+19	4.2
221+19	222+19	7.2	256+19	257+19	8.2	291+19	292+19	5.3	326+19	327+19	4.2
222+19	223+19	7.6	257+19	258+19	8.3	292+19	293+19	5.2	327+19	328+19	4.5
223+19	224+19	7.5	258+19	259+19	8.6	293+19	294+19	5.0	328+19	329+19	4.2
224+19	225+19	7.0	259+19	260+19	8.7	294+19	295+19	4.8	329+19	330+19	4.4
225+19	226+19	6.7	260+19	261+19	8.8	295+19	296+19	5.5	330+19	331+19	4.6
226+19	227+19	6.9	261+19	262+19	8.1	296+19	297+19	6.0	331+19	332+19	4.5
227+19	228+19	7.7	262+19	263+19	7.4	297+19	298+19	5.7	332+19	333+19	4.1
228+19	229+19	7.5	263+19	264+19	5.9	298+19	299+19	5.6	333+19	334+19	4.2
229+19	230+19	7.1	264+19	265+19	5.7	299+19	300+19	4.9	334+19	335+19	3.9
230+19	231+19	7.2	265+19	266+19	5.9	300+19	301+19	4.8	335+19	336+19	4.2
231+19	232+19	7.5	266+19	267+19	5.9	301+19	302+19	5.1	336+19	337+19	3.8
232+19	233+19	8.3	267+19	268+19	5.7	302+19	303+19	4.8	337+19	338+19	3.8
233+19	234+19	8.9	268+19	269+19	6.1	303+19	304+19	5.2	338+19	339+19	3.6
234+19	235+19	9.8	269+19	270+19	5.7	304+19	305+19	6.1	339+19	340+19	4.1
235+19	236+19	9.3	270+19	271+19	5.4	305+19	306+19	6.0	340+19	341+19	4.1

Station Limits		Average Depth (in)	Station Limits		Average Depth (in)	Station Limits		Average Depth (in)	Station Limits		Average Depth (in)
341+19	342+19	3.5	376+19	377+19	5.3						
342+19	343+19	4.4	377+19	378+19	5.1						
343+19	344+19	5.5	378+19	379+19	5.3						
344+19	345+19	5.4	379+19	380+19	5.2						
345+19	346+19	5.8	380+19	381+19	5.4						
346+19	347+19	5.5	381+19	382+19	5.0						
347+19	348+19	5.2	382+19	383+19	5.1						
348+19	349+19	5.0	383+19	384+19	6.2						
349+19	350+19	5.0	384+19	385+19	5.9						
350+19	351+19	5.2	385+19	386+19	5.1						
351+19	352+19	5.6	386+19	386+97	5.7						
352+19	353+19	5.8									
353+19	354+19	6.1									
354+19	355+19	6.3									
355+19	356+19	5.6									
356+19	357+19	5.7									
357+19	358+19	5.5									
358+19	359+19	5.3									
359+19	360+19	5.9									
360+19	361+19	5.9									
361+19	362+19	5.6									
362+19	363+19	5.2									
363+19	364+19	5.2									
364+19	365+19	6.2									
365+19	366+19	5.9									
366+19	367+19	6.0									
367+19	368+19	4.8									
368+19	369+19	4.8									
369+19	370+19	5.2									
370+19	371+19	5.5									
371+19	372+19	5.1									
372+19	373+19	4.4									
373+19	374+19	4.5									
374+19	375+19	4.3									
375+19	376+19	5.1									

12776.00 Smithfield-Norridgewock (Perkins Street)
Estimated Pavement Thickness
Ground Penetrating Radar (GPR)

Explanation of Ground Penetrating Radar (GPR) Data Collection and Analysis:
For Project 12776.00 (Smithfield-Norridgewock Perkins Street), GPR data was collected in the right and left wheel paths, in both the East and West bound lanes. Data was collected at 1 foot intervals along the entire section. Pavement thickness estimates were developed using Geophysical Survey Systems Inc. (GSSI) RADAN GPR Data Processing Software. Where available, pavement thicknesses from pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

GPR pavement thickness averages are to be considered for estimating purposes only.
Actual pavement thickness may vary.

Analysis Distance (ft) -	100	Overall Average Thickness (in.)	6.3	Overall Minimum Thickness (in.)	5.1	Overall Maximum Thickness (in.)	7.7

12776.00 Smithfield-Norridgewock (Perkins Street)

Station Limits		Average Depth (in)	Station Limits		Average Depth (in)	Station Limits		Average Depth (in)	Station Limits		Average Depth (in)
500+29	501+29	5.2	515+29	516+29	6.3						
501+29	502+29	5.1	516+29	517+29	6.7						
502+29	503+29	5.3	517+29	518+29	6.5						
503+29	504+29	5.5	518+29	519+29	6.7						
504+29	505+29	5.9	519+29	520+29	7.0						
505+29	506+29	6.0	520+29	521+29	7.3						
506+29	507+29	5.8	521+29	522+29	6.7						
507+29	508+29	5.4	522+29	523+29	6.6						
508+29	509+29	5.5	523+29	524+29	6.3						
509+29	510+29	5.8	524+29	525+29	6.5						
510+29	511+29	5.8	525+29	526+29	6.4						
511+29	512+29	7.7	526+29	527+29	6.5						
512+29	513+29	7.5	527+29	528+17	6.3						
513+29	514+29	7.4									
514+29	515+29	6.8									

SOIL SAMPLE DATA

State of Maine - Department of Transportation

Laboratory Testing Summary Sheet

Town(s): Smithfield-Norridgewock Work Number: 12776.00

Boring & Sample Identification Number	Station (Feet)	Offset (Feet)	Depth (Feet)	Reference Number	G.S.D.C. Sheet	W.C.	% Passing 200 Sieve	Classification		
								Unified	AASHTO	Frost
HB-SMNO-201, S1	238+00	8.0 Rt.	0.5-2.3	262010	1	6.2	14.3	SM	A-1-b	II
HB-SMNO-201, S2	238+00	8.0 Rt.	2.3-5.0	262011	1	24.6	62.8	ML	A-4	IV
HB-SMNO-202, S3	251+00	7.5 Rt.	3.0-5.0	262012	1	13.7	35.9	SM	A-4	III
HB-SMNO-204, S4	276+00	7.0 Rt.	0.5-2.2	262013	1	6.9	14.2	SM	A-1-b	II
HB-SMNO-204, S5	276+00	7.0 Rt.	2.2-5.0	262014	1	14.1	51.6	ML	A-4	IV

Classification of these soil samples is in accordance with AASHTO Classification System M-145-40. This classification is followed by the "Frost Susceptibility Rating" from zero (non-frost susceptible) to Class IV (highly frost susceptible). The "Frost Susceptibility Rating" is based upon the MDOT and Corps of Engineers Classification Systems.

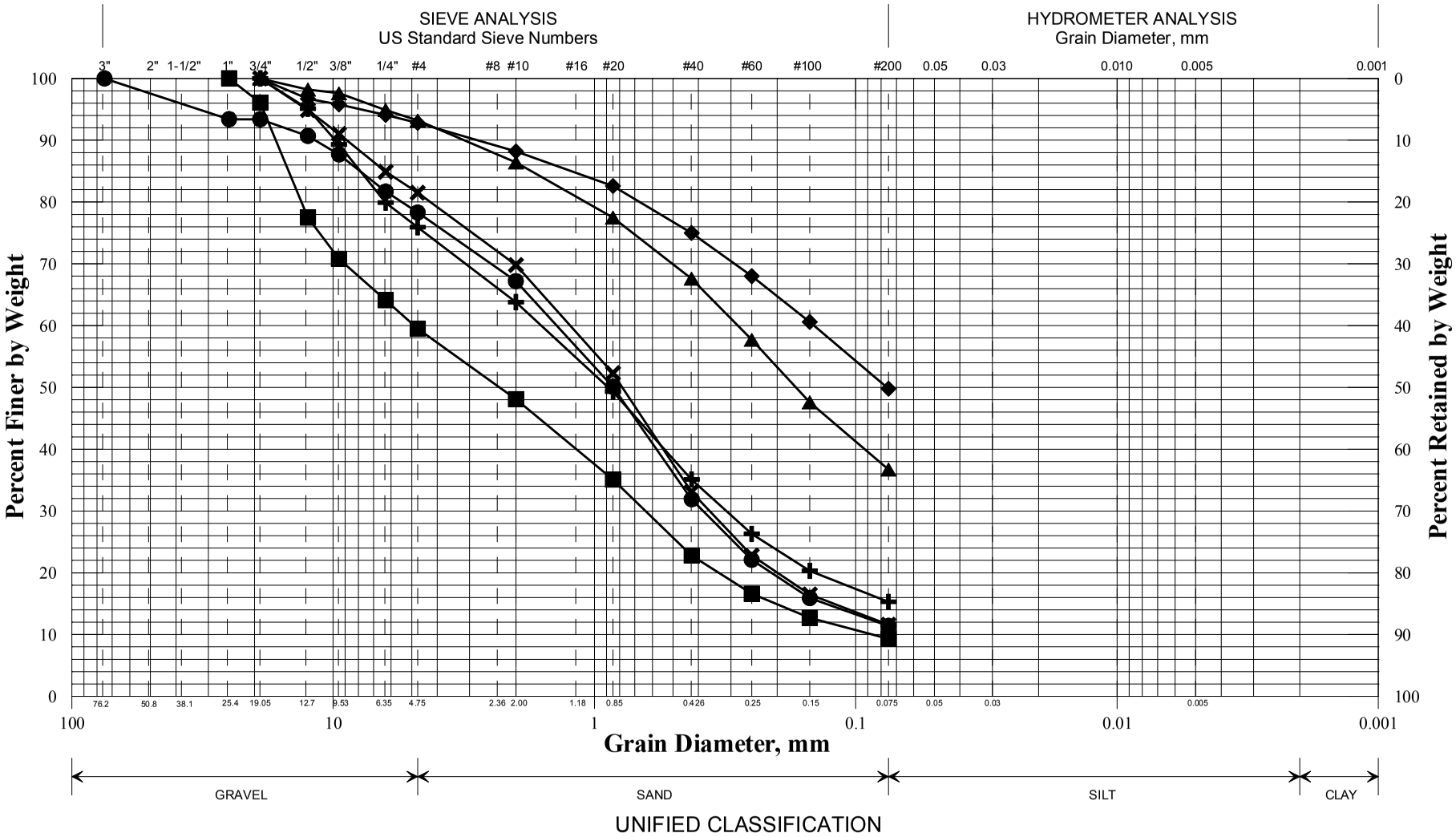
GSDC = Grain Size Distribution Curve as determined by AASHTO T 88-93 (1996) and/or ASTM D 422-63 (Reapproved 1998)

WC = water content as determined by AASHTO T 265-93 and/or ASTM D 2216-98

LL = Liquid limit as determined by AASHTO T 89-96 and/or ASTM D 4318-98

PI = Plasticity Index as determined by AASHTO 90-96 and/or ASTM D4318-98

State of Maine Department of Transportation
GRAIN SIZE DISTRIBUTION CURVE

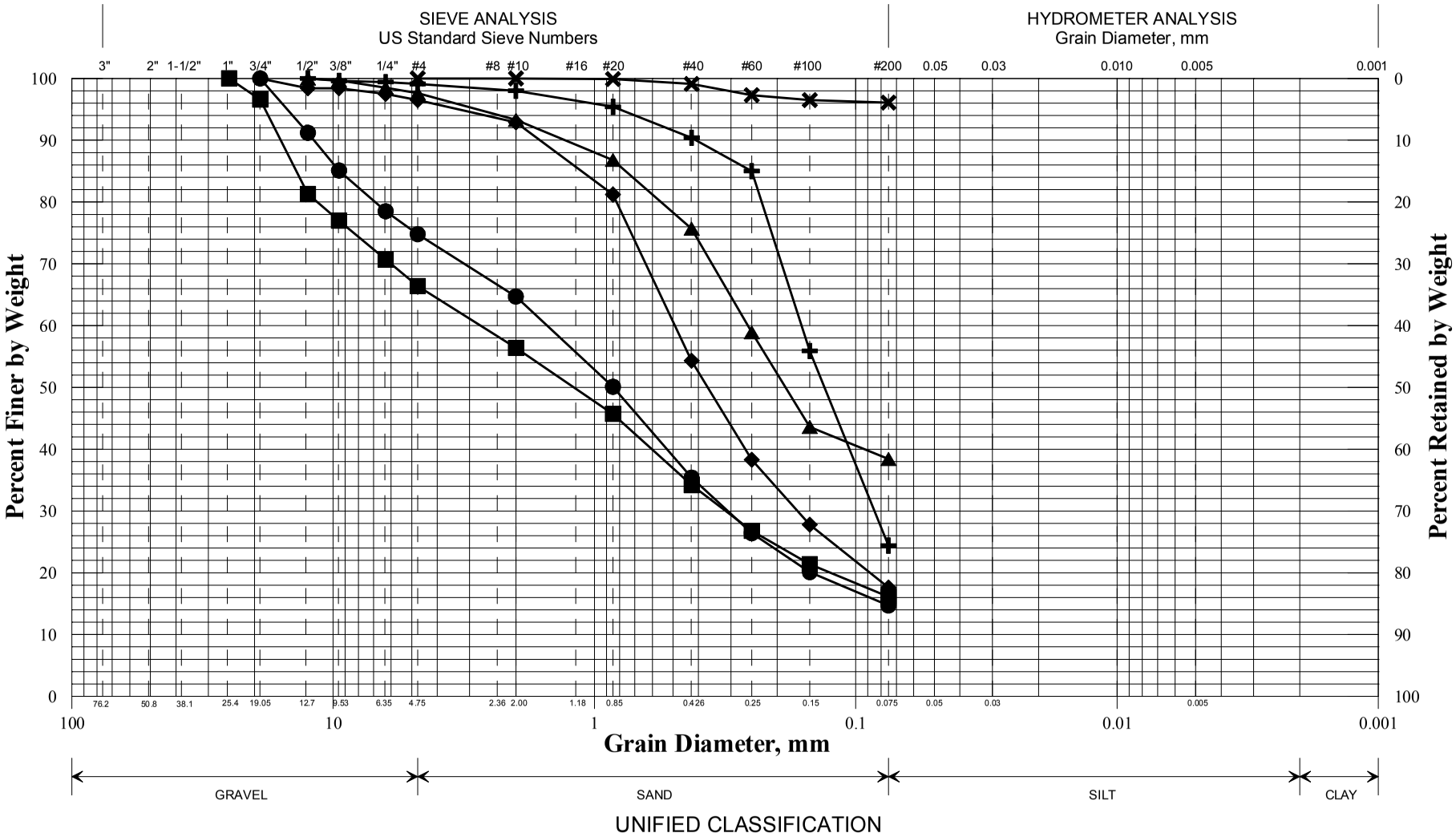


	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-SMNO-101/S1	287+58	8.0 RT	0.75-1.8	SAND, some gravel, little silt.	4.8			
◆	HB-SMNO-101/S2	287+58	8.0 RT	1.8-5.0	Sandy SILT, trace gravel.	10.8			
■	HB-SMNO-102/S3	292+46	8.5 RT	0.6-2.1	Gravelly SAND, trace silt.	2.4			
●	HB-SMNO-103/S4	305+08	9.0 RT	0.7-2.3	SAND, some gravel, little silt.	3.5			
▲	HB-SMNO-103/S5	305+08	9.0 RT	2.3-5.0	Silty SAND, trace gravel.	10.3			
✕	HB-SMNO-104/S6	305+08	13.0 RT	0.0-1.1	SAND, litle gravel, little silt.	6.8			

WIN
012776.00
Town
Smithfield,Norridgewock
Reported by/Date
WHITE, TERRY A 1/27/2012

SHEET 1

State of Maine Department of Transportation
GRAIN SIZE DISTRIBUTION CURVE



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-SMNO-105/S7	317+58	7.5 RT	1.8-3.2	SAND, some silt, trace gravel.	11.3			
◆	HB-SMNO-105/S8	317+58	7.5 RT	3.2-5.0	SAND, little silt, trace gravel.	5.4			
■	HB-SMNO-108/S9	340+08	8.5 RT	0.6-1.4	SAND, some gravel, little silt.	4.5			
●	HB-SMNO-110/S10	506+29	9.0 RT	0.7-2.3	SAND, some gravel, little silt.	4.2			
▲	HB-SMNO-110/S11	506+29	9.0 RT	2.3-4.4	Silty SAND, trace gravel.	14.8			
✖	HB-SMNO-111/S12	510+29	6.0 RT	2.7-5.0	SILT with clay, trace sand.	24.4			

WIN
012776.00
Town
Smithfield,Norridgewock
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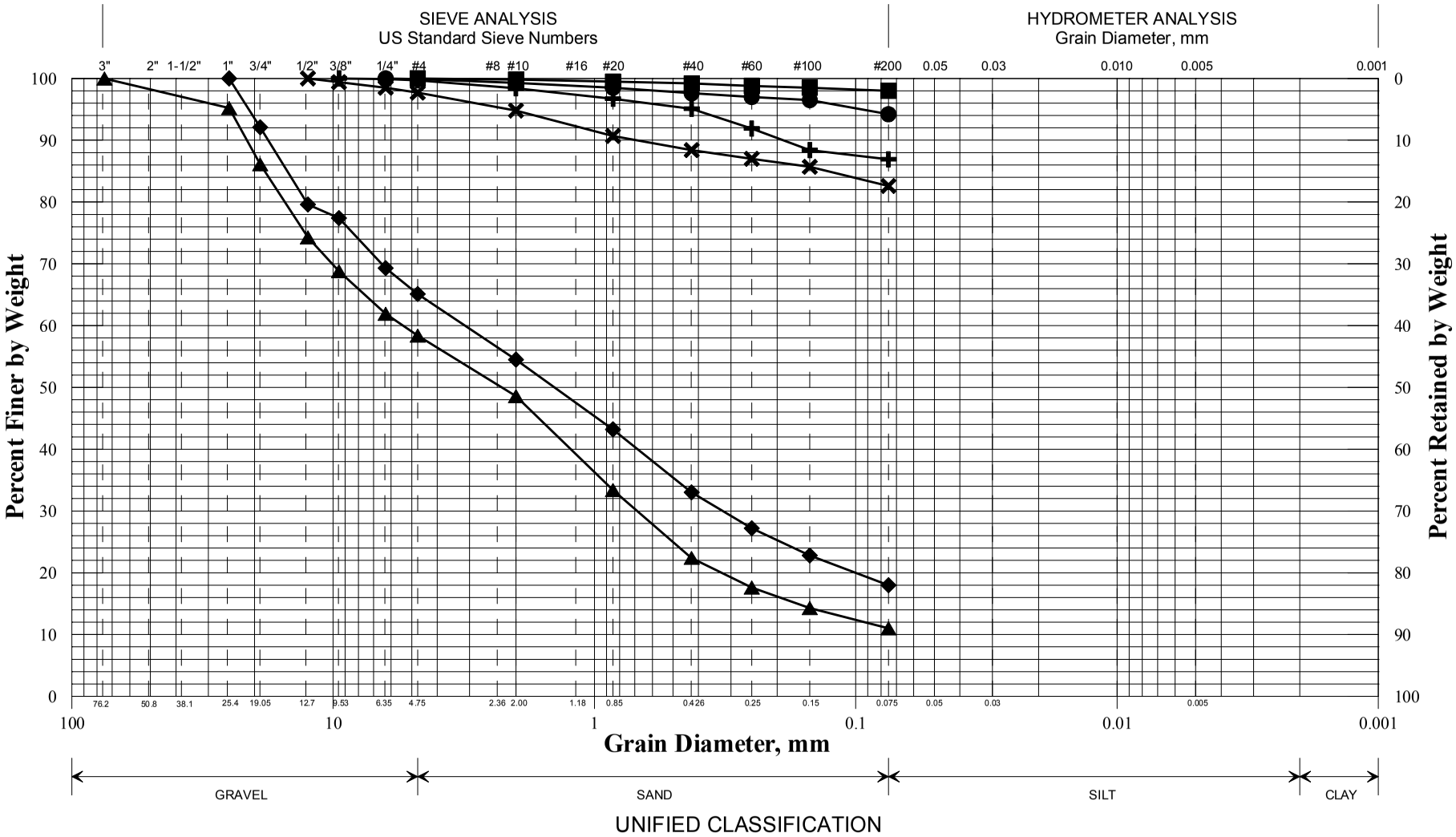
WHITE, TERRY A 1/27/2012

State of Maine Department of Transportation
GRAIN SIZE DISTRIBUTION CURVE



UNIFIED CLASSIFICATION

	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-SMNO-112/S13	512+24	5.5 RT	2.2-3.0	SILT with clay, little sand, trace gravel.	17.2			
◆	HB-SMNO-113/S14	516+29	7.3 RT	0.6-2.7	SAND, some gravel, little silt.	4.5			
■	HB-SMNO-113/S15	516+29	7.3 RT	3.8-5.0	SILT with clay, trace sand.	22.6			
●	HB-SMNO-116/S16	118+69	8.8 RT	1.6-5.0	SILT with clay, trace sand, trace gravel.	19.6			
▲	HB-SMNO-117/S17	126+19	9.5 RT	0.8-2.2	Gravelly SAND, little silt.	2.7			
✕	HB-SMNO-117/S18	126+19	9.5 RT	2.2-5.0	SILT with clay, little sand, trace gravel.	19.1			

WIN
012776.00
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Smithfield,Norridgewock
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WHITE, TERRY A 1/27/2012

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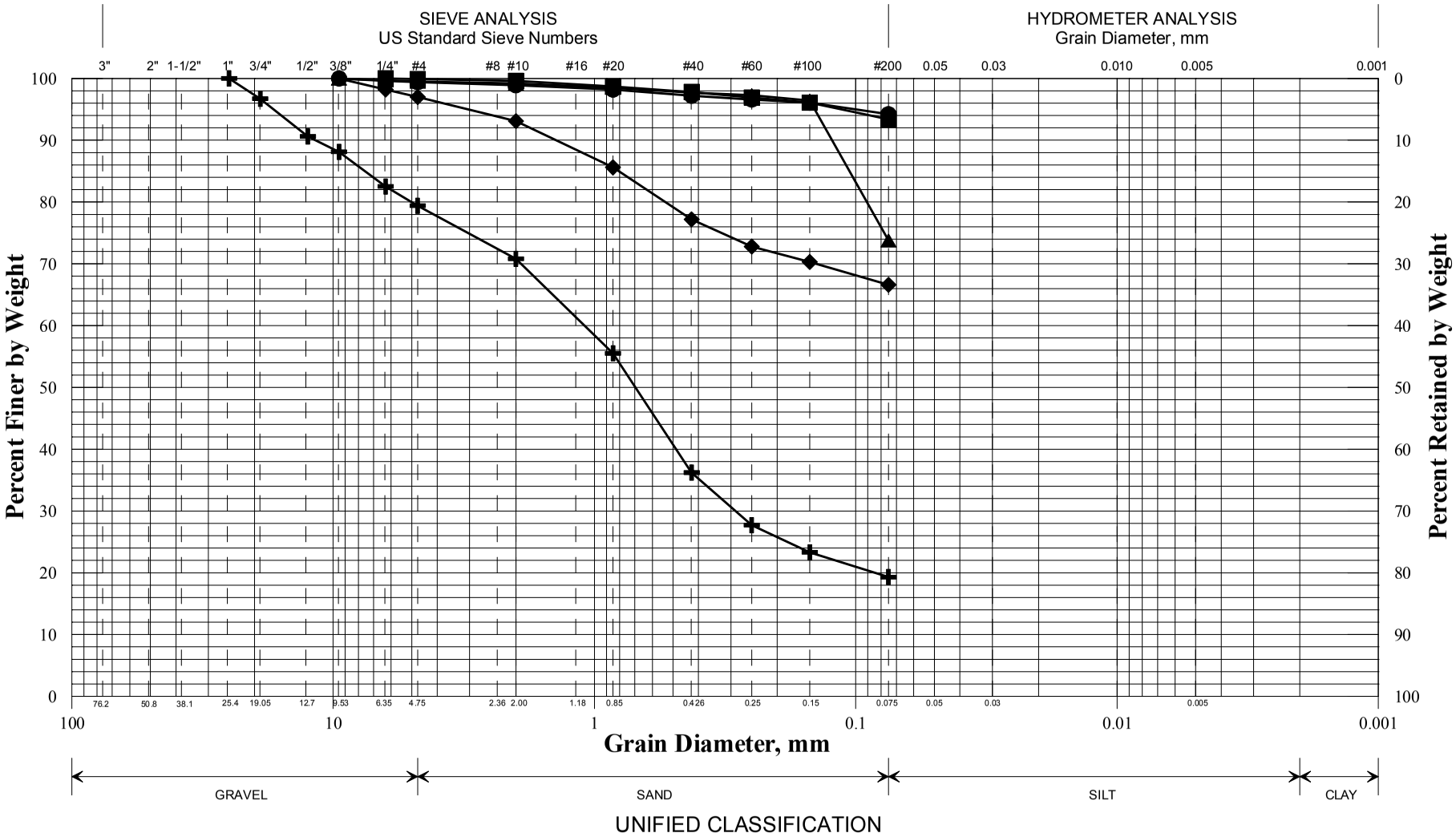
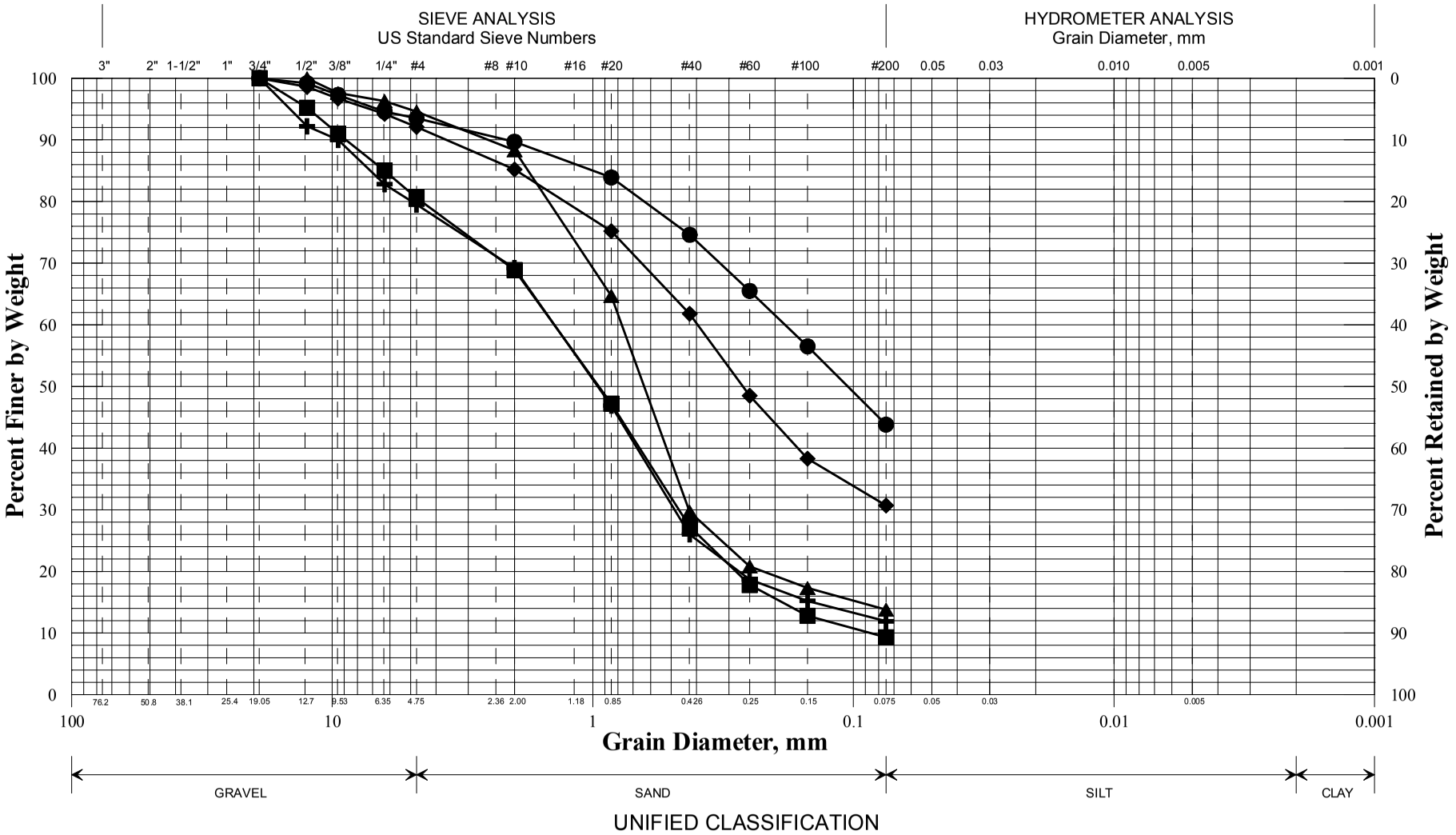
GRAIN SIZE DISTRIBUTION CURVE



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-SMNO-118/S19	126+19	13.5 RT	1.4-2.8	SAND, some gravel, little silt.	7.0			
◆	HB-SMNO-118/S20	126+19	13.5 RT	2.8-3.3	SILT with clay, some sand, trace gravel.	25.4			
■	HB-SMNO-121/S21	176+19	8.4 RT	2.6-5.0	SILT with clay, trace sand, trace gravel.	18.3			
●	HB-SMNO-124/S22	198+30	7.5 RT	3.2-6.5	SILT, trace sand, trace gravel.	18.4			
▲	HB-SMNO-124/S23	198+30	7.5 RT	6.5-10.0	SILT, some sand, trace gravel.	14.5			
✕									

WIN
012776.00
Town
Smithfield,Norridgewock
Reported by/Date
WHITE, TERRY A 1/27/2012

State of Maine Department of Transportation
GRAIN SIZE DISTRIBUTION CURVE



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-SMNO-129/S24	367+83	5.0 RT	0.55-2.0	SAND, little gravel, little silt.	3.5			
◆	HB-SMNO-129/S25	367+83	5.0 RT	2.0-5.0	SAND, some silt, trace gravel.	14.3			
■	HB-SMNO-132/S26	8+69	8.0 RT	0.5-1.5	SAND, little gravel, trace silt.	3.2			
●	HB-SMNO-132/S27	8+69	8.0 RT	1.5-5.0	Silty SAND, trace gravel.	10.0			
▲	HB-SMNO-133/S28	21+19	6.0 RT	1.6-5.0	SAND, little silt, trace gravel.	4.2			
✕									

WIN
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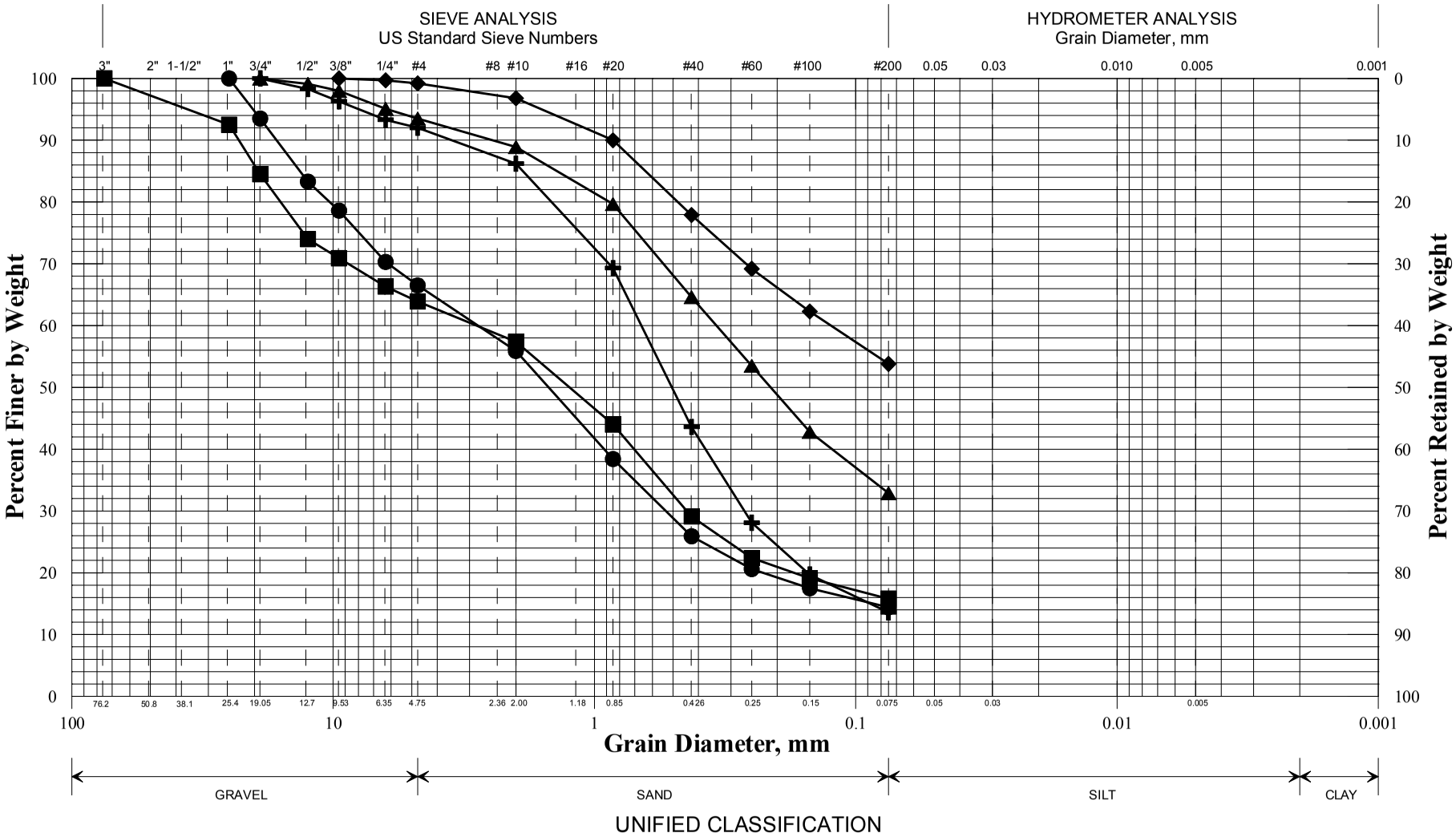
WHITE, TERRY A 1/27/2012

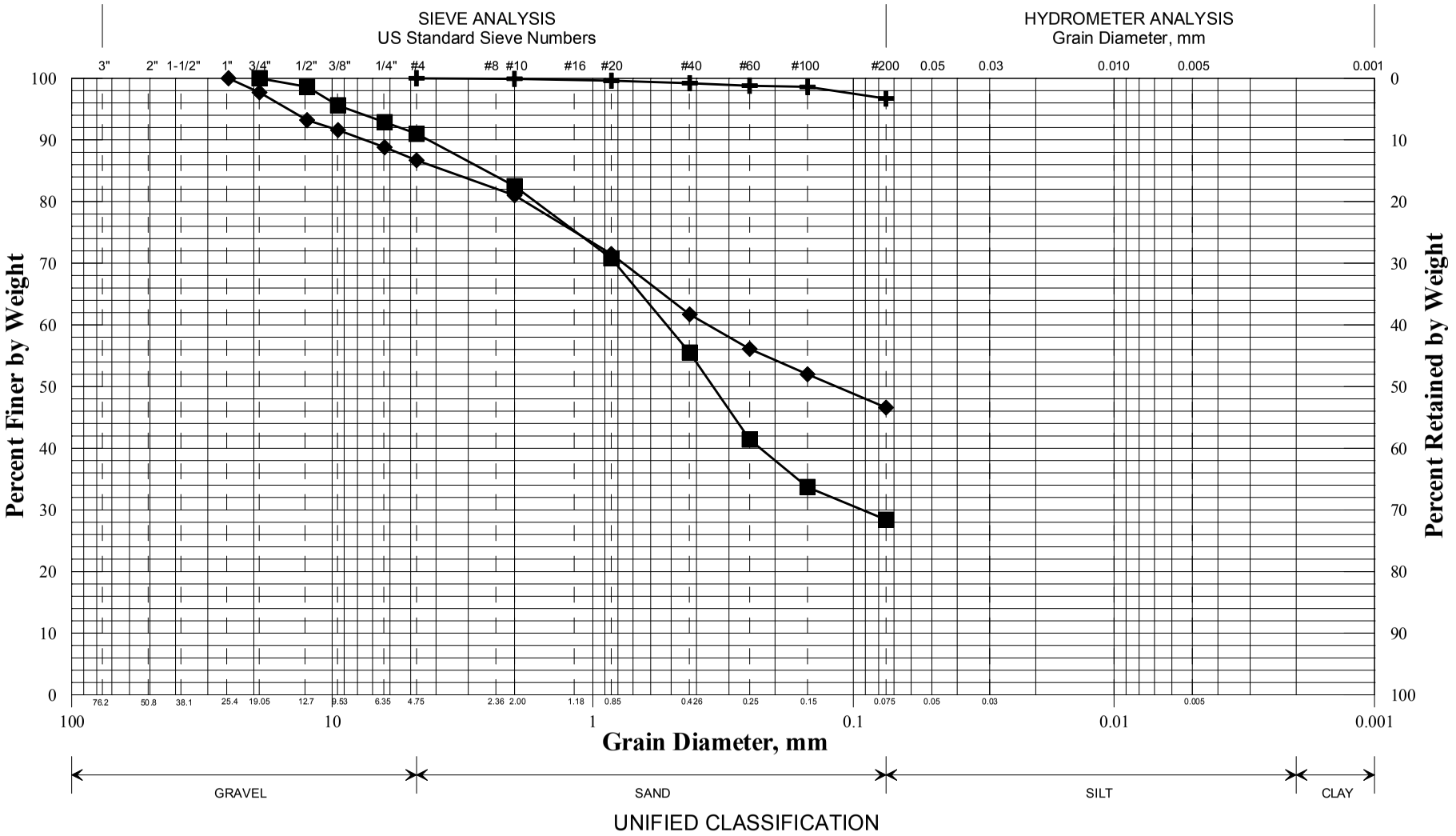
State of Maine Department of Transportation
GRAIN SIZE DISTRIBUTION CURVE



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-SMNO-135/S29	26+19	13.0 RT	0.0-3.2	SAND, little silt, trace gravel.	5.0			
◆	HB-SMNO-135/S30	26+19	13.0 RT	3.2-5.0	Sandy SILT, trace gravel.	20.4			
■	HB-SMNO-136/S31	46+19	8.4 RT	0.9-10.0	Gravelly SAND, little silt.	6.2			
●	HB-SMNO-139/S32	68+99	7.5 RT	0.65-1.7	SAND, some gravel, little silt.	3.7			
▲	HB-SMNO-139/S33	68+99	7.5 RT	1.7-5.0	SAND, some silt, trace gravel.	9.9			
✕									

WIN
012776.00
Town
Smithfield,Norridgewock
Reported by/Date
WHITE, TERRY A 1/27/2012

State of Maine Department of Transportation
GRAIN SIZE DISTRIBUTION CURVE

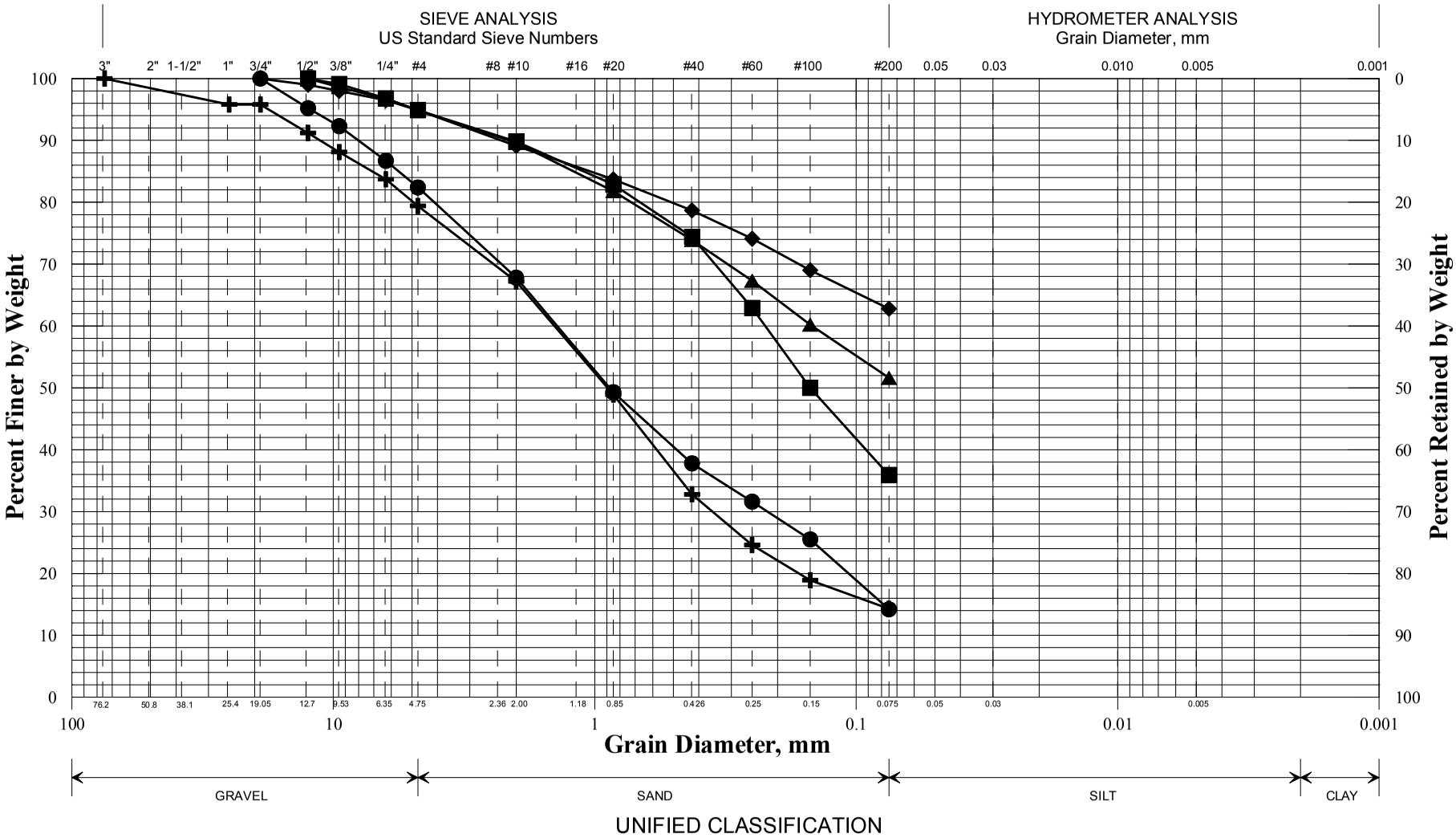


UNIFIED CLASSIFICATION

	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-SMNO-143/S34	88+69	7.5 RT	3.0-5.0	SILT with clay, trace sand.	24.0			
◆	HB-SMNO-144/S35	96+19	9.0 RT	1.6-4.2	Sandy SILT, little gravel.	14.1			
■	HB-SMNO-145/S36	101+19	8.0 RT	1.2-3.6	SAND, some silt, trace gravel.	9.3			
●									
▲									
✕									

WIN
012776.00
Town
Smithfield,Norridgewock
Reported by/Date
WHITE, TERRY A 1/27/2012

State of Maine Department of Transportation
GRAIN SIZE DISTRIBUTION CURVE



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
✚	HB-SMNO-201/S1	238+00	8.0 RT	0.5-2.3	SAND, some gravel, little silt.	6.2			
◆	HB-SMNO-201/S2	238+00	8.0 RT	2.3-5.0	SILT, some sand, trace gravel.	24.6			
■	HB-SMNO-202/S3	251+00	7.5 RT	3.0-5.0	Silty SAND, trace gravel.	13.7			
●	HB-SMNO-204/S4	276+00	7.0 RT	0.5-2.2	SAND, little gravel, little silt.	6.9			
▲	HB-SMNO-204/S5	276+00	7.0 RT	2.2-5.0	Sandy SILT, trace gravel.	14.1			
✕									

WIN
012776.00
Town
Smithfield,Norridgewock
Reported by/Date
WHITE, TERRY A 1/6/2012

SHEET 1

BORING LOGS

State of Maine - Department of Transportation

Laboratory Testing Summary Sheet

Town(s): Smithfield-Norridgewock Project Number: 12776.00

Boring & Sample Identification Number	Station (Feet)	Offset (Feet)	Depth (Feet)	Reference Number	G.S.D.C. Sheet	W.C. %	% Passing 200 Sieve	Classification		
								Unified	AASHTO	Frost
HB-SMNO-101, S1	287+58	8.0 Rt.	0.75-1.8	210301	1	4.8	15.3	SM	A-1-b	II
HB-SMNO-101, S2	287+58	8.0 Rt.	1.8-5.0	210302	1	10.8	49.8	ML	A-4	III
HB-SMNO-102, S3	292+46	8.5 Rt.	0.60-2.1	210303	1	2.4	9.3	SW-SM	A-1-a	0
HB-SMNO-103, S4	305+08	9.0 Rt.	0.70-2.3	210304	1	3.5	11.4	SW-SM	A-1-b	0
HB-SMNO-103, S5	305+08	9.0 Rt.	2.3-5.0	210305	1	10.3	36.7	SM	A-4	III
HB-SMNO-104, S6	305+08	13.0 Rt.	0.0-1.1	210306	1	6.8	11.6	SW-SM	A-1-b	0
HB-SMNO-105, S7	317+58	7.5 Rt.	1.8-3.2	210307	2	11.3	24.4	SM	A-2-4	II
HB-SMNO-105, S8	317+58	7.5 Rt.	3.2-5.0	210308	2	5.4	17.6	SM	A-2-4	II
HB-SMNO-108, S9	340+08	8.5 Rt.	0.60-1.4	210309	2	4.5	16.1	SM	A-1-b	II
HB-SMNO-110, S10	506+29	9.0 Rt.	0.70-2.3	210310	2	4.2	14.7	SM	A-1-b	II
HB-SMNO-110, S11	506+29	9.0 Rt.	2.3-4.4	210311	2	14.8	38.4	SM	A-4	III
HB-SMNO-111, S12	510+29	6.0 Rt.	2.7-5.0	210312	2	24.4	96.1	CL	A-7-5	IV
HB-SMNO-112, S13	512+24	5.5 Rt.	2.2-3.0	210313	3	17.2	86.9	CL	A-7-5	IV
HB-SMNO-113, S14	516+29	7.3 Rt.	0.60-2.7	210314	3	4.5	18.0	SM	A-1-b	II
HB-SMNO-113, S15	516+29	7.3 Rt.	3.8-5.0	210315	3	22.6	98.0	CL	A-7-5	IV
HB-SMNO-116, S16	118+69	8.8 Rt.	1.6-5.0	210316	3	19.6	94.2	CL	A-7-5	IV
HB-SMNO-117, S17	126+19	9.5 Rt.	0.80-2.2	210317	3	2.7	11.0	SW-SM	A-1-a	0
HB-SMNO-117, S18	126+19	9.5 Rt.	2.2-5.0	210318	3	19.1	82.6	CL	A-7-5	IV
HB-SMNO-118, S19	126+19	13.5 Rt.	1.4-2.8	210319	4	7.0	19.3	SM	A-1-b	II
HB-SMNO-118, S20	126+19	13.5 Rt.	2.8-3.3	210320	4	25.4	66.6	CL-ML	A-4	IV
HB-SMNO-121, S21	176+19	8.4 Rt.	2.6-5.0	210321	4	18.3	93.4	CL	A-7-5	IV
HB-SMNO-124, S22	198+30	7.5 Rt.	3.2-6.5	210322	4	18.4	94.2	CL	A-7-5	IV
HB-SMNO-124, S23	198+30	7.5 Rt.	6.5-10.0	210323	4	14.5	73.8	CL-ML	A-4	IV
HB-SMNO-129, S24	367+83	5.0 Rt.	0.55-2.0	210324	5	3.5	11.9	SW-SM	A-1-b	0
HB-SMNO-129, S25	367+83	5.0 Rt.	2.0-5.0	210325	5	14.3	30.7	SM	A-2-4	II
HB-SMNO-132, S26	8+69	8.0 Rt.	0.50-1.5	210326	5	3.2	9.3	SW-SM	A-1-b	II
HB-SMNO-132, S27	8+69	8.0 Rt.	1.5-5.0	210327	5	10.0	43.8	SM	A-4	III
HB-SMNO-133, S28	21+19	6.0 Rt.	1.6-5.0	210328	5	4.2	13.8	SM	A-1-b	II
HB-SMNO-135, S29	26+19	13.0 Rt.	0.0-3.2	210329	6	5.0	13.6	SM	A-1-b	II
HB-SMNO-135, S30	26+19	13.0 Rt.	3.2-5.0	210330	6	20.4	53.8	ML	A-4	IV
HB-SMNO-136, S31	46+19	8.4 Rt.	0.90-10.0	210331	6	6.2	15.8	SM	A-1-b	II
HB-SMNO-139, S32	68+99	7.5 Rt.	0.65-1.7	210332	6	3.7	14.4	SM	A-1-b	II
HB-SMNO-139, S33	68+99	7.5 Rt.	1.7-5.0	210333	6	9.9	32.9	SM	A-2-4	II
HB-SMNO-143, S34	88+69	7.5 Rt.	3.0-5.0	210334	7	24.0	96.7	CL	A-7-5	IV
HB-SMNO-144, S35	96+19	9.0 Rt.	1.6-4.2	210335	7	14.1	46.6	SM	A-4	III
HB-SMNO-145, S36	101+19	8.0 Rt.	1.2-3.6	210336	7	9.3	28.4	SM	A-2-4	II

Classification of these soil samples is in accordance with AASHTO Classification System M-145-40. This classification is followed by the "Frost Susceptibility Rating" from zero (non-frost susceptible) to Class IV (highly frost susceptible). The "Frost Susceptibility Rating" is based upon the MDOT and Corps of Engineers Classification Systems.

GSDC = Grain Size Distribution Curve as determined by AASHTO T 88-93 (1996) and/or ASTM D 422-63 (Reapproved 1998)

WC = water content as determined by AASHTO T 265-93 and/or ASTM D 2216-98

LL = Liquid limit as determined by AASHTO T 89-96 and/or ASTM D 4318-98

PI = Plasticity Index as determined by AASHTO 90-96 and/or ASTM D4318-98

State of Maine - Department of Transportation

Power Auger Probe Summary Sheet

Town(s): Smithfield-Norridgewock Project Number: 12776.00

Station (Feet)	Offset (Feet)	Weathered Rock (Feet)	Refusal (Feet)	No Refusal (Feet)	Water Depth (Ft.)	Comments / Date 6/25,27,28/07
35+76	8.0 Rt.			10.0		overhead wires at 35+72
89+69	12.0 Rt.			10.0		
108+19	6.8 Rt.			10.0		
291+96	8.0 Rt.			10.0		Boulder 1.1-2.2' bgs.
292+46	7.5 Lt.			10.0		Boulder 2.2-3.2' bgs.
292+96	9.3 Rt.			10.0		

MaineDOT Drill Crew
Logged By: G. Lidstone
Drill Rig: CME 45C

5" Solid Stem Auger

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-101
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/25/07-6/25/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	287+58, 8.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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.
0	S1		0.75 - 1.80			SSA	-0.75		PAVEMENT. 0.75	
	S2		1.80 - 5.00				-1.80		Brown, damp, silty fine to coarse SAND, little gravel, (Fill). 1.80	G#210301 A-1-b, SM WC=4.8%
									Brown, damp, sandy SILT, little gravel.	G#210302 A-4, ML WC=10.8%
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-102
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/25/07-6/25/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	292+46, 8.5' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0	S3		0.60 - 2.10			SSA	-0.60		PAVEMENT. 0.60	
									GRAVEL, some brown, damp, silty fine to coarse SAND, (Fill).	G#210303 A-1-a, SW-SM WC=2.4%
							-2.10		2.10	
							-2.90		Augered into Rock. 2.90	
									Bottom of Exploration at 2.90 feet below ground surface. REFUSAL	
5										
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
Overhead wires at 12+51.

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.

Boring No.: HB-SMNO-102

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-103
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/25/07-6/25/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	305+08, 9.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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.
0	S4		0.70 - 2.30			SSA	-0.70		PAVEMENT.	
									0.70 — Brown, damp, silty fine to coarse SAND, some gravel, (Fill).	G#210304 A-1-b, SW-SM WC=3.5%
	S5		2.30 - 5.00				-2.30		2.30 — Brown, moist, silty fine to medium SAND, little gravel.	G#210305 A-4, SM WC=10.3%
5							-5.00		5.00 — **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.

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.

Boring No.: HB-SMNO-103

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-104
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/25/07-6/25/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	305+08, 13.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0	S6		0.00 - 1.10			SSA			Brown, damp, fine to coarse SAND, some gravel, little silt, (Fill).	G#210306 A-1-b, SW-SM WC=6.8%
							-1.10		1.10 — Brown, moist, silty fine to medium SAND, little gravel. ≅S5	
5							-5.00		5.00 — **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.

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.

Boring No.: HB-SMNO-104

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-105
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/25/07-6/25/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	317+58, 7.5' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	-0.35	PAVEMENT. 0.35	
							-0.70	Unbound Pavement. 0.70	
	S7		1.80 - 3.20				-1.80	Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≈S4 1.80	G#210307 A-2-4, SM WC=11.3%
								Brown, moist, silty fine SAND. 3.20	
	S8		3.20 - 5.00				-3.20	Brown, damp, fine to medium SAND, little silt, trace gravel.	G#210308 A-2-4, SM WC=5.4%
5							-5.00	5.00	
10									
15									
20									
25									

Bottom of Exploration at 5.00 feet below ground surface.
NO REFUSAL

Remarks:

Offsets are from Existing CL.

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-106
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/25/07-6/25/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	330+08, 9.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0			0.70 - 2.30			SSA	-0.70		PAVEMENT.	
									0.70 — Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≅S4 but with strong ODOR.	
							-2.30		2.30 — Brown, moist, silty fine to medium SAND, little gravel. ≅S5	
							-3.30		3.30 — Brown, damp, fine to medium SAND, little silt, trace gravel. ≅S8	
5							-5.00		5.00 — **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.

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.

Boring No.: HB-SMNO-106

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-107
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/25/07-6/25/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	330+08, 12.5' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA			Brown, moist, silty fine to medium SAND, little gravel. ≅S5	
							-3.20		3.20 Brown, damp, fine to medium SAND, little silt, trace gravel. ≅S8	
5							-5.00		5.00 **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.

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.

Boring No.: HB-SMNO-107

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-108
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/25/07-6/25/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	340+08, 8.5' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0	S9		0.60 - 1.40			SSA	-0.35		PAVEMENT. 0.35	G#210309 A-1-b, SM WC=4.5%
							-0.60		Unbound Pavement. 0.60	
							-1.40		Brown, damp, silty fine to coarse SAND, some gravel, (Fill). 1.40	
									Brown, moist, silty fine SAND. ≈S7	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.

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.

Boring No.: HB-SMNO-108

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-109
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/25/07-6/25/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	355+08, 8.2' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.70		PAVEMENT.	
									Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≅S9 (0.70)	
							-2.10		Brown, damp, fine to medium SAND, little silt, trace gravel. ≅S8 (2.10)	
5							-5.00		**Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL (5.00)	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
Water Main left shoulder, Sewer Main right shoulder.

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-110
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/25/07-6/25/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	506+29, 9.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	4.4' 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.
0	S10		0.70 - 2.30			SSA	-0.50		PAVEMENT. 0.50	
							-0.70		Unbound Pavement. 0.70	G#210310 A-1-b, SM WC=4.2%
									Brown, damp, silty fine to coarse SAND, some gravel, (Fill).	
	S11		2.30 - 4.40				-2.30		Grey, moist, silty fine to medium SAND, trace clay. 2.30	G#210311 A-4, SM WC=14.8%
							-4.40		4.40	
5							-5.00		Similar to above, but wet. 5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
PERKINS STREET

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-111
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/25/07-6/25/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	510+29, 6.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	-0.70	PAVEMENT. 0.70	
							-1.80	Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≅S10 1.80	
	S12		2.70 - 5.00				-2.70	Brown, moist, silty fine SAND. ≅S7 2.70	
								Brown, moist, silty CLAY.	G#210312 A-7-5, CL WC=24.4%
5							-5.00	5.00	
10								**Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
15									
20									
25									

Remarks:

Offsets are from Existing CL.
PERKINS STREET

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.

Boring No.: HB-SMNO-111

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-112
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/25/07-6/25/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	512+24, 5.5' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	-0.45	PAVEMENT. 0.45	
								Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≅S10	
	S13		2.20 - 3.00				-2.20	2.20	G#210313 A-7-5, CL WC=17.2%
							-3.00	Brown, damp, CLAY-SILT. 3.00	
								Brown, moist, silty CLAY. ≅S12	
5							-5.00	5.00	
								Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10									
15									
20									
25									

Remarks:

Offsets are from Existing CL.
Overhead Wires.
PERKINS STREET

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-113
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	516+29, 7.3' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S14		0.60 - 2.70			SSA	-0.35	PAVEMENT. 0.35	
							-0.60	Unbound Pavement. 0.60	G#210314 A-1-b, SM WC=4.5%
								Brown, damp, silty fine to coarse SAND, some gravel, (Fill).	
							-2.70	2.70	
	S15		3.80 - 5.00					Brown, moist, silty CLAY. ≅S12	
							-3.80	3.80	G#210315 A-7-5, CL WC=22.6%
								Grey, moist, silty CLAY.	
5							-5.00	5.00	
								Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10									
15									
20									
25									

Remarks:

Offsets are from Existing CL.
PERKINS STREET

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.

Boring No.: HB-SMNO-113

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-114
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	522+29, 4.7' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.60		PAVEMENT. 0.60	
							-0.70		Unbound Pavement. 0.70	
							-1.90		Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≅S14 1.90	
									Brown, moist, silty fine SAND. ≅S7	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
PERKINS STREET

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.

Boring No.: HB-SMNO-114

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-115
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	525+79, 5.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.40		PAVEMENT. 0.40	
							-1.30		Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≅S14 1.30	
									Brown, damp, fine to medium SAND, little silt, trace gravel. ≅S8	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
PERKINS STREET
Watermain at 7.5' 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.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-116
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	118+69, 8.8' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.70		PAVEMENT. 0.70	
	S16		1.60 - 5.00				-1.60		GRAVEL, some brown, damp, silty fine to coarse sand, (Fill). ≅S17 1.60	
									Brown, moist, clay SILT, trace fine sand.	G#210316 A-7-5, CL WC=19.6%
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-117
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	126+19, 9.5' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S17		0.80 - 2.20			SSA	-0.70	PAVEMENT. 0.70	
							-0.80	Unbound Pavement. 0.80	G#210317 A-1-a, SW-SM WC=2.7%
	S18		2.20 - 5.00				-2.20	GRAVEL, some brown, damp, silty fine to coarse sand, (Fill). 2.20	G#210318 A-7-5, CL WC=19.1%
								Grey, moist, SILT, trace clay, trace fine sand.	
5							-5.00	5.00	
								Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10									
15									
20									
25									

Remarks:

Offsets are from Existing CL.
ROUTE 8

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-118
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	126+19, 13.5' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA			GRAVEL, some brown, damp, silty fine to coarse sand, (Fill). ≅S17	
	S19		1.40 - 2.80				-1.40		Brown, damp, silty fine to coarse SAND, little gravel, (Fill). (1.40)	G#210319 A-1-b, SM WC=7.0%
	S20		2.80 - 3.30				-2.80		(2.80)	G#210320 A-4, CL-ML WC=25.4%
							-3.30		Brown, moist, clay SILT, trace fine to medium sand. (3.30)	
									Grey, moist, SILT, trace clay, trace fine sand. ≅S18	
5							-5.00		(5.00)	
10										
15										
20										
25										

Bottom of Exploration at 5.00 feet below ground surface.
NO REFUSAL

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-118

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-119
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	151+19, 9.8' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.70		PAVEMENT.	
									GRAVEL, some brown, damp, silty fine to coarse sand, (Fill). ≅S17 (0.70)	
							-2.80		Grey, moist, SILT, trace clay, trace fine sand. ≅S18 (2.80)	
5							-5.00		(5.00) **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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

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Boring No.: HB-SMNO-119

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-120
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	151+19, 15.5' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA			Brown, damp, silty fine to coarse SAND, little gravel, (Fill). ≅S19	
							-1.10		1.10 Brown, moist, clay SILT, trace fine to medium sand. ≅S20	
							-2.90		2.90 Grey, moist, SILT, trace clay, trace fine sand. ≅S18	
5							-5.00		5.00 **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-121
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	176+19, 8.4' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.70		PAVEMENT.	
									GRAVEL, some brown, damp, silty fine to coarse sand, (Fill). ≅S17 (0.70)	
	S21		2.60 - 5.00				-2.60		(2.60) Brown, moist, clay SILT.	G#210321 A-7-5, CL WC=18.3%
5							-5.00		(5.00) **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-121

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-122
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	176+19, 13.2' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA			GRAVEL, some brown, damp, silty fine to coarse sand, (Fill). ≅S17	
							-0.80		0.80	
									Brown, damp, silty fine to coarse SAND, little gravel, (Fill). ≅S19	
							-1.60		1.60	
									Brown, moist, clay SILT. ≅S21	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-122

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-123
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	186+19, 8.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA			PAVEMENT.	
							-0.80		0.80 GRAVEL, some brown, damp, silty fine to coarse sand, (Fill). ≅S17	
							-2.10		2.10 Brown, moist, clay SILT. ≅S21	
5							-5.00		5.00 **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-124
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	198+30, 7.5' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	-0.40	PAVEMENT. 0.40	
							-0.60	Unbound Pavement. 0.60	
							-1.70	GRAVEL, some brown, damp, silty fine to coarse sand, (Fill). ≅S17 1.70	
								Brown, moist, clay SILT. ≅S21	
	S22		3.20 - 6.50				-3.20	3.20 Brown, damp, SILT, trace fine sand.	G#210322 A-7-5, CL WC=18.4%
5									
	S23		6.50 - 10.00				-6.50	6.50 Brown, moist, silty fine SAND.	G#210323 A-4, CL-ML WC=14.5%
10							-10.00	10.00 **Bottom of Exploration at 10.00 feet below ground surface.** NO REFUSAL	
15									
20									
25									

Remarks:

Offsets are from Existing CL.
ROUTE 8
Overhead wires at Sta. 197+00

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-125
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	198+30, 12.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA			Brown, damp, silty fine to coarse SAND, little gravel, (Fill). ≅S19	
							-1.60		1.60 Brown, moist, clay SILT. ≅S21	
							-3.30		3.30 Brown, damp, SILT, trace fine sand. ≅S22	
5							-5.00		5.00 **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-126
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	208+69, 8.3' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.60		PAVEMENT. 0.60	
							-1.70		GRAVEL, some brown, damp, silty fine to coarse sand, (Fill). ≅S17 1.70	
									Brown, moist, clay SILT. ≅S21	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-126

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-127
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	221+19, 9.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA			PAVEMENT.	
							-0.70		0.70	
							-1.00		GRAVEL, some brown, damp, silty fine to coarse sand, (Fill). ≅S17	
							-1.50		1.00	
									Cobble.	
									1.50	
									Brown, moist, clay SILT. ≅S21	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface.	
									NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-128
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/26/07-6/26/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	221+19, 13.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.70		Brown, damp, silty fine to coarse SAND, little gravel, (Fill). ≅S19 — 0.70	
									Brown, moist, clay SILT. ≅S21	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-128

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-129
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	367+83, 5.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0	S24		0.55 - 2.00			SSA	-0.55		PAVEMENT. 0.55	
									Brown, damp, fine to coarse SAND, some gravel, little silt, (Fill).	G#210324 A-1-b, SW-SM WC=3.5%
							-2.00		2.00	
	S25		2.00 - 5.00						Brown, moist, silty fine to medium SAND, little gtravel, trace coarse sand, (Fill?)	G#210325 A-2-4, SM WC=14.3%
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-130
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	375+02, 4.3' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.35		PAVEMENT. 0.35	
							-0.55		Unbound Pavement. 0.55	
							-1.00		Brown, damp, fine to coarse SAND, some gravel, little silt, (Fill). ≅S24 1.00	
							-1.70		Cobble. 1.70	
							-2.00		≅S24 2.00	
									Brown, moist, clay SILT. ≅S21	
5							-5.00		5.00	
10										
15										
20										
25										

Bottom of Exploration at 5.00 feet below ground surface.
NO REFUSAL

Remarks:

Offsets are from Existing CL.
ROUTE 8
Water service at Sta. 95+00, water main Lt. lane, sewer main Rt. edge of pavement.

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

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Boring No.: HB-SMNO-130

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-131
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	380+08, 5.5' Lt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.50		PAVEMENT. 0.50	
							-0.60		Unbound Pavement. 0.60	
							-1.80		Brown, damp, fine to coarse SAND, some gravel, little silt, (Fill). ≅S24 1.80	
									See Remarks: Brown, moist, silty fine to medium SAND.	
							-3.30		Brown, moist, clay SILT. ≅S21 3.30	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8
No sample taken due to strong odor. Overhead wires Rt. shoulder.

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-132
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	8+69, 8.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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.
0	S26		0.50 - 1.50			SSA	-0.50		PAVEMENT. 0.50	G#210326 A-1-b, SW-SM WC=3.2%
	S27		1.50 - 5.00				-1.50		Brown, damp, silty fine to coarse SAND, some gravel, (Fill). 1.50	G#210327 A-4, SM WC=10.0%
									Brown, damp, sandy SILT, trace gravel.	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-133
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	21+19, 6.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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.
0						SSA	-0.60		PAVEMENT. 0.60	
							-0.70		Unbound Pavement. 0.70	
	S28		1.60 - 5.00				-1.60		Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≈S26 1.60	G#210328 A-1-b, SM WC=4.2%
									Brown, damp, fine to coarse SAND, little silt, trace gravel.	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-134
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	26+19, 8.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.70		PAVEMENT. 0.70	
									Brown, damp, silty fine to coarse SAND, some gravel, (Fill)(STRONG ODOR). ≅S26	
							-2.30		2.30	
									Brown, moist, sandy SILT, trace gravel. ≅S30	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-135
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	26+19, 13.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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.
0	S29		0.00 - 3.20			SSA			Brown, damp, fine to medium SAND, little gravel, little silt, trace coarse sand.	G#210329 A-1-b, SM WC=5.0%
	S30		3.20 - 5.00				-3.20		Brown, moist, sandy SILT, trace gravel.	G#210330 A-4, ML WC=20.4%
5							-5.00		**Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-135

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-136
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	46+19, 8.4' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0	S31		0.90 - 10.00			SSA	-0.50		PAVEMENT. 0.50	
							-0.90		Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≥S26 0.90	G#210331 A-1-b, SM WC=6.2%
									GRAVEL, some brown, damp, fine to coarse sand, little silt.	
5										
10							-10.00		10.00	
									Bottom of Exploration at 10.00 feet below ground surface. NO REFUSAL	
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-136

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-137
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	51+19, 8.3' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.50		PAVEMENT. 0.50	
									GRAVEL, some brown, damp, fine to coarse sand, little silt. ≅S31	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-138
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	51+19, 13.4' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA			GRAVEL, some brown, damp, fine to coarse sand, little silt, with cobbles. ≅S31	
5							-5.00		5.00 **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-138

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-139
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	68+99, 7.5' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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.
0	S32		0.65 - 1.70			SSA	-0.35		PAVEMENT. 0.35	
							-0.65		Unbound Pavement. 0.65	G#210332 A-1-b, SM WC=3.7%
	S33		1.70 - 5.00				-1.70		GRAVEL, some brown, damp, silty fine to coarse sand, (Fill). 1.70	G#210333 A-2-4, SM WC=9.9%
									Brown, damp, silty fine to medium SAND, trace coarse sand, trace gravel.	
5							-5.00		5.00	
10									**Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-140
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	76+19, 8.3' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA			PAVEMENT.	
							-0.75		Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≅S26 (0.75)	
							-2.40		Brown, moist, sandy SILT, trace gravel. ≅S30 (2.40)	
							-3.70		Grey, moist, SILT, trace clay, trace fine sand. ≅S18 (3.70)	
5							-5.00		(5.00) **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-140

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-141
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/27/07-6/27/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	76+19, 12.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.10		Winter Sand. 0.10	
							-0.30		PAVEMENT. 0.30	
									Brown, damp, silty fine to coarse SAND, little gravel, (Fill). ≅S19	
							-2.50		Brown, moist, clay SILT. ≅S21 2.50	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-141

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-142
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/28/07-6/28/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	81+19, 9.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.55		PAVEMENT. 0.55	
							-0.70		Unbound Pavement. 0.70	
							-1.80		Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≅S26 1.80	
									Brown, moist, clay SILT. ≅S21	
5										
10							-10.00		10.00	
									Bottom of Exploration at 10.00 feet below ground surface. NO REFUSAL	
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-142

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-143
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/28/07-6/28/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	88+69, 7.5' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.50		PAVEMENT. 0.50	
							-0.70		Unbound Pavement. 0.70	
							-1.20		Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≅S26 1.20	
									Brown, moist, clay SILT. ≅S21	
	S34		3.00 - 5.00				-3.00		Brown, moist, soft, silty CLAY. 3.00	G#210334 A-7-5, CL WC=24.0%
5							-5.00		5.00	
10										
15										
20										
25										

Bottom of Exploration at 5.00 feet below ground surface.
NO REFUSAL

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-143

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-144
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/28/07-6/28/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	96+19, 9.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA			PAVEMENT.	
							-0.95		0.95	
	S35		1.60 - 4.20				-1.60		Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≅S26 — 1.60	G#210335 A-4, SM WC=14.1%
									Brown, moist, sandy SILT, cobbles, some gravel, (Fill).	
							-4.20		4.20	
5							-5.00		Brown, moist, clay SILT. ≅S21 — 5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8

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.

Boring No.: HB-SMNO-144

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-145
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	E. Giguere	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	G. Lidstone	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	6/28/07-6/28/07	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	101+19, 8.0' Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.70		PAVEMENT. 0.70	
	S36		1.20 - 3.60				-1.20		Brown, damp, silty fine to coarse SAND, some gravel, (Fill). ≅S26 1.20	G#210336 A-2-4, SM WC=9.3%
									Brown, damp, silty fine to medium SAND, trace gravel, trace coarse sand.	
							-3.60		3.60	
									Brown, moist, clay SILT. ≅S21	
5							-5.00		5.00	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing CL.
ROUTE 8
Overhead wires in Rt. shoulder, ditch Lt. shoulder.

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.

Boring No.: HB-SMNO-145

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-201
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giguere/Giles	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	12/9/11-12/9/11	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	238+00, 8.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S1		0.50 - 2.30			SSA	-0.50	6" PAVEMENT.	
								0.50 Black-brown, damp, fine to coarse SAND, little gravel, trace silt.	G#262010 A-1-b, SM WC=6.2%
	S2		2.30 - 5.00				-2.30	2.30 Brown, wet, silty, fine to medium SAND.	G#262011 A-4, ML WC=24.6%
5							-5.00	5.00 **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10									
15									
20									
25									

Remarks:

Offsets are from Existing Roadway CL.

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.

Boring No.: HB-SMNO-201

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-202
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giguere/Giles	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	12/9/11-12/9/11	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	251+00, 7.5 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA	-0.50	6" PAVEMENT.	
								Black-brown, damp, fine to coarse SAND, little gravel, trace silt. ≅S1 (0.50)	
	S3		3.00 - 5.00				-3.00	Brown, moist, fine to coarse SAND, some silt, trace gravel. (3.00)	G#262012 A-4, SM WC=13.7%
5							-5.00	(5.00)	
								Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10									
15									
20									
25									

Remarks:

Offsets are from Existing Roadway CL.

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.

Boring No.: HB-SMNO-202

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Route 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-203
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giguere/Giles	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	12/9/11-12/9/11	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	261+00, 7.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

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.
0						SSA	-0.46		5½" PAVEMENT.	
									Black-brown, damp, fine to coarse SAND, little gravel, trace silt. ≅S1 (0.46)	
							-3.00		(3.00)	
							-3.80		Layer of very dense, cobbles and gravel. (3.80)	
									Brown, very wet, fine to coarse SAND, some silt, trace gravel. ≅S3	
5							-5.00		(5.00)	
									Bottom of Exploration at 5.00 feet below ground surface. NO REFUSAL	
10										
15										
20										
25										

Remarks:

Offsets are from Existing Roadway CL.

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 8
Location: Smithfield-Norridgewock, Maine

Boring No.: HB-SMNO-204
WIN: 12776.00

Driller:	MaineDOT	**Elevation (ft.)**		**Auger ID/OD:**	5" Dia.
Operator:	Giguere/Giles	**Datum:**	NAVD 88	**Sampler:**	Off Flights
Logged By:	B. Wilder	**Rig Type:**	CME 45C	**Hammer Wt./Fall:**	N/A
Date Start/Finish:	12/9/11-12/9/11	**Drilling Method:**	Solid Stem Auger	**Core Barrel:**	N/A
Boring Location:	276+00, 7.0 ft Rt.	**Casing ID/OD:**	N/A	**Water Level*:**	None Observed

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

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	S4		0.50 - 2.20			SSA	-0.50	6" PAVEMENT.	
								0.50 Brown, moist, fine to coarse SAND, little gravel, little silt.	G#262013 A-1-b, SM WC=6.9%
	S5		2.20 - 5.00				-2.20	2.20 Brown, wet, fine to coarse SAND, some silt, trace gravel.	G#262014 A-4, ML WC=14.1%
5							-5.00	5.00 **Bottom of Exploration at 5.00 feet below ground surface.** NO REFUSAL	
10									
15									
20									
25									

Remarks:

Offsets are from Existing Roadway CL.

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.

Boring No.: HB-SMNO-204

GEOTECHNICAL TEST REPORTS
CENTRAL LABOROTORY

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210301	HB-SMNO-101/S1	GEOTECHNICAL (DISTURBED)	6/25/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **287+58** Offset, ft: **8.0** **RT** Dbfg, ft: **0.75-1.8**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**95.1**
⅜ in. [9.5 mm]	**89.3**
¼ in. [6.3 mm]	**79.9**
No. 4 [4.75 mm]	**75.9**
No. 10 [2.00 mm]	**63.8**
No. 20 [0.850 mm]	**49.3**
No. 40 [0.425 mm]	**35.1**
No. 60 [0.250 mm]	**26.3**
No. 100 [0.150 mm]	**20.3**
No. 200 [0.075 mm]	**15.3**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

4.8

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/30/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210302	HB-SMNO-101/S2	GEOTECHNICAL (DISTURBED)	6/25/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **287+58** Offset, ft: **8.0** **RT** Dbfg, ft: **1.8-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	96.7
⅜ in. [9.5 mm]	95.8
¼ in. [6.3 mm]	94.1
No. 4 [4.75 mm]	92.8
No. 10 [2.00 mm]	88.2
No. 20 [0.850 mm]	82.6
No. 40 [0.425 mm]	75.0
No. 60 [0.250 mm]	68.0
No. 100 [0.150 mm]	60.6
No. 200 [0.075 mm]	49.8

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

10.8

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/30/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210303	HB-SMNO-102/S3	GEOTECHNICAL (DISTURBED)	6/25/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **292+46** Offset, ft: **8.5** **RT** Dbfg, ft: **0.6-2.1**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	96.1
½ in. [12.5 mm]	77.5
⅜ in. [9.5 mm]	70.8
¼ in. [6.3 mm]	64.1
No. 4 [4.75 mm]	59.5
No. 10 [2.00 mm]	48.1
No. 20 [0.850 mm]	35.1
No. 40 [0.425 mm]	22.8
No. 60 [0.250 mm]	16.6
No. 100 [0.150 mm]	12.7
No. 200 [0.075 mm]	9.3

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

2.4

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/13/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210304	HB-SMNO-103/S4	GEOTECHNICAL (DISTURBED)	6/25/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **305+08** Offset, ft: **9.0** **RT** Dbfg, ft: **0.7-2.3**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	100.0
1 in. [25.0 mm]	93.4
¾ in. [19.0 mm]	93.4
½ in. [12.5 mm]	90.7
⅜ in. [9.5 mm]	87.7
¼ in. [6.3 mm]	81.7
No. 4 [4.75 mm]	78.3
No. 10 [2.00 mm]	67.2
No. 20 [0.850 mm]	50.1
No. 40 [0.425 mm]	31.9
No. 60 [0.250 mm]	22.1
No. 100 [0.150 mm]	15.9
No. 200 [0.075 mm]	11.4

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %
3.5

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/7/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210305	HB-SMNO-103/S5	GEOTECHNICAL (DISTURBED)	6/25/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **305+08** Offset, ft: **9.0** **RT** Dbfg, ft: **2.3-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	98.2
⅜ in. [9.5 mm]	97.6
¼ in. [6.3 mm]	94.9
No. 4 [4.75 mm]	93.2
No. 10 [2.00 mm]	86.4
No. 20 [0.850 mm]	77.5
No. 40 [0.425 mm]	67.6
No. 60 [0.250 mm]	57.7
No. 100 [0.150 mm]	47.6
No. 200 [0.075 mm]	36.7

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

10.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/1/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210306	HB-SMNO-104/S6	GEOTECHNICAL (DISTURBED)	6/25/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **305+08** Offset, ft: **13.0 RT** Dbfg, ft: **0.0-1.1**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	94.9
⅜ in. [9.5 mm]	91.0
¼ in. [6.3 mm]	84.9
No. 4 [4.75 mm]	81.5
No. 10 [2.00 mm]	69.8
No. 20 [0.850 mm]	52.3
No. 40 [0.425 mm]	33.1
No. 60 [0.250 mm]	22.8
No. 100 [0.150 mm]	16.5
No. 200 [0.075 mm]	11.6

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

6.8

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/5/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210307	HB-SMNO-105/S7	GEOTECHNICAL (DISTURBED)	6/25/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **317+58** Offset, ft: **7.5** **RT** Dbfg, ft: **1.8-3.2**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	**100.0**
⅜ in. [9.5 mm]	**99.6**
¼ in. [6.3 mm]	**99.4**
No. 4 [4.75 mm]	**99.1**
No. 10 [2.00 mm]	**98.0**
No. 20 [0.850 mm]	**95.4**
No. 40 [0.425 mm]	**90.4**
No. 60 [0.250 mm]	**85.0**
No. 100 [0.150 mm]	**55.9**
No. 200 [0.075 mm]	**24.4**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

11.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/5/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210308	HB-SMNO-105/S8	GEOTECHNICAL (DISTURBED)	6/25/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **317+58** Offset, ft: **7.5** **RT** Dbfg, ft: **3.2-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	98.4
⅜ in. [9.5 mm]	98.4
¼ in. [6.3 mm]	97.5
No. 4 [4.75 mm]	96.5
No. 10 [2.00 mm]	92.9
No. 20 [0.850 mm]	81.2
No. 40 [0.425 mm]	54.3
No. 60 [0.250 mm]	38.3
No. 100 [0.150 mm]	27.8
No. 200 [0.075 mm]	17.6

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %
5.4

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/7/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210309	HB-SMNO-108/S9	GEOTECHNICAL (DISTURBED)	6/25/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **340+08** Offset, ft: **8.5** **RT** Dbfg, ft: **0.6-1.4**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	96.6
½ in. [12.5 mm]	81.3
⅜ in. [9.5 mm]	77.0
¼ in. [6.3 mm]	70.7
No. 4 [4.75 mm]	66.4
No. 10 [2.00 mm]	56.4
No. 20 [0.850 mm]	45.7
No. 40 [0.425 mm]	34.2
No. 60 [0.250 mm]	26.8
No. 100 [0.150 mm]	21.4
No. 200 [0.075 mm]	16.1

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %
4.5

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/13/2007**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210310	HB-SMNO-110/S10	GEOTECHNICAL (DISTURBED)	6/25/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **506+29** Offset, ft: **9.0** **RT** Dbfg, ft: **0.7-2.3**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**91.2**
⅜ in. [9.5 mm]	**85.1**
¼ in. [6.3 mm]	**78.5**
No. 4 [4.75 mm]	**74.8**
No. 10 [2.00 mm]	**64.7**
No. 20 [0.850 mm]	**50.1**
No. 40 [0.425 mm]	**35.4**
No. 60 [0.250 mm]	**26.4**
No. 100 [0.150 mm]	**20.1**
No. 200 [0.075 mm]	**14.7**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

4.2

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/13/2007**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210311	HB-SMNO-110/S11	GEOTECHNICAL (DISTURBED)	6/25/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **506+29** Offset, ft: **9.0** **RT** Dbfg, ft: **2.3-4.4**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	**100.0**
⅜ in. [9.5 mm]	**99.7**
¼ in. [6.3 mm]	**98.5**
No. 4 [4.75 mm]	**97.6**
No. 10 [2.00 mm]	**93.3**
No. 20 [0.850 mm]	**86.8**
No. 40 [0.425 mm]	**75.7**
No. 60 [0.250 mm]	**58.9**
No. 100 [0.150 mm]	**43.6**
No. 200 [0.075 mm]	**38.4**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

14.8

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/1/2007**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210312	HB-SMNO-111/S12	GEOTECHNICAL (DISTURBED)	6/25/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **510+29** Offset, ft: **6.0** **RT** Dbfg, ft: **2.7-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	
⅜ in. [9.5 mm]	
¼ in. [6.3 mm]	
No. 4 [4.75 mm]	**100.0**
No. 10 [2.00 mm]	**100.0**
No. 20 [0.850 mm]	**99.9**
No. 40 [0.425 mm]	**99.1**
No. 60 [0.250 mm]	**97.3**
No. 100 [0.150 mm]	**96.5**
No. 200 [0.075 mm]	**96.1**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

24.4

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/5/2007**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210313	HB-SMNO-112/S13	GEOTECHNICAL (DISTURBED)	6/25/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **512+24** Offset, ft: **5.5** **RT** Dbfg, ft: **2.2-3.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	
⅜ in. [9.5 mm]	**100.0**
¼ in. [6.3 mm]	**99.9**
No. 4 [4.75 mm]	**99.7**
No. 10 [2.00 mm]	**98.4**
No. 20 [0.850 mm]	**96.7**
No. 40 [0.425 mm]	**95.1**
No. 60 [0.250 mm]	**91.9**
No. 100 [0.150 mm]	**88.4**
No. 200 [0.075 mm]	**86.9**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

17.2

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/26/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210314	HB-SMNO-113/S14	GEOTECHNICAL (DISTURBED)	6/26/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **516+29** Offset, ft: **7.3** **RT** Dbfg, ft: **0.6-2.7**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	92.1
½ in. [12.5 mm]	79.6
⅜ in. [9.5 mm]	77.4
¼ in. [6.3 mm]	69.3
No. 4 [4.75 mm]	65.1
No. 10 [2.00 mm]	54.5
No. 20 [0.850 mm]	43.2
No. 40 [0.425 mm]	33.0
No. 60 [0.250 mm]	27.2
No. 100 [0.150 mm]	22.8
No. 200 [0.075 mm]	18.0

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %
4.5

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/6/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210315	HB-SMNO-113/S15	GEOTECHNICAL (DISTURBED)	6/26/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **516+29** Offset, ft: **7.3** **RT** Dbfg, ft: **3.8-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	
⅜ in. [9.5 mm]	
¼ in. [6.3 mm]	
No. 4 [4.75 mm]	**100.0**
No. 10 [2.00 mm]	**99.8**
No. 20 [0.850 mm]	**99.5**
No. 40 [0.425 mm]	**99.2**
No. 60 [0.250 mm]	**98.8**
No. 100 [0.150 mm]	**98.5**
No. 200 [0.075 mm]	**98.0**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

22.6

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/8/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210316	HB-SMNO-116/S16	GEOTECHNICAL (DISTURBED)	6/26/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **118+69** Offset, ft: **8.8** **RT** Dbfg, ft: **1.6-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	
⅜ in. [9.5 mm]	
¼ in. [6.3 mm]	**100.0**
No. 4 [4.75 mm]	**99.9**
No. 10 [2.00 mm]	**99.3**
No. 20 [0.850 mm]	**98.5**
No. 40 [0.425 mm]	**97.6**
No. 60 [0.250 mm]	**97.0**
No. 100 [0.150 mm]	**96.5**
No. 200 [0.075 mm]	**94.2**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

19.6

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/25/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210317	HB-SMNO-117/S17	GEOTECHNICAL (DISTURBED)	6/26/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **126+19** Offset, ft: **9.5** **RT** Dbfg, ft: **0.8-2.2**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	100.0
1 in. [25.0 mm]	95.2
¾ in. [19.0 mm]	86.1
½ in. [12.5 mm]	74.3
⅜ in. [9.5 mm]	68.8
¼ in. [6.3 mm]	61.9
No. 4 [4.75 mm]	58.4
No. 10 [2.00 mm]	48.6
No. 20 [0.850 mm]	33.4
No. 40 [0.425 mm]	22.4
No. 60 [0.250 mm]	17.6
No. 100 [0.150 mm]	14.3
No. 200 [0.075 mm]	11.0

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %
2.7

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/25/2007**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210318	HB-SMNO-117/S18	GEOTECHNICAL (DISTURBED)	6/26/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **126+19** Offset, ft: **9.5** **RT** Dbfg, ft: **2.2-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	**100.0**
⅜ in. [9.5 mm]	**99.4**
¼ in. [6.3 mm]	**98.5**
No. 4 [4.75 mm]	**97.7**
No. 10 [2.00 mm]	**94.8**
No. 20 [0.850 mm]	**90.7**
No. 40 [0.425 mm]	**88.4**
No. 60 [0.250 mm]	**87.0**
No. 100 [0.150 mm]	**85.7**
No. 200 [0.075 mm]	**82.6**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

19.1

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/30/2007**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210319	HB-SMNO-118/S19	GEOTECHNICAL (DISTURBED)	6/26/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **126+19** Offset, ft: **13.5 RT** Dbfg, ft: **1.4-2.8**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	96.7
½ in. [12.5 mm]	90.6
⅜ in. [9.5 mm]	88.1
¼ in. [6.3 mm]	82.5
No. 4 [4.75 mm]	79.4
No. 10 [2.00 mm]	70.8
No. 20 [0.850 mm]	55.5
No. 40 [0.425 mm]	36.2
No. 60 [0.250 mm]	27.7
No. 100 [0.150 mm]	23.3
No. 200 [0.075 mm]	19.3

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

7.0

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/6/2007**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210320	HB-SMNO-118/S20	GEOTECHNICAL (DISTURBED)	6/26/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **126+19** Offset, ft: **13.5 RT** Dbfg, ft: **2.8-3.3**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	
⅜ in. [9.5 mm]	**100.0**
¼ in. [6.3 mm]	**98.2**
No. 4 [4.75 mm]	**97.0**
No. 10 [2.00 mm]	**93.1**
No. 20 [0.850 mm]	**85.6**
No. 40 [0.425 mm]	**77.2**
No. 60 [0.250 mm]	**72.8**
No. 100 [0.150 mm]	**70.3**
No. 200 [0.075 mm]	**66.6**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

25.4

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/23/2007**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210321	HB-SMNO-121/S21	GEOTECHNICAL (DISTURBED)	6/26/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **176+19** Offset, ft: **8.4** **RT** Dbfg, ft: **2.6-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	
⅜ in. [9.5 mm]	
¼ in. [6.3 mm]	100.0
No. 4 [4.75 mm]	99.9
No. 10 [2.00 mm]	99.6
No. 20 [0.850 mm]	98.7
No. 40 [0.425 mm]	97.8
No. 60 [0.250 mm]	96.9
No. 100 [0.150 mm]	96.1
No. 200 [0.075 mm]	93.4

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %
18.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/25/2007**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210322	HB-SMNO-124/S22	GEOTECHNICAL (DISTURBED)	6/26/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **198+30** Offset, ft: **7.5** **RT** Dbfg, ft: **3.2-6.5**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	
⅜ in. [9.5 mm]	**100.0**
¼ in. [6.3 mm]	**99.6**
No. 4 [4.75 mm]	**99.4**
No. 10 [2.00 mm]	**98.9**
No. 20 [0.850 mm]	**98.2**
No. 40 [0.425 mm]	**97.2**
No. 60 [0.250 mm]	**96.6**
No. 100 [0.150 mm]	**96.1**
No. 200 [0.075 mm]	**94.2**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

18.4

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/26/2007**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210323	HB-SMNO-124/S23	GEOTECHNICAL (DISTURBED)	6/26/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **198+30** Offset, ft: **7.5** **RT** Dbfg, ft: **6.5-10.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	
⅜ in. [9.5 mm]	**100.0**
¼ in. [6.3 mm]	**99.7**
No. 4 [4.75 mm]	**99.5**
No. 10 [2.00 mm]	**99.2**
No. 20 [0.850 mm]	**98.5**
No. 40 [0.425 mm]	**97.7**
No. 60 [0.250 mm]	**97.3**
No. 100 [0.150 mm]	**96.4**
No. 200 [0.075 mm]	**73.8**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

14.5

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/30/2007**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210324	HB-SMNO-129/S24	GEOTECHNICAL (DISTURBED)	6/27/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **367+83** Offset, ft: **5.0** **RT** Dbfg, ft: **0.55-2.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	92.2
⅜ in. [9.5 mm]	90.0
¼ in. [6.3 mm]	82.8
No. 4 [4.75 mm]	79.5
No. 10 [2.00 mm]	69.2
No. 20 [0.850 mm]	46.9
No. 40 [0.425 mm]	26.0
No. 60 [0.250 mm]	18.7
No. 100 [0.150 mm]	15.2
No. 200 [0.075 mm]	11.9

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

3.5

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/13/2007**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210325	HB-SMNO-129/S25	GEOTECHNICAL (DISTURBED)	6/27/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **367+83** Offset, ft: **5.0** **RT** Dbfg, ft: **2.0-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	98.6
⅜ in. [9.5 mm]	96.7
¼ in. [6.3 mm]	94.2
No. 4 [4.75 mm]	92.1
No. 10 [2.00 mm]	85.2
No. 20 [0.850 mm]	75.2
No. 40 [0.425 mm]	61.8
No. 60 [0.250 mm]	48.5
No. 100 [0.150 mm]	38.3
No. 200 [0.075 mm]	30.7

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

14.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/30/2007**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210326	HB-SMNO-132/S26	GEOTECHNICAL (DISTURBED)	6/26/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **8+69** Offset, ft: **8.0** **RT** Dbfg, ft: **0.5-1.5**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**95.2**
⅜ in. [9.5 mm]	**91.0**
¼ in. [6.3 mm]	**85.0**
No. 4 [4.75 mm]	**80.6**
No. 10 [2.00 mm]	**68.9**
No. 20 [0.850 mm]	**47.2**
No. 40 [0.425 mm]	**27.3**
No. 60 [0.250 mm]	**17.8**
No. 100 [0.150 mm]	**12.8**
No. 200 [0.075 mm]	**9.3**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

3.2

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/8/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210327	HB-SMNO-132/S27	GEOTECHNICAL (DISTURBED)	6/27/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **8+69** Offset, ft: **8.0** **RT** Dbfg, ft: **1.5-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	99.2
⅜ in. [9.5 mm]	97.3
¼ in. [6.3 mm]	94.6
No. 4 [4.75 mm]	93.5
No. 10 [2.00 mm]	89.7
No. 20 [0.850 mm]	83.9
No. 40 [0.425 mm]	74.6
No. 60 [0.250 mm]	65.5
No. 100 [0.150 mm]	56.5
No. 200 [0.075 mm]	43.8

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

10.0

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/8/2007**

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210328	HB-SMNO-133/S28	GEOTECHNICAL (DISTURBED)	6/27/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **21+19** Offset, ft: **6.0** **RT** Dbfg, ft: **1.6-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	**100.0**
⅜ in. [9.5 mm]	**97.6**
¼ in. [6.3 mm]	**96.3**
No. 4 [4.75 mm]	**94.6**
No. 10 [2.00 mm]	**88.3**
No. 20 [0.850 mm]	**64.7**
No. 40 [0.425 mm]	**29.7**
No. 60 [0.250 mm]	**20.8**
No. 100 [0.150 mm]	**17.3**
No. 200 [0.075 mm]	**13.8**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

4.2

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/6/2007**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210329	HB-SMNO-135/S29	GEOTECHNICAL (DISTURBED)	6/27/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **26+19** Offset, ft: **13.0 RT** Dbfg, ft: **0.0-3.2**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	98.3
⅜ in. [9.5 mm]	96.3
¼ in. [6.3 mm]	93.3
No. 4 [4.75 mm]	92.0
No. 10 [2.00 mm]	86.2
No. 20 [0.850 mm]	69.3
No. 40 [0.425 mm]	43.6
No. 60 [0.250 mm]	28.1
No. 100 [0.150 mm]	19.7
No. 200 [0.075 mm]	13.6

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

5.0

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/30/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210330	HB-SMNO-135/S30	GEOTECHNICAL (DISTURBED)	6/27/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **26+19** Offset, ft: **13.0 RT** Dbfg, ft: **3.2-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	
⅜ in. [9.5 mm]	**100.0**
¼ in. [6.3 mm]	**99.7**
No. 4 [4.75 mm]	**99.2**
No. 10 [2.00 mm]	**96.8**
No. 20 [0.850 mm]	**90.0**
No. 40 [0.425 mm]	**77.9**
No. 60 [0.250 mm]	**69.2**
No. 100 [0.150 mm]	**62.3**
No. 200 [0.075 mm]	**53.8**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

20.4

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/5/2007**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210331	HB-SMNO-136/S31	GEOTECHNICAL (DISTURBED)	6/26/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **46+19** Offset, ft: **8.4** **RT** Dbfg, ft: **0.9-10.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	100.0
1 in. [25.0 mm]	92.5
¾ in. [19.0 mm]	84.5
½ in. [12.5 mm]	74.0
⅜ in. [9.5 mm]	70.9
¼ in. [6.3 mm]	66.3
No. 4 [4.75 mm]	63.9
No. 10 [2.00 mm]	57.4
No. 20 [0.850 mm]	44.0
No. 40 [0.425 mm]	29.1
No. 60 [0.250 mm]	22.4
No. 100 [0.150 mm]	19.1
No. 200 [0.075 mm]	15.8

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %
6.2

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/5/2007**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210332	HB-SMNO-139/S32	GEOTECHNICAL (DISTURBED)	6/27/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **68+99** Offset, ft: **7.5** **RT** Dbfg, ft: **0.65-1.7**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	93.5
½ in. [12.5 mm]	83.3
⅜ in. [9.5 mm]	78.6
¼ in. [6.3 mm]	70.3
No. 4 [4.75 mm]	66.5
No. 10 [2.00 mm]	55.9
No. 20 [0.850 mm]	38.4
No. 40 [0.425 mm]	25.9
No. 60 [0.250 mm]	20.6
No. 100 [0.150 mm]	17.5
No. 200 [0.075 mm]	14.4

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

3.7

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/7/2007**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210333	HB-SMNO-139/S33	GEOTECHNICAL (DISTURBED)	6/27/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **68+99** Offset, ft: **7.5** **RT** Dbfg, ft: **1.7-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	100.0
½ in. [12.5 mm]	99.1
⅜ in. [9.5 mm]	98.0
¼ in. [6.3 mm]	95.1
No. 4 [4.75 mm]	93.5
No. 10 [2.00 mm]	88.9
No. 20 [0.850 mm]	79.7
No. 40 [0.425 mm]	64.6
No. 60 [0.250 mm]	53.5
No. 100 [0.150 mm]	42.8
No. 200 [0.075 mm]	32.9

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

9.9

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/30/2007**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210334	HB-SMNO-143/S34	GEOTECHNICAL (DISTURBED)	6/27/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **88+69** Offset, ft: **7.5** **RT** Dbfg, ft: **3.0-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	
⅜ in. [9.5 mm]	
¼ in. [6.3 mm]	
No. 4 [4.75 mm]	**100.0**
No. 10 [2.00 mm]	**99.9**
No. 20 [0.850 mm]	**99.6**
No. 40 [0.425 mm]	**99.2**
No. 60 [0.250 mm]	**98.8**
No. 100 [0.150 mm]	**98.6**
No. 200 [0.075 mm]	**96.7**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

24.0

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/13/2007**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210335	HB-SMNO-144/S35	GEOTECHNICAL (DISTURBED)	6/27/2007	10/19/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **96+19** Offset, ft: **9.0** **RT** Dbfg, ft: **1.6-4.2**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	100.0
¾ in. [19.0 mm]	97.7
½ in. [12.5 mm]	93.2
⅜ in. [9.5 mm]	91.6
¼ in. [6.3 mm]	88.8
No. 4 [4.75 mm]	86.7
No. 10 [2.00 mm]	81.0
No. 20 [0.850 mm]	71.5
No. 40 [0.425 mm]	61.7
No. 60 [0.250 mm]	56.1
No. 100 [0.150 mm]	52.0
No. 200 [0.075 mm]	46.6

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

14.1

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **11/13/2007**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
210336	HB-SMNO-145/S36	GEOTECHNICAL (DISTURBED)	6/27/2007	10/23/2007

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **101+19** Offset, ft: **8.0** **RT** Dbfg, ft: **1.2-3.6**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **LIDSTONE, GREGORY S**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**98.6**
⅜ in. [9.5 mm]	**95.6**
¼ in. [6.3 mm]	**92.9**
No. 4 [4.75 mm]	**91.0**
No. 10 [2.00 mm]	**82.5**
No. 20 [0.850 mm]	**70.8**
No. 40 [0.425 mm]	**55.5**
No. 60 [0.250 mm]	**41.4**
No. 100 [0.150 mm]	**33.7**
No. 200 [0.075 mm]	**28.4**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

9.3

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **10/30/2007**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
262010	HB-SMNO-201/S1	GEOTECHNICAL (DISTURBED)	12/9/2011	12/12/2011

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **238+00** Offset, ft: **8.0** **RT** Dbfg, ft: **0.5-2.3**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	**100.0**
1 in. [25.0 mm]	**95.8**
¾ in. [19.0 mm]	**95.8**
½ in. [12.5 mm]	**91.2**
⅜ in. [9.5 mm]	**88.1**
¼ in. [6.3 mm]	**83.7**
No. 4 [4.75 mm]	**79.4**
No. 10 [2.00 mm]	**67.2**
No. 20 [0.850 mm]	**48.9**
No. 40 [0.425 mm]	**32.8**
No. 60 [0.250 mm]	**24.6**
No. 100 [0.150 mm]	**18.9**
No. 200 [0.075 mm]	**14.3**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

6.2

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **1/4/2012**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
262011	HB-SMNO-201/S2	GEOTECHNICAL (DISTURBED)	12/9/2011	12/12/2011

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **238+00** Offset, ft: **8.0** **RT** Dbfg, ft: **2.3-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**99.0**
⅜ in. [9.5 mm]	**98.0**
¼ in. [6.3 mm]	**96.5**
No. 4 [4.75 mm]	**94.9**
No. 10 [2.00 mm]	**89.1**
No. 20 [0.850 mm]	**83.7**
No. 40 [0.425 mm]	**78.7**
No. 60 [0.250 mm]	**74.1**
No. 100 [0.150 mm]	**69.0**
No. 200 [0.075 mm]	**62.8**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %	

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

24.6

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **1/4/2012**

Paper Copy: Lab File; Project File; Geotech File

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GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
262012	HB-SMNO-202/S3	GEOTECHNICAL (DISTURBED)	12/9/2011	12/12/2011

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **251+00** Offset, ft: **7.5** **RT** Dbfg, ft: **3.0-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	**100.0**
⅜ in. [9.5 mm]	**99.1**
¼ in. [6.3 mm]	**96.8**
No. 4 [4.75 mm]	**94.9**
No. 10 [2.00 mm]	**89.8**
No. 20 [0.850 mm]	**82.9**
No. 40 [0.425 mm]	**74.4**
No. 60 [0.250 mm]	**62.9**
No. 100 [0.150 mm]	**50.0**
No. 200 [0.075 mm]	**35.9**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

13.7

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **12/22/2011**

Paper Copy: Lab File; Project File; Geotech File

Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
262013	HB-SMNO-204/S4	GEOTECHNICAL (DISTURBED)	12/9/2011	12/12/2011

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **276+00** Offset, ft: **7.0** **RT** Dbfg, ft: **0.5-2.2**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	**100.0**
½ in. [12.5 mm]	**95.2**
⅜ in. [9.5 mm]	**92.3**
¼ in. [6.3 mm]	**86.7**
No. 4 [4.75 mm]	**82.4**
No. 10 [2.00 mm]	**67.8**
No. 20 [0.850 mm]	**49.3**
No. 40 [0.425 mm]	**37.8**
No. 60 [0.250 mm]	**31.6**
No. 100 [0.150 mm]	**25.5**
No. 200 [0.075 mm]	**14.2**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

6.9

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **1/4/2012**

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Maine DOT, Materials Testing & Exploration, 219 Hogan Road, Bangor, Maine 04401

GEOTECHNICAL TEST REPORT
Central Laboratory

SAMPLE INFORMATION

Reference No.	Boring No./Sample No.	Sample Description	Sampled	Received
262014	HB-SMNO-204/S5	GEOTECHNICAL (DISTURBED)	12/9/2011	12/12/2011

Sample Type: **GEOTECHNICAL** Location: **ROADWAY** Station: **276+00** Offset, ft: **7.0** **RT** Dbfg, ft: **2.2-5.0**

WIN **012776.00** Town: **Smithfield,Norridgewock** Sampler: **WILDER, BRUCE H**

TEST RESULTS

Sieve Analysis (T 27, T 11)

Wash Method

Procedure A

SIEVE SIZE U.S. [SI]	% Passing
3 in. [75.0 mm]	
1 in. [25.0 mm]	
¾ in. [19.0 mm]	
½ in. [12.5 mm]	**100.0**
⅜ in. [9.5 mm]	**98.6**
¼ in. [6.3 mm]	**96.7**
No. 4 [4.75 mm]	**94.9**
No. 10 [2.00 mm]	**89.6**
No. 20 [0.850 mm]	**81.8**
No. 40 [0.425 mm]	**73.9**
No. 60 [0.250 mm]	**67.3**
No. 100 [0.150 mm]	**60.2**
No. 200 [0.075 mm]	**51.6**

Direct Shear (T 236)

Shear Angle, °			
Initial Water Content, %			
Normal Stress, psi			
Wet Density, lbs/ft³			
Dry Density, lbs/ft³			
Specimen Thickness, in			

Consolidation (T 216)

Trimmings, Water Content, %

	Initial	Final		Void Ratio	% Strain
Water Content, %			Pmin		
Dry Density, lbs/ft³			Pp		
Void Ratio			Pmax		
Saturation, %			Cc/C'c		

Miscellaneous Tests

Liquid Limit @ 25 blows (T 89), %
Plastic Limit (T 90), %
Plasticity Index (T 90), %
Specific Gravity, Corrected to 20°C (T 100)

Loss on Ignition (T 267)

Loss, %	H2O, %

Water Content (T 265), %

14.1

Vane Shear Test on Shelby Tubes (Maine DOT)

Depth taken in tube, ft	3 In.		6 In.		Water Content, %	Description of Material Sampled at the Various Tube Depths
	U. Shear tons/ft²	Remold tons/ft²	U. Shear tons/ft²	Remold tons/ft²		

Comments:

AUTHORIZATION AND DISTRIBUTION

Reported by: **FOGG, BRIAN** Date Reported: **1/4/2012**

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