

2-1-1968

## TB29: Soil-Water, Chemical and Physical Characteristics of Eight Soil Series in Maine

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# **SOIL-WATER, CHEMICAL AND PHYSICAL CHARACTERISTICS OF EIGHT SOIL SERIES IN MAINE**

R. V. Rourke  
and  
C. Beek

SPECIFIC INFORMATION FOR  
HIGHWAY ENGINEERING  
URBAN DEVELOPMENT PLANNING  
WATERSHED MANAGEMENT  
AGRICULTURAL SOIL AND WATER MANAGEMENT

**TECHNICAL BULLETIN 29      FEBRUARY 1968**

**MAINE AGRICULTURAL EXPERIMENT STATION  
UNIVERSITY OF MAINE                      ORONO**

#### ACKNOWLEDGEMENTS

This research was supported in part by funds provided by the United States Department of Interior as authorized under the Water Resources Research Act of 1964, Public Law 88-379.

The authors are most appreciative for the aid given them by Walter Steputis, Bryce McEwen, Kenneth LaFlamme, R. B. Willey, John Arno, Glendon Jordan, soil scientists of the Soil Conservation service in the selecting of sites and writing the profile descriptions.

We recognize the support of the Water Resources Center, University of Maine and of Dr. Warren Viessman, Jr. for their aid and encouragement during these investigations.

They also acknowledge the efforts of Mrs. Donna Sailor and Mrs. Catherine Bradbury in typing the manuscript.

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## SUMMARY

Eight soil series were sampled, each at five locations. The soil was sampled and analyzed on a horizon basis. Characteristics measured were: organic carbon, moisture retention, water movement, particle size distribution, volume of coarse fragments, bulk density, soil reaction, exchangeable bases and exchangeable acidity. These data are important in the classification and interpretation of the soil resources of Maine.

SOIL-WATER, CHEMICAL, AND PHYSICAL CHARACTERISTICS  
OF EIGHT SOIL SERIES IN MAINE

R. V. Rourke<sup>1</sup>

and

C. Beek<sup>2</sup>

INTRODUCTION

Soils are identified and mapped on aerial photographs by state and federal agencies. A mapping unit, soil series, differs sufficiently from one another so that each unit will have varying management and usage characteristics. The characterization of the various soils is basic to their interpretation and to the use of soil maps for urban planning, industrial development, agricultural planning or other use. The data presented in this publication have been collected to aid interested people in the classification and interpretation of the soil and soil-water resources of Maine.

The measured characteristics of each soil series varied between sites. The sample sites were separated by one mile or more in order that the variation within a soil series could be evaluated. Other researchers have reported similar variations (4, 8).

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#### FIELD PROCEDURE

Sampling sites of each soil series were selected with the soil scientists of the Soil Conservation Service, U.S.D.A. Each soil series was sampled and described at five sites. A 1-foot of soil was removed horizon by horizon for laboratory analysis. Soil cores were removed from each horizon for later determinations of water retention. Water movement rates were determined by horizon on some soils. At each field site percolation tests at a 30-inch depth were made whenever possible. The test was made at six locations at each site. The methods used were described by the Department of Health, Education and Welfare (11).

#### LABORATORY PROCEDURE

The physical soil properties measured included: volume of coarse fragments; particle size distribution; moisture retention; bulk density; and rate of water flow. Chemical soil characteristics determined were: percent organic carbon; extractable bases; exchangeable acidity; and soil reaction. All soil measurements were made on a random basis.

The coarse fragments larger than 2 mm. were separated by screening the bulk samples. Volume of each stone size was measured by water displacement.

Particle size separation by screening and pipette analysis is described by Day (3)

Moisture retention at values of less than one bar were measured on ceramic plate apparatus utilizing soil cores that had been obtained in the field. Disturbed soil samples and pressure membrane equipment were used for pressures greater than one bar. These apparatus are as described by Richards (9). Available water was considered to be the moisture retained between 0.33 and 15 bars. Inches of water per inch of soil was determined through the use of bulk density values.

Bulk density values were found from soil cores taken in a field moist condition and oven dried. Clod samples coated with paraffin were used for density values when soil cores could not be taken. These methods have been described by Blake (2).

Moisture flow rates for each horizon were found by using soil cores removed in the field and a model K-620 permeameter. Measurements were made under saturated conditions as described by Klute (5). An attempt was made to measure moisture flow rates in the field with the double tube method; however, because of stone content and long testing periods, the method was not successful.

The organic carbon content was measured on air dry soil using the Walkley-Black method (1). A correction factor of 1.33 was used.

Exchangeable bases (Ca, Na, Mg, K) were determined using a Model 82-500 Jarrell Ash Atomic Absorption/Flame Spectrometer. A 10-gram sample of soil was leached with 300 ml. of 1.0N  $\text{NH}_4\text{OAc}$ , pH 7.0. A 1%  $\text{LaCl}_3$  solution was used to suppress the influence of P and Al when determining Ca and Mg. K and Na were measured by flame emission.



Exchangeable acidity was measured by the barium chloride-methanolamine method as described by Peech (6).

Cation exchange capacity and percent base exchange were found by the same method.

Soil reaction was measured in a 0.1M  $\text{CaCl}_2$  solution at a solution to soil ratio of 2:1. A water-soil solution at a ratio of 1:1 was also reported. These techniques were as reported by Peech (7).

Soil series were classified with methods described by the Survey Staff (10).

## RESULTS

The profile descriptions with chemical and physical data are presented in alphabetical order in the Appendix. Percolation data for each of the soil series studied are presented on the first page of the Appendix. The major characteristics and the classification of each soil series (10) are presented on the following pages.

### ADAMS SOIL SERIES

This soil series is presently classified as a Typic Haplorthod in the sandy, mixed, frigid family. These soils are developed in deep sand deposits that are somewhat excessively drained. The sand deposits are along present and post glacial river systems. After deposition the sands may have been reworked by winds before vegetative cover controlled the erosion.

Particle size distribution data indicate that this soil is composed of sand of which the medium, fine, and very fine sands dominate. There were no coarse fragments larger than 0.75 inches in diameter and at no time did the total stone content reach 1.0% of the volume of any horizon. Bulk density values ranged from 0.90 g./cc. to 1.50 g./cc. Available water ranged from 0.02 to 0.28 inch per inch of soil with the greatest retention in the surface horizons. Water movement was restricted in either the Ap or B<sub>21</sub> horizon with other horizons having faster flow rates. Percolation rates at 30 inches indicated the soil would accommodate septic tank effluent with little difficulty, however, there was a possibility of ground water contamination. Organic carbon decreased

depth increased except at site 2 where organic carbon increased in the C horizon perhaps as a result of extensive ant activity at this site. Soil reaction varied from pH 4.7 to 5.2 in the surface horizons and from pH 5.3 to 5.7 in the C horizon. Exchangeable bases decreased with increasing depth and except for iron were present in amounts of  $<0.1$  meq./100 g. in the lower B and C horizons. Exchangeable acidity decreased in a similar manner in the bases but not to as low levels.

#### BERKSHIRE SOIL SERIES

The Berkshire series is classified as a Typic Haplorthod in the coarse-loamy, mixed, frigid family. These are well-drained soils developed in glacial till that contains many mica fragments. The series is located in western Maine generally above Route 2 west of the Kennebec River in Somerset and Franklin Counties.

The range of textures in the horizons of this soil series was from silt loam to loamy sand with sandy loam and loamy sands being the dominant texture below ten inches except at site 2. Organic fragment content ranged from 3.5% to 91.5% of the horizon volumes. The size of the coarse fragments varied over the range of diameters measured. The bulk density was less than 1.05 g./cc. in the surface soil layers and increased with depth, to a high of 1.4 g./cc. Highest density values in the lower horizons were caused by paraffined clods as stones prevented core removal. Available water per inch of soil varied from 0.01 to 0.22 inch. Infiltration rates at a 30-inch depth ranged from 10.9 to 28.3 inches per inch thus this soil series is capable of receiving domestic tank effluent in seepage pits or leaching systems. Organic

carbon decreased regularly as depth below the A<sub>2</sub> horizon increased. Soil acidity as measured in a water solution varied from pH 3.9 to 5.6 with the highest acidity levels in the surface horizons. The cation exchange capacity is dominated by the exchangeable acidity fraction as base saturation never exceeded 9% in any horizon.

#### BUXTON SOIL SERIES

This soil series is classified as a Dystric Eutrochrept in the fine-silty, mixed, mesic family. This soil has developed on fine textured lacustrine or marine sediments that are moderately well to somewhat poorly drained. These soils extend from Kittery to Calais along the coast and up the major coastal river valleys.

This soil series has a silt loam surface over a silty clay or a silty clay loam subsoil except at site 2 which has a silt loam texture to 40 inches. There were no coarse fragments larger than one inch at any of the five sites and the total volume of stone never attained 1% of the volume of any horizon. The bulk density of the surface horizon averaged about 1.00 g./cc. and increased to levels that varied from 1.52 to 1.77 g./cc. in the lowest horizon sampled. Water retained in a plant available form on an inch per inch basis varied from 0.25 to 0.30 of an inch in the surface and decreased in an orderly manner to 0.04 to 0.16 in the lower horizons. Water movement was fastest in the silt loam layers and decreased to no movement in the lower horizons. Water movement was often restricted in the Ap horizon and increased in the B<sub>2</sub> horizon thus vertical water movement through the soil is sometimes restricted at the surface and again in the subsoil. Percolation

ater at a 30-inch depth indicated that this soil is severely  
ted for use as a depository of septic tank effluent. Organic  
on content decreased as depth increased except at site 4  
e there was a slight increase in the organic content in the  
st horizon sampled. The pH of the soil was between pH 4.65  
5.05 in the surface and decreased with depth to levels that  
ed from pH 5.45 to 6.45. Extractable Ca and Mg increased  
depth and with the exception of site 2, extractable Mg  
eased to much higher levels than did Ca. Base saturation  
ed from 49.6% to 85.7% in the lowest horizon sampled.

#### COLBATH SOIL SERIES

This soil series has been proposed in the classification  
em as being a Lithic Dystrochrept in the coarse-loamy, mixed,  
id family. It is a shallow, stony glacial till that exists in  
ated areas in Maine and along the coast from eastern Hancock  
ty to the Canadian border. The soil is well drained but  
use of stoniness and shallowness to bedrock it is of limited  
e for agricultural purposes.

Textural analysis indicated that this soil ranged from sandy  
to silt loam, however, loam predominated as the central con-  
for the series. Coarse fragments ranged in size from 2 mm.  
ver 3 inches and from 12.4% to 42.1% of the volume of the  
ous horizons. Bulk density values were less than 1.00 g./cc.  
he Ap and in the B horizons of the sites where core removal  
possible. Moisture retention at 15 bar pressure was more  
20% at all locations except site 2. Available water per  
of soil varied from 0.06 to 0.23 of an inch. Evaluation of

water movement was seldom possible because of stones, but where measurements were made the rate was fastest in the Ap horizon. Percolation rates were not measured because of the presence of bedrock below 20 inches. Organic carbon content ranged from 6.06% to 9.67% in the Ap and from 3.53% to 8.34% in the B<sub>2</sub> horizon. The pH of the soil ranged from pH 5.0 to 5.65 in the Ap and from pH 4.9 to 5.5 in the B<sub>2</sub>. The exchange complex was dominated by exchangeable acidity in the B<sub>2</sub> horizon as base saturation varied from 3.7% to 26.6%. In the Ap horizon base saturation varied from 14.4% to 44.4%. The principal bases extracted were Ca and Mg, however, measurable amounts of K were present in each horizon.

#### CREASEY SOIL SERIES\*

This soil has been tentatively classified as a Lithic Haplorthod in the loamy, mixed, frigid family. Laboratory data indicates that organic carbon in the B horizon at three of the five sites is low. The soil is generally less than 20 inches to reddish sandstone or conglomerate. The two sites having a higher organic content were being managed for alfalfa production. These soils were in the towns of Robbinston and Perry in Washington County.

The texture of this soil series is centered on sandy loam. The coarse fragment contents based upon volume of the horizon range

\*Tentative soil series.

3.8% to 40.6%. Many of the coarse fragments ranged from  
to 0.50 inch in diameter. Bulk density values varied from  
g./cc. to 1.31 g./cc. in the horizons where it was possible  
remove core samples. It was not possible to remove clods from  
soil for density measurements. Available water ranged from  
to 0.15 inch per inch of soil. Moisture retention at 15  
in site 1 was higher than at 0.33 bars. Soil passing a  
sieve was used at 15 bars and soil cores at pressures less  
3 bars. Thus the stone content (27.9% of the volume in  
horizon) of the cores may have caused this differential.  
r movement rates were usually faster in the B horizon than in  
surface horizons, however, it was not possible to remove cores  
all horizons because of stones and this observation may  
n error. Percolation rates were not measured because of the  
lowness of the soil. Organic carbon contents decreased  
dly with increasing depth except at site 1. Soil reaction at  
5 was between pH 4.1 and 4.3 in all horizons. The pH of the  
s at sites that have been plowed ranged from 4.55 to 6.05.  
cation exchange capacity was dominated by exchangeable acidity  
there were measureable amounts of Ca, Mg, and K present in some  
zon at each site. The accumulation of these bases is probably  
sult of past liming and fertilization practices.

#### HARTLAND SOIL SERIES

The placement of this soil in the present classification  
em is as an Entic Haplorthod in the coarse-silty, mixed, mesic  
ly. The soil is well drained and has developed in water depos-  
l silts and fine sands. In southern Maine this soil is along

the rivers and in the coastal areas. At sites that had silty clay or silty clay loam layers there was some indication of a perched water table above these fine-textured horizons during periods of excessive moisture. These areas have been included with Hartland when their acreage was too small to separate on a soils map.

The textural data indicated that this soil was a composite of silt and sand layers. The size of sand grains varied between horizons and sites. In no horizon sampled were there sufficient coarse fragments to equal 0.1% of the volume of the horizon. Bulk density tended to increase with depth below the surface, however, the variability of the layers in the lower horizons confounded this. Available water in the surface ranged from 0.22 to 0.30 inch per inch of soil. In the lower horizons water retention varied because of variations in texture. Percolation data indicated that care should be taken to place leaching fields in the coarser textured layers to assist removal of the waste effluent from septic tanks. Organic carbon decreased with depth except at site 3 where there was a slight increase in the V C<sub>4</sub> horizon. Soil reaction as measured in water ranged from pH 4.55 to 6.1 in the surface horizons and from pH 5.2 to 5.6 in the lowest horizon sampled. Base saturation was less than 50% in most horizons. The B<sub>22</sub> and B<sub>23</sub> horizons at site 2 have base saturation of 75.6% and 75.0% respectively and Ca:Mg ratios similar to the lower horizons in the Buxton soils.

#### PERU SOIL SERIES

This soil has been classified as an Aquic Fragiorthod in the coarse-loamy, mixed, frigid family. The soil has developed from



rial till. It is moderately well drained and has a perched  
er table above the fragipan during periods of high soil  
sture. This soil is in the landscape west of the Kennebec  
er and generally north of Route 2.

Particle size distribution showed that the texture of the  
horizons at the five sites ranged from silt loam to sandy loam.  
horizons contained more than 30% silt. Coarse fragment sizes  
are unevenly distributed and ranged from 2 mm. to more than 2  
mm. The volume of coarse fragments in the various horizons  
ranged from 0.5% to 71.6%. Bulk density generally increased with  
depth and ranged from 1.33 g./cc. to 1.91 g./cc. in the fragipan  
horizon. Available water retained by the soil was often high-  
er in the A<sub>1</sub> and B<sub>21</sub> horizons and decreased in the lower horizons.  
Organic carbon content decreased as depth below the surface in-  
creased except at site 3 where the B<sub>22</sub> horizon increased in  
organic carbon and available water and decreased in bulk density.  
Correlation results show that the soil is not suited for leaching  
systems and that it may not be suited for leaching systems at certain  
locations. On site investigation should be made before using this  
soil to receive waste from a septic tank. Soil reaction was from  
4.45 to 5.0 in the surface and decreased in acidity to be-  
tween pH 4.85 to 5.8 in the C<sub>x</sub> horizon. The exchange complex is  
dominated by exchange acidity with base saturation varying from  
16 to 34.9%.

#### WINOOSKI SOIL SERIES

This soil has developed in water deposited sediments along  
flood plains of the rivers and streams in Maine. It has been

classified as an Aquic Fluventic Dystrochrept in the coarse-silty, mixed, mesic family. The soil has a silt loam texture in the upper horizons and is moderately well drained.

Textures of the various horizons ranged from silt loam to loamy sand. There were insufficient coarse fragments present to take up more than 0.1% of the volume of any horizon. Bulk density ranged from 0.93 g./cc. to 1.62 g./cc. Available water varied between 0.42 and 0.12 inch per inch. Water movement in sites 1 through 4 were slowest in the Ap horizon. At site 5 water movement rates decreased as depth increased to 48 inches. Rate of water movement within any site varied between horizons. Percolation rates were sufficiently rapid to allow for seepage pits and leaching fields, however, this soil is subject to flooding at which time the soils will not receive waste effluent. Organic carbon decreased irregularly with increasing depth at sites 2 and 4. Soil reaction in the surface ranged from pH 4.65 to 5.4. The pH of the lowest horizons was from 5.2 to 5.5. Base saturation was low, except in the Ap horizon of sites 4 and 5, which were probably raised as a result of lime and fertilizer applications.

LITERATURE CITED

- Illison, L. E. 1965. Organic carbon, p. 1367-1378. In C. A. Black (ed.), Methods of Soil Analysis. Part II. Agronomy 9. Amer. Soc. Agron., Madison, Wis.
- Blake, G. R. 1965. Bulk density, p. 374-383. In C. A. Black (ed.) Methods of Soil Analysis. Part I. Agronomy 9. Amer. Soc. Agron., Madison, Wis.
- Day, P. R. 1965. Particle fractionation and particle-size analysis, p. 545-567. In C. A. Black (ed.), Methods of Soil Analysis. Part I. Agronomy 9. Amer. Soc. Agron., Madison, Wis.
- Dopstein, E., W. J. Grant, and J. S. Hardesty. 1962. Soil moisture survey of some representative Maine soil types. U.S.D.A., A.R.S., Pub. 41-57.
- Flute, A. 1965. Laboratory measurement of hydraulic conductivity of saturated soil, p. 210-221. In C. A. Black (ed.), Methods of Soil Analysis. Part I. Agronomy 9. Amer. Soc. Agron., Madison, Wis.
- Feech, M. 1965. Exchange acidity, p. 905-913. In C. A. Black (ed.), Methods of Soil Analysis. Part II. Agronomy 9. Amer. Soc. Agron., Madison, Wis.
- \_\_\_\_\_ 1965. Hydrogen-ion activity, p. 914-926. In C. A. Black (ed.), Methods of soil analysis. Part II. Agronomy 9. Amer. Soc. Agron., Madison, Wis.
- Frince, A. B., and W. A. Raney (rev. ed.). 1961. Some morphological, physical and chemical properties of selected north-eastern United States soils. N.H. Agr. Exp. Sta. Misc. Pub. 1. p. 280.
- Richards, L. A. 1965. Physical condition of water in soil, p. 131-137. In C. A. Black (ed.), Methods of Soil Analysis. Part I. Agronomy 9. Amer. Soc. Agron., Madison, Wisc.
- Soil Survey Staff. 1960. Soil Classification, a comprehensive system. 7th Approximation. U.S.D.A. U.S. Government Printing Office, Washington, D. C.
- U.S. Department of Health, Education and Welfare, Public Health Service. 1960. Manual of Septic Tank Practice. Pub. No. 526.

APPENDIX

PERCOLATION RATES FOR SIX SOIL SERIES IN MAINE  
(Each of 5 sites)

Minutes per Inch

<u>Soil Series</u>	<u>Average of 5 Sites</u>	<u>Range</u>
Adams	2.0	0.6-6.3
Berkshire	16.6	10.9-28.3
Buxton	1210.2	773.8-1620.0
Hartland	248.9	9.0-1360.0
Peru	360.4	44.0-1045.8
Winooski	11.5	6.3-26.3

ADAMS SOIL SERIES

Site 1

Location: Penobscot Street, Orono, Penobscot County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-4"	Dark yellowish brown (10YR 3/4) fine sandy loam; moderate, fine, granular structure; friable; abrupt, wavy boundary.
A <sub>p</sub> & B <sub>21</sub>	4-8"	Dark yellowish brown (10YR 4/4) fine sandy loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>22</sub>	8-16"	Yellowish brown (10YR 5/4) loamy fine sand; single grain; structureless; friable; gradual smooth boundary.
B <sub>3</sub>	16-24"	Olive brown (2.5Y 4/4) fine sand; single grain; structureless; friable; abrupt, smooth boundary.
C <sub>1</sub>	24-34"	Light olive brown (2.5Y 5/4) fine sand; single grain; structureless; friable.
C <sub>2</sub>	34-43"	Like horizon above.

Soil Series

Adams

## SIZE CLASS AND PARTICLE DIAMETER (mm)

Site No. 1

Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-4	A <sub>p</sub>	63.96	28.54	7.50	0.86	3.37	15.65	29.89	14.19	15.80	12.74	
4-8	B <sub>21</sub>	71.48	23.42	5.10	0.98	4.50	18.34	34.96	12.70	13.28	10.14	
8-16	B <sub>22</sub>	83.95	13.17	2.88	0.61	2.44	20.96	49.55	10.39	7.80	5.37	
16-24	B <sub>3</sub>	88.00	10.02	1.98	0.14	1.42	24.84	54.11	7.49	4.05	5.97	
24-34	C <sub>1</sub>	89.53	8.65	1.82	0.09	0.42	29.74	52.75	6.53	4.66	3.99	
34-43	C <sub>2</sub>	88.73	8.42	2.85	0.00	0.48	21.57	58.05	8.63	5.37	3.05	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon									Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-4	A <sub>p</sub>	37.3	32.5	26.6	23.7	23.4	16.2	14.1	13.5	1.08	0.14	2.43
4-8	B <sub>21</sub>	31.2	27.1	23.2	22.1	21.8	8.3	7.2	6.5	1.23	0.20	
8-16	B <sub>22</sub>	17.8	10.8	7.2	6.8	6.6	4.5	4.0	3.4	1.40	0.05	4.73
16-24	B <sub>3</sub>	16.7	8.4	5.7	5.2	5.0	3.9	3.6	3.2	1.34	0.03	26.43
24-34	C <sub>1</sub>	15.0	8.4	5.8	5.2	5.1	3.9	3.3	3.0	1.24	0.03	28.28
34-43	C <sub>2</sub>	16.4	9.4	6.1	6.1	5.2	3.9	3.1	2.6	1.30	0.05	16.76
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon											
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL		
0-4	A <sub>p</sub>										<0.1	0.1
4-8	B <sub>21</sub>										<0.1	0.4
8-16	B <sub>22</sub>										<0.1	0.1
16-24	B <sub>3</sub>										<0.1	<0.1
24-34	C <sub>1</sub>										<0.1	<0.1
34-43	C <sub>2</sub>										<0.1	<0.1
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
meq/100g												
0-4	A <sub>p</sub>	3.83	4.4	4.7	1.5	0.2	<0.1	0.2	15.4	17.4	11.5	
4-8	B <sub>21</sub>	1.45	4.6	4.8	0.5	<0.1	<0.1	0.1	9.6	10.4	7.7	
8-16	B <sub>22</sub>	0.05	4.85	5.1	0.2	<0.1	<0.1	<0.1	4.8	5.3	9.4	
16-24	B <sub>3</sub>	0.02	4.95	5.2	0.2	<0.1	<0.1	<0.1	4.7	5.2	9.6	
24-34	C <sub>1</sub>	0.03	5.0	5.4	0.3	<0.1	<0.1	<0.1	3.7	4.3	14.0	
34-43	C <sub>2</sub>	0.02	5.0	5.3	0.2	<0.1	<0.1	<0.1	3.8	4.3	11.6	

ADAMS SOIL SERIES

Site 2

Location: 0.4 miles west of Hathaway Bridge, Passadumkeag,  
Penobscot County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-8"	Dark yellowish brown (10YR 4/4) fine sandy loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>22</sub>	8-14"	Yellowish brown (10YR 5/6) loamy fine sand; weak, fine, granular structure; friable; gradual, smooth boundary.
B <sub>23</sub>	14-24"	Olive brown (2.5Y 4/4) fine sand; single grain; structureless; friable; gradual, smooth boundary.
C	24-40"	Light olive brown (2.5Y 5/4) fine sand; single grain; structureless; friable.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-8	A <sub>p</sub>	73.88	20.19	5.93	0.48	2.22	11.15	39.22	20.81	13.49	6.70	
8-14	B <sub>22</sub>	77.69	18.25	4.06	0.17	2.01	12.98	41.37	21.16	13.18	5.07	
14-24	B <sub>23</sub>	89.93	7.87	2.20	0.29	1.77	12.47	53.56	21.84	6.55	1.32	
24-40	C	94.56	3.70	1.74	0.38	3.81	16.02	53.22	21.13	3.45	0.25	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon									Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-8	A <sub>p</sub>	38.9	26.3	22.8	22.8	22.4	9.1	7.1	7.0	0.90	0.14	24.39
8-14	B <sub>22</sub>	18.3	11.4	7.8	7.2	7.0	5.0	4.4	3.6	1.28	0.05	4.03
14-24	B <sub>23</sub>	19.6	8.3	4.5	3.8	3.5	3.0	2.7	2.2	1.36	0.03	9.60
24-40	C	17.4	6.0	3.5	3.0	2.4	2.4	2.2	1.8	1.50	0.02	9.77
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon	3+	3-2	2-1.5	1.5-1	1-.75	.75-.50	.50-.25	.25-2mm.	TOTAL		
		inches	inches	inches	inches	inches	inches	inches	inches	inches		
0-8	A <sub>p</sub>								<0.1	<0.1		
8-14	B <sub>22</sub>								<0.1	<0.1		
14-24	B <sub>23</sub>								<0.1	<0.1		
24-40	C								<0.1	<0.1		
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub>	H <sub>2</sub> O	meq/100g							
			2:1	1:1	Ca	Mg	Na	K				
0-8	A <sub>p</sub>	1.56	4.4	4.7	0.6	<0.1	<0.1	<0.1	10.4	11.3	8.0	
8-14	B <sub>22</sub>	0.44	5.0	5.35	0.4	<0.1	<0.1	<0.1	4.8	5.5	12.7	
14-24	B <sub>23</sub>	0.23	5.2	5.5	0.2	<0.1	<0.1	<0.1	3.1	3.6	13.9	
24-40	C	0.50	5.2	5.5	0.2	<0.1	<0.1	<0.1	2.5	3.0	16.7	



ADAMS SOIL SERIES

Site 3

Location: State Forest Nursery, Olamon, Penobscot County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-8"	Dark brown (10YR 4/3) with some areas of strong brown (7.5YR 5/6) fine sandy loam; weak, fine, granular structure; friable; abrupt, wavy boundary.
B <sub>22</sub>	8-21"	Yellowish brown (10YR 5/6) loamy fine sand; weak, fine, granular structure; friable; abrupt, smooth boundary.
C <sub>1</sub>	21-37"	Light olive brown (2.5Y 5/4) fine sand; single grain; structureless; friable; abrupt, wavy boundary.
C <sub>2</sub>	37-44"	Like horizon above except loamy fine sand texture.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-8	A <sub>D</sub>	74.71	19.86	5.43	0.08	1.48	7.76	38.94	26.45	14.35	5.51	
8-21	B <sub>22</sub>	85.78	10.80	3.42	0.06	0.97	12.68	50.47	21.60	7.48	3.32	
21-37	C <sub>1</sub>	87.82	9.25	2.93	0.25	1.09	11.22	54.18	21.08	7.17	2.08	
37-44	C <sub>2</sub>	83.02	14.27	2.71	0.07	0.65	5.83	45.88	30.59	11.62	2.65	
		WATER CONTENT										
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-8	A <sub>D</sub>	28.8	21.8	16.8	16.1	14.5	9.5	8.2	7.1	1.28	0.12	2.34
8-21	B <sub>22</sub>	23.2	13.6	8.8	8.5	8.2	4.6	4.0	3.2	1.32	0.07	9.02
21-37	C <sub>1</sub>	12.8	6.8	4.7	4.7	4.2	3.4	3.1	2.4	1.42	0.03	21.61
37-44	C <sub>2</sub>	22.9	10.3	5.4	5.4	5.0	2.9	2.6	1.6	1.38	0.05	8.68
		COARSE FRAGMENTS										
Depth (In.)	Horizon	Percent by Volume									TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-8	A <sub>D</sub>									<0.1	0.2	0.2
8-21	B <sub>22</sub>									<0.1	0.5	0.6
21-37	C <sub>1</sub>								<0.1	<0.1	0.5	0.6
37-44	C <sub>2</sub>								<0.1	<0.1	0.2	0.2
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
meg/100g												
0-8	A <sub>D</sub>	1.27	4.8	5.1	0.6	<0.1	<0.1	<0.1	10.8	11.7	7.7	
8-21	B <sub>22</sub>	0.28	5.4	5.6	0.2	<0.1	<0.1	<0.1	3.6	4.1	12.2	
21-37	C <sub>1</sub>	0.10	5.5	5.75	0.2	<0.1	<0.1	<0.1	2.4	2.9	17.2	
37-44	C <sub>2</sub>	0.07	5.5	5.7	0.2	<0.1	<0.1	<0.1	1.8	2.3	21.7	

ADAMS SOIL SERIES

Site 4

Location: Olamon School House, Olamon, Penobscot County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-7"	Dark yellowish brown (10YR 5/4) fine sandy loam; weak, fine, granular structure; friable; abrupt, wavy boundary.
B <sub>21</sub>	7-12.5"	Strong brown (7.5YR 5/6) fine sandy loam; moderate, medium, platy structure; friable; clear, smooth boundary.
B <sub>22</sub>	12.5-17"	Yellowish brown (10YR 5/6) loamy fine sand; weak, medium, platy structure; friable; abrupt, smooth boundary.
B <sub>3</sub>	17-21"	Yellowish brown (10YR 5/4) fine sand; structureless; single grain; friable; abrupt, smooth boundary.
C	21-40"	Light olive brown (2.5Y 5/4) fine sand; structureless; single grain; friable.

Soil Series

Adams

Site No. 4

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-7	A <sub>p</sub>	69.97	22.05	7.98	0.16	0.55	4.71	45.99	18.56	13.04	9.01	
7-12.5	B <sub>21</sub>	71.45	22.48	6.07	0.08	0.34	5.20	46.71	19.12	9.89	12.59	
12.5-17	B <sub>22</sub>	80.63	14.93	4.44	0.04	0.14	4.64	53.77	22.04	7.24	7.69	
17-21	B <sub>3</sub>	90.80	7.50	1.70	0.00	0.52	4.81	64.75	20.72	3.45	4.05	
21-40	C	95.10	4.15	0.55	0.00	0.27	8.09	72.92	14.02	1.36	2.79	
		WATER CONTENT										
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-7	A <sub>p</sub>	35.6	34.4	25.6	25.1	23.2	11.7	10.0	9.3	1.08	0.18	2.87
7-12.5	B <sub>21</sub>	27.1	24.9	17.7	17.0	16.9	10.2	9.1	6.7	1.17	0.13	5.65
12.5-17	B <sub>22</sub>	13.2	12.7	9.0	7.2	6.7	6.3	5.5	4.3	1.25	0.06	15.03
17-21	B <sub>3</sub>	11.9	10.0	5.6	4.3	4.3	3.4	3.2	2.9	1.35	0.04	24.58
21-40	C	6.3	5.4	3.3	2.7	2.6	2.2	2.0	2.0	1.40	0.02	44.90
		COARSE FRAGMENTS										
Depth (In.)	Horizon	Percent by Volume									TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-7	A <sub>p</sub>						<0.1	<0.1	0.6	0.7		
7-12.5	B <sub>21</sub>						<0.1	<0.1	0.5	0.5		
12.5-17	B <sub>22</sub>						<0.1	<0.1	<0.1	0.2		
17-21	B <sub>3</sub>								<0.1	<0.1		
21-40	C								0.1	0.1		
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub>	H <sub>2</sub> O	Ca	Mg	Na	K				
			2:1	1:1	mg./100g.							
0-7	A <sub>p</sub>	1.82	4.7	5.2	0.8	0.2	0.1	0.2	12.3	13.6	9.6	
7-12.5	B <sub>21</sub>	0.61	5.2	5.35	0.4	<0.1	<0.1	0.1	8.2	8.9	7.9	
12.5-17	B <sub>22</sub>	0.22	5.4	5.5	0.4	<0.1	<0.1	0.1	4.6	5.3	13.2	
17-21	B <sub>3</sub>	0.08	5.5	5.7	0.2	<0.1	<0.1	<0.1	3.3	3.8	13.2	
21-40	C	0.08	5.3	5.5	0.2	<0.1	<0.1	<0.1	2.4	2.9	17.2	

ADAMS SOIL SERIES

Site 5

Location: Route 2 south of Olamon, Olamon, Penobscot County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-8"	Dark yellowish brown (10YR 4/4) loamy sand; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>21</sub>	8-17"	Yellowish red (5YR 5/8) loamy sand; moderate, medium, granular structure; friable; abrupt, smooth boundary.
B <sub>22</sub>	17-23"	Yellowish brown (10YR 5/6) loamy sand; weak, medium, platy structure; friable; abrupt, smooth boundary.
B <sub>3</sub>	23-29"	Brown (10YR 5/3) fine sand; structureless; single grain; friable; abrupt, smooth boundary.
C	29-40"	Olive brown (2.5Y 4/4) fine sand; structureless; single grain; friable.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-8	A <sub>p</sub>	77.23	17.24	5.53	0.17	1.69	7.25	44.26	23.86	7.33	9.91	
8-17	B <sub>21</sub>	75.34	16.90	7.76	0.31	4.06	9.75	42.18	19.04	9.08	7.82	
17-23	B <sub>22</sub>	85.77	8.76	5.47	0.78	8.73	16.17	44.52	15.57	5.05	3.71	
23-29	B <sub>3</sub>	90.72	5.83	3.45	1.50	8.83	13.00	49.13	18.26	4.33	1.50	
29-36	C	89.96	6.73	3.31	0.48	3.50	14.08	55.82	16.08	4.56	2.17	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon									Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-8	A <sub>p</sub>	26.0	24.8	19.7	19.4	18.5	10.0	9.5	8.5	1.27	0.14	1.37
8-17	B <sub>21</sub>	43.6	43.0	37.3	37.0	35.8	13.6	11.7	9.8	1.01	0.28	1.23
17-23	B <sub>22</sub>	13.0	12.8	9.3	8.5	8.5	7.0	6.6	5.5	1.23	0.05	12.03
23-29	B <sub>3</sub>	9.3	7.9	5.2	5.1	5.0	4.1	4.1	3.5	1.34	0.02	24.80
29-36	C	7.4	6.6	4.5	3.7	3.6	3.0	3.0	2.6	1.42	0.03	23.14
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon										TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-8	A <sub>p</sub>								<0.1	0.8	0.8	
8-17	B <sub>21</sub>								<0.1	<0.1	0.1	
17-23	B <sub>22</sub>								<0.1	<0.1	<0.1	
23-29	B <sub>3</sub>								<0.1	<0.1	<0.1	
29-36	C								<0.1	<0.1	<0.1	
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
meq/100g												
0-8	A <sub>p</sub>	1.96	4.7	5.2	1.3	<0.1	<0.1	<0.1	11.7	13.3	12.0	
8-17	B <sub>21</sub>	1.34	5.15	5.65	1.1	<0.1	<0.1	<0.1	14.1	15.5	9.0	
17-23	B <sub>22</sub>	0.44	5.35	5.7	0.4	<0.1	<0.1	<0.1	7.1	7.8	9.0	
23-29	B <sub>3</sub>	0.13	5.4	5.85	0.3	<0.1	<0.1	<0.1	4.7	5.3	11.3	
29-36	C	0.14	5.35	5.7	0.2	<0.1	<0.1	<0.1	3.7	4.2	11.9	

BERKSHIRE SOIL SERIES

Site 1

Location: East slope of Fletcher Mountain, Concord Twp., Somerset County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
O <sub>1</sub>	3-2"	Loose leaves and needles.
O <sub>2</sub>	2-0"	Dark brown organic material containing many roots.
A <sub>2</sub> & B <sub>21</sub>	0-3"	Yellowish red (5YR 4/6) mixed with areas of dark brown (10YR 3/3) silt loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>21</sub>	3-13"	Yellowish red (5YR 5/6) silt loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>22</sub>	13-26"	Yellowish brown (10YR 5/4) sandy loam; weak, medium, platy structure; friable; abrupt, smooth boundary.
B <sub>23</sub>	26-29"	Light olive (2.5Y 5/6) sandy loam; weak, medium, platy structure; friable; abrupt, smooth boundary.
C	29-42"	Olive (5Y 4/3) sandy loam; massive; firm.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-3	A <sub>2</sub> + B <sub>21</sub>	40.12	53.11	6.77	3.81	4.70	6.28	11.38	13.95	36.33	16.78	
3-13	B <sub>21</sub>	40.88	54.36	4.76	4.14	5.00	6.18	11.40	14.16	36.19	18.17	
13-26	B <sub>22</sub>	50.33	45.23	4.44	7.14	7.26	8.60	13.46	13.87	26.48	18.75	
26-29	B <sub>23</sub>	50.69	45.74	3.57	8.19	7.97	8.36	13.12	13.05	28.57	17.17	
29-40	C	51.91	46.23	1.86	7.28	8.36	9.34	13.42	13.51	30.52	15.71	
		WATER CONTENT										
		Bar Pressures										
Depth (In.)	Horizon	60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g./cc.	Avail. Water. in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		0-3	A <sub>2</sub> + B <sub>21</sub>	55.8	49.2	20.1	19.7	19.5	14.5	14.4	13.3	0.73
3-13	B <sub>21</sub>	41.9	43.4	34.0	33.7	31.9	9.9	9.9	8.4	0.86	0.22	
13-26	B <sub>22</sub>	34.1	31.4	23.5	21.3	19.9	6.6	6.2	5.3	1.09	0.20	
26-29	B <sub>23</sub>	28.3	26.7	20.5	17.9	16.8	5.7	5.4	5.0	1.27	0.20	
29-40	C	30.8**	27.1**	10.3**	8.0**	7.0**	4.0	3.9	3.5	1.81*		
		COARSE FRAGMENTS										
		Percent by Volume										
Depth (In.)	Horizon	2+ inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL			
		0-3	A <sub>2</sub> + B <sub>21</sub>	2.6	3.4	2.0	1.6	1.5	2.6	4.8	18.5	
3-13	B <sub>21</sub>	3.7	1.2	0.8	1.4	1.4	1.7	2.8	13.0			
13-26	B <sub>22</sub>	0.6	0.0	0.4	0.4	0.4	0.7	1.0	3.5			
26-29	B <sub>23</sub>	14.5	5.7	5.1	4.4	4.3	6.4	7.9	48.3			
29-40	C	11.6	2.4	2.0	2.1	1.9	3.5	5.0	28.5			
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
			← meq/100g →									
0-3	A <sub>2</sub> + B <sub>21</sub>	4.97	4.25	4.8	1.2	0.1	<0.1	0.1	26.1	27.6	5.6	
3-13	B <sub>21</sub>	1.68	4.65	5.0	0.2	<0.1	<0.1	<0.1	16.9	17.4	2.9	
13-26	B <sub>22</sub>	0.81	4.9	5.3	<0.1	<0.1	<0.1	<0.1	9.9	10.3	3.9	
26-29	B <sub>23</sub>	0.69	4.9	5.3	<0.1	<0.1	<0.1	<0.1	9.4	9.8	4.1	
29-40	C	0.51	4.95	5.5	<0.1	<0.1	<0.1	<0.1	6.2	6.6	6.0	

\* Density determined from paraffined clod.

\*\* Disturbed soil that had passed 2 mm sieve.



BERKSHIRE SOIL SERIES

Site 2

Location: Southwest slope of Savage Hill, Concord Twp., Somerset County, Maine

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
O <sub>1</sub>	2-1"	Loose leaves.
O <sub>2</sub>	1-0"	Dark brown organic material containing many roots.
A <sub>2</sub>	Trace	
B <sub>21</sub>	0-6"	Reddish brown (5YR 4/4) silt loam; weak, fine, granular structure; friable; abrupt, wavy boundary.
B <sub>22</sub>	6-16"	Yellowish brown (10YR 5/6) loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>23</sub>	16-23"	Dark yellowish brown (10YR 4/4) silt loam; weak, medium, platy structure; friable; abrupt, smooth boundary.
C	23-40"	Light olive brown (2.5Y 5/4) silt loam; moderate, medium, platy structure; firm.

Soil Series BerkshireSite No. 2

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
		Percent of <2mm.										
0-6	B21	35.71	55.70	8.59	4.39	4.66	6.17	9.40	11.09	26.66	29.04	
6-16	B22	38.33	45.74	15.93	5.51	5.75	6.72	9.96	10.39	21.44	24.30	
16-23	B23	36.99	57.91	5.10	3.63	5.52	7.37	10.66	9.81	29.97	27.94	
23-40	C	41.06	50.94	8.00	4.17	6.43	8.60	11.91	9.95	26.16	24.78	
		WATER CONTENT										
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>c</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-6	B21	48.8	35.8	25.6	25.6	23.6	18.0	16.5	15.4	0.75	0.08	
6-16	B22	40.4	37.2	25.2	21.1	20.6	15.3	11.2	9.9	1.07	0.16	
16-23	B23	28.6	26.3	19.0	16.7	15.0	10.6	8.9	6.9	1.23	0.15	
23-40	C	24.1	23.1	18.8	15.9	14.7	10.0	8.3	5.7	1.37	0.18	
		COARSE FRAGMENTS										
Depth (In.)	Horizon	Percent by Volume									TOTAL	
		2+ inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches				
0-6	B21	34.8	0.4	1.6	0.4	0.7	1.1	0.9	1.7	0.9	39.9	
6-16	B22	24.3	0.4	0.7	0.8	0.9	1.6	1.7	2.8	1.7	30.4	
16-23	B23	5.2	1.4	1.9	1.2	1.4	2.4	2.8	11.0	2.8	16.3	
23-40	C	3.7	6.8	3.0	2.5	2.7	4.2	11.0		4.2	33.9	
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-6	B21	4.63	4.3	4.7	1.5	0.2	<0.1	0.3	22.2	24.3	8.7	
6-16	B22	1.81	4.6	5.1	0.1	<0.1	<0.1	0.1	16.5	16.9	2.4	
16-23	B23	0.96	4.7	5.0	0.1	<0.1	<0.1	<0.1	12.4	12.8	3.1	
23-40	C	0.51	4.8	5.2	0.1	<0.1	<0.1	<0.1	9.2	9.6	4.2	

BERKSHIRE SOIL SERIES

Site 3

Location: Embden, Somerset County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
O <sub>1</sub>	2-1"	Moss, leaves, and needles.
O <sub>2</sub>	1-0"	Dark brown organic material.
A <sub>2</sub> & B <sub>21</sub>	0-5"	Black (5YR 2/1) sandy loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>21</sub>	Trace	
B <sub>22</sub>	5-13"	Olive brown (2.5Y 4/4) sandy loam; weak, fine, granular structure; friable; abrupt, wavy boundary.
B <sub>3</sub>	13-20"	Light olive brown (2.5Y 5/4) sandy loam; weak, medium, platy structure; friable; abrupt, wavy boundary.
C	20-40"	Olive (5Y 5/3) sandy loam; weak, medium, platy structure; firm.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
		Percent of <2mm.										
0-5	A <sub>2</sub> + B <sub>21</sub>	57.09	36.59	6.32	8.08	11.44	12.71	13.72	11.14	26.14	10.45	
5-13	B <sub>22</sub>	65.49	29.18	5.33	11.04	13.04	14.05	16.22	11.14	23.20	5.98	
13-20	B <sub>23</sub>	64.94	29.78	5.28	8.24	11.72	14.05	18.23	12.70	20.59	9.19	
20-40	C	62.89	32.11	5.00	7.32	10.78	13.54	18.90	12.35	15.11	17.00	
		WATER CONTENT										
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-5	A <sub>2</sub> + B <sub>21</sub>	42.7	34.1	23.4	21.9	21.7	10.6	9.1	8.2	0.96	0.14	
5-13	B <sub>22</sub>	26.6	20.7	13.2	11.7	11.3	7.1	6.1	5.1	1.30	0.10	
13-20	B <sub>23</sub>	20.7	15.6	9.8	8.6	8.6	6.4	5.4	4.2	1.41	0.08	
20-40	C	13.4	10.2	6.6	5.5	5.4	5.1	3.9	2.8	1.64	0.06	
		COARSE FRAGMENTS										
Depth (In.)	Horizon	Percent by Volume										
		2+ inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL			
0-5	A <sub>2</sub> + B <sub>21</sub>	2.8	0.7	0.9	2.0	2.1	3.6	5.1	17.2			
5-13	B <sub>22</sub>	2.1	1.2	0.9	1.2	1.1	1.8	2.8	11.1			
13-20	B <sub>23</sub>	3.3	1.3	1.4	1.1	1.2	1.9	3.6	13.8			
20-40	C	5.6	2.1	1.3	1.5	1.7	3.4	5.8	21.4			
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
		meq/100g										
0-5	A <sub>2</sub> + B <sub>21</sub>	1.90	4.8	5.15	<0.2	<0.1	<6.1	<0.1	15.6	16.1	3.1	
5-13	B <sub>22</sub>	0.97	5.05	5.4	<0.1	<0.1	<0.1	<0.1	10.6	11.0	3.6	
13-20	B <sub>23</sub>	0.66	5.0	5.5	<0.1	<0.1	<0.1	<0.1	8.5	8.9	4.5	
20-40	C	0.29	5.05	5.15	<0.1	<0.1	<0.1	<0.1	5.6	6.0	6.7	

## BERKSHIRE SOIL SERIES

Site 4

Location: Crockertown, Franklin County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
O <sub>1</sub>	Trace	
O <sub>2</sub>	4-0"	Black (5YR 2/1) organic material containing many roots.
A <sub>2</sub>	0-1"	Gray (10YR 5/1) loam; weak, fine, granular structure; friable; abrupt, wavy boundary.
B <sub>21</sub>	1-7"	Dark red (2.5YR 6/3) sandy loam; weak, fine, granular structure; friable; abrupt, wavy boundary.
B <sub>22</sub>	7-15"	Dark yellowish brown (10YR 4/4) sandy loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>3</sub>	15-22"	Light olive brown (2.5Y 5/4) sandy loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
C	22-40"	Olive (5Y 4/3) loamy sand; weak, medium, platy structure; firm.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-1	A <sub>2</sub>	51.88	40.99	7.13	3.04	7.02	9.80	16.38	15.64	24.77	16.22	
1-7	B <sub>21</sub>	53.34	39.72	6.94	5.34	6.97	8.93	15.76	16.34	24.89	14.83	
7-15	B <sub>22</sub>	60.33	35.13	4.54	6.62	8.02	10.70	18.19	16.80	20.06	15.07	
15-22	B <sub>3</sub>	74.33	20.47	5.20	13.06	15.81	17.09	18.53	9.84	9.22	11.25	
22-40+	C	80.95	15.44	3.61	10.29	15.19	19.74	23.95	11.78	9.54	5.90	
		WATER CONTENT										
		Bar Pressures										
Depth (In.)	Horizon	60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		0-1	A <sub>2</sub>	27.1	25.1	21.5	21.3	19.9	11.1	9.1	8.4	1.04
1-7	B <sub>21</sub>	56.4	45.1	36.8	36.5	36.3	18.2	16.7	16.1	0.80	0.16	
7-15	B <sub>22</sub>	37.5	30.4	19.9	18.9	18.8	13.4	12.3	11.9	1.13	0.09	
15-22	B <sub>3</sub>	16.7	13.2	9.9	9.3	9.3	6.8	6.5	4.8	1.32	0.07	
22-40+	C	11.1	6.8	4.9	4.9	3.9	3.7	3.6	2.3	1.73	0.04	
		COARSE FRAGMENTS										
		Percent by Volume										
Depth (In.)	Horizon	2+ inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL			
		0-1	A <sub>2</sub>	82.7	0.0	0.0	2.5	1.7	1.9	2.7	91.5	
1-7	B <sub>21</sub>	0.0	1.4	0.4	0.4	0.4	0.8	1.0	4.4			
7-15	B <sub>22</sub>	8.2	0.5	1.1	1.2	0.9	1.4	2.0	15.3			
15-22	B <sub>3</sub>	1.2	0.5	1.2	1.0	1.3	2.7	5.0	12.9			
22-40+	C	17.0	0.6	1.2	0.8	1.0	1.9	3.8	26.3			
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
meq/100g												
0-1	A <sub>2</sub>	3.78	3.4	3.9	1.0	0.3	<0.1	0.1	16.2	17.7	8.5	
1-7	B <sub>21</sub>	3.11	4.0	4.4	0.3	0.1	<0.1	0.1	35.3	35.9	1.7	
7-15	B <sub>22</sub>	2.78	4.6	5.1	0.2	<0.1	<0.1	<0.1	23.1	23.6	2.1	
15-22	B <sub>3</sub>	0.80	4.7	5.0	<0.1	<0.1	<0.1	<0.1	9.5	9.9	4.0	
22-40+	C	0.37	4.9	5.6	<0.1	<0.1	<0.1	<0.1	4.9	5.3	7.5	

BERKSHIRE SOIL SERIES

Site 5

Location: Jerusalem, Franklin County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
O <sub>1</sub>	2-1"	Loose leaves and needles.
O <sub>2</sub>	1-0"	Black (5YR 2/1) organic material containing many roots; abrupt, smooth boundary.
A <sub>2</sub>	0-1"	Dark gray (10YR 4/1) silt loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>21</sub>	1-8"	Reddish brown (5YR 4/4) sandy loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>22</sub>	8-13"	Yellowish brown (10YR 5/6) silt loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>23</sub>	13-24"	Olive brown (2.5Y 4/4) sandy loam; weak, fine, platy structure; friable; abrupt, smooth boundary. Some yellowish brown (10YR 5/8) stains about coarse fragments.
C	24-40"	Olive (5Y 4/3) loamy sand; weak, medium, platy structure; firm. Stains around coarse fragments as in horizon above.

Soil Series BerkshireSite No. 5

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-1	A <sub>2</sub>	36.30	58.97	4.73	1.34	2.70	4.61	12.09	15.56	36.21	22.76	
1-8	B <sub>21</sub>	66.48	23.65	9.87	11.30	11.08	14.07	17.18	12.85	5.72	17.93	
8-13	B <sub>22</sub>	35.72	59.44	4.84	4.19	4.28	7.17	10.49	9.59	46.27	13.17	
13-24	B <sub>3</sub>	68.82	27.01	4.17	11.35	12.54	14.37	18.18	12.38	17.76	9.25	
24-40	C	75.41	21.61	2.98	11.07	14.74	18.93	18.20	12.47	14.67	6.94	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon									Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-1	A <sub>2</sub>	45.0	40.2	30.1	29.1	27.1	10.9	10.3	8.9	0.76	0.16	
1-8	B <sub>21</sub>	67.6	60.4	51.2	49.9	47.4	28.5	26.4	22.4	0.60	0.17	
8-13	B <sub>22</sub>	31.7	28.4	22.9	22.1	20.9	14.0	13.6	11.3	1.02	0.12	
13-24	B <sub>3</sub>	14.9	12.4	9.1	8.9	7.8	10.6	9.7	8.3	1.48	0.01	
24-40	C	25.6**	18.5**	9.7**	8.1**	6.5**	4.9	4.7	3.5	2.04*		
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon										TOTAL	
		2+ inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches				
0-1	A <sub>2</sub>											
1-8	B <sub>21</sub>		5.2	2.9	2.3	2.1	1.6	2.2	2.5	18.8		
8-13	B <sub>22</sub>		17.8	1.2	2.9	2.6	2.6	3.7	4.6	35.4		
13-24	B <sub>3</sub>		7.6	0.5	1.2	1.4	1.6	2.6	3.0	17.9		
24-40	C		11.4	2.3	2.6	2.5	3.1	4.3	6.7	32.9		
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
← meq/100g →												
0-1	A <sub>2</sub>	3.33										
1-8	B <sub>21</sub>	7.62	4.3	4.6	1.3	0.2	<0.1	0.1	36.6	38.3	4.4	
8-13	B <sub>22</sub>	2.84	4.8	5.2	0.5	<0.1	<0.1	<0.1	23.4	24.2	3.3	
13-24	B <sub>3</sub>	1.73	5.0	5.55	0.3	<0.1	<0.1	<0.1	17.4	18.0	3.3	
24-40	C	0.61	5.1	5.3	0.2	<0.1	<0.1	<0.1	8.6	9.1	5.5	

\* Density determined from paraffined clod.

\*\* Disturbed soil that had passed 2 mm sieve.



BUXTON SOIL SERIES

Site 1

Location: Eastern Avenue, Brewer, Penobscot County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
Ap	0-6"	Dark yellowish brown (10YR 5/4) silt loam; moderate, fine, granular structure; firm; abrupt, smooth boundary.
B <sub>21</sub>	6-12.5"	Yellowish brown (10YR 5/6) silt loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.
II B <sub>22</sub>	12.5"-18"	Olive brown (2.5Y 4/4) silt loam with common, medium, faint, light olive brown (2.5Y 5/6) mottles; moderate, medium, subangular blocky structure; friable; abrupt, smooth boundary.
II B <sub>3</sub>	18-40"	Olive (5Y 4/2) silty clay loam with many, coarse, prominent, yellowish brown (10YR 5/6) mottles; prism faces are gray (5Y 5/1), coats on blocks are dark gray (5Y 4/1); medium, prismatic and strong, medium, subangular blocky structure; firm.

Soil Series

Buxton

## SIZE CLASS AND PARTICLE DIAMETER (mm)

Site No. 1

Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
0-6	A <sub>p</sub>	3.53	80.39	16.08	0.66	0.96	0.75	0.75	0.41	39.34	41.05	
6-12.5	B <sub>21</sub>	3.72	80.83	15.45	0.58	1.03	0.87	0.83	0.41	39.01	41.82	
12.5-18	II B <sub>22</sub>	6.73	72.04	21.23	0.19	0.62	0.82	1.15	3.95	30.20	41.84	
18-40	II B <sub>3</sub>	4.17	63.71	32.12	0.05	0.13	0.28	0.60	3.11	24.64	39.07	
WATER CONTENT												
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-6	A <sub>p</sub>	46.9	43.8	38.7	38.5	37.6	19.4	14.7	13.5	1.03	0.26	0.59
6-12.5	B <sub>21</sub>	39.0	34.5	27.9	27.0	25.7	15.9	12.2	10.3	1.13	0.20	1.40
12.5-18	II B <sub>22</sub>	19.3	18.7	17.6	17.0	16.3	16.3	15.2	11.6	1.59	0.10	0.17
18-40	II B <sub>3</sub>	19.9	19.5	18.8	18.4	17.9			16.4	1.63	0.04	None
COARSE FRAGMENTS												
Depth (In.)	Horizon	Percent by Volume										
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL		
0-6	A <sub>p</sub>										0.8	0.9
6-12.5	B <sub>21</sub>										0.9	0.9
12.5-18	II B <sub>22</sub>										0.4	0.4
18-40	II B <sub>3</sub>										0.1	0.1
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-6	A <sub>p</sub>	2.52	4.2	4.75	1.3	0.6	<0.1	0.1	15.8	17.9	11.7	
6-12.5	B <sub>21</sub>	1.81	4.25	4.9	1.0	<0.1	<0.1	<0.1	14.2	15.5	8.4	
12.5-18	II B <sub>22</sub>	0.50	4.2	5.1	1.3	1.4	<0.1	<0.1	9.7	12.6	23.0	
18-40	II B <sub>3</sub>	0.19	5.3	5.7	4.4	15.5	<0.1	0.2	7.3	27.5	73.4	

BUXTON SOIL SERIES

Site 2

Location: Sunset Drive, Orono, Penobscot County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-8"	Dark brown (10YR 3/3) silt loam; moderate, medium, granular structure; friable; abrupt, smooth boundary.
B <sub>22</sub>	8-14"	Yellowish brown (10YR 5/4) silt loam; moderate, medium, granular structure; friable; abrupt, smooth boundary.
A <sub>2</sub> <sup>i</sup> + B <sub>21</sub> <sup>i</sup>	14-18"	Olive gray (5Y 5/2) silt loam with common, medium, distinct, yellowish brown (10YR 5/8) mottles and gray (5Y 6/1) prism faces; medium prismatic and moderate, fine, subangular blocky structure; friable; abrupt, smooth boundary.
B <sub>22</sub> <sup>i</sup>	18-42"	Olive (5Y 5/3) silt loam with common, medium, distinct, yellowish brown (10YR 5/6) mottles and gray (5Y 5/1) prism faces; medium prismatic, and strong, medium, subangular blocky structure; firm.

Soil Series

Buxton

## SIZE CLASS AND PARTICLE DIAMETER (mm)

Site No. 2

Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
0-8	A <sub>p</sub>	7.88	69.90	22.22	0.81	1.83	2.02	1.51	1.71	15.30	54.60	
8-14	B <sub>22</sub>	8.41	70.28	21.31	0.81	1.65	1.73	1.72	2.50	23.27	47.01	
14-18	A <sub>2</sub> + B <sub>21</sub>	7.61	65.64	26.75	0.79	1.13	1.50	1.71	2.48	20.95	44.69	
18-42	B <sub>22</sub>	6.51	71.76	21.73	0.26	0.63	0.87	1.56	3.19	27.27	44.49	
WATER CONTENT												
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-8	A <sub>p</sub>	50.0	48.2	45.2	45.0	43.4	24.4	17.1	14.3	0.98	0.30	0.41
8-14	B <sub>22</sub>	51.5	48.8	42.5	41.8	40.4	24.0	17.0	14.6	0.99	0.28	1.55
14-18	A <sub>2</sub> + B <sub>21</sub>	36.2	34.4	33.6	31.4	28.8	21.4	16.8	9.5	1.14	0.27	3.29
18-42	B <sub>22</sub>	17.6	17.3	16.7	16.3	16.0	14.5	12.2	7.7	1.74	0.16	None
COARSE FRAGMENTS												
Depth (In.)	Horizon	Percent by Volume									TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-8	A <sub>p</sub>									<0.1	0.4	0.4
8-14	B <sub>22</sub>									<0.1	0.7	0.7
14-18	A <sub>2</sub> + B <sub>21</sub>									<0.1	0.5	0.5
18-42	B <sub>22</sub>									<0.1	0.7	0.8
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-8	A <sub>p</sub>	2.01	4.2	4.75	← meq/100g →				16.0	16.9	5.3	
8-14	B <sub>22</sub>	2.09	4.8	5.2	0.4	0.3	<0.1	<0.1	15.3	18.1	15.5	
14-18	A <sub>2</sub> + B <sub>21</sub>	0.72	4.8	5.4	2.4	0.2	<0.1	<0.1	11.2	13.7	18.2	
18-42	B <sub>22</sub>	0.23	5.1	5.75	1.2	1.1	<0.1	<0.1	6.0	11.9	49.6	

BUXTON SOIL SERIES

Site 3

Location: Veazie, Penobscot County, Maine

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-8"	Dark brown (10YR 3/3) silt loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>22</sub>	8-14"	Yellowish brown (10YR 5/4) silt loam; moderate, medium, granular structure; friable; abrupt, smooth boundary.
II A <sub>2</sub> <sup>1</sup> + B <sub>21</sub> <sup>2</sup>	14-22"	Olive gray (5Y 5/2) silty clay loam with common, fine, prominent, yellowish brown (10YR 5/6) mottles; moderate, fine and medium, subangular blocky structure; friable; abrupt, smooth boundary.
II B <sub>22</sub> <sup>1</sup>	22-40"	Dark grayish brown (2.5Y 4/2) silty clay loam with gray (5Y 6/1) prism faces and very dark gray (N3/ ) stains; medium and coarse prismatic, and strong, medium, subangular blocky structure; firm.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-8	Ap	8.02	67.11	24.87	0.61	1.95	2.18	1.59	1.69	14.43	52.68	
8-14	B <sub>22</sub>	7.35	67.59	25.06	0.80	2.07	1.79	1.22	1.47	13.57	54.02	
14-22	IIA <sub>2</sub> +B <sub>21</sub>	5.05	66.63	28.32	0.69	1.18	1.03	0.92	1.23	12.45	54.18	
22-40	II B <sub>22</sub>	1.14	61.13	37.73	0.03	0.10	0.23	0.30	0.48	8.21	52.92	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon									Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-8	Ap	54.3	49.9	45.3	45.0	43.9	23.4	16.4	15.1	0.83	0.25	0.14
8-14	B <sub>22</sub>	36.4	34.4	31.7	30.9	29.9	21.3	14.8	11.9	1.13	0.22	0.04
14-22	II A <sub>1</sub> +B <sub>21</sub>	24.0	23.0	22.0	21.5	20.8	19.6	15.2	9.9	1.48	0.18	0.02
22-40	B <sub>22</sub>	22.1	21.7	21.0	20.8	20.5		18.9	13.7	1.52	0.11	None
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon	3+	3-2	2-1.5	1.5-1	1-.75	.75-.50	.50-.25	.25-2mm.	TOTAL		
		inches	inches	inches	inches	inches	inches	inches	inches	inches		
0-8	Ap									<0.1	0.1	0.2
8-14	B <sub>22</sub>									<0.1	0.8	0.8
14-22	II A <sub>1</sub> +B <sub>21</sub>									<0.1	0.4	0.4
22-40	B <sub>22</sub>									<0.1	0.6	0.6
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
meq/100g												
0-8	Ap	2.58	4.2	4.65	0.6	0.4	<0.1	0.2	15.9	17.2	7.6	
8-14	B <sub>22</sub>	1.32	4.3	4.8	<0.1	0.2	<0.1	0.1	14.3	14.8	3.4	
14-22	II A <sub>1</sub> +B <sub>21</sub>	0.25	4.35	5.2	0.6	0.9	<0.1	0.2	9.6	11.4	15.8	
22-40	B <sub>22</sub>	0.13	4.9	5.45	3.7	10.2	<0.1	0.2	7.6	21.8	65.1	

Site 4

Location: Route 204, Lamoine, Hancock County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-8"	Brown (10YR 4/3) silt loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>2</sub>	8-13"	Yellowish brown (10YR 5/6) silt loam with common, medium, distinct, strong brown (7.5YR 5/6) mottles in the lower part of the horizon; moderate, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>21</sub> <sup>1</sup> + A <sup>1</sup>	13-16"	Olive (5Y 5/3) silty clay loam with common, coarse, prominent, strong brown (7.5YR 5/6) mottles; strong, moderate, subangular blocky structure; firm; abrupt, wavy boundary.
II B <sub>22</sub> <sup>1</sup>	16-29"	Olive (5Y 4/3) inside of peds and light olive gray (5Y 6/2) outside of peds, silty clay with few, medium, distinct, olive brown (2.5Y 4/4) mottles and black (10YR 2/1) stains; moderate, coarse, subangular blocky structure; very firm; gradual, wavy boundary.
II B <sub>3</sub> <sup>1</sup>	29-40"	Olive (5Y 4/3) inside of peds and olive (5Y 5/3) outside of peds, silty clay with black (10YR 2/1) and dark brown (10YR 4/4) stains; weak, coarse, subangular blocky structure; very firm.

Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
0-8	Ap	8.16	69.86	21.98	0.32	0.96	1.34	1.78	3.76	27.87	41.99	
8-13	B <sub>2</sub>	12.60	61.41	25.99	0.71	1.59	1.97	2.62	5.71	27.15	34.26	
13-16	B <sub>21</sub> + A'	10.75	61.94	27.31	0.33	0.76	1.63	2.48	5.55	28.59	33.35	
16-29	II B <sub>1</sub> <sup>22</sup>	3.22	56.67	40.11	0.02	0.15	0.39	0.79	1.87	18.64	38.03	
29-40	II B <sub>3</sub>	2.43	54.53	43.04	0.03	0.10	0.25	0.60	1.45	16.11	38.42	
WATER CONTENT												
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-8	Ap	47.3	44.7	41.8	39.5	38.3	23.7	19.6	14.8	0.92	0.25	3.04
8-13	B <sub>2</sub>	37.9	36.0	31.7	30.4	29.8	21.6	18.5	11.4	1.10	0.22	0.36
13-16	B <sub>21</sub> + A'	21.5	20.6	19.0	18.2	18.0	16.5	14.5	9.0	1.39	0.14	None
16-29	II B <sub>1</sub> <sup>22</sup>	18.8	18.2	17.6	17.0	16.7			13.3	1.80	0.08	None
29-40	II B <sub>3</sub>	19.0	18.8	18.1	17.7	17.2			15.3	1.77	0.05	None
COARSE FRAGMENTS												
Depth (In.)	Horizon	Percent by Volume									TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-8	Ap							<0.1	<0.1	0.1	0.1	
8-13	B <sub>2</sub>									<0.1	<0.1	
13-16	B <sub>21</sub> + A'									0.9	0.9	
16-29	II B <sub>1</sub> <sup>22</sup>									0.7	0.7	
29-40	II B <sub>3</sub>									0.3	0.3	
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-8	Ap	3.02	4.4	5.05	← meq/100g →				16.6	21.2	21.7	
8-13	B <sub>2</sub>	0.90	4.65	5.2	3.2	1.1	<0.1	0.2	13.7	14.9	8.0	
13-16	B <sub>21</sub> + A'	0.22	4.5	5.25	0.6	0.4	<0.1	0.1	8.7	11.4	23.7	
16-29	II B <sub>1</sub> <sup>22</sup>	0.12	5.2	5.8	0.7	1.8	<0.1	0.1	5.8	25.3	77.1	
29-40	II B <sub>3</sub>	0.21	5.9	6.45	3.6	15.5	0.1	0.3	4.5	27.1	83.4	



Site 5

Location: Route 204, Trenton, Hancock County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-6"	Brown (10YR 4/3) silt loam; moderate, fine, granular structure; very friable; abrupt, smooth boundary.
B <sub>2</sub>	6-12"	Light olive brown (2.5Y 5/4) silt loam with common, medium, prominent, yellowish brown (10YR 5/6) mottles; in lower part of the horizon, moderate, medium, granular structure; friable; abrupt, wavy boundary.
B <sub>21</sub> <sup>1</sup> + A <sup>1</sup>	12-16"	Olive (5Y 5/3) silty clay loam with common medium, prominent, yellowish brown (10YR 5/6) mottles; moderate, medium, platy structure; friable; abrupt, smooth boundary.
II B <sub>22</sub> <sup>1</sup>	16-26"	Olive (5Y 5/3) outside of peds and olive (5Y 4/3) inside of peds, silty clay loam with common, medium, prominent, light olive brown (2.5Y 4/4) mottles and olive gray (5Y 5/2) prism faces; prismatic and moderate, coarse, platy structure; very firm; diffuse, wavy boundary.
II B <sub>3</sub> <sup>1</sup>	26-40"	Olive (5Y 5/3) outside of peds and olive (5Y 4/3) inside of peds, silty clay with common, medium, prominent, dark yellowish brown (10YR 4/4) mottles and olive gray (5Y 5/2) prism faces; prismatic and moderate, coarse, platy structure; very firm.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-6	Ap	7.44	72.50	20.06	0.85	1.43	1.44	1.50	2.22	29.63	42.87	
6-12	B <sub>2</sub>	7.61	72.55	19.84	0.80	1.57	1.42	1.41	2.41	28.67	43.88	
12-16	B <sub>21</sub> + A'	7.23	65.19	27.58	0.47	0.82	1.20	1.51	3.23	29.49	35.70	
16-26	II <sup>21</sup> B <sub>1</sub>	3.96	56.61	39.43	0.00	0.12	0.43	0.89	2.52	21.89	34.72	
26-40	II B <sub>3</sub> <sup>22</sup>	2.27	52.45	45.28	0.02	0.04	0.16	0.52	1.53	14.87	37.56	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon									Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-6	Ap	64.4	60.8	55.7	53.7	53.0	28.2	25.4	21.8	0.85	0.29	0.58
6-12	B <sub>2</sub>	46.7	44.0	40.2	37.9	37.4	21.7	17.6	14.4	1.09	0.28	1.31
12-16	B <sub>21</sub> + A'	21.0	20.2	18.6	17.7	17.6	15.7	13.5	9.1	1.55	0.15	None
16-26	II <sup>21</sup> B <sub>1</sub>	18.3	17.8	16.9	16.5	16.0			12.9	1.76	0.07	None
26-40	II B <sub>3</sub> <sup>22</sup>	20.3	19.9	19.3	18.6	18.4			16.1	1.73	0.06	None
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon	3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL		
0-6	Ap							<0.1	0.2	0.2		
6-12	B <sub>2</sub>					<0.1		<0.1	0.1	0.2		
12-16	B <sub>21</sub> + A'					<0.1		<0.1	0.2	0.2		
16-26	II <sup>21</sup> B <sub>1</sub>							0.2	0.6	0.9		
26-40	II B <sub>3</sub> <sup>22</sup>								0.2	0.2		
pH												
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
← meq/100g →												
0-6	Ap	3.79	4.55	4.9	1.8	1.6	<0.1	0.3	18.8	22.6	16.8	
6-12	B <sub>2</sub>	2.90	4.5	4.9	0.4	<0.1	<0.1	0.2	18.0	18.8	4.2	
12-16	B <sub>21</sub> + A'	0.33	4.4	5.1	0.4	1.8	0.2	0.2	8.8	11.4	22.8	
16-26	II <sup>21</sup> B <sub>1</sub>	0.09	5.1	5.7	3.3	15.5	0.1	0.2	5.9	25.0	76.4	
26-40	II B <sub>3</sub> <sup>22</sup>	0.07	5.85	6.2	3.9	20.9	0.2	0.2	4.2	29.4	85.7	

COLBATH SOIL SERIES

Site 1

Location: Old Eastport Road, Perry, Washington County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>P</sub>	0-8"	Dark brown (7.5YR 3/2) silt loam; moderate, medium, granular structure; friable; abrupt, wavy boundary.
B <sub>2</sub>	8-13"	Reddish brown (5YR 4/4) silt loam; weak, medium, granular structure; very friable.
R		Bedrock.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
0-8	A <sub>p</sub>	24.35	58.02	17.63	6.85	5.22	3.93	4.10	4.25	20.58	37.44	
8-13	B <sub>2</sub>	31.58	55.83	12.59	11.42	5.90	4.11	3.87	6.28	22.43	33.40	
	R											
		WATER CONTENT										
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-8	A <sub>p</sub>	70.0	66.7	59.7	59.1	58.5	33.4	30.2	29.9	0.61	0.18	30.07
8-13	B <sub>2</sub>	88.9*	77.0*	55.0*	54.0*	51.0*	38.4	35.2	34.8			
	R											
		COARSE FRAGMENTS										
Depth (In.)	Horizon	Percent by Volume									TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-8	A <sub>p</sub>	3.4	3.5	7.9	5.8	4.0	3.8	4.1	3.8	36.3		
8-13	B <sub>2</sub>	0.0	0.0	2.9	5.5	5.2	6.8	7.5	5.2	33.1		
	R											
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-8	A <sub>p</sub>	9.67	4.5	5.0	3.3	2.5	<0.1	0.2	30.7	36.8	16.6	
8-13	B <sub>2</sub>	8.34	4.9	5.35	2.1	1.2	0.1	0.1	35.1	38.6	9.1	
	R											

\* Determined on soil passing 2 mm. sieve.

COLBATH SOIL SERIES

Site 2

Location: South Edmonds Road; Edmonds, Washington County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>P</sub>	0-8"	Dark brown (7.5YR 3/2) sandy loam; moderate, fine, granular structure; friable; abrupt, wavy boundary.
B <sub>2</sub>	8-15.68"	Dark reddish brown (5YR 3/4) sandy loam; moderate, fine, granular structure; friable.
R		Bedrock.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-8	A <sub>p</sub>	55.31	32.52	12.17	18.14	16.26	10.55	6.49	3.87	9.05	23.47	
8-15.7	B <sub>2</sub>	63.32	28.98	7.70	19.41	19.16	15.00	6.28	3.47	11.09	17.89	
	R											
		WATER CONTENT										
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-8	A <sub>p</sub>	32.7	30.2	26.7	26.5	26.5	22.3	20.7	19.9	0.88	0.06	
8-15.7	B <sub>2</sub>	45.5*	37.4*	25.3*	23.6*	22.9*	19.8	18.5	16.6			
	R											
		COARSE FRAGMENTS										
Depth (In.)	Horizon	Percent by Volume									TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-8	A <sub>p</sub>	0.0	1.0	3.9	9.4	4.2	4.8	6.6	8.0	37.9		
8-15.7	B <sub>2</sub>	0.0	5.9	1.9	4.5	2.6	3.1	5.5	9.7	33.2		
	R											
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-8	A <sub>p</sub>	6.06	5.35	5.65	← meq/100g →				21.4	30.2	29.1	
8-15.7	B <sub>2</sub>	3.53	5.2	5.5	6.7	1.8	<0.1	0.2	22.6	30.8	26.6	
	R											

\* Determined on soil passing a 2 mm. sieve.

COLBATH SOIL SERIES

Site 3

Location: North Lubec Road, Lubec, Washington County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-8"	Dark yellowish brown (10YR 3/4) sandy loam; moderate, very fine, granular structure; very friable; abrupt, smooth boundary.
B <sub>2</sub>	8-16.5"	Dark brown (7.5YR 4/4) sandy loam; weak, very fine, granular structure; very friable.
R		Bedrock.

Soil Series ColbathSite No. 3

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
		Percent of <2mm.										
0-8	A <sub>p</sub>	56.21	32.83	10.96	17.93	19.78	12.99	3.67	1.84	13.35	19.48	
8-16.5	B <sub>2</sub>	53.37	36.62	10.01	16.90	14.36	11.89	5.44	4.78	18.43	18.19	
	R											
		WATER CONTENT										
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-8	A <sub>p</sub>	60.0	56.8	51.6	51.3	51.0	24.4	23.5	21.9	0.78	0.23	
8-16.5	B <sub>2</sub>	69.5*	54.0*	37.3*	36.8*	35.9*	30.3	27.2	26.6			
	R											
		COARSE FRAGMENTS										
Depth (In.)	Horizon	Percent by Volume								TOTAL		
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-8	A <sub>p</sub>	0.0	1.4	2.3	2.2	2.1	3.6	6.0	7.8	25.4		
8-16.5	B <sub>2</sub>	2.9	1.6	7.0	5.0	4.2	5.1	8.8	7.5	42.1		
	R											
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-8	A <sub>p</sub>	6.99	5.15	5.5	5.8	14.2	<0.1	0.6	25.9	46.6	44.4	
8-16.5	B <sub>2</sub>	6.12	4.9	5.3	2.8	1.0	<0.1	0.4	39.8	44.1	9.8	
	R											

\* Determined on soil passing a 2 mm. sieve.



COLBATH SOIL SERIES

Site 4

Location: North Lubec Road, Lubec, Washington County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A P	0-10"	Dark brown (7.5YR 3/2) loam; moderate, fine, granular structure; friable; abrupt, wavy boundary.
B <sub>2</sub>	10-17.64"	Dark reddish brown (5YR 3/4) loam; weak, very fine, granular structure; friable.
R		Bedrock.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
		Percent of <2mm.										
0-10	A <sub>p</sub>	42.70	44.54	12.76	14.04	9.11	6.62	7.16	5.77	16.34	28.20	
10-17.6	B <sub>2</sub>	41.79	49.64	8.57	13.26	8.96	8.43	6.50	4.64	21.64	28.00	
	R											
		WATER CONTENT										
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-10	A <sub>p</sub>	56.4	51.2	45.1	45.1	44.9	27.2	25.0	24.7	0.80	0.16	
10-17.6	B <sub>2</sub>	70.0*	60.5*	37.1*	34.2*	30.5*	27.2	25.2	24.8			
	R											
		COARSE FRAGMENTS										
Depth (In.)	Horizon	Percent by Volume									TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-10	A <sub>p</sub>	0.0	1.0	1.0	2.8	5.6	7.9	11.1	5.3	34.7		
10-17.6	B <sub>2</sub>	0.0	0.0	0.5	1.8	4.3	8.2	10.5	4.3	29.6		
	R											
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
												meq/100g
0-10	A <sub>p</sub>	7.33	4.65	5.1	4.3	0.8	<0.1	0.1	31.5	36.8	14.4	
10-17.6	B <sub>2</sub>	6.42	4.45	4.95	1.2	0.2	<0.1	0.2	44.4	46.1	3.7	
	R											

\* Determined on soil passing a 2mm. sieve.

COLBATH SOIL SERIES

Site 5

Location: Cobscook Park, Edmonds, Washington County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-6"	Dark brown (10YR 3/2) loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>2</sub>	6-15,3"	Yellowish red (5YR 4/6) loam; weak, very fine, granular structure; friable.
R		Bedrock.

Soil Series ColbathSite No. 5

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-6	A <sub>p</sub>	42.14	41.35	16.51	9.44	8.92	8.29	9.23	6.26	18.73	22.62	
6-15.3	B <sub>2</sub>	45.24	42.38	12.38	8.18	7.98	10.98	10.56	7.54	24.40	17.98	
	R											
		WATER CONTENT										
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-6	A <sub>p</sub>	61.2	57.0	49.5	49.4	49.2	31.7	27.0	23.1	0.73	0.19	11.91
6-15.3	B <sub>2</sub>	69.4	61.8	51.1	49.6	49.4	29.4	27.4	27.0	0.82	0.20	7.74
	R											
		COARSE FRAGMENTS										
Depth (In.)	Horizon	Percent by Volume									TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-6	A <sub>p</sub>	0.0	1.1	3.7	2.5	1.7	1.9	2.2	4.1	17.2		
6-15.3	B <sub>2</sub>	0.0	0.6	0.4	1.1	1.1	1.5	2.8	4.9	12.4		
	R											
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-6	A <sub>p</sub>	7.92	5.0	5.4	6.6	1.4	<0.1	0.5	29.9	38.5	22.3	
6-15.3	B <sub>2</sub>	6.08	4.9	5.3	2.8	0.5	<0.1	0.3	40.7	44.4	8.3	
	R											

CREASEY SOIL SERIES

Site 1

Location: South Meadow Road, Perry, Washington County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-8"	Dark reddish brown (5YR 3/3) sandy loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>2</sub>	8-14"	Yellowish red (5YR 5/8) sandy loam; moderate, very fine, granular structure; friable.
R		Bedrock.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
		Percent of <2mm.										
0-8	A <sub>p</sub>	58.65	29.12	12.23	17.43	19.26	9.91	7.53	4.52	11.75	17.37	
8-14	B <sub>2</sub>	54.52	30.22	15.26	21.14	15.34	7.40	6.00	4.64	11.82	18.40	
	R											
		WATER CONTENT										
		Bar Pressures										
Depth (In.)	Horizon	60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		0-8	A <sub>p</sub>	23.9	23.8	21.2	20.3	20.2	15.2	14.0	13.8	1.24
8-14	B <sub>2</sub>	27.8	26.7	23.4	22.6	22.5			24.4*	1.10		36.43
	R											
		COARSE FRAGMENTS										
		Percent by Volume										
Depth (In.)	Horizon	3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL		
		0-8	A <sub>p</sub>	0.0	0.7	0.6	0.2	0.5	1.0	6.2	12.7	21.9
8-14	B <sub>2</sub>	0.0	0.0	0.0	0.1	0.9	2.7	6.2	18.0	27.9		
	R											
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub>	H <sub>2</sub> O	Ca	Mg	Na	K				
			2:1	1:1	meq./100g							
0-8	A <sub>p</sub>	3.14	5.6	6.05	8.1	0.3	<0.1	0.1	9.8	18.4	46.7	
8-14	B <sub>2</sub>	3.71	4.8	5.1	1.9	3.3	<0.1	0.1	32.5	37.9	14.2	
	R											

\* Repeated measurements did not lower this value.

CREASEY SOIL SERIES

Site 2

Location: South Meadow Road, Perry, Washington County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-8"	Dark reddish brown (5YR 3/4) silt loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>2</sub>	8-13"	Yellowish red (5YR 4/8) silt loam; moderate, fine, granular structure; friable; abrupt, wavy boundary.
B <sub>3</sub>	13-17"	Reddish brown (5YR 4/4) silt loam; weak, fine, granular structure; friable.
R		Bedrock.

Soil Series

Creasey

Site No. 2

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-8	A <sub>D</sub>	25.09	61.65	13.26	7.70	5.73	3.62	2.96	5.08	43.57	18.08	
8-13	B <sub>2</sub>	25.56	63.69	10.75	7.08	5.56	3.23	3.36	6.33	47.50	16.19	
13-17	B <sub>3</sub> R	23.99	66.22	9.79	7.67	4.91	2.44	2.38	6.59	50.14	16.08	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon	60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		0-8	A <sub>D</sub>	30.6	29.6	24.4	23.8	23.5	16.2	14.2	13.1	1.29
8-13	B <sub>2</sub>	45.7*	41.1*	25.5*	21.2*	18.5*	13.8	12.5	10.1			
13-17	B <sub>3</sub> R	36.4*	34.4*	20.2*	16.3*	13.6*	11.4	10.2	7.8			
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon	3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL		
		0-8	A <sub>D</sub>	0.0	0.0	0.0	0.0	1.2	3.6	7.4	10.2	22.4
8-13	B <sub>2</sub>	0.0	0.0	0.0	1.8	3.3	7.6	12.1	10.3	35.1		
13-17	B <sub>3</sub> R	0.0	0.0	0.0	0.3	5.5	7.4	10.1	9.1	32.4		
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-8	A <sub>D</sub>	3.26	5.2	5.45	← meq/100g →				16.2	24.9	34.9	
8-13	B <sub>2</sub>	1.49	4.5	4.8	7.6	0.7	<0.1	0.3	19.4	20.8	6.7	
13-17	B <sub>3</sub> R	0.81	4.4	4.8	0.9	0.2	<0.1	0.2	16.1	17.4	7.5	

\* Determined on soil passing 2 mm. sieve.



CREASEY SOIL SERIES

Site 3

Location: Shore Road, Perry, Washington County, Maine

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-7"	Dark reddish brown (5YR 3/3) sandy loam; moderate, fine, granular structure; friable; abrupt, wavy boundary.
B <sub>2</sub>	7-13"	Yellowish red (5YR 4/8) sandy loam; moderate, very fine, granular structure; friable; abrupt, wavy boundary.
B <sub>3</sub>	13-16"	Yellowish red (5YR 4/6) sandy loam; weak, very fine, granular structure; friable.
R		Bedrock.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-7	A <sub>p</sub>	59.37	22.60	18.03	7.97	12.23	13.55	18.87	6.75	12.48	10.12	
7-13	B <sub>2</sub>	70.97	17.24	11.79	9.77	12.00	17.18	25.25	6.77	8.38	8.86	
13-16	B <sub>3</sub> R	73.07	15.04	11.89	14.58	20.17	17.34	16.09	4.89	8.27	6.77	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon	6.0 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		0-7	A <sub>p</sub>	30.3	30.3	27.0	26.4	26.2	17.2	16.1	15.7	0.93
7-13	B <sub>2</sub>	23.9	20.8	16.7	16.2	15.8	10.6	9.7	8.2	1.31	0.11	
13-16	B <sub>3</sub> R	24.7*	20.8*	14.3*	12.6*	11.7*	8.8	8.7	6.4			
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon	3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL		
		0-7	A <sub>p</sub>	0.0	0.0	1.2	1.9	1.9	2.5	10.0	5.8	23.3
7-13	B <sub>2</sub>	0.0	2.1	0.7	3.1	1.7	2.4	5.8	7.4	23.2		
13-16	B <sub>3</sub> R	0.0	3.0	0.0	1.8	3.2	3.4	5.4	8.0	24.8		
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-7	A <sub>p</sub>	3.06	4.0	4.55	1.6	0.6	<0.1	0.1	19.6	22.0	10.9	
7-13	B <sub>2</sub>	0.12	4.2	4.8	6.7	0.2	<0.1	<0.1	15.6	22.7	31.3	
13-16	B <sub>3</sub> R	0.08	4.2	5.0	0.6	0.2	<0.1	<0.1	14.3	15.3	6.5	

\* Determined on soil passing 2 mm. sieve.

CREASEY SOIL SERIES

Site 4

Location: Boyden Lake Road, Robbinston, Washington County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-8"	Dark reddish brown (5YR 3/4) silt loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>2</sub>	8-18"	Dark reddish brown (5YR 3/4) loam; moderate, subangular blocky structure; slightly firm.
R		Bedrock.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-8	A <sub>p</sub>	26.79	56.86	16.35	9.14	6.25	3.91	3.44	4.05	35.80	21.06	
8-18	B <sub>2</sub>	40.57	47.95	11.48	17.30	11.26	5.75	3.15	3.11	29.16	18.79	
	R											
		WATER CONTENT										
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-8	A <sub>p</sub>	22.8	20.5	16.3	15.0	14.9		13.7	11.5	1.20	0.06	3.70
8-18	B <sub>2</sub>	38.0*	35.4*	25.3*	20.0*	17.5*	15.6	13.7	9.7			
	R											
		COARSE FRAGMENTS										
Depth (In.)	Horizon	Percent by Volume										
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL		
0-8	A <sub>p</sub>	0.0	0.0	1.3	2.2	2.7	3.5	7.9	10.0	27.6		
8-18	B <sub>2</sub>	0.0	1.3	3.3	6.7	4.9	5.9	7.8	10.7	40.6		
	R											
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-8	A <sub>p</sub>	2.82	4.1	4.6	← meq/100g →				20.2	22.6	10.6	
8-18	B <sub>2</sub>	0.11	4.3	4.55	0.2	<0.1	<0.1	0.1	20.3	20.8	2.4	
	R											

\* Determined on soil passing 2 mm. sieve.

CREASEY SOIL SERIES

Site 5

Location: Route 1, Robbinston, Washington County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>1</sub>	0-2"	Very dark gray (5YR 3/1) sandy loam; weak, very fine, granular structure; very friable; abrupt, wavy boundary.
A <sub>2</sub>	2-4"	Reddish gray (5YR 5/2) sandy loam; weak, very fine, granular structure; very friable; abrupt, wavy boundary.
B <sub>21</sub>	4-12"	Dark reddish brown (5YR 3/3) sandy loam; moderate, fine, granular structure; very friable; abrupt, wavy boundary.
B <sub>22</sub>	12-14"	Yellowish red (5YR 4/6) sandy loam; moderate, fine, granular and moderate, very fine, sub-angular blocky structure; friable.
R		Bedrock.

Soil Series

Creasey

Site No. 5

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-2	A <sub>1</sub>	62.52	28.72	8.76	10.03	22.17	15.82	9.08	5.42	14.06	14.66	
2-4	A <sub>2</sub>	61.95	29.17	8.88	11.80	21.48	14.85	8.76	5.06	11.29	17.88	
4-12	B <sub>21</sub>	53.26	27.56	19.18	10.52	18.46	13.33	7.19	3.76	11.21	16.35	
12-14	B <sub>22</sub>	65.31	18.40	16.29	15.76	24.32	15.72	6.72	2.79	6.61	11.79	
		WATER CONTENT										
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-2	A <sub>1</sub>	27.4	25.2	21.0	20.7	20.6	10.5	9.0	6.2	1.00	0.15	11.29
2-4	A <sub>2</sub>	19.2	17.4	13.0	11.4	10.8	9.0	8.2	7.8	1.24	0.06	6.21
4-12	B <sub>21</sub>	23.0	22.5	21.0	20.6	20.4	14.8	13.2	11.5	1.08	0.10	
12-14	B <sub>22</sub>	17.8	16.7	15.2	14.9	14.9	12.5	12.1	10.4	1.26	0.06	
		COARSE FRAGMENTS										
Depth (In.)	Horizon	Percent by Volume									TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-2	A <sub>1</sub>	0.0	0.0	0.0	0.7	0.4	0.4	1.1	1.2	3.8		
2-4	A <sub>2</sub>	0.0	0.0	0.0	0.4	0.1	0.4	1.4	1.8	4.1		
4-12	B <sub>21</sub>	0.0	0.5	0.4	0.4	0.9	1.2	3.1	5.9	12.4		
12-14	B <sub>22</sub>	0.0	0.0	0.0	0.2	0.2	2.0	3.7	8.0	14.1		
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
← meq/100 →												
0-2	A <sub>1</sub>	3.19	3.8	4.2	2.2	9.6	<0.1	0.2	12.4	24.5	49.4	
2-4	A <sub>2</sub>	0.16	3.7	4.1	1.7	0.6	<0.1	0.1	11.2	13.7	18.2	
4-12	B <sub>21</sub>	0.16	3.75	4.15	1.1	0.4	<0.1	0.2	20.6	22.4	8.0	
12-14	B <sub>22</sub>	0.13	3.9	4.3	0.3	0.2	<0.1	0.1	23.6	24.3	2.9	

HARTLAND SOIL SERIES

Site 1

Location: Route 136, Auburn, Androscoggin County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-8"	Dark grayish brown (10YR 4/2) silt; moderate, fine, granular structure; friable; gradual, smooth boundary.
B <sub>21</sub>	8-16"	Grayish brown (2.5Y 5/2) silt loam; weak, fine, granular structure; friable; clear, smooth boundary.
B <sub>22</sub>	16-25"	Light olive brown (2.5Y 5/4) silt loam; weak, fine, granular structure; friable; gradual, smooth boundary.
C <sub>1</sub>	25-33"	Light olive brown (2.5Y 5/4) silt loam with olive gray (5Y 5/2) silt coatings and light olive gray (5Y 6/2) polygons; moderate, coarse, granular structure; firm in place, friable when removed; clear, smooth boundary.
C <sub>2</sub>	33-64"	Pale olive (5Y 6/3) sand lenses and olive gray (5Y 4/2) silt lenses, silt loam; structureless; firm.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-8	A <sub>p</sub>	9.73	84.41	5.86	0.19	0.48	1.06	5.85	2.15	56.36	28.05	
8-16	B <sub>21</sub>	24.63	65.81	9.56	0.18	0.21	0.56	3.79	19.89	35.17	30.64	
16-25	B <sub>22</sub>	26.08	64.80	9.12	0.09	0.18	0.42	3.59	21.80	39.21	25.59	
25-33	C <sub>1</sub>	28.89	62.35	8.76	0.03	0.12	0.31	3.84	24.59	41.19	21.16	
33-64	C <sub>2</sub>	34.78	56.50	8.72	0.02	0.15	0.38	4.48	29.75	41.28	15.22	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon	60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		0-8	A <sub>p</sub>	44.2	41.4	34.4	32.7	32.7	17.2	15.2	13.7	1.08
8-16	B <sub>21</sub>	32.8	29.9	21.9	19.5	18.7	12.5	11.8	7.3	1.36	0.20	
16-25	B <sub>22</sub>	27.7	24.7	18.3	15.6	14.1	10.3	8.6	6.0	1.55	0.19	
25-33	C <sub>1</sub>	25.4	24.1	20.3	18.9	18.0	8.5	7.5	5.3	1.52	0.23	
33-64	C <sub>2</sub>	24.1	22.1	16.4	14.8	13.2	6.9	5.9	4.2	1.64	0.20	
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon	3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL		
		0-8	A <sub>p</sub>								<0.1	<0.1
8-16	B <sub>21</sub>									<0.1	<0.1	
16-25	B <sub>22</sub>									<0.1	<0.1	
25-33	C <sub>1</sub>									<0.1	<0.1	
33-64	C <sub>2</sub>									<0.1	<0.1	
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
			meq/100g									
0-8	A <sub>p</sub>	3.06	5.8	6.1	7.2	1.3	<0.1	0.2	11.2	20.0	44.0	
8-16	B <sub>21</sub>	0.71	5.25	5.7	1.5	0.3	<0.1	<0.1	7.6	9.6	20.8	
16-25	B <sub>22</sub>	0.20	5.05	5.5	0.8	<0.1	<0.1	<0.1	5.2	6.3	17.5	
25-33	C <sub>1</sub>	0.08	5.2	5.65	0.6	0.2	<0.1	0.3	4.0	5.2	23.1	
33-64	C <sub>2</sub>	0.02	5.15	5.6	1.1	<0.1	<0.1	<0.1	3.2	4.6	30.4	



HARTLAND SOIL SERIES

Site 2

Location: Route 136, Auburn, Androscoggin County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>	<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
Ap <sub>1</sub>	0-3"	Dark grayish brown (10YR 4/2) silt loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.	B <sub>22</sub>	20-29"	Olive gray (5Y 4/2) silty clay; moderate, fine, platy and coarse, prismatic structure; firm; clear, wavy boundary.
Ap <sub>2</sub>	3-8"	Dark grayish brown (10YR 4/2) silt loam; weak, coarse, platy and weak, medium, granular structure; friable; abrupt; irregular boundary.	B <sub>23</sub>	29-34"	Olive gray (5Y 4/2) silty clay loam; weak and moderate, fine, platy and weak, coarse, prismatic structure; firm; abrupt, wavy boundary.
B <sub>1</sub>	8-12"	Dark grayish brown (2.5Y 4/2) silt loam with common, medium, distinct grayish brown (2.5Y 5/2) and yellowish brown (10YR 5/4) mottles; weak, medium, platy structure; firm; abrupt, irregular boundary.	II C <sub>1</sub>	34-43"	Light olive brown (2.5Y 5/4) thin sand lenses, olive (5Y 5/3) thin silt lenses, and olive gray (5Y 4/2) thin silt and clay lenses having a composite texture of sandy loam; firm; massive, structureless; abrupt, wavy boundary.
B <sub>21</sub>	12-20"	Olive gray (5Y 4/2) silty clay loam; weak, medium, platy and coarse, prismatic structure; firm; clear, wavy boundary.	II C <sub>2</sub>	43-60"	Light olive brown (2/5Y 5/4) sand; single grain, structureless; loose.

Depth (In.)	Horizon	TOTAL SAND											
		TOTAL			SAND				SILT				
		Sand (2-.05)	Silt (.05-.002)	Clay ( $<.002$ )	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)		
Percent of $<2\text{mm.}$													
0-9	A <sub>p</sub>	23.38	68.53	8.09	0.79	2.90	4.14	6.09	9.46	36.36	32.17		
9-11	B <sub>1</sub>	21.43	70.19	8.38	0.74	2.16	3.61	5.64	9.28	40.07	30.12		
11-17	B <sub>21</sub>	23.16	72.72	4.12	1.05	2.37	3.62	5.83	10.29	41.80	30.92		
17-23	B <sub>22</sub>	16.82	74.30	8.88	0.19	1.08	2.60	3.52	9.43	40.41	33.89		
23-27	II C <sub>1</sub>	91.93	4.66	3.41	7.91	18.09	28.94	34.26	2.13	1.38	3.28		
Depth (In.)	Horizon	WATER CONTENT									Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		Bar Pressures											
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.				
0-9	A <sub>p</sub>	62.3	58.2	50.8	50.4	49.9	23.8	16.9	15.4	0.84	0.30		
9-11	B <sub>1</sub>	52.5	47.1	36.4	34.7	34.4	17.1	14.5	14.0	0.91	0.20		
11-17	B <sub>21</sub>	56.2	51.3	41.1	38.5	36.5	16.0	13.6	13.1	0.97	0.27		
17-23	B <sub>22</sub>	30.3	28.5	23.2	20.2	19.7	12.6	11.2	7.8	1.33	0.20		
23-27	II C <sub>1</sub>	8.9	8.0	7.2	7.2	7.0	3.3	3.2	2.5	1.56	0.07		
Depth (In.)	Horizon	COARSE FRAGMENTS									TOTAL		
		Percent by Volume											
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches				
0-9	A <sub>p</sub>									<0.1	<0.1		
9-11	B <sub>1</sub>									<0.1	<0.1		
11-17	B <sub>21</sub>									<0.1	<0.1		
17-23	B <sub>22</sub>									<0.1	<0.1		
23-27	II C <sub>1</sub>									<0.1	<0.1		
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.		
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K					
meq/100g													
0-9	A <sub>p</sub>	4.32	5.3	5.7	4.9	1.6	<0.1	1.1	16.2	23.9	32.2		
9-11	B <sub>1</sub>	3.14	5.0	5.6	2.2	1.4	<0.1	0.5	17.4	21.6	19.4		
11-17	B <sub>21</sub>	2.50	4.9	5.5	1.0	1.1	<0.1	0.6	19.6	22.4	12.5		
17-23	B <sub>22</sub>	0.51	5.05	5.7	0.3	0.4	<0.1	1.0	8.4	10.2	17.6		
23-27	II C <sub>1</sub>	0.33	5.05	5.7	0.2	<0.1	<0.1	0.2	4.4	5.0	12.0		

Soil Series

Hartland

Site No.2 (Continued)

		SIZE CLASS AND PARTICLE DIAMETER (mm)									
Depth (In.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
Percent of <2mm.											
29-34	B <sub>23</sub>	7.77	57.01	35.22	0.04	0.08	1.96	4.34	1.35	8.89	48.12
34-43	II C <sub>1</sub>	76.82	14.62	8.56	0.29	0.79	21.31	48.11	6.32	6.77	7.85
41-60	II C <sub>2</sub>	95.76	1.91	2.33	1.25	6.29	36.27	46.75	5.20	0.82	1.09
WATER CONTENT											
Bar Pressures											
Depth (In.)	Horizon	60 cm. pct.	pct.						Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
			0.1	0.33	0.67	1.0	3.0	5.0			
29-34	B <sub>23</sub>	27.4	26.9	25.9	25.9	25.8	22.0	18.2	14.6	1.62	0.18
34-43	II C <sub>1</sub>	14.0	13.0	11.7	10.9	9.8	5.7	4.8	3.8	1.64	0.13
43-60	II C <sub>2</sub>	11.0	9.20	7.4	6.7	5.1	2.2	2.0	1.8	1.57	0.09
COARSE FRAGMENTS											
Percent by Volume											
Depth (In.)	Horizon	3+	3-2	2-1.5	1.5-1	1-.75	.75-.50	.50-.25	.25-2mm.	TOTAL	
		inches	inches	inches	inches	inches	inches	inches	inches	inches	
29-34	B <sub>23</sub>								<0.1	<0.1	
34-43	II C <sub>1</sub>								<0.1	<0.1	
43-60	II C <sub>2</sub>								<0.1	<0.1	
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K			
meq/100g											
29-34	B <sub>23</sub>	0.15	5.2	5.8	5.2	14.2	<0.1	0.3	6.6	26.4	75.0
34-43	II C <sub>1</sub>	0.06	4.8	5.3	0.3	0.2	<0.1	0.1	3.3	4.0	17.5
43-60	II C <sub>2</sub>	0.06	5.0	5.4	<0.1	<0.1	<0.1	<0.1	1.7	2.1	19.0

Soil Series

Hartland

Site No. 2

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay ( $<.002$ )	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of $<2\text{mm}$ .												
0-3	A <sub>p1</sub>	17.81	65.92	16.27	0.33	1.45	5.66	6.99	3.38	22.71	43.21	
3-8	A <sub>p2</sub>	17.73	65.84	16.43	0.26	1.39	5.86	6.86	3.36	22.40	43.44	
8-12	B <sub>1</sub>	13.93	65.76	20.31	0.19	1.61	4.96	5.04	2.13	27.88	37.88	
12-20	B <sub>21</sub>	7.41	57.86	34.73	0.02	0.65	2.86	2.78	1.10	11.66	46.20	
20-29	B <sub>22</sub>	4.79	50.77	44.44	0.03	0.18	1.93	1.96	0.69	5.82	44.95	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon									Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-3	A <sub>p1</sub>	55.2	50.9	42.6	41.3	41.1	20.8	14.9	14.3	0.80	0.23	
3-8	A <sub>p2</sub>	43.3	40.3	31.1	27.9	27.1	16.5	13.3	10.6	1.15	0.24	
8-12	B <sub>1</sub>	23.6	22.8	20.7	19.8	19.2	15.0	12.4	8.6	1.64	0.20	
12-20	B <sub>21</sub>	23.4	22.9	22.0	21.6	21.6	17.7	15.0	12.0	1.70	0.17	
20-29	B <sub>22</sub>	24.5	24.1	23.5	23.2	23.0	23.0	20.3	16.7	1.70	0.12	
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon									.25-.2mm. inches	TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches				
0-3	A <sub>p1</sub>									<0.1	<0.1	
3-8	A <sub>p2</sub>									<0.1	<0.1	
8-12	B <sub>1</sub>									<0.1	<0.1	
12-20	B <sub>21</sub>									<0.1	<0.1	
20-29	B <sub>22</sub>									<0.1	<0.1	
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1								
					Ca	Mg	Na	K				
meq/100g												
0-3	A <sub>p1</sub>	3.18	4.25	4.55	1.1	<0.1	<0.1	<0.1	16.7	18.1	7.7	
3-8	A <sub>p2</sub>	1.90	4.3	4.75	0.4	<0.1	<0.1	0.2	13.8	14.6	5.5	
8-12	B <sub>1</sub>	0.51	4.5	5.1	1.5	1.1	<0.1	0.2	8.2	11.1	26.1	
12-20	B <sub>21</sub>	0.21	4.95	5.6	4.6	2.1	<0.1	<0.1	6.7	13.6	50.7	
20-29	B <sub>22</sub>	0.16	5.2	5.85	4.8	15.6	<0.1	0.3	6.7	27.5	75.6	

HARTLAND SOIL SERIES

Site 3

Location: Route 125, Lisbon Falls, Androscoggin County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>	<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
Ap	0-9"	Very dark grayish brown (10YR 3/2) silt loam; moderate, fine, granular structure; friable; abrupt, wavy boundary.	II C <sub>1</sub>	23-27"	Light olive brown (2.5Y 5/6) sand; weak, fine, granular structure; friable, abrupt, wavy boundary.
B <sub>1</sub>	9-11"	Brown (10YR 4/3) silt loam; weak, fine, granular structure; friable; clear, wavy boundary.	III C <sub>2</sub>	27-29"	Olive (5Y 5/3) sandy loam; massive, structureless; firm; abrupt, wavy boundary.
B <sub>21</sub>	11-17"	Strong brown (7.5YR 5/8) silt loam; weak, fine, granular structure; friable; clear, wavy boundary.	IV C <sub>3</sub>	29-32"	Light olive brown (2.5Y 5/6) loamy sand; single grain, structureless; friable; abrupt, smooth boundary.
B <sub>22</sub>	17-23"	Light olive brown (2.5Y 5/4) silt loam; weak, medium, granular structure; firm; abrupt, irregular boundary.	V C <sub>4</sub>	32-36"	Olive (5Y 4/3) silt loam; weak, fine, platy structure; firm; abrupt, smooth boundary.
			VI C <sub>5</sub>	36-48"	Light olive brown (2.5Y 5/6) sand lenses and olive (5Y 4/3) silt lenses having a composite texture of loamy sand; sand lenses are single grain and the silt lenses are massive; firm.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay ( $<.002$ )	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
		Percent of $<2\text{mm}$ .										
27-29	III C <sub>2</sub>	57.80	33.90	8.30	1.54	7.24	23.62	18.35	7.05	18.23	15.67	
29-32	IV C <sub>3</sub>	85.06	10.82	4.12	9.19	21.28	34.02	17.19	3.38	6.44	4.38	
32-36	V C <sub>4</sub>	25.39	65.49	9.12	1.50	4.40	7.63	6.37	5.49	33.34	32.15	
36-48	VI C <sub>5</sub>	81.08	14.38	4.54	2.43	5.88	20.24	39.41	13.12	7.57	6.81	
		WATER CONTENT										
		Bar Pressures										
Depth (In.)	Horizon	60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>c</sup> cm./hr.
		27-29	III C <sub>2</sub>	16.7	15.4	13.7	13.5	13.1	8.5	7.9	5.4	1.61
29-32	IV C <sub>3</sub>	9.4	8.7	7.9	7.9	7.6	3.6	3.5	2.6	1.50	0.08	
32-36	V C <sub>4</sub>	31.5	29.5	24.0	21.8	20.7	9.9	8.3	5.9	1.33	0.24	
36-48	VI C <sub>5</sub>	16.8	14.3	12.2	11.8	11.2	5.1	5.0	3.9	1.58	0.13	
		COARSE FRAGMENTS Percent by Volume										
Depth (In.)	Horizon	3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL		
		27-29	III C <sub>2</sub>								<0.1	<0.1
29-32	IV C <sub>3</sub>									<0.1	<0.1	
32-36	V C <sub>4</sub>									<0.1	<0.1	
36-48	VI C <sub>5</sub>									<0.1	<0.1	
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
		← meq/100g →										
27-29	III C <sub>2</sub>	0.29	5.1	5.7	0.2	0.2	<0.1	0.8	6.4	7.7	16.9	
29-32	IV C <sub>3</sub>	0.29	5.0	5.7	0.2	<0.1	<0.1	0.3	4.2	4.9	14.3	
32-36	V C <sub>4</sub>	0.37	4.9	5.6	0.2	0.1	<0.1	1.8	7.2	9.4	23.4	
36-48	VI C <sub>5</sub>	0.11	4.75	5.2	0.2	<0.1	<0.1	0.4	4.9	5.7	14.0	

HARTLAND SOIL SERIES

Site 4

Location: Route 126, Wales, Androscoggin County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-8"	Dark grayish brown (10YR 4/3) silt loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>1</sub>	8-11"	Dark yellowish brown (10YR 4/4) silt loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>2</sub>	11-21	Yellowish brown (10YR 5/8) and light olive brown (2.5Y 5/6) silt loam; weak, fine, granular structure; friable; gradual, smooth boundary.
II C <sub>1</sub>	21-34"	Olive (5Y 5/4) and olive brown (2.5Y 5/4) silt loam; weak, coarse, platy structure; firm; abrupt, smooth boundary.
II C <sub>2</sub>	34-54"	Yellowish brown (10YR 5/4) sand lenses and olive (5Y 5/4) silt lenses having a composite texture of silt loam; weak, fine, platy structure; firm.

Soil Series

Hartland

## SIZE CLASS AND PARTICLE DIAMETER (mm)

Site No. 4

Depth (In.)	Horizon	TOTAL										
		SAND			SAND				SILT			
		Sand (2-.05)	Silt (.05-.002)	Clay ( $<.002$ )	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of $<2\text{mm}$ .												
0-8	A <sub>p</sub>	17.91	72.67	9.42	1.28	2.14	2.79	4.33	7.37	37.71	34.96	
8-11	B <sub>1</sub>	17.78	75.41	6.81	1.01	2.13	2.64	3.91	8.09	38.78	36.63	
11-21	B <sub>2</sub>	15.61	77.94	6.45	0.27	1.06	1.96	3.30	9.02	42.94	35.00	
21-34	II C <sub>1</sub>	32.18	60.55	7.27	0.50	1.54	3.82	6.05	20.27	41.70	18.85	
34-54	II C <sub>2</sub>	37.13	56.93	5.94	0.04	0.86	4.70	6.43	25.10	44.09	12.84	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon	60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>c</sup> cm./hr.
0-8	A <sub>p</sub>	52.2	48.4	40.4	40.0	38.8	22.3	17.5	17.0	0.97	0.23	
8-11	B <sub>1</sub>	52.4	48.2	38.2	38.0	37.9	17.7	14.7	14.1	1.01	0.24	
11-21	B <sub>2</sub>	46.4	43.3	35.9	33.3	30.0	15.0	13.4	10.0	1.12	0.29	
21-34	II C <sub>1</sub>	26.9	25.2	20.9	18.9	17.9	10.3	9.1	5.9	1.57	0.24	
24-54	II C <sub>2</sub>	23.0	21.8	17.1	15.5	14.6	7.9	7.6	6.2	1.70	0.18	
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon	3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL		
0-8	A <sub>p</sub>								<0.1	<0.1		
8-11	B <sub>1</sub>								<0.1	<0.1		
11-21	B <sub>2</sub>								<0.1	<0.1		
21-34	II C <sub>1</sub>								<0.1	<0.1		
34-54	II C <sub>2</sub>								<0.1	<0.1		
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-8	A <sub>p</sub>	5.56	5.0	5.4	←-----meq/100g----->				16.8	21.3	21.1	
8-11	B <sub>1</sub>	2.62	5.0	5.4	3.7	0.6	<0.1	0.1	14.5	17.1	15.2	
11-21	B <sub>2</sub>	1.14	4.95	5.4	2.1	0.3	<0.1	<0.1	12.7	13.6	6.6	
21-34	II C <sub>1</sub>	0.19	5.1	5.45	0.6	0.1	<0.1	<0.1	6.5	7.0	7.1	
34-54	II C <sub>2</sub>	0.06	4.9	5.3	0.2	<0.1	<0.1	0.1	4.7	6.3	25.4	



HARTLAND SOIL SERIES

Site 5

Location: Route 106, Leeds, Androscoggin County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-7"	Dark brown (10YR 4/3) loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>21</sub>	7-11"	Light olive brown (2.5Y 5/4) loam; weak, fine, granular structure; friable; gradual, wavy boundary.
B <sub>22</sub>	11-22"	Olive (5Y 4/3) loam; weak, fine, granular structure; friable; clear, smooth boundary.
II C <sub>1</sub>	22-34"	Light olive brown (2.5Y 5/6) sand lenses and olive (5Y 4/3) silt lenses having a composite texture of loamy sand; weak, coarse, platy structure; firm.
II C <sub>2</sub>	34-46"	Like horizon above.
II C <sub>3</sub>	46-58"	Like horizon above.

## SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay ( $<.002$ )	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
0-7	A <sub>p</sub>	47.72	43.72	8.56	1.99	6.35	11.69	16.54	11.15	16.24	27.48	
7-11	B <sub>21</sub>	39.85	47.79	12.36	2.03	5.49	9.05	14.03	9.25	13.52	34.27	
11-22	B <sub>22</sub>	46.37	36.81	16.82	1.59	8.33	14.89	14.57	6.99	11.96	24.85	
22-34	II C <sub>1</sub>	80.42	14.85	4.73	0.07	1.15	8.75	40.85	29.60	11.53	3.32	
34-46	II C <sub>2</sub>	80.19	17.03	2.78	0.02	0.24	3.74	34.85	41.34	15.06	1.97	
46-58	II C <sub>3</sub>	85.33	12.85	1.82	0.05	0.28	5.15	43.39	36.46	11.95	0.90	
WATER CONTENT												
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-7	A <sub>p</sub>	38.2	35.3	28.7	27.9	27.6	15.8	12.9	11.1	1.28	0.22	
7-11	B <sub>21</sub>	30.8	28.6	24.7	23.5	22.6	14.9	13.0	8.1	1.48	0.24	
11-22	B <sub>22</sub>	22.8	20.6	18.1	17.2	16.6	13.2	11.5	7.2	1.55	0.17	
22-34	II C <sub>1</sub>	23.2	16.3	9.9	8.5	7.6	4.0	3.5	2.6	1.54	0.11	
34-46	II C <sub>2</sub>	25.8	18.1	8.2	6.8	4.8	2.9	2.8	2.1	1.58	0.10	
46-58	II C <sub>3</sub>	22.8	15.2	7.7	7.1	6.4	2.1	1.9	1.4	1.60	0.10	
COARSE FRAGMENTS												
Depth (In.)	Horizon	Percent by Volume									TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-7	A <sub>p</sub>									<0.1	<0.1	
7-11	B <sub>21</sub>									<0.1	<0.1	
11-22	B <sub>22</sub>									<0.1	<0.1	
22-34	II C <sub>1</sub>									<0.1	<0.1	
34-46	II C <sub>2</sub>									<0.1	<0.1	
46-58	II C <sub>3</sub>									<0.1	<0.1	
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Bases							
					Ca	Mg	Na	K				
					meq/100g							
0-7	A <sub>p</sub>	2.32	4.8	5.3	1.1	0.7	<0.1	0.1	13.4	15.4	13.0	
7-11	B <sub>21</sub>	0.39	4.9	5.2	0.2	0.3	<0.1	0.1	7.9	8.6	8.1	
11-22	B <sub>22</sub>	0.24	4.65	5.05	0.2	0.3	<0.1	0.1	6.6	7.3	9.6	
22-34	II C <sub>1</sub>	0.10	4.65	4.9	<0.1	<0.1	<0.1	<0.1	3.0	3.4	11.8	
34-46	II C <sub>1</sub>	0.00	5.0	5.2	<0.1	<0.1	<0.1	<0.1	2.0	2.4	16.7	
46-58	II C <sub>2</sub>	0.00	5.0	5.2	<0.1	<0.1	<0.1	<0.1	1.4	1.8	22.2	

PERU SOIL SERIES

Site 1

Location: Embden, Somerset County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
O <sub>1</sub>	1-0"	Loose leaves.
A <sub>1</sub>	0-3"	Very dark grayish brown (10YR 3/2) silt loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
A <sub>2</sub>	Trace	
B <sub>21</sub>	3-14"	Dark yellowish brown (10YR 4/4) silt loam; weak, fine, granular structure; friable; abrupt, wavy boundary.
B <sub>22</sub>	14-18"	Olive (5Y 5/4) sandy loam with few, fine, distinct, yellowish brown (10YR 5/8) mottles; weak, medium, platy structure; firm; gradual, wavy boundary.
C <sub>x</sub>	18-40"	Olive (5Y 5/4) silt loam with dark yellowish brown (10YR 4/4) common, medium, prominent, mottles, and light olive gray (5Y 6/2) prism faces; strong, medium, platy and medium prismatic structure; firm.

Soil Series

Paru

SIZE CLASS AND PARTICLE DIAMETER (mm)

Site No. 1

Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
0-3	A <sub>1</sub>	40.01	50.16	9.83	4.21	4.77	5.94	11.58	13.51	18.80	31.36	
3-14	B <sub>21</sub>	40.72	53.93	5.35	4.45	5.35	6.19	11.77	12.96	21.27	32.66	
14-18	B <sub>22</sub>	50.82	44.11	5.07	6.81	7.96	8.64	14.11	13.30	12.65	31.46	
18-40	C <sub>v</sub>	38.68	55.97	5.35	3.35	5.29	6.56	10.86	12.62	25.47	30.50	
WATER CONTENT												
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-3	A <sub>1</sub>	69.5	66.5	56.6	54.9	47.9	20.5	18.6	16.7	0.61	0.24	
3-14	B <sub>21</sub>	55.5	51.8	42.0	40.4	37.7	15.8	13.6	10.8	0.88	0.27	
14-18	B <sub>22</sub>	38.5	36.3	26.5	23.9	21.7	10.9	9.7	7.1	1.05	0.20	
18-40	C <sub>v</sub>	26.8	24.1	20.5	19.5	17.5	8.7	7.3	4.7	1.33	0.21	
COARSE FRAGMENTS												
Depth (In.)	Horizon	Percent by Volume								.25-2mm. inches	TOTAL	
		2+ inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches					
0-3	A <sub>1</sub>	12.8	0.0	1.1	<0.1	0.1	0.3	0.6	14.9			
3-14	B <sub>21</sub>	1.0	0.4	0.3	0.2	0.1	0.4	1.2	3.6			
14-18	B <sub>22</sub>	0.0	1.0	0.3	0.8	0.7	1.2	2.2	6.2			
18-40	C <sub>v</sub>	11.8	2.3	1.6	1.1	1.1	1.7	2.9	22.5			
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
0-3	A <sub>1</sub>	6.40	4.0	4.45	meq/100g				27.1	28.0	3.2	
3-14	B <sub>21</sub>	2.08	4.5	4.9	0.5	0.1	<0.1	0.2	20.3	20.9	2.9	
14-18	B <sub>22</sub>	1.40	4.55	4.9	0.3	<0.1	<0.1	<0.1	15.2	15.8	3.6	
18-40	C <sub>v</sub>	0.58	4.7	4.85	0.2	<0.1	<0.1	<0.1	9.2	9.7	4.6	

PERU SOIL SERIES

Site 2

Location; Northeast slope of Savage Hill, Concord Twp., Somerset County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
O <sub>1</sub>	1-0"	Loose leaves.
A <sub>1</sub>	0-4"	Very dark grayish brown (10YR 3/2) silt loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>21</sub>	4-7"	Brown (7.5YR 4/2) silt loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>22</sub>	7-14"	Dark grayish brown (10YR 4/2) silt loam with few, fine, faint, dark yellowish brown (10YR 3/4) mottles; moderate, fine, granular structure; friable; gradual, wavy boundary.
B <sub>3</sub>	14-20"	Grayish brown (2.5Y 5/2) silt loam with common, medium, distinct, dark yellowish brown (10YR 3/4) mottles; weak, medium, platy structure; firm; abrupt, smooth boundary.
C <sub>x</sub>	20-40"	Olive (5Y 5/4) loam with many, medium, prominent, yellowish brown (10YR 5/6) mottles; strong, coarse, platy structure; very firm.

Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-4	A <sub>1</sub>	22.26	63.03	14.71	2.34	3.08	3.50	5.62	7.72	30.34	32.69	
4-7	B <sub>21</sub>	26.83	62.88	10.29	3.08	4.24	4.58	6.51	8.42	26.38	36.50	
7-14	B <sub>22</sub>	26.58	61.73	11.69	2.05	4.21	4.89	6.83	8.60	27.68	34.05	
14-20	B <sub>3</sub>	24.73	62.81	12.46	3.43	3.63	3.80	5.70	8.17	24.47	38.34	
20-40	C <sub>1</sub>	42.32	48.28	9.40	6.10	7.69	7.93	10.80	9.80	20.02	28.26	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon	60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
0-4	A <sub>1</sub>	75.4	68.4	61.1	61.1	60.5	42.8	20.8	28.0	0.51	0.17	
4-7	B <sub>21</sub>	49.6	47.0	38.8	35.9	35.2	17.7	14.8	13.4	0.93	0.24	
7-14	B <sub>22</sub>	51.4	47.7	36.3	31.0	30.7	16.5	13.9	11.4	0.90	0.22	
14-20	B <sub>3</sub>	20.3	19.2	15.2	14.1	13.7	13.6	13.6	11.9	1.56	0.05	
20-40	C <sub>1</sub>	11.6	11.2	9.4	8.2	7.7	7.3	6.3	3.6	1.91	0.11	
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon		2+	2-1.5	1.5-1	1-.75	.75-.50	.50-.25	.25-2mm.	TOTAL		
			Inches	inches	inches	inches	inches	inches	inches			
0-4	A <sub>1</sub>		30.5	1.1	0.2	<0.1	0.3	0.3	0.5	32.9		
4-7	B <sub>21</sub>		12.7	0.5	1.3	0.7	0.4	0.5	0.7	16.8		
7-14	B <sub>22</sub>		5.5	0.2	0.6	0.3	0.2	0.2	0.3	7.3		
14-20	B <sub>3</sub>		23.2	1.4	1.0	0.4	0.5	0.5	0.7	27.7		
20-40	C <sub>1</sub>		1.8	0.7	0.5	0.6	0.5	1.0	2.4	7.5		
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub>	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
meq/100g												
0-4	A <sub>1</sub>	8.13	4.4	4.8	10.2	1.1	<0.1	0.3	21.8	33.5	34.9	
4-7	B <sub>21</sub>	3.46	4.55	5.0	2.7	0.4	<0.1	0.2	18.7	22.1	15.5	
7-14	B <sub>22</sub>	2.24	4.65	5.3	1.8	0.3	<0.1	0.2	17.3	19.7	12.2	
14-20	B <sub>3</sub>	2.23	4.65	5.2	1.8	0.3	<0.1	0.1	19.4	21.7	10.7	
20-40	C <sub>1</sub>	0.28	5.0	5.65	1.1	0.3	<0.1	<0.1	4.6	6.2	9.6	

PERU SOIL SERIES

Site 3

Location: Southeast slope of Savage Hill, Concord Twp., Somerset County, Maine

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
O <sub>1</sub>	1-0"	Loose leaves.
A <sub>1</sub>	0-5"	Dark yellowish brown (10YR 3/4) silt loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>21</sub>	5-10"	Dark yellowish brown (10YR 4/4) silt loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>22</sub>	10-17"	Very dark grayish brown (10YR 3/2) silt loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
C <sub>x</sub>	17-40"	Olive (5Y 5/3) silt loam with common, medium, prominent, yellowish brown (10YR 5/6) mottles; strong, medium, platy structure; very firm.

		SIZE CLASS AND PARTICLE DIAMETER (mm)										
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-5	A <sub>1</sub>	36.57	56.60	6.83	2.14	4.03	5.99	11.79	12.62	29.79	26.81	
5-10	B <sub>21</sub>	34.69	53.80	11.51	2.22	4.36	6.69	10.58	10.84	23.78	30.02	
10-17	B <sub>22</sub>	24.16	64.74	11.10	1.96	2.77	3.97	6.63	8.83	28.26	36.48	
17-40	C <sub>x</sub>	36.54	54.62	8.84	4.77	5.10	6.65	9.63	10.39	15.83	38.79	
		WATER CONTENT										
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>c</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-5	A <sub>1</sub>	38.4	37.6	32.6	31.2	31.1	15.1	12.4	11.9	0.99	0.20	
5-10	B <sub>21</sub>	34.1	32.6	26.0	24.2	24.0	13.0	11.0	9.1	1.09	0.18	
10-17	B <sub>22</sub>	70.6	68.0	59.3	56.5	56.0	18.5	15.7	14.2	0.70	0.32	
17-40	C <sub>x</sub>	24.0	23.0	18.4	16.4	15.8	8.8	6.7	3.7	1.57	0.23	
		COARSE FRAGMENTS										
Depth (In.)	Horizon	Percent by Volume								TOTAL		
		2+ inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches				
0-5	A <sub>1</sub>	0.0	0.0	0.0	0.0	<0.1	<0.1	0.6	0.6			
5-10	B <sub>21</sub>	71.3	0.0	0.0	0.0	0.0	<0.1	0.3	71.6			
10-17	B <sub>22</sub>	2.2	0.8	0.7	0.5	0.5	0.3	1.0	6.0			
17-40	C <sub>x</sub>	1.5	0.7	1.3	1.2	0.9	1.4	3.5	10.5			
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
meq/100g												
0-5	A <sub>1</sub>	3.56	4.6	5.0	2.7	0.3	<0.1	0.2	14.8	18.1	18.2	
5-10	B <sub>21</sub>	2.59	4.75	5.15	1.3	0.2	0.1	0.2	12.9	14.7	12.0	
10-17	B <sub>22</sub>	3.91	4.75	5.2	2.2	0.2	<0.1	0.2	17.7	20.4	13.4	
17-40	C <sub>x</sub>	0.33	5.1	5.8	1.1	0.2	<0.1	0.1	4.6	6.1	24.6	



PERU SOIL SERIES

Site 4

Location: Crockertown, Franklin County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
O <sub>1</sub>	2-0"	Loose leaves.
A <sub>1</sub>	0-6"	Very dark brown (10YR 2/2) loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>21</sub>	6-9"	Dark brown (7.5YR 4/2) loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>22</sub>	9-19"	Brown (10YR 4/3) loam; weak, fine, granular structure; friable; gradual, wavy boundary.
C <sub>1</sub>	19-40"	Olive (5Y 5/4) sandy loam with many, medium, prominent, brown (10YR 4/3) mottles; moderate, medium, platy structure; firm.

Soil Series

Peru

SIZE CLASS AND PARTICLE DIAMETER (mm)

Site No. 4

Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
0-6	A <sub>1</sub>	33.62	43.93	22.45	3.52	4.50	6.17	10.59	8.84	18.84	25.09	
6-9	B <sub>21</sub>	29.99	47.82	22.19	3.12	3.86	5.18	9.69	8.14	17.51	30.31	
9-19	B <sub>22</sub>	41.52	38.61	19.87	6.20	7.03	7.86	11.44	8.99	16.34	22.27	
19-40	C <sub>x</sub>	59.52	34.62	5.86	9.04	11.10	12.85	15.65	10.88	17.57	17.05	
Depth (In.)	Horizon	WATER CONTENT								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		Bar Pressures										
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-6	A <sub>1</sub>	139.1	127.7	110.4	106.9	105.4	46.1	38.3	34.9	0.36	0.27	
6-9	B <sub>21</sub>	65.6	60.6	50.8	48.4	46.7	26.0	21.8	20.0	0.81	0.25	
9-19	B <sub>22</sub>	55.8	53.1	48.3	46.8	45.5	18.0	15.8	13.1	0.81	0.28	
19-40	C <sub>x</sub>	18.8	17.8	15.7	14.9	19.8	7.5	6.1	4.5	1.65	0.18	
Depth (In.)	Horizon	COARSE FRAGMENTS										
		Percent by Volume										
			2+ inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL		
0-6	A <sub>1</sub>		0.0	0.0	0.0	0.0	<0.1	0.1	0.4	0.5		
6-9	B <sub>21</sub>		8.9	0.0	0.0	0.0	<0.1	<0.1	0.5	9.4		
9-19	B <sub>22</sub>		3.0	0.5	1.0	0.6	0.5	0.7	2.1	8.4		
19-40	C <sub>x</sub>		4.6	0.4	1.1	1.4	1.5	2.6	5.7	17.3		
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub>	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
					meq/100g							
0-6	A <sub>1</sub>	5.78	4.65	4.95	6.4	0.8	<0.1	0.3	32.3	39.9	19.0	
6-9	B <sub>21</sub>	3.75	4.6	4.7	2.5	0.9	<0.1	0.2	23.1	26.8	13.8	
9-19	B <sub>22</sub>	2.18	4.65	4.9	1.3	0.3	<0.1	0.1	18.7	20.5	8.8	
19-40	C <sub>x</sub>	0.10	4.7	5.2	0.3	<0.1	<0.1	<0.1	7.1	7.7	7.8	

PERU SOIL SERIES

Site 5

Location: Route 16, Kingfield, Franklin County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
O <sub>1</sub>	1-0"	Loose leaves.
A <sub>1</sub>	0-4"	Dark brown (10YR 3/3) silt loam; weak, fine, granular structure; friable; abrupt, smooth boundary.
B <sub>21</sub>	4-10"	Dark brown (7.5YR 3/2) sandy loam; weak, fine, granular structure; friable; abrupt, wavy boundary.
B <sub>22</sub>	10-17"	Dark brown (10YR 3/3) sandy loam; weak, medium, platy structure; friable; abrupt, smooth boundary.
C <sub>x</sub>	17-40"	Grayish brown (2.5Y 5/2) sandy loam with common, medium, prominent, yellowish brown (10YR 5/6) mottles; weak, fine, platy structure; firm.

Depth (In.)	Horizon	TOTAL					SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)		
Percent of <2mm.													
0-4	A <sub>1</sub>	40.76	51.66	7.58	3.86	3.84	4.77	9.99	18.30	37.78	13.88		
4-10	B <sub>21</sub>	50.39	45.21	4.40	5.42	5.96	7.01	12.78	19.22	31.29	13.92		
10-17	B <sub>22</sub>	54.45	43.15	2.40	6.11	6.77	8.02	14.75	18.80	28.62	14.53		
17-40	C <sub>x</sub>	59.64	38.16	2.20	7.51	8.26	9.51	16.18	18.18	24.69	13.47		

Depth (In.)	Horizon	WATER CONTENT								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		Bar Pressures										
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-4	A <sub>1</sub>	87.9	77.9	67.0	65.6	64.2	21.2	21.0	17.5	0.58	0.29	
4-10	B <sub>21</sub>	65.1	58.0	39.1	36.8	36.2	11.6	10.9	9.9	0.77	0.22	
10-17	B <sub>22</sub>	44.7	40.1	26.8	24.1	23.3	8.8	8.3	7.4	1.04	0.20	
17-40	C <sub>x</sub>	20.0	17.9	12.4	11.3	10.5	5.7	5.1	4.4	1.68	0.13	

Depth (In.)	Horizon	COARSE FRAGMENTS								TOTAL
		Percent by Volume								
		2+ inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches		
0-4	A <sub>1</sub>	2.7	0.8	1.1	0.7	0.8	1.0	1.8	8.9	
4-10	B <sub>21</sub>	5.8	1.6	1.9	0.8	1.1	1.5	1.9	14.6	
10-17	B <sub>22</sub>	1.6	0.7	2.1	1.8	2.2	3.4	5.8	17.6	
17-40	C <sub>x</sub>	3.8	1.2	3.1	1.5	2.0	3.7	5.6	20.9	

Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.
			.01M CaCl <sub>2</sub>	H <sub>2</sub> O							
			2:1	1:1	Ca	Mg	Na	K			
meq/100											
0-4	A <sub>1</sub>	5.45	4.0	4.45	0.4	0.2	<0.1	0.2	23.0	23.9	3.8
4-10	B <sub>21</sub>	2.39	4.3	4.7	0.2	<0.1	<0.1	<0.1	16.5	17.0	2.9
10-17	B <sub>22</sub>	1.54	4.55	4.9	<0.1	<0.1	<0.1	<0.1	14.6	15.0	2.7
17-40	C <sub>x</sub>	0.65	4.8	4.95	<0.1	<0.1	<0.1	<0.1	8.0	8.4	4.8

WINOOSKI SOIL SERIES

Site 1

Location: Livermore, Androscoggin County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-14"	Dark brown (10YR 3/3) silt loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.
B	14-26"	Dark grayish brown (2.5Y 4/2) silt with few, fine, distinct, yellowish brown (10YR 5/6) mottles; weak, fine, granular structure; gradual, smooth boundary.
C <sub>1</sub>	26-40"	Olive gray (5Y 5/2) silt with few, medium, distinct, light olive brown (2.5Y 5/4) mottles; weak, fine, granular structure; friable.

SIZE CLASS AND PARTICLE DIAMETER (mm)												
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-14	A <sub>p</sub>	15.79	76.66	7.55	0.02	0.16	0.32	3.35	11.94	33.22	43.44	
14-26	B <sub>2</sub>	5.86	87.95	6.19	0.00	0.03	0.12	0.68	5.03	40.09	47.86	
26-40	C	5.32	90.10	4.58	0.05	0.12	0.20	0.86	4.09	36.41	53.69	
Depth (In.)	Horizon	WATER CONTENT								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		Bar Pressures										
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-14	A <sub>p</sub>	54.2	51.0	41.2	39.3	38.9	17.1	16.1	13.9	1.00	0.27	0.40
14-26	B <sub>2</sub>	56.1	53.8	47.4	46.0	45.3	12.7	10.2	7.8	0.93	0.37	2.84
26-40	C	44.5	44.1	41.8	39.9	39.4	11.7	9.2	6.0	1.18	0.42	0.59
Depth (In.)	Horizon	COARSE FRAGMENTS									TOTAL	
		Percent by Volume										
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-14	A <sub>p</sub>									<0.1	<0.1	
14-26	B <sub>2</sub>									<0.1	<0.1	
26-40	C									<0.1	<0.1	
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
			meq/100g									
0-14	A <sub>p</sub>	3.50	4.45	4.7	1.6	0.3	<0.1	0.1	15.3	17.4	12.0	
14-26	B <sub>2</sub>	1.22	4.6	5.0	0.3	0.2	<0.1	<0.1	11.3	12.0	5.4	
26-40	C	0.61	4.8	5.3	0.2	0.1	<0.1	0.1	8.9	9.4	5.3	

WINOOSKI SOIL SERIES

Site 2

Location: Route 136, Durham, Androscoggin County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>P</sub>	0-9"	Very dark grayish brown (10YR 3/2) sandy loam; weak, fine, granular structure; friable; clear, smooth boundary.
B	9-17"	Light olive brown (2.5Y 5/4 and 2.5Y 5/6) silt loam; weak, fine, granular structure; friable: gradual, smooth boundary.
C <sub>1</sub>	17-23"	Light olive brown (2.5Y 5/4 and 2.5Y 5/6) sandy loam with few, medium, distinct, yellowish brown (10YR 5/6) mottles; weak, fine, granular structure; friable; clear, smooth boundary.
C <sub>2</sub>	23-28"	Very dark brown (10YR 2/2) silt loam with common, coarse, prominent, light brownish gray (10YR 6/2), light olive gray (5Y 6/2) and pale olive (5Y 6/3) mottles; weak, fine, granular structure; friable; clear, smooth boundary.
C <sub>3</sub>	28-42"	Olive (5Y 5/4) silt loam with common, fine, distinct, light olive gray (5Y 6/2) and yellowish brown (10YR 5/6) mottles; weak, fine, granular structure; friable.

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (In.)	Horizon	TOTAL									
		SAND			SAND				SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
Percent of <2mm.											
0-9	A <sub>p</sub>	62.64	32.82	4.54	0.04	0.37	7.78	25.90	28.55	22.64	10.18
9-17	B <sub>2</sub>	45.65	51.42	2.93	0.00	0.03	0.33	11.91	33.38	35.24	16.18
17-23	C <sub>1</sub>	48.17	48.26	3.57	0.03	0.02	0.47	13.44	34.21	30.69	17.57
23-28	C <sub>2</sub>	45.16	51.85	2.99	0.00	0.03	0.37	11.91	32.85	32.35	19.50
28-42	C <sub>3</sub>	39.50	55.88	4.62	0.02	0.05	0.37	11.80	27.26	29.15	26.73

Depth (In.)	Horizon	WATER CONTENT										
		Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-9	A <sub>p</sub>	30.0	26.6	19.8	18.7	16.6	7.0	6.7	5.8	1.33	0.19	1.77
9-17	B <sub>2</sub>	43.6	38.0	22.8	19.5	18.9	7.5	6.5	5.2	1.07	0.19	6.11
17-23	C <sub>1</sub>	42.7	35.5	21.4	18.5	17.4	7.2	5.5	4.9	1.02	0.17	12.00
23-28	C <sub>2</sub>	41.8	34.0	22.3	20.6	19.4	7.6	6.7	5.3	1.02	0.17	3.46
28-42	C <sub>3</sub>	36.7	33.2	25.8	24.2	23.0	9.3	7.5	4.8	1.18	0.25	3.91

Depth (In.)	Horizon	COARSE FRAGMENTS									
		Percent by Volume									
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL	
0-9	A <sub>p</sub>										<0.1
9-17	B <sub>2</sub>										<0.1
17-23	C <sub>1</sub>										<0.1
23-28	C <sub>2</sub>										<0.1
28-42	C <sub>3</sub>										<0.1

Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K			
			← meq/100g →								
0-9	A <sub>p</sub>	1.67	4.3	4.7	0.2	0.1	<0.1	0.2	9.9	10.5	5.9
9-17	B <sub>2</sub>	0.74	4.6	4.9	<0.1	<0.1	<0.1	<0.1	9.0	9.4	4.2
17-23	C <sub>1</sub>	0.70	4.75	5.0	<0.1	<0.1	<0.1	<0.1	8.9	9.3	4.3
23-28	C <sub>2</sub>	0.10	4.8	5.2	0.2	<0.1	<0.1	<0.1	10.4	10.9	4.6
28-42	C <sub>3</sub>	0.35	5.0	5.3	<0.1	<0.1	<0.1	<0.1	7.0	7.4	5.4



WINOOSKI SOIL SERIES

Site 3

Location: Brown's Point Road, Bowdenham, Sagadahoc County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>P</sub>	0-10"	Olive brown (2.5Y 4/4) silt loam; moderate, fine, granular structure; friable; abrupt, smooth boundary.
B	10-22"	Light olive brown (2.5Y 5/4) silt loam with common, coarse, prominent, yellowish brown (10YR 5/8) mottles; weak, fine, granular structure; friable: abrupt, smooth boundary.
II C <sub>1</sub>	22-24"	Light olive brown (2.5Y 5/4) loamy sand; single grain, structureless; loose; abrupt, smooth boundary.
III C <sub>2</sub>	24-36"	Olive (5Y 5/3) silt loam with common, coarse, prominent, yellowish red (5YR 4/6 and 5YR 4/8) mottles; weak, fine, granular structure; friable; abrupt, smooth boundary.
IV C <sub>3</sub>	36-48"	Gray (5Y 5/1) fine sand; single grain, structureless; loose.

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (In.)	Horizon	TOTAL SAND								SILT			
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)		
Percent of <2mm.													
0-10	A <sub>p</sub>	14.61	76.33	9.06	0.18	0.43	0.78	3.86	9.36	38.99	37.34		
10-22	B <sub>2</sub>	18.18	75.63	6.19	0.01	0.14	0.52	4.86	12.65	45.95	29.68		
22-24	II C <sub>1</sub>	73.63	24.99	1.38	0.00	0.18	3.02	48.06	22.37	19.70	5.29		
24-36	III C <sub>2</sub>	38.99	59.47	1.54	0.13	0.17	2.06	6.37	30.26	50.58	8.89		
36-48	IV C <sub>3</sub>	96.74	1.58	1.68	0.09	0.62	20.78	65.29	9.96	1.13	0.45		
WATER CONTENT													
Bar Pressures													
Depth (In.)	Horizon									Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.	
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.				
0-10	A <sub>p</sub>	32.6	32.1	30.3	29.3	28.8	15.4	12.1	9.3	1.38	0.29	0.008	
10-22	B <sub>2</sub>	27.6	27.1	24.7	22.4	21.9	8.5	6.7	5.1	1.62	0.32	0.39	
22-24	II C <sub>1</sub>	*	*	*	*	*	3.8	3.3	2.9	*	*	*	
24-36	III C <sub>2</sub>	27.0	23.3	12.7	11.43	10.8	4.1	3.6	3.0	1.61	0.16	0.68	
36-48	IV C <sub>3</sub>	**	**	**	**	**	1.5	1.5	1.2	**	**	**	
COARSE FRAGMENTS													
Percent by Volume													
Depth (In.)	Horizon									.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches							
0-10	A <sub>p</sub>											<0.1	<0.1
10-22	B <sub>2</sub>											<0.1	<0.1
22-24	II C <sub>1</sub>											<0.1	<0.1
24-36	III C <sub>2</sub>											<0.1	<0.1
36-48	IV C <sub>3</sub>											<0.1	<0.1
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.		
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K					
meq/100g													
0-10	A <sub>p</sub>	2.14	4.4	4.65	0.9	0.1	<0.1	0.2	13.7	15.0	0.9		
10-22	B <sub>2</sub>	0.23	5.0	5.4	0.2	0.1	<0.1	0.1	5.4	5.9	0.8		
22-24	II C <sub>1</sub>	0.07	5.1	5.4	<0.1	<0.1	<0.1	<0.1	3.3	3.7	1.1		
24-36	III C <sub>2</sub>	0.07	5.1	5.4	<0.1	<0.1	<0.1	<0.1	3.3	3.7	1.1		
36-48	IV C <sub>3</sub>	0.00	5.1	5.5	<0.1	<0.1	<0.1	<0.1	1.2	1.6	2.5		

\* Too thin for core samples.  
 \*\* Too loose for core samples.

## WINOOSKI SOIL SERIES

## Site 4

Location: Buckfield, Oxford County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
A <sub>p</sub>	0-12"	Dark brown (10YR 3/3) loam; moderate, fine, granular structure; friable; clear, wavy boundary.
B	12-20"	Olive brown (2.5Y 4/4) very fine sandy loam; weak, fine, granular structure; friable; abrupt, wavy boundary.
C <sub>1</sub>	20-24"	Light olive brown (2.5Y 5/4) very fine sandy loam; weak, fine, granular structure; friable; abrupt, wavy boundary.
C <sub>2</sub>	24-38"	Olive brown (2.5Y 4/4) loam with common, coarse, distinct, dark grayish brown (2.5Y 4/2) and light brownish gray (2.5Y 6/2) mottles; weak, fine, granular structure; friable; abrupt, wavy boundary.
C <sub>3</sub>	38-48"	Olive (5Y 5/3) sand with many, coarse, prominent, dark brown (7.5YR 4/4) and olive gray (5Y 5/2) mottles; weak, fine, granular structure; friable.

## SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (In.)	Horizon	SIZE CLASS AND PARTICLE DIAMETER (mm)										
		TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-12	A <sub>p</sub>	45.71	42.42	11.87	0.37	0.51	1.42	18.07	25.34	30.89	11.53	
12-20	B <sub>2</sub>	53.43	38.28	8.29	0.07	0.15	1.85	23.58	27.78	27.48	10.80	
20-24	C <sub>1</sub>	68.98	24.29	6.73	1.26	1.09	4.73	35.19	26.71	16.76	7.53	
24-38	C <sub>2</sub>	48.27	45.28	6.45	0.10	0.09	1.65	19.45	26.98	41.02	4.26	
38-48	C <sub>3</sub>	89.02	8.28	2.70	1.24	5.26	32.41	41.35	8.76	5.51	2.77	
WATER CONTENT												
Bar Pressures												
Depth (In.)	Horizon	60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement cm./hr.
0-12	A <sub>p</sub>	42.0	40.9	34.5	34.0	33.0	14.6	14.0	11.7	1.03	0.23	1.44
12-20	B <sub>2</sub>	40.1	37.6	27.5	25.2	25.2	9.0	8.7	6.8	1.09	0.22	2.54
20-24	C <sub>1</sub>	26.5	23.5	16.6	14.9	14.8	6.3	6.3	3.3	1.29	0.17	
24-38	C <sub>2</sub>	36.5	33.8	22.8	20.0	19.6	8.5	8.5	6.0	1.11	0.19	6.64
38-48	C <sub>3</sub>	19.5	17.6	11.7	10.7	10.1	3.0	3.1	2.2	1.28	0.12	12.72
COARSE FRAGMENTS												
Percent by Volume												
Depth (In.)	Horizon	3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches	TOTAL		
0-12	A <sub>p</sub>								<0.1	<0.1		
12-20	B <sub>2</sub>								<0.1	<0.1		
20-24	C <sub>1</sub>								<0.1	<0.1		
24-38	C <sub>2</sub>								<0.1	<0.1		
38-48	C <sub>3</sub>								<0.1	<0.1		
pH												
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
meq/100g												
0-12	A <sub>p</sub>	2.68	5.0	5.35	4.4	2.2	<0.1	0.3	11.9	18.9	37.0	
12-20	B <sub>2</sub>	0.89	4.7	5.2	1.0	<0.1	<0.1	0.1	11.0	12.3	10.6	
20-24	C <sub>1</sub>	0.45	4.8	5.1	0.3	<0.1	<0.1	0.1	7.0	7.6	7.9	
24-38	C <sub>2</sub>	0.51	4.7	5.1	0.5	<0.1	<0.1	0.1	8.2	9.0	8.9	
38-48	C <sub>3</sub>	0.07	4.9	5.35	<0.1	<0.1	<0.1	<0.1	3.1	3.5	11.4	

## WINOOSKI SOIL SERIES

## Site 5

Location: Canton, Oxford County, Maine.

<u>Horizon</u>	<u>Depth</u>	<u>Description</u>
Ap	0-14"	Very dark grayish brown (10YR 3/2) very fine sandy loam; weak, fine, granular structure; friable; clear, smooth boundary.
B	14-26"	Dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/8) very fine, sandy loam with common, coarse, distinct, grayish brown (2.5Y 5/2) and light olive brown (2.5Y 5/6) mottles; weak, fine, granular structure; friable; clear, smooth boundary.
C <sub>1</sub>	26-36"	Dark grayish brown (10YR 4/2) silt loam with common, coarse, distinct, light olive brown (2.5Y 5/4 and 2.5Y 5/6) mottles; weak, fine, granular structure; friable; clear, smooth boundary.
C <sub>2</sub>	36-48"	Light olive brown (2.5Y 5/6) silt loam with few, fine, faint, grayish brown (2.5Y 5/2) and light olive brown (2.5Y 5/4) mottles; weak, fine, granular structure; friable.

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SIZE CLASS AND PARTICLE DIAMETER (mm)												
Depth (In.)	Horizon	TOTAL			SAND					SILT		
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)	
Percent of <2mm.												
0-14	A <sub>p</sub>	51.34	42.35	6.31	1.04	0.76	1.03	13.24	35.27	32.38	9.97	
14-26	B <sub>2</sub>	50.84	47.52	1.64	0.01	0.06	0.51	18.36	31.90	30.57	16.95	
26-36	C <sub>1</sub>	40.92	57.42	1.66	0.01	0.05	0.64	13.18	27.04	36.54	20.88	
36-48	C <sub>2</sub>	31.13	65.42	3.45	0.00	0.04	0.46	6.86	23.77	39.19	26.23	
WATER CONTENT												
Depth (In.)	Horizon	Bar Pressures								Bulk Density g./cc.	Avail. Water in./in.	Rate of H <sub>2</sub> O Movement <sup>2</sup> cm./hr.
		60 cm. pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.			
0-14	A <sub>p</sub>	29.4	28.4	19.1	18.2	17.1	8.3	8.2	6.9	1.30	0.16	8.18
14-26	B <sub>2</sub>	41.4	36.9	21.5	18.8	18.8	7.6	7.4	5.6	1.04	0.16	5.11
26-36	C <sub>1</sub>	41.0	36.9	23.3	20.1	19.9	8.7	7.4	5.8	1.05	0.18	2.94
36-48	C <sub>2</sub>	38.1	36.0	28.4	25.5	25.4	10.4	10.2	5.6	1.13	0.26	1.56
COARSE FRAGMENTS												
Depth (In.)	Horizon	Percent by Volume									TOTAL	
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25-2mm. inches			
0-14	A <sub>p</sub>										<0.1	<0.1
14-26	B <sub>2</sub>										<0.1	<0.1
26-36	C <sub>1</sub>										<0.1	<0.1
36-48	C <sub>2</sub>										<0.1	<0.1
Depth (In.)	Horizon	Organic Carbon pct.	pH		Extractable Bases				Ex. Acid.	CEC (Sum)	Base Saturation (Sum) pct.	
			.01M CaCl <sub>2</sub> 2:1	H <sub>2</sub> O 1:1	Ca	Mg	Na	K				
												meq/100g
0-14	A <sub>p</sub>	1.51	5.1	5.4	3.7	0.6	<0.1	0.3	9.1	13.8	34.0	
14-26	B <sub>2</sub>	0.66	4.95	5.2	0.4	0.2	<0.1	0.1	8.8	9.6	8.3	
26-36	C <sub>1</sub>	0.38	4.8	5.2	0.3	0.2	<0.1	0.1	9.9	10.6	6.6	
36-48	C <sub>2</sub>	0.35	4.8	5.2	0.2	0.2	<0.1	0.1	8.1	8.7	6.9	