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Chemical and Physical Properties of the Chesuncook, Colonel, Dixfield, and Telos Soil Map Units

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SUMMARY

Changes in Soil Taxonomy in 1992 resulted in reclassification of the Chesuncook and Dixfield soils. Taxonomic placement of the Telos and Colonel soils was not changed. Soil morphology and laboratory analyses were completed for five replicates of each soil map unit. Weighted averages were developed from laboratory data to define the chemical and physical characteristics of each map unit. Data for individual sites and soils are presented.

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INTRODUCTION

The soils reported in this bulletin have developed from till derived from two different sources of parent material. The Chesuncook and Telos soils are derived from till that had more than 10% but less than 18% clay as a weighted mean between 25 cm and the top of the root-restricting layer. The source of the till for these soils is slate as well as other dark-colored sedimentary and metamorphic rocks.

The parent material for the Colonel and Dixfield soils is till derived from lighter colored rock that contains considerable mica. The till had less than 10% clay as a weighted average in the zone from 25 cm to the top of the root-restricting layer.

The Chesuncook and Telos soils are mapped in large areas of north-central and northern Maine, ranging from the western border with New Hampshire to the Canadian border on the east and north. The somewhat lighter textured Colonel and Dixfield soils are usually in central and southern Maine. All of the soils are used extensively for forestry.

MATERIALS

The Chesuncook soil series is moderately well drained. It is very deep to bedrock and has a root-restricting layer beginning at the Cd horizon at depths ranging from 47 to 60 cm. These soils are in mid- to upper slope positions in the landscape where they are not as likely to receive excessive amounts of laterally flowing water moving across the top of the dense Cd horizon.

The Colonel soil series is somewhat poorly drained and very deep to bedrock. It is in lower slope positions and has a root-restricting dense layer beginning at the Cd horizon at depths ranging from 47 to 60 cm. Their position in the landscape results in them being subject to periods of wetness resulting from laterally flowing waters from upper slope positions moving across either the soil surface or above the dense horizon.

The Dixfield soil series is very deep to bedrock, moderately well drained, and occupies mid- to upper slope positions in the landscape. It has a dense root-restricting layer in the Cd horizon at depths ranging from 49 to 63 cm. As a result of their higher position in the landscape they receive minimal amounts of laterally flowing water moving along the top of the dense layer following rain events or spring melt.

The Telos soil series is very deep to bedrock, somewhat poorly drained, and is in the lower and less sloping landscape positions. It has a dense root-restricting layer in the Cd horizon at depths ranging from 44 to 62 cm. These soils receive water from adjacent slopes that has moved surficially or along the top of the dense Cd horizon and as a result are wetter for longer periods of time than soils on higher or more sloping positions.

The Colonel and Dixfield soil series were included with the Peru soil series in earlier soil surveys in Maine (Arno et al. 1972; Faust and LaFlamme 1978; Flewelling and Lisante 1982; Hedstrom 1974, 1987; Hedstrom and Popp 1984). They have been separated to improve soil interpretation and use in more recent soil surveys. The Chesuncook and Telos soil series were included with the Plaisted and Howland soil series of earlier soil survey reports (Arno 1964a, 1964b; Goodman et al. 1963). They have been separated because their clay content can impact soil uses not noted in the silty Plaisted and Howland soil series.

These four map units form two sets of related soils on the landscape. The Dixfield and Colonel soils consititute the moderately well drained and somewhat poorly drained members of a catenary sequence. The Chesuncook and the Telos soils form a similar catenary sequence. These soil series are classified according to Soil Taxonomy (Soil Survey Staff 1992) in Table 1.

The classification presented in Table 1 reflects the changes in Soil Taxonomy presented in the 1992 keys. As seen in Table 2, no map unit was consistent at all five locations with the classification presented. Within the Chesuncook sampling sites, two locations did not meet the morphologic criteria for spodic materials and three sites did. Of the three locations of Chesuncook that met spodic criteria one had spodic horizons that were sufficiently thick to be Aquic, but two are Aquentic. In the Colonel, two locations did not have sufficient thickness of spodic materials to meet the definition of the Aquic subgroup criteria and would be placed as Aquentic, one is an Aquod with Andic properties; however, the average thickness of the spodic horizon at the five sites is sufficient to meet Aquic subgroup placement. The Dixfield locations met spodic materials criteria at three locations. The spodic horizon at one location, however, was too thin to be in the Aquic subgroup, and the other location was in a different suborder. The Telos sampling locations had two sites that did not meet spodic materials criteria, and three sites that were too thin to meet Aquic subgroup definitions. Classification of the Chesuncook, Dixfield, and Telos soil map units of this study reflects the weak spodic morphology within these map units.

Table 1. Taxonomic classification of the soil series which form the basis of the soil map units in this study.

Soil Series	Family Name
Chesuncook	coarse-loamy, mixed, frigid, Aquic Haplorthods
Colonel	coarse-loamy, mixed, frigid, Aquic Haplorthods
Dixfield	coarse-loamy, mixed, frigid, Aquic Haplorthods
Telos	coarse-loamy, mixed, frigid, Aquic Haplorthods

Table 2. Taxonomic placement of the soil map units in this study.

Soil Map Unit		Family Name
Chesuncook	130–188	coarse-loamy, mixed, frigid, Aquic Dystrochrepts
Chesuncook	130–288	coarse-loamy, mixed, frigid, Aquentic Haplorthods
Chesuncook	130–388	coarse-loamy, mixed, frigid, Aquandic Dystrochrepts
Chesuncook	130–488	coarse-loamy, mixed, frigid, Aquic Haplorthods
Chesuncook	130–588	coarse-loamy, mixed, frigid, Aquentic Haplorthods
Colonel	150–389	coarse-loamy, mixed, frigid, Aquic Haplorthods
Colonel	150–489	coarse-loamy, mixed, frigid, Aquentic Haplorthods
Colonel	130–489	coarse-loamy, mixed, frigid, Aquic Haplorthods
Colonel	130–589	coarse-loamy, mixed, frigid, Aquentic Haplorthods
Colonel	130–689	coarse-loamy, mixed, frigid, Andic Epiaquods
Dixfield	130–189	coarse-loamy, mixed, frigid, Aquandic Dystrochrepts
Dixfield	130–289	coarse-loamy, mixed, frigid, Aquic Haplorthods
Dixfield	130–389	coarse-loamy, mixed, frigid, Aquic Dystrochrepts
Dixfield	130–189	coarse-loamy, mixed, frigid, Aquentic Haplorthods
Dixfield	130–289	coarse-loamy, mixed, frigid, Typic Haplohumods
Telos	130–688	coarse-loamy, mixed, frigid, Aquentic Haplorthods
Telos	130–788	coarse-loamy, mixed, frigid, Aquic Dystrochrepts
Telos	130–888	coarse-loamy, mixed, frigid, Aquentic Haplorthods
Telos	130–988	coarse-loamy, mixed, frigid, Aquandic Dystrochrepts
Telos	131–088	coarse-loamy, mixed, frigid, Aquentic Haplorthods

Field Procedure

The location of each site was determined by a soil scientist from the USDA, Soil Conservation Service. A minimum of one mile separated each replication of a given soil map unit.

The soils were sampled by genetic horizon to a one-meter depth. Soil morphology and characteristics of the surrounding area were described using standard methods (Soil Survey Staff 1951, 1981). From each horizon, the entire horizon thickness in a 30x30-cm-square area was sampled for stone volume and laboratory analyses. Core samples 2.5x4.4 cm in diameter were obtained in triplicate for bulk density and water retention determinations. Care was taken to remove the cores in as close to an undisturbed state as possible.

Laboratory Procedure

Rock fragment in the bulk field samples was determined volumetrically by sieving and water displacement techniques. Soil material smaller than 2 mm was mixed and subsampled for other analyses.

Soil cores were used to determine water retention at 0.06, 0.1, 0.33, 0.67, and 1.0 bars tension after the core had been trimmed following its equilibration at 0.33 bars. All tensions of 1 bar or less were determined by ceramic plate methods (Richards 1965). Soil volume and weight in the rings was corrected for coarse material > 2 mm. Bulk density at 0.33 bars soil moisture tension was determined using the < 2 mm fraction. The sieved soil was used to measure water retention at 2, 3, 5, and 15 bars pressure (Richards 1965). Water available for plant use was estimated as the difference in moisture content between 0.1 and 15 bar values and reported as cm of water retained per cm of stone-free soil.

Soil organic carbon content was measured using the Walkley-Black method with a factor of 1.3 (Nelson and Sommers 1982).

Pipet analysis techniques described by Day (1965) were used to measure silt and clay content. Sands were measured by dry sieving. Organic carbon was removed from the sample using hydrogen peroxide and heat treatment. The oxidized soil was dispersed by overnight shaking in a solution of sodium hexametaphosphate. Soil pH was measured in water, calcium chloride, and potassium chloride for each horizon. A soil:solution ratio of 1:1 was used with water and potassium chloride, but a 2:1 ratio of calcium chloride to soil was used (MacLean 1982). The soil solution mixes were allowed to equilibrate overnight before measurements were made.

Neutral, one normal ammonium acetate (NH_4OAc) was used to extract calcium, magnesium, potassium, and sodium from the various soil horizons. The extracted solution was analyzed using atomic absorption (Rourke and Beek 1971). Exchange acidity was measured using a potassium chloride extract followed by titration, and extractable acidity was measured in a barium chloride triethanolamine extract by titration, with hydrochloric acid (Thomas 1982). Cation exchange capacity (CEC) was determined by the sum of extracted cations and extractable acidity. Effective cation exchange capacity (ECEC) was estimated by the sum of extracted cations and exchangeable acidity.

RESULTS AND DISCUSSION

Chesuncook Soil Map Unit

Data presented as weighted means of the five sites sampled are presented in Appendix A, Table 1. The average texture is a silt loam in all horizons. Fine silt is the major silt component. Only two horizons contain sufficient volume of coarse fragments to be considered as gravelly. Clay content is increased in the Bh horizon as compared to other higher and lower horizons as would be expected in soils developing through the eluviation and illuviation processes. There is sufficient clay increase in the Cd horizon for it to be considered as an argillic horizon. Lack of clay films in this horizon suggests a geologic rather than pedologic clay difference. It is possible that clay in upper horizons has been diluted by the addition of fine silt, either as the result of weathering of coarser particle sizes to finer sizes or as the result of aeolian depositions followed by mixing from tree throw and leaching.

Soil moisture retention in the mineral soil is highest in the upper and middle B horizons and decreases in the lower B, BC, and Cd horizons. The higher moisture retention of these horizons is a function of organic matter levels and soil structure. As organic matter decreases and as depth in the soil increases, there is less water retained by the soil. The volume of rock fragments is relatively constant; therefore, there is no large change in volume of water retained by each horizon. The E horizon is similar to lower horizons in water retention, but it is higher in organic matter. Soil structure in this horizon, however, does not create as many pores for water retention as in lower layers.

Bulk density is lowest in the surface organic horizon. The mineral soil horizons do not attain a density of 1 gm cm^3 until the lowest B horizon is reached. The bulk densities of these horizons are

less than the density of water. The low density values reflect the impact of organic additions upon the pore space and dilution of mineral materials in the upper B and E horizons. The bulk density of the Cd horizon is sufficient to restrict root penetration and to slow water movement. The Cd also has prismatic soil structure which allows water movement primarily along prism faces, reducing water and air entry into the bulk soil matrix.

Soil reaction is low in the surface organic and mineral horizons and slowly increases with depth. Extractable acidity is highest in the surface horizons and is the largest component of the CEC in all soil horizons. The ECEC of most soil horizons is composed primarily of exchange acidity except in the surface organic horizon, which has a strong calcium and magnesium component. Basic cation leaching is a significant process in the genesis of this soil. Most of the basic cations for plant nutrition are concentrated in the organic soil surface. The slight increase in basic cation content in the Cd horizon reflects the natural level of nutrients in the parent materials from which the upper horizons developed. The lack of a buildup of basic cations with depth in the soil may be the result of rapid nutrient recycling by native plants, which remove cations from the soil surface as they become available thus preventing them from being available for eluviation and later illuviation. Both CEC and ECEC are low in the BC and Cd horizons reflecting the lack of organic matter and weathering in these horizons.

Colonel Soil Map Unit

The weighted means for various physical and chemical soil horizons in this map unit are presented in Table 2 of Appendix A. The soil texture in this map unit averages a loam in all horizons except the BC which averages a fine sandy loam. Although individual soil profiles within the map unit may have horizons that are fine sandy loam or even silt loam, the weighted average of all soil horizons is a loam. The upper horizons tend to be finer. Physiographic location in Maine seems to be a contributing factor as finer soil textures are associated with the northwest portion of the sampling area. Although there are three gravelly horizons and one very stony horizon, there are not sufficient volumes of rock fragments present in the composite soil profile to have either a gravelly or cobbly modifier of the soil texture. Rock volume averages presented in Appendix A, Table 2 show a random distribution in the various horizons with no single size predominating. There is a steady increase of rock fragment volume in the smaller diameter

sizes as depth in the soil increases. Fine silts predominate in the silt fraction of upper horizons as compared to coarse silts, but they are approximately equal in the Bs, BC, and Cd horizons. The slightly finer textures near the soil surface may reflect enhanced weathering, or the deposition of finer materials from aeolian or water transfer. Clay is lowest in the E horizon and highest in the Bh immediately below. The increase in the Bh is probably the result of leaching from the E and illuviation in the B. The clay increase in the upper B is not unusual for soils developing by the podzolization process.

Water retention in the soil is highest in the surface organic or A horizon. In the lower mineral soil horizons it is highest in the horizons having the highest organic carbon content. The modest increase or decrease of clay does not seem to have an important role in influencing water retention. This variation is most likely the result of changes of pore space related to structural changes in soil aggregates as judged from bulk density and to the presence of varying amounts of organic matter.

Bulk density of the various mineral soil horizons is lowest in the Bh and increases with depth to the Cd. The only horizons averaging less than 1.0 g cm^{-3} are the O, A, and Bh. The density of the Cd horizon is sufficient to prevent root entrance and to greatly slow water and air entry. Organic carbon is highest in the surface organic horizon, and in the mineral soil, it peaks in the A or Bh horizon. It decreases in an orderly fashion below the Bh. The profile distribution of soil organic carbon is characteristic of podzolic soils developing in a single deposit.

Soil reaction is most acidic in the surface organic or A horizon and increases slowly with depth. Although it retains the highest amounts of basic cations, the surface horizon retains the highest level of acidity in both the extractable and the exchangeable forms. The Bh horizon retains an equal amount of exchange acidity, but only half the extractable acidity as compared to surface horizons. The BC horizon retains the least amount of basic cations, but has a higher acidity than the lower Cd. The Cd horizon increases slightly in basic cation content and decreases in acidity resulting in a lower CEC than the BC but a higher ECEC. The high exchange acidity (KCl exchangeable) in the Bh horizon may reflect increased aluminum in that horizon resulting from organic matter and aluminum illuviation through podzolization. The very low exchangeable acidity values in the BC and Cd horizons indicate low soluble aluminum at the higher pH values.

Dixfield Soil Map Unit

The average soil texture in this map unit is loam. The surface mineral horizon is a silt loam. Lower horizons are loam with the exception of the lowest horizon, which is a fine sandy loam. The division of silt shows that coarse silt predominates only in the surface horizon, with fine silt having a slight dominance in the lower horizons. Average clay content is highest in the Bh horizon and may reflect deposition of that particle size after leaching from the E horizon. The volume of rock fragments in the mineral soil horizons increases to the Bs horizon and then remains about the same. The reason for the increase is not clear since these soils have not been cleared for agriculture. There is a slight increase in rock fragment volume in the Oa, but it is not sufficient to compensate for lower rock fragment levels in the E and Bh. It is possible that rock fragment volume in the surface mineral horizons has been diluted by an increase in silts from aeolian sources that were deposited before a vegetative cover was established following deglaciation. The rock fragments in the Oa are probably the result of frost heaving from the mineral layers or from deposition following tree throw.

Soil moisture retention patterns are similar to those of the Colonel soil map unit. Average water retention is highest in the horizons that are highest in organic carbon. Water content between 0.06 and 1.0 bars for the Bh horizon is limited to four pedons because of the lack of sufficient thickness of this horizon at one location.

Bulk density averages in this soil are lowest in the Oa and Bh horizons with slightly higher levels in the Bs and E horizons. Bulk density of the soil in this map unit does not exceed 1.0 g cm^3 until the BC and Cd horizons are reached. The bulk density of the Cd horizon is sufficient to limit air, root, and water entry. The bulk density of the Bh horizon is based upon four horizons from four pedons because of a lack of thickness of this horizon at one sampling location. Organic carbon decreases below the Bh horizon. The Bh has more organic carbon than the E horizon but less than the Oa. This pattern is typical for soils that have developed a podzolic profile. The organic carbon content of the Bh has increased as the result of leaching from the Oa through the E and deposition in the Bh as coatings on the mineral grains.

The average soil reaction is lowest in the surface organic or E horizon and increases with increasing depth below the these horizons. The pH remains acidic throughout the soil profile. The highest average base content in this soil is in the surface organic layer, and it decreases as depth in the soil increases. Although the amount of

bases present is greatest in the Oa, it should be remembered that the bulk weight of this horizon is low. Thus a large volume of this horizon is required to have the same amount of nutrients as in a mineral soil horizon. Both CEC and ECEC are highest in the Oa and Bh horizons and decrease in lower horizons. The E horizon has a lower exchange capacity than the deeper Bh horizon, again reflecting the difference in organic carbon in the two horizons. The ECECs of the two horizons are more similar than the CECs, possibly indicating the difference in exchangeable H ions determined by the $BaCl_2$ TEA extract as compared to that in the KCl extract. Average exchangeable bases reach a minimum in the BC horizon and increase slightly in the Cd horizon. This minimum level in the BC may result from the movement of cations in lateral flowing water across the top of the Cd rather than a buildup of cations in the Cd.

Telos Soil Map Unit

The average soil texture in this map unit, as seen in Appendix A, Table 4, is silt loam with only the Bs2 and BC horizons having a loam texture. Clay content averages close to the fine loamy particle-size break of 18% and exceeds that amount in the Cd horizon. If the Cd becomes part of the particle-size control section in future modifications of Soil Taxonomy, this soil will possibly have a fine-loamy particle size class rather than the coarse-loamy designation it now has. The clay content is 2% to 3% higher in the mineral soil than it is in the closely related Chesuncook soil. Fine silt is the predominant silt faction in all horizons. The silt relationships mentioned appear to be inherited in large part from the parent material. The distribution of sand fractions in each horizon are only slightly different within sizes or between horizons. The least amount of sand is in the E and Bs1 horizon, and they also have the highest amount of silt. This relationship could indicate the addition of silt to this layer either as the result of deposition from aeolian materials, deposition as a result of erosion from higher positions, or as the result of greater weathering intensities in this horizon. Rock fragment volume averages higher in the E horizon, but is about the same as other horizons if the materials larger than 76 mm are discarded. Rock fragments are slightly larger in the E than in other horizons. The volume of rock fragments smaller than 76 mm is highest in the BC, being close to 3% more than in other horizons.

Soil water content averages are highest in horizons having the highest organic carbon content. This is a reflection of soil structure that has been improved by the addition of organic materials. These organic materials serve to hold the mineral soil particles in struc-

tural units that result in increased pore space. Comparison of water retention at 0.1 bars in the Bs1 to that in the Cd illustrates the impact of improved soil structure and increased pore space.

The average bulk density is lower than 1.0 g cm^{-3} in the Oa, A, Bs1 and Bs2 horizons. It increases rapidly in the BC and Cd horizons to reach levels in the latter that are very restrictive to entry. The E horizon has lower organic content than the Bs1 and Bs2 while its density is slightly higher than that of the B horizons.

The average organic carbon levels are highest in the Oa and A horizon followed by the Bs1 and Bs2 horizons. The pattern of the highest organic carbon content in the upper B horizons in mineral soils is common to soils developed as a result of the podzolization process. Once the peak organic carbon is reached in the Bs1 horizon, the levels decrease with increasing depth, suggesting that the soil has developed in a single pedogenic event.

The average soil reaction is lowest in either the Oa, A, or E horizon and increases steadily in horizons below. The highest pH is reached in the Cd regardless of the method of measurement.

Greatest concentration of exchangeable cations occur in the Oa or A horizon, but the very low bulk density of this horizon means that a large quantity of the organic material would be necessary to equal the amount of nutrients retained in some of the upper mineral horizons. Exchangeable cation concentrations decrease as depth of mineral horizons increases until the Cd horizon is reached. The Cd horizon increases in cations retained and, with the exception of calcium, equals or exceeds the cation content of the uppermost mineral layer. Base saturation of the Cd is 16% higher than that of the BC if the CEC is considered and 36% higher if ECEC is used. The low values in the BC indicate leaching from that horizon to either the Cd or laterally across the top of the dense layer, suggesting that the horizon could be considered as an E' Exchange acidity is highest in the Bs1 and E horizons because of the high organic and aluminum content of these horizons at their current pH. The high extractable acidity of the Oa, A, Bs1, and Bs2 is associated with accumulation of organic matter in these zones.

CONCLUSIONS

Three of the soils in this study lack sufficient soil development to meet the classical definition of well-developed spodosols. The placement in weaker subgroups is also a reflection of recent changes in the taxonomic system. As a result the only soil to be considered as strongly developed is the Colonel which demonstrates sufficient illuviation to meet the definition of a well-developed spodosol.

The Chesuncook and Telos have more fine material than the Dixfield and Colonel soils. Telos has more clay than the Chesuncook soils although they are considered to have developed in similar parent materials. The Colonel and Dixfield soils in northwestern Maine have slightly finer soil textures, as reflected in the silt and clay sizes, than those in eastern Maine.

Soil water retention, ECEC, and CEC increase with increasing organic matter levels in the soil map units. Soil reaction increases with increasing depth below the surface. Bulk density increases as the organic carbon content decreases and reaches a sufficient density to limit root, water, and air entry in the Cd horizon.

The highest concentration of exchangeable cations in these soils occur in the surface organic horizon. Basic cations increase in the Cd horizon as compared to the horizon above. The increase is thought to be a reflection of a lack of leaching and weathering in this horizon rather than as the result of illuviation.

Rock fragment volume smaller than 76 mm in these soils is usually below 15%. There are occasional horizons that have high volumes, but the soils do not reach rock volumes considered to be skeletal.

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APPENDIX A

Appendix Table 1. Weighted means by horizon of soil data for the Chesuncook Soil Map Unit.

Horizon	Sand 2-.05	Silt .05-.002	Clay <.002	Very Coarse 2-1	Coarse 1-0.5	Medium 0.5-.25	Fine .25-.1	Very Fine .1-.05	Fine Silt .02-.002
	Pct of < 2mm								
E	19.38	67.75	12.86	3.89	3.10	2.38	2.60	7.41	43.53
Bh	22.58	58.61	18.80	6.11	4.28	2.94	4.07	5.19	43.38
Bs1	22.98	62.99	14.01	6.01	4.01	3.02	4.45	5.50	46.31
Bs2	27.07	59.74	13.17	7.45	5.35	3.66	5.15	5.46	43.08
Bs3	29.64	56.68	13.67	8.58	6.42	4.11	5.07	5.46	40.09
BC	28.69	58.05	13.24	7.84	5.78	4.00	5.16	5.91	41.30
Cd	28.94	54.95	16.10	7.46	5.69	4.38	5.43	5.98	38.18

Horizon	Org C	BD	Water Content (Bar Pressures) .06	.1	.33	.67	1.0	2.0	3.0	5.0	15.0
	%	g/cc	%								
Oa	30.92	0.23	230.3	215.0	178.3	176.5	173.9	120.8	96.5	85.6	78.4
E	3.26	0.87	44.1	40.9	35.4	31.9	29.5	24.9	18.2	13.4	11.9
Bh	5.08	0.60	87.7	79.8	64.0	59.4	56.9	40.0	28.5	23.0	20.6
Bs1	3.45	0.71	75.3	68.8	54.6	48.9	45.6	30.9	21.8	18.6	16.8
Bs2	2.63	0.81	58.2	53.2	42.8	38.5	36.0	23.6	18.8	14.9	13.2
Bs3	1.63	1.04	42.1	39.2	32.3	28.6	26.2	18.2	14.9	12.1	9.3
BC	1.26	1.20	37.1	35.4	30.1	27.6	25.2	17.7	13.3	10.5	7.8
Cd	0.34	1.56	20.9	20.1	18.3	16.9	15.6	13.4	11.3	8.6	4.7

Horizon	Soil Reaction KCl	$CaCl_2$	H_2O	Bases Ca	Mg	Na	K	Acidity $BaCl_2$	KCl	CEC	ECEC
				meq/100gm							
Oa	3.04	3.61	3.93	9.39	2.24	0.08	1.00	46.89	4.26	59.60	16.96
E	2.76	3.23	3.85	0.91	0.36	0.02	0.11	21.72	9.50	23.12	10.90
Bh	3.49	3.81	4.39	0.68	0.24	0.02	0.12	31.95	8.96	33.01	10.01
Bs1	3.77	4.06	4.54	0.22	0.10	0.02	0.10	26.95	6.02	27.39	6.46
Bs2	4.06	4.29	4.89	0.15	0.05	0.01	0.08	21.69	3.04	21.99	3.33
Bs3	4.19	4.38	4.97	0.14	0.04	0.01	0.08	14.99	2.25	15.26	2.52
BC	4.28	4.47	5.07	0.06	0.03	0.02	0.07	12.21	1.67	12.40	1.86
Cd	4.21	4.54	5.43	0.26	0.16	0.02	0.09	5.44	1.11	5.98	1.64

Horizon	Percent by Volume Rock Fragments (width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
Oa	0.00	0.00	0.00	0.04	0.12	0.18	0.15	0.13	0.62
E	0.00	2.35	1.48	2.62	1.61	1.77	2.09	1.11	13.03
Bh	1.27	0.00	0.49	0.74	0.52	0.88	1.98	3.09	8.99
Bs1	0.00	0.00	0.62	0.90	0.48	0.69	1.50	2.40	6.59
Bs2	1.98	0.00	0.29	0.70	0.49	0.94	2.07	3.37	9.85
Bs3	1.80	0.00	0.68	0.60	0.60	1.03	2.48	3.57	10.76
BC	0.00	0.22	0.28	0.75	0.64	1.10	2.83	4.61	10.43
Cd	0.78	0.55	0.46	0.70	0.68	1.06	2.24	3.75	10.22

Appendix Table 2. Weighted means by horizon of soil data for the Colonel Soil Map Unit.

Horizon	Sand 2-.05	Silt .05-.002	Clay < .002	Very Coarse 2-1	Coarse 1-0.5	Medium 0.5-.25	Fine .25-.1	Very Fine .1-.05	Fine Silt .02-.002
	Pct of < 2mm								
E	45.89	48.85	5.25	4.36	7.36	9.27	13.89	11.00	26.59
Bh	40.39	48.45	11.14	4.73	6.70	7.70	11.53	9.74	27.14
Bs	47.06	43.75	9.18	6.16	7.71	8.84	13.84	10.50	23.24
BC	52.71	40.68	6.60	6.41	8.27	10.06	16.24	11.71	20.15
Cd	48.07	43.29	8.63	6.75	7.92	8.83	14.07	10.50	24.16

Horizon	Org. C	BD	Water Content (Bar Pressures) .06	.1	.33	.67	1.0	2.0	3.0	5.0	15.0
	%	g/cc	%								
Oa or A	30.70	0.21	237.1	217.5	206.6	201.0	194.9	101.0	83.6	64.4	59.3
E	1.32	1.18	32.9	31.4	27.4	23.5	21.2	11.5	8.4	6.1	5.4
Bh	3.29	0.83	57.5	53.8	47.3	44.9	42.9	19.1	16.1	13.2	12.0
Bs	1.84	1.03	41.9	38.7	32.1	29.0	26.1	13.5	11.6	9.5	8.0
BC	0.63	1.41	26.7	25.1	20.9	17.9	15.1	8.0	6.4	5.1	3.7
Cd	0.24	1.62	18.6	17.3	15.2	13.2	11.4	8.0	6.5	4.9	3.0

Horizon	Soil Reaction KCl	$CaCl_2$	H_2O	Bases Ca	Mg	Na	K	Acidity $BaCl_2$	KCl	CEC	ECEC
				meq/100gm							
Oa or A	3.09	3.40	3.91	7.71	2.2	0.02	0.69	61.76	5.01	72.38	15.63
E	3.22	3.62	4.52	0.26	0.1	0.01	0.10	11.31	4.53	11.70	4.92
Bh	3.75	4.03	4.75	0.75	0.18	0.01	0.07	30.72	5.01	31.73	6.02
Bs	4.34	4.66	5.47	0.81	0.12	0.01	0.04	18.72	1.05	19.70	2.03
BC	4.36	4.72	5.50	0.21	0.04	0.01	0.02	8.60	0.71	8.88	0.99
Cd	4.26	4.74	5.92	0.33	0.09	0.01	0.03	4.94	0.58	5.40	1.03

Horizon	Percent by Volume Rock Fragments (width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
Oa or A	0.0	1.02	0.08	0.16	0.22	0.11	0.20	0.44	2.23
E	11.37	1.69	1.69	1.23	0.92	0.79	1.21	2.06	20.97
Bh	1.05	1.74	0.70	1.11	0.68	0.95	1.48	2.73	10.45
Bs	0.53	1.49	0.36	1.16	0.70	1.07	1.88	4.22	11.41
BC	0.51	0.14	0.58	0.55	0.54	0.79	2.12	4.27	9.50
Cd	0.81	0.56	0.33	1.23	0.91	1.33	2.86	5.20	13.22

Appendix Table 3. Weighted means by horizon of soil data for the Dixfield Soil Map Unit.

Horizon	Sand 2-.05	Silt .05-.002	Clay <.002	Very Coarse 2-1	Coarse 1-0.5	Medium 0.5-.25	Fine .25-.1	Very Fine .1-.05	Fine Silt .02-.002
	Pct of < 2mm								
E	36.99	56.75	6.25	2.89	4.78	6.51	11.73	11.08	27.57
Bh	36.04	49.19	14.75	5.09	5.80	6.39	9.99	8.77	28.39
Bs	45.48	45.34	9.16	7.62	7.61	7.70	12.26	10.29	23.06
BC	51.93	40.76	7.30	9.58	9.18	9.23	13.83	10.10	21.25
Cd	52.55	39.94	7.49	9.01	9.09	9.70	14.45	10.29	21.54

Horizon	Org C	BD	Water Content (Bar Pressures)								
			.06	0.1	0.33	0.67	1.0	2.0	3.0	5.0	15.0
	%	g/cc	%								
Oa	42.19	0.18	247.0	219.9	198.8	196.5	194.9	136.8	103.1	94.0	82.6
E	2.29	0.96	35.5	31.8	26.4	23.0	21.3	14.3	11.7	9.5	7.6
Bh	5.90	0.67[1]	75.2[1]	69.1[1]	58.8[1]	54.6[1]	52.8[1]	29.4	24.9	22.4	20.1
Bs	2.46	0.83	58.4	51.9	41.5	37.6	36.0	15.9	14.2	12.7	10.8
BC	0.67	1.23	31.1	28.3	23.2	20.5	18.8	9.2	7.8	6.3	4.4
Cd	0.26	1.58	18.8	17.3	14.8	13.5	12.5	7.9	6.6	5.3	3.2

Horizon	Soil Reaction			Bases				Acidity			
	KCl	$CaCl_2$	H_2O	Ca	Mg	Na	K	$BaCl_2$	KCl	CEC	ECEC
				meq/100gm							
Oa	2.81	3.16	3.68	11.21	2.51	0.01	0.95	71.34	3.81	86.03	18.50
E	2.66	3.14	3.85	1.11	0.28	0.01	0.08	15.09	4.28	16.57	5.75
Bh	3.63	3.92	4.53	0.81	0.26	0.01	0.16	40.98	5.68	42.22	6.92
Bs	4.17	4.40	5.10	0.36	0.05	0.01	0.04	24.42	1.91	24.88	2.36
BC	4.31	4.71	5.58	0.17	0.04	0.01	0.01	9.78	0.93	10.02	1.17
Cd	4.44	4.91	5.93	0.24	0.05	0.01	0.03	5.63	0.60	5.97	0.94

Horizon	Percent by Volume Rock Fragments (width in mm)								
	>76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
Oa	9.40	0.0	0.09	0.08	0.08	0.05	0.04	0.12	9.85
E	2.23	0.0	0.33	1.32	0.75	0.70	1.17	1.24	7.74
Bh	0.05	1.88	0.63	1.58	0.93	1.31	1.89	1.96	10.24
Bs	8.54	3.42	1.17	1.44	0.84	1.19	1.91	3.38	21.88
BC	8.04	1.06	1.03	1.85	1.13	1.42	2.93	4.67	22.11
Cd	3.30	2.63	1.72	1.59	1.31	1.38	2.74	5.21	19.88

[1] Based on four horizons from four pedons.

Appendix Table 4. Weighted means by horizon of soil data for the Telos Soil Map Unit.

Horizon	Sand 2-.05	Silt .05-.002	Clay <.002	Very Coarse 2-1	Coarse 1-0.5	Medium 0.5-.25	Fine .25-.1	Very Fine .1-.05	Fine Silt .02-.002
	Pct of < 2mm								
E	28.01	61.57	10.41	5.26	4.73	3.89	6.30	7.83	42.27
Bs1	27.93	55.22	16.83	6.05	5.13	4.04	6.16	6.55	39.89
Bs2	34.07	48.91	17.01	7.06	6.27	6.76	7.64	6.33	38.03
BC	34.03	48.30	17.65	7.35	6.26	5.34	7.71	7.38	34.48
Cd	30.91	50.07	19.00	7.25	5.97	4.77	6.56	6.37	36.64

Horizon	Org. C	BD	Water Content (Bar Pressures) .06	.1	.33	.67	1.0	2.0	3.0	5.0	15.0
	%	g/cc	%								
Oa or A	28.90[1]	0.21	206.9	193.4	178.4	176.2	173.7	147.4	103.5	91.5	83.0
E	1.50	1.10	34.6	33.4	31.1	28.5	25.6	16.9	11.8	9.1	6.4
Bs1	3.39	0.81	64.4	60.4	49.6	44.8	42.1	25.8	20.9	17.5	12.3
Bs2	2.48	0.93	56.8	53.4	43.8	38.9	36.2	21.0	17.2	14.5	12.3
BC	0.66	1.41	28.1	26.9	23.8	21.8	20.4	13.6	11.6	9.8	6.0
Cd	0.25	1.68	17.0	16.4	15.6	15.0	14.3	13.4	11.8	9.7	5.7

Horizon	Soil Reaction KCl	$CaCl_2$	H_2O	Bases Ca	Mg	Na	K	Acidity $BaCl_2$	KCl	CEC	ECEC
				meq/100gm							
Oa or A	2.98	3.28	3.90	9.08	2.40	0.09	0.74	32.62	4.29	44.93	16.60
E	2.92	3.50	4.23	0.87	0.24	0.02	0.08	12.17	6.49	13.39	7.70
Bs1	3.77	4.09	4.71	0.54	0.16	0.02	0.09	25.32	7.83	26.14	8.65
Bs2	4.07	4.35	4.93	0.26	0.07	0.02	0.10	20.25	3.84	20.70	3.84
BC	4.16	4.38	5.18	0.17	0.07	0.02	0.10	8.51	1.73	8.87	2.09
Cd	4.09	4.50	5.46	0.75	0.38	0.03	0.13	5.01	1.10	6.30	2.39

Horizon	Percent by Volume Rock Fragments (width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
Oa or A	3.74	9.00	0.09	0.22	0.06	0.07	0.14	0.14	4.46
E	16.30	1.41	1.07	1.32	1.49	1.16	2.36	3.17	28.29
Bs1	1.49	0.26	0.22	0.70	0.50	0.97	1.82	3.53	9.50
Bs2	0.00	0.34	0.12	0.77	0.35	0.86	2.04	4.74	9.21
BC	0.00	0.33	0.76	1.07	0.90	1.22	2.59	6.12	12.98
Cd	2.76	0.48	0.48	0.55	0.46	0.80	1.93	3.89	11.35

[1] Based on four horizons from four pedons

APPENDIX B

Soil Map Unit: Chesuncook
Location: Brassua Twp., Somerset County, Maine
Described By: J.W. Miller and R.V. Rourke

Soil Survey # S88-ME-130-188
Drainage Class: moderately well drained
Date: 08/88

Oa—0 to 3 cm; brown to dark brown (10YR 4/3) sapric material; weak fine granular structure; very friable; many very fine, fine, medium, and few coarse roots throughout; abrupt wavy boundary.

E/B—3 to 6 cm; light brownish gray (10YR 6/2), and dark brown (10YR 3/3) silt loam; weak fine granular structure; very friable; many very fine, fine, medium, and few coarse roots throughout; abrupt wavy boundary.

Bs1—6 to 24 cm; yellowish brown (10YR 5/8) silt loam; weak fine granular structure; very friable; many very fine, fine, medium, and common coarse roots throughout; clear wavy boundary.

Bs2—24 to 42 cm; dark yellowish brown (10YR 4/6) silt loam; weak thick platy structure parting to weak fine granular; very friable; many very fine, fine, medium, and common coarse roots throughout; clear wavy boundary.

Bs3—42 to 49 cm; dark yellowish brown (10YR 4/6) silt loam; weak thin platy structure; friable; common very fine, fine, medium and coarse roots throughout; clear wavy boundary.

BC—49 to 60 cm; light olive brown (2.5Y 5/4) silt loam; common fine distinct light brownish gray (2.5Y 6/2), and prominent dark yellowish brown (10YR 4/6) mottles; strong very coarse prismatic structure parting to weak thin platy; friable; few very fine, fine, and medium roots between peds; prism faces light brownish gray (2.5Y 6/2) with dark yellowish brown (10YR 4/6) edges; clear wavy boundary.

Cd—60 to 100 cm; olive (5Y 5/4) silt loam; common fine distinct light olive gray (5Y 6/2), and prominent yellowish brown (10YR 5/4) mottles; strong very coarse prismatic structure; firm; prism faces light olive gray (5Y 6/2) with light olive brown (2.5Y 5/6) edges.

SOIL—CHESUNCOOK SOIL Nos. -130188 LOCATION Brassua Twp., Maine

Depth cm	Horizon	Sand (2-0 05)	Silt (0 05-0 002)	Clay (<0 002)	Very Coarse (2-1)	Coarse (1-0 5)	Medium (0 5-0 25)	Fine (0 25-0 1)	Very Fine (0 1-0 05)	Coarse Silt (0 05-0 02)	Fine Silt (0 02-0 002)
		Pct of < 2 mm									
0-3	Oa										
3-6	E/B	19 63	68 21	12 16	2 01	1 94	2 42	5 25	8 01	26 52	41 69
6-24	Bs1	19 30	71 57	9 13	3 57	2 52	2 31	4 50	6 40	21 99	49 58
24-42	Bs2	25 42	66 08	8 50	4 52	4 11	3 36	6 38	7 05	20 99	45 09
42-49	Bs3	23 74	69 58	6 68	4 68	3 69	2 82	5 33	7 22	24 97	44 61
49-60	BC	21 30	72 48	6 22	2 71	2 72	2 72	5 08	8 07	26 39	46 09
60-100	Cd	31 44	60 99	7 57	6 79	5 06	4 50	7 11	7 98	22 80	38 19

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0-3	20 65	0 61	60 7	56 5	45 6	43 0	41 8	0 0	0 0	0 0	41 3	0 09	3 35	3 65	4 25
3-6	4 84	0 60	61 3	57 0	45 7	40 7	37 9	32 5	19 0	16 6	14 3	0 26	2 85	3 30	3 90
6-24	2 44	0 76	68 5	63 5	50 5	43 7	39 5	28 0	17 8	15 3	13 8	0 38	3 60	3 95	4 40
24-42	1 81	0 82	50 3	45 1	35 2	31 8	29 6	16 2	14 5	12 1	10 5	0 28	4 00	4 25	4 90
42-49	1 29	1 13	40 6	38 0	31 2	26 8	24 4	16 7	11 2	8 6	7 1	0 35	4 20	4 35	4 90
49-60	0 63	1 42	26 8	25 7	23 0	19 9	17 0	11 7	7 8	5 9	4 9	0 30	4 30	4 50	5 00
60-100	0 21	1 66	19 6	19 0	17 8	16 4	14 8	9 8	7 3	4 9	3 2	0 26	4 20	4 50	5 40

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0-3	6 07	1 88	0 06	1 29	39 20	48 50	3 65	12 95	0 00	0 00	0 00	0 00	0 00	0 10	0 30	0 20	0 60
3-6	0 53	0 29	0 04	0 11	29 20	30 17	14 50	15 47	0 00	0 00	0 00	0 00	0 20	0 60	0 90	0 90	2 60
6-24	0 14	0 07	0 02	0 09	25 20	25 52	7 35	7 67	0 00	0 00	0 60	1 00	0 50	0 60	1 10	1 50	5 30
24-42	0 10	0 05	0 01	0 09	19 30	19 55	2 85	3 10	5 60	0 00	0 00	0 40	0 30	0 60	1 20	1 90	10 00
42-49	0 03	0 03	0 01	0 06	14 70	14 83	2 35	2 48	0 00	0 00	0 00	0 60	0 40	0 60	1 50	2 20	5 30
49-60	0 00	0 05	0 02	0 07	8 60	8 74	1 45	1 59	0 00	0 00	0 60	0 90	0 60	1 10	2 20	3 20	8 60
60-100	0 09	0 06	0 01	0 06	4 80	5 02	0 80	1 02	1 70	0 40	0 80	1 00	1 00	1 40	2 40	3 40	12 10

Soil Map Unit: Chesuncook
Location: Brassua Twp., Somerset County, Maine
Described By: J.W. Miller and R.V. Rourke

Soil Survey # S88-ME-130-288
Drainage Class: moderately well drained
Date: 08/88

Oa—0 to 9 cm; very dark brown (10YR 2/2) sapric material; weak fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt irregular boundary.

E—9 to 15 cm; light brownish gray (10YR 6/2) silt loam; weak thin platy structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt irregular boundary.

Bhs—15 to 22 cm; dark reddish brown (5YR 3/3) silt loam; weak fine granular structure; very friable; many very fine, fine, and common medium roots throughout; abrupt wavy boundary.

Bs1—22 to 27 cm; dark yellowish brown (10YR 4/6) silt loam; weak fine granular structure; very friable; common very fine, fine, and medium roots throughout; clear wavy boundary.

Bs2—27 to 34 cm; 50% yellowish brown (10YR 5/6), and 50% dark yellowish brown (10YR 3/6) silt loam; weak fine granular structure; very friable; few very fine, fine, and medium roots throughout; clear wavy boundary.

Bs3—34 to 46 cm; dark yellowish brown (10YR 4/6) silt loam; weak fine granular structure; very friable; few very fine roots throughout; clear wavy boundary.

BC—46 to 54 cm; olive brown (2.5Y 4/4) silt loam; few fine distinct light brownish gray (2.5Y 6/2) mottles; weak thick platy structure; friable; few very fine and fine roots throughout; clear wavy boundary.

Cd—54 to 100 cm; light olive brown (2.5Y 5/4) silt loam; strong very coarse prismatic structure; firm; prism faces pale olive (5Y 6/3).

SOIL—CHESUNCOOK SOIL Nos --130288 LOCATION--Brassua Twp , Maine

Depth cm	Horizon	Sand (2-0 05)	Silt (0 05-0 002)	Clay (<0 002)	Very Coarse (2-1)	Coarse (1 0 5)	Medium (0 5-0 25)	Fine (0 25-0 1)	Very Fine (0 1-0 05)	Coarse Silt (0 05-0 02)	Fine Silt (0 02-0 002)
		Pct of < 2 mm									
0-9	Oa										
9-15	E	22 04	66 72	11 24	3 51	2 54	2 22	5 07	8 70	23 20	43 52
15-22	Bhs	21 32	61 10	17 58	4 56	3 33	2 57	4 51	6 35	21 21	39 89
22-27	Bs1	26 70	59 47	13 83	7 49	5 17	3 57	4 80	5 67	19 70	39 77
27-34	Bs2	27 70	59 83	12 47	7 64	5 40	3 91	5 25	5 50	20 39	39 44
34-46	Bs3	27 83	56 03	16 14	7 33	5 44	4 04	5 32	5 70	17 48	38 55
46-54	BC	30 10	54 77	15 13	7 88	5 88	4 34	5 82	6 18	19 06	35 71
54-100	Cd	29 10	54 15	16 75	6 63	5 93	4 48	5 99	6 07	17 56	36 59

Depth cm	Organic Carbon %	BD g/cc	Water Content (Bar Pressures) 06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0-9	28 88	0 17	216 1	198 9	184 7	182 2	176 8	100 4	75 4	65 0	54 8	0 24	3 20	3 65	4 05
9-15	2 55	1 05	37 4	35 5	31 6	28 5	26 1	21 4	15 6	10 3	9 0	0 28	2 60	3 20	3 90
15-22	4 97	0 71	66 7	59 9	47 2	43 7	41 2	29 1	23 9	19 7	18 4	0 29	3 25	3 60	4 05
22-27	4 43	0 70	67 9	60 4	46 4	42 6	39 9	36 7	23 5	21 7	19 7	0 28	3 90	4 10	4 60
27-34	3 40	0 75	61 8	54 3	42 5	39 3	36 7	27 0	20 6	17 3	15 9	0 29	4 05	4 30	4 70
34-46	2 15	0 94	47 1	42 8	34 4	30 4	27 8	21 4	17 8	14 5	11 4	0 30	4 15	4 35	4 80
46-54	1 32	1 26	29 9	27 8	23 6	21 4	19 9	16 7	13 9	10 8	7 9	0 25	4 25	4 40	4 95
54-100	0 37	1.55	19 1	18 2	16 6	15 6	14 7	13 6	11 0	8 4	4 8	0 21	4 20	4 50	5 30

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0-9	9 93	2 45	0 06	0 73	45 50	58 67	4 00	17 17	0 00	0 00	0 00	0 00	0.10	0 10	0 20	0 20	0 60
9-15	1 56	0 47	0 03	0 08	18 60	20 74	8 05	10 19	0 00	5 10	1 70	2 30	2 20	1 50	1 50	0 30	14 60
15-22	1 29	0 35	0 04	0 11	32 20	33 99	9 90	11 69	0 00	0 00	0 60	0 40	0 60	1 00	1 40	1 30	5 30
22-27	0.29	0 09	0 06	0 13	32 80	33 37	5 25	5 82	0 00	0 00	0 00	1 60	0 80	0 50	1 70	2 20	6 80
27-34	0 19	0 05	0 01	0 10	25 60	25 95	3 65	4 00	0 00	0 00	0 40	0 00	0 50	1 10	2 10	2 40	6 50
34-46	0.13	0 04	0 01	0 09	17 40	17 67	2 60	2 87	4 20	0 00	0.90	0 30	0 80	1 00	2 60	3 90	13 70
46-54	0 09	0 03	0 01	0 08	12 10	12 31	1 65	1 86	0 00	0 00	0 00	1 00	0 50	0 90	3 00	4 10	9 50
54-100	0 13	0.07	0 01	0 08	6 20	6 49	1 15	1 44	1 70	1 10	0 80	1 00	1 00	1 10	2 20	3 40	12 30

Soil Map Unit: Chesuncook
Location: Misery Twp., Somerset County, Maine
Described By: J.W. Miller and R.V. Rourke

Soil Survey # S88-ME-130-388
Drainage Class: moderately well drained
Date: 08/88

Oa—0 to 4 cm; black (10YR 2/1) sapric material; moderate fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

E—4 to 11 cm; light brownish gray (10YR 6/2) silt loam; weak fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt irregular boundary.

Bh—11 to 22 cm; dark yellowish brown (10YR 4/6) silt loam; weak fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; clear wavy boundary.

Bs1—22 to 30 cm; yellowish brown (10YR 5/8) silt loam; moderate medium subangular blocky structure; friable; many very fine, fine, and medium roots throughout; clear wavy boundary.

Bs2—30 to 41 cm; yellowish brown (10YR 5/6) gravelly silt loam; moderate fine and medium granular structure; friable; common very fine, fine, and medium roots throughout; clear smooth boundary.

BC—41 to 50 cm; light olive brown (2.5Y 5/4) silt loam; common medium prominent light olive gray (5Y 6/2) mottles; strong very coarse prismatic structure parting to moderate medium subangular blocky; firm; prism faces light gray (2.5Y 7/2) with light olive brown (2.5Y 5/6) edges; clear smooth boundary.

Cd—50 to 100 cm; olive (5Y 5/4) silt loam; few fine prominent light brownish gray (2.5Y 6/2), and light olive brown (2.5Y 5/6) mottles; strong very coarse prismatic structure parting to weak fine subangular blocky; firm; prism faces light gray (5Y 7/1) with light olive brown (2.5Y 5/6) edges.

SOIL --CHESUNCOOK SOIL Nos.— 130388 LOCATION— Misery Twp., Maine

Depth cm	Horizon	Sand (2–0 05)	Silt (0 05–0 002)	Clay (<0 002)	Very Coarse (2–1)	Coarse (1–0 5)	Medium (0 5–0 25)	Fine (0 25–0 1)	Very Fine (0 1–0 05)	Coarse Silt (0 05–0 02)	Fine Silt (0 02–0 002)
		Pct of < 2 mm									
0–4	Oa										
4–11	E	17 10	68 64	14 26	4 22	3 58	2 51	0 49	6 30	25 09	43 55
11–22	Bh	23 59	57 61	18 80	6 65	4 35	3 09	4 25	5 25	13 59	44 02
22–30	Bs1	25 09	54 53	20 38	8 98	4 78	3 14	3 92	4 27	7 12	47 41
30–41	Bs2	25 11	58 55	16 34	9 09	4 79	3 06	3 79	4 38	12 79	45 76
41–50	BC	35 51	50 82	13 67	13 42	7 40	4 57	5 14	4 98	10 89	39 93
50–100	Cd	28 42	53 79	17 79	7 57	5 35	4 06	5 56	5 88	15 80	37 99

Depth cm	Organic Carbon %	BD g/cc	Water Content (Bar Pressures) 06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0–4	28 32	0 16	227 8	210 1	197 9	195 0	193 9	175 9	94 2	85 6	74 7	0 22	2 55	2 75	3 30
4–11	3 86	0 71	49 9	45 6	38 7	34 8	32 4	27 9	20 5	16 0	14 3	0 22	2 90	3 25	3 80
11–22	4 98	0 57	88 9	78 4	60 3	54 4	50 8	40 4	27 5	23 7	20 7	0 33	3 70	3 95	4 50
22–30	3 94	0 59	88 6	78 7	61 1	55 5	52 2	32 3	26 2	20 0	18 1	0 36	3 95	4 20	4 60
30–41	3 09	0 79	61 3	55 8	44 9	39 3	36 4	28 6	22 6	15 9	14 2	0 33	4 05	4 30	4 85
41–50	1 54	0 97	47 6	44 2	36 9	32 2	29 0	17 5	13 3	10.8	8 9	0 34	4 15	4 35	4 95
50–100	0 20	1 42	23 2	21 5	17 6	15 0	12 9	12 2	11 5	9 0	5 3	0 23	4 05	4 30	5 25

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0–4	4 58	1 82	0 07	1 21	49 50	57 18	1 70	9 38	0 00	0 00	0 00	0 30	0 50	0 80	0 30	0 20	2 10
4–11	0 36	0 26	0 02	0 13	24 40	25 17	10 75	11 52	0 00	0 00	1 30	2 90	1 10	2 00	2 60	1 80	11 70
11–22	0 13	0 12	0 02	0 13	32 40	32 80	7 35	7 75	0 00	0 00	0 40	0 60	0 50	0 80	1 50	1 80	5 60
22–30	0 12	0 08	0 01	0 10	28 00	28 31	4 25	4 56	0 00	0 00	0 40	0 30	0 40	1 10	2 10	2 50	6 80
30–41	0 08	0 04	0 02	0 07	23 40	23 61	3 30	3 51	0 00	0 00	0 40	1 10	0 80	1 10	2 50	2 50	8 40
41–50	0 06	0 03	0 02	0.05	14 60	14 76	2 20	2 36	0 00	0 00	0 30	1 00	1 40	2 10	5 10	5 90	15 80
50–100	0 12	0 09	0 02	0 10	6 10	6 43	1 75	2 08	0 00	0 20	0 10	0 40	0 40	0 90	2 00	3 70	7 70

Soil Map Unit: Chesuncook
Location: Moose River Twp., Somerset County, Maine
Described By: J.W. Miller and R.V. Rourke

Soil Survey # S88-ME-130-488
Drainage Class: moderately well drained
Date: 08/88

Oa—0 to 12 cm; 50% strong brown (7.5YR 5/6), and 50% very dark brown (10YR 2/2) sapric material; weak fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

E/B—12 to 17 cm; 50% pinkish gray (7.5YR 6/2), 25% dark reddish brown (5YR 2/2), and 25% dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt irregular boundary.

Bhs—17 to 25 cm; dark reddish brown (5YR 2/2) silt loam; weak fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt broken boundary.

Bs1—25 to 30 cm; dark yellowish brown (10YR 4/6) silt loam; weak fine granular structure; very friable; common very fine, fine, and common medium roots throughout; abrupt wavy boundary.

Bs2—30 to 36 cm; dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; very friable; few very fine, fine, and common medium roots throughout; clear smooth boundary.

BC—36 to 47 cm; light olive brown (2.5Y 5/6) silt loam; few fine prominent light olive gray (5Y 6/2) mottles; weak fine granular structure; very friable; few very fine, fine, and medium roots throughout; abrupt wavy boundary.

Cd—47 to 100 cm; olive (5Y 5/3) silt loam; common fine distinct light brownish gray (2.5Y 6/2), and prominent yellowish brown (10YR 5/8) mottles; strong very coarse prismatic structure; firm; prism faces light olive gray (5Y 6/2) with light olive brown (2.5Y 5/6) edges.

SOIL—CHESUNCOOK SOIL Nos.—130488 LOCATION - Moose River Twp., Maine

Depth cm	Horizon	Sand (2 0 05)	Silt (0 05–0 002)	Clay (<0 002)	Very Coarse (2 1)	Coarse (1–0 5)	Medium (0 5–0 25)	Fine (0 25–0 1)	Very Fine (0 1–0 05)	Coarse Silt (0 05–0 02)	Fine Silt (0 02–0 002)
		Pct of < 2 mm									
0–12	Oa										
12–17	E/B	20 98	60 84	18 18	4 61	3 45	2 44	4 12	6 36	18 29	42 55
17–25	Bhs	20 00	56 92	23 08	5 60	4 17	2 60	3 23	4 40	14 31	42 61
25–30	Bs1	24 05	54 27	21 68	5 91	5 09	3 74	4 38	4 93	11 80	42 47
30–36	Bs2	25 80	51 79	22 41	5 98	5 79	4 02	4 95	5 06	9 53	42 26
36–47	BC	25 53	57 46	17 01	6 37	5 35	3 82	4 77	5 22	12 75	44 71
47–100	Cd	29 71	54 48	15 81	9 03	6 78	4 87	3 68	5 35	14 78	39 70

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0–12	38 11	0 20	320 0	299 6	217 5	216 6	215 1	198 3	177 5	117 9	105 6	0 39	2 70	3 55	3 70
12–17	3 41	1 02	40 9	39 5	36 4	34 7	33 5	28 0	21 1	17 3	12 0	0 28	2 55	3 15	3 80
17–25	5 69	0 49	116 0	108 8	92 2	88 5	87 1	51 2	36 3	26 1	23 6	0 42	3 20	3 55	4 25
25–30	5 69	0 59	99 2	91 9	75 4	71 8	70 5	39 5	27 8	25 9	23 8	0 40	3 75	3 95	4 55
30–36	4 11	0 72	82 3	78 7	67 5	62 6	60 0	32 5	23 8	19 9	17 6	0 44	4 10	4 25	4 85
36–47	1 98	0 91	56 4	54 8	48 2	43 8	41 2	27 4	19 2	14 8	11 1	0 40	4 30	4 50	5 05
47–100	0 54	1 59	24 6	24 1	22 7	21 4	20 2	16 0	12 7	9 4	5 1	0 30	4 35	4 60	5 35

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0–12	10 13	2 19	0 09	1 03	53 10	66 54	6 10	19 54	0 00	0 00	0 00	0 00	0 10	0 10	0 00	0 00	0 20
12–17	0 84	0 26	0 02	0 08	23 50	24 70	11 65	12 85	0 00	2 00	1 90	1 80	1 30	2 20	2 80	1 00	13 00
17–25	0 56	0 29	0 02	0 09	35 60	36 56	12 75	13 71	0 00	0 00	0 00	0 00	0 10	0 60	1 50	3 30	5 50
25–30	0 20	0 17	0 03	0 11	32 70	33 21	7 25	7 76	0 00	0 00	0 00	0 30	0 40	0 60	1 90	5 00	8 20
30–36	0 09	0 06	0 01	0 07	27 60	27 83	3 80	4 03	0 00	0 00	1 30	0 50	0 20	1 10	3 10	8 50	14 70
36–47	0 07	0 03	0 02	0 07	17 10	17 29	2 05	2 24	0 00	0 00	0 00	0 10	0 20	0 50	2 00	5 70	8 50
47–100	0 04	0 02	0 01	0 07	7 20	7 34	1 00	1 14	0 00	0 00	0 50	0 40	0 30	0 90	2 40	5 30	9 80

Soil Map Unit: Chesuncook
Location: Thorndike Twp., Somerset County, Maine
Described By: J.W. Miller and R.V Rourke

Soil Survey # S88-ME-130-588
Drainage Class: moderately well drained
Date: 09/88

Oa—0 to 5 cm; very dark brown (10YR 2/2) sapric material; weak fine granular structure; very friable; many very fine, fine, and medium roots throughout; abrupt wavy boundary.

E/B—5 to 15 cm; 50% light brownish gray (10YR 6/2), and 50% dark reddish brown (5YR 3/3) gravelly silt loam; weak fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; clear wavy boundary.

Bh—15 to 19 cm; brown to dark brown (7.5YR 4/4) silt loam; weak fine granular structure; very friable; many very fine, fine, and medium roots throughout; clear wavy boundary.

Bs1—19 to 23 cm; dark yellowish brown (10YR 4/6) silt loam; weak medium platy structure; very friable; many very fine, fine, and medium roots throughout; abrupt wavy boundary.

Bs2—23 to 32 cm; dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; very friable; few very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

Bs3—32 to 41 cm; dark yellowish brown (10YR 4/4) loam; weak medium platy structure; very friable; few very fine, fine, and medium roots throughout; clear wavy boundary.

BC—41 to 49 cm; olive brown (2.5Y 4/4) silt loam; few fine distinct light brownish gray (2.5Y 6/2) mottles; weak medium platy structure; very friable; few very fine and fine roots throughout; abrupt smooth boundary.

Cd—49 to 100 cm; olive (5Y 5/3) silt loam; strong very coarse prismatic structure; firm.

SOIL—CHESUNCOOK SOIL Nos.—130588 LOCATION—Thorndike Twp., Maine

Depth cm	Horizon	Sand (2 0 05)	Silt (0 05-0 002)	Clay (< 0 002)	Very Coarse (2 1)	Coarse (1-0 5)	Medium (0 5-0 25)	Fine (0 25-0 1)	Very Fine (0 1 0 05)	Coarse Silt (0 05-0 02)	Fine Silt (0 02 0 002)
		Pct of < 2 mm									
0-5	Oa										
5-15	E/B	26 98	55 87	17 15	9 37	4 83	3 07	4 31	5 40	12 73	43 14
15-19	Bh	27 19	60 43	12 38	8 36	5 94	3 83	4 50	4 56	11 10	49 33
19-23	Bs1	29 40	56 68	13 92	9 30	6 34	4 37	4 94	4 45	14 29	42 39
23-32	Bs2	33 17	53 77	13 06	12 15	8 20	4 58	4 42	3 82	14 59	39 18
32-41	Bs3	36 65	47 53	15 82	13 28	9 84	5 22	4 53	3 78	8 88	38 65
41-49	BC	34 14	50 47	15 39	10 62	8 66	5 02	5 16	4 68	13 28	37 19
49-100	Cd	26 59	52 56	20 85	7 01	5 18	4 01	5 29	5 10	14 34	38 22

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0-5	25 61	0 23	144 4	140 4	136 9	135 8	133 1	0 0	0 0	96 8	80 9	0 14	3 75	4 35	4 60
5-15	3 93	0 68	47 0	44 8	39 0	36 4	34 7	32 9	21 9	19 4	16 0	0 20	3 35	4 05	4 80
15-19	4 37	0 72	64 6	60 8	47 5	42 6	40 6	35 3	23 4	20 9	18 0	0 31	3 90	4 30	4 95
19-23	2 99	0 86	58 3	54 5	43 8	38 7	36 2	23 2	21 9	17 6	15 0	0 34	4 05	4 35	5 00
23-32	2 13	0 91	51 2	48 7	39 5	34 5	31 5	24 0	17 9	14 0	12 2	0 33	4 15	4 40	5 10
32-41	1 19	1 12	36 5	35 2	30 5	27 5	25 5	15 1	14 0	11 7	8 1	0 30	4 25	4 45	5 25
41-49	0 74	1 52	20 4	19 9	18 4	17 0	15 5	13 7	12 4	10 4	6 0	0 21	4 40	4 60	5 45
49-100	0 37	1 62	17 6	17 1	16 3	15 5	14 8	14 5	13 2	10 3	5 0	0 20	4 25	4 80	5 85

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0-5	12 48	2 55	0 08	1 11	37 00	53 22	2 70	18 92	0 00	0 00	0 00	0 00	0 00	0 10	0 20	0 20	0 50
5-15	3 84	0 63	0 02	0 11	23 50	28 10	6 55	11 15	6 50	1 40	0 00	1 70	1 80	1 90	3 80	3 10	20 20
15-19	1 33	0 26	0 02	0 14	23 00	24 75	4 15	5 90	0 00	0 00	0 00	0 00	0 10	0 80	1 80	2 10	4 80
19-23	0 73	0 15	0 02	0 09	18 20	19 19	3 00	3 99	0 00	0 00	2 70	1 50	0 30	0 60	1 40	3 20	9 70
23-32	0 34	0 08	0 01	0 08	17 40	17 91	2 10	2 61	0 00	0 00	0 00	1 50	0 70	1 20	2 60	4 70	10 70
32-41	0 23	0 06	0 01	0 07	12 00	12 37	1 70	2 07	0 00	0 00	0 90	1 00	0 50	1 40	3 10	4 20	11 10
41-49	0 12	0 03	0 02	0 07	7 90	8 14	0 90	1 14	0 00	1 30	0 50	0 90	0 60	1 00	2 10	4 10	10 50
49-100	0 87	0 55	0 03	0 15	2 80	4 40	0 80	2 40	0 80	1 10	0 20	0 80	0 80	1 10	2 20	2 80	9 80

Soil Map Unit: Colonel
Location: No. 14 Plt., Washington County, Maine
Described By: D.E. Wilkinson, K.J. LaFlamme, and R.V. Rourke

Soil Survey # S89-ME-150-389
Drainage Class: somewhat poorly drained
Date: 07/89

A—0 to 7 cm; black (5YR 2/1) sapric material; weak very fine granular structure; friable; common very fine, fine, medium, and coarse roots throughout; abrupt irregular boundary.

E—7 to 20 cm; light gray to gray (10YR 6/1) gravelly fine sandy loam; weak medium platy structure; very friable; common very fine, fine, and few medium roots throughout; abrupt broken boundary.

Bh—20 to 33 cm; dark reddish brown (5YR 3/4) gravelly loam; weak fine and medium granular structure; very friable; common very fine, fine, and few medium roots throughout; clear wavy boundary.

Bs1—33 to 49 cm; yellowish brown (10YR 5/6) gravelly fine sandy loam; many coarse prominent light olive brown (2.5Y 5/4), common faint strong brown (7.5YR 5/6), and prominent light olive gray (5Y 6/2) mottles; weak medium platy structure; friable; few very fine and fine roots throughout; clear wavy boundary.

Bs2—49 to 57 cm; yellowish brown (10YR 5/6) gravelly fine sandy loam; common coarse prominent light olive gray (5Y 6/2), and many reddish brown (5YR 4/4) mottles; weak thick platy structure; friable; clear wavy boundary.

BC—57 to 67 cm; light olive brown (2.5Y 5/4) fine sandy loam; common medium distinct olive (5Y 5/3) mottles; weak thick platy structure; friable; few prominent yellowish red (5YR 4/6) discontinuous iron stains in root channels, and dark reddish brown (5YR 2/2) patchy oxide coats on upper surfaces of peds; gradual wavy boundary.

Cd—67 to 100 cm; olive brown (2.5Y 4/4) fine sandy loam; moderate very coarse prismatic structure parting to moderate medium and thick platy; firm; prism faces light olive gray (5Y 6/2) with yellowish brown (10YR 5/6) edges; few prominent black (5YR 2/1) discontinuous oxide coats on faces of peds.

SOIL—COLONEL SOIL Nos —150389 LOCATION—No. 14 Plt , Maine

Depth cm	Hor-izon	Sand (2–0.05)	Silt (0 05–0 002)	Clay (<0 002)	Very Coarse (2–1)	Coarse (1–0 5)	Medium (0 5–0 25)	Fine (0 25–0 1)	Very Fine (0 1–0 05)	Coarse Silt (0 05–0 02)	Fine Silt (0 02–0 002)
		Pct of < 2 mm									
0–7	A										
7–20	E	49 42	47 09	3 49	6 41	7 94	8 88	13 56	12 63	24 59	22 50
20–33	Bh	47 70	44 26	8 04	5 76	8 98	9 06	12 83	11 07	20 98	23 28
33–49	Bs1	54 05	39 04	6 91	10 34	10 67	9 69	13 06	10 29	19 95	19 09
49–57	Bs2	50 24	43 90	5 86	7 02	9 19	9 17	13 44	11 42	22 63	21 27
57–67	BC	47 22	48 20	4 58	8 12	8 36	7 68	11 32	11 74	23 76	24 44
67–100	Cd	44 56	50 82	4 62	7 27	7 31	6 61	10 89	12 48	26 68	24 14

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0–7	15 66	0 34	133 5	130 5	122 5	118 8	117 5	44 3	36 3	28 6	24 0	0 36	3 20	3 55	4 10
7–20	0 84	1 39	29 3	28 9	26.1	21 2	18 5	9 1	6 6	4 6	4 3	0 34	3 35	3 75	4 80
20–33	2 57	0 94	50 8	48 2	41 4	39 3	36 9	15 8	14 0	11 2	9 9	0 36	3 90	4 20	5 00
33–49	1 68	1 15	33 1	31 7	25 7	22 0	19 5	11 8	10 5	8 5	6 8	0 29	4 35	4 60	5 50
49–57	1 43	1.13	39 0	37 7	31 6	29 4	25 4	11 0	9 4	7 7	6 5	0 35	4 50	4 70	5 50
57–67	0 56	1 42	28 9	28 4	24 9	20 8	16 1	7 3	5 6	4 1	3 2	0 36	4 40	4 75	5 55
67–100	0 19	1 73	16 9	16 1	14 4	12 1	9 5	6 1	4 6	3 2	2 3	0 24	4 40	4 85	5 80

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0-7	3 60	1 00	0 01	0 20	46 30	51 11	5 15	9 96	0 00	5 10	0 40	0 80	0 80	0 40	0.90	1 90	10 30
7-20	0 40	0 10	0 01	0 01	8 90	9 42	3 55	4 07	3 30	1 70	2 20	1 60	0 70	1 00	1 90	3 60	16 00
20-33	0 40	0 10	0 01	0 01	26 70	27 22	3 10	3 62	3 30	1 70	2 20	1 60	0 70	1 00	1.90	3 60	16 00
33-49	0 20	0 01	0 01	0 01	19 80	20 03	1 00	1 23	0 00	3 00	0 40	2 90	1 70	2 10	3 10	5 50	18 70
49-57	0 10	0 01	0 01	0 01	19 10	19 23	0 75	0 88	0 00	1 30	3 00	3 60	1 90	1 60	3 50	6.10	21 00
57-67	0 10	0 01	0 01	0 01	8 60	8 73	0 65	0 78	0 00	0 00	0 90	0 30	0 80	1 00	2 80	4 70	10 50
67-100	0 10	0 01	0 01	0 01	4 50	4 63	0 50	0 63	0 00	0 00	0 00	0 70	0 40	1 10	2 00	3 10	7 30

Soil Map Unit: Colonel
Location: Twp. 18, Washington County, Maine
Described By: K.J. LaFlamme, S.E. Lee, D.E. Wilkinson, and R.V Rourke

Soil Survey # S89-ME-150-489
Drainage Class: somewhat poorly drained
Date: 09/89

Oa—0 to 6 cm; dark reddish brown (5YR 2/2) exterior, and black (5YR 2/1) crushed sapric material; moderate very fine granular structure; very friable; many very fine, fine, medium, and common coarse roots throughout; abrupt wavy boundary.

E—6 to 16 cm; gray (5YR 5/1) very stony fine sandy loam; weak very fine granular structure; very friable; many very fine, fine, common medium, and few coarse roots throughout; abrupt broken boundary.

Bh—16 to 20 cm; reddish brown (5YR 4/4) gravelly fine sandy loam; moderate very fine and fine granular structure; very friable; common very fine, fine, and medium roots throughout; clear wavy boundary.

Bs1—20 to 30 cm; dark yellowish brown (10YR 4/6) gravelly fine sandy loam; weak fine granular structure; very friable; common very fine, fine, and medium roots throughout; clear smooth boundary.

Bs2—30 to 39 cm; 95% yellowish brown (10YR 5/6), and 5% grayish brown (10YR 5/2) sandy loam; common medium distinct grayish brown (10YR 5/2), and coarse prominent brown to dark brown (7.5YR 4/4) mottles; weak medium platy structure parting to weak very fine and fine granular; very friable; few very fine and fine roots throughout; abrupt smooth boundary.

BC—39 to 51 cm; light olive brown (2.5Y 5/6), fine sandy loam; common coarse prominent light brownish gray (2.5Y 6/2), and faint yellowish brown (10YR 5/6) mottles; weak very coarse prismatic structure parting to moderate thin and medium platy; friable; few very fine and fine roots throughout; prism faces light olive gray (5Y 6/2) with yellowish brown (10YR 5/6) edges; abrupt smooth boundary.

Cd—51 to 100 cm; olive (5Y 5/3), fine sandy loam; common coarse prominent yellowish red (5YR 4/6), and faint light olive gray (5Y 6/2) mottles; moderate very coarse prismatic structure parting to weak thin and medium platy; firm; prism faces grayish brown (2.5Y 5/2) with yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) edges.

SOIL—COLONEL SOIL Nos.—150489 LOCATION—Twp. 18, Maine

Depth cm	Horizon	Sand (2–0.05)	Silt (0.05–0.002)	Clay (<0.002)	Very Coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very Fine (0.1–0.05)	Coarse Silt (0.05–0.02)	Fine Silt (0.02–0.002)
		Pct of < 2 mm									
0–6	Oa										
6–16	E	57.93	37.28	4.79	4.13	9.93	13.29	19.02	11.56	17.56	19.72
16–20	Bh	51.43	36.85	11.72	5.63	8.96	11.33	15.97	9.54	16.15	20.70
20–30	Bs1	57.12	33.84	9.04	5.35	9.48	13.41	19.06	9.82	13.80	20.04
30–39	Bs2	63.56	29.58	6.86	7.58	11.54	14.37	20.61	9.46	12.43	17.15
39–51	BC	61.79	29.72	8.49	6.35	9.82	13.78	21.71	10.13	12.73	16.99
51–100	Cd	55.78	35.84	8.38	6.28	8.82	10.85	19.61	10.22	13.73	22.11

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	0.6 %	1 %	3.3 %	6.7 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1:1)	pH CaCl (2:1)	pH H_2O (1:1)
0–6	30.87	0.18	252.4	236.4	224.6	219.7	215.3	113.9	80.7	57.4	55.1	0.33	2.85	3.20	3.80
6–16	1.08	1.09	31.6	29.3	23.5	20.4	19.6	9.6	6.5	5.5	5.1	0.26	3.30	3.65	4.60
16–20	2.04	1.06	44.6	41.6	34.8	31.2	27.9	16.4	13.6	11.8	10.0	0.33	3.95	4.20	4.85
20–30	1.45	1.09	39.5	36.5	29.3	25.4	22.4	14.6	12.8	11.3	8.8	0.30	4.35	4.65	5.15
30–39	0.71	1.25	27.1	23.7	18.3	16.8	14.3	10.1	8.6	7.1	5.0	0.23	4.45	4.80	5.40
39–51	0.31	1.63	20.3	18.4	15.2	13.3	12.0	9.5	7.6	5.8	3.4	0.24	4.40	4.95	5.50
51–100	0.14	1.69	17.0	15.8	13.6	12.1	10.6	9.3	7.2	5.4	3.1	0.21	4.25	4.80	6.10

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76–51	51–38	38–25	25–19	19–13	13–6	6–2	Total
	me/100g																
0–6	6.40	2.60	0.10	0.60	62.30	72.00	4.80	14.50	0.00	0.00	0.00	0.00	0.20	0.10	0.01	0.01	0.32
6–16	0.20	0.10	0.01	0.01	9.60	9.92	3.55	3.87	32.10	3.20	1.00	1.20	1.20	0.60	0.60	1.00	40.90
16–20	0.20	0.01	0.01	0.10	20.90	21.22	3.15	3.47	0.00	9.20	0.00	3.10	3.30	2.20	3.80	6.50	28.10
20–30	0.01	0.01	0.01	0.10	16.00	16.13	1.00	1.13	2.60	1.20	0.50	1.50	1.10	2.00	2.60	7.90	19.40
30–39	0.01	0.01	0.01	0.01	9.60	9.64	0.70	0.74	0.00	0.00	0.00	0.60	0.50	0.90	1.50	4.80	8.30
39–51	0.01	0.01	0.01	0.01	6.10	6.14	0.60	0.64	2.20	0.60	0.00	0.40	0.50	0.80	1.50	4.00	10.00
51–100	0.01	0.01	0.01	0.01	4.70	4.74	0.65	0.69	0.00	1.00	0.40	1.80	0.70	0.80	2.20	3.80	10.70

Soil Map Unit: Colonel
Location: Parlin Pond Twp., Somerset County, Maine
Described By: J.W. Miller and R.V. Rourke

Soil Survey # S89-ME-130-489
Drainage Class: poorly drained
Date: 08/89

Oa—0 to 10 cm; black (5YR 2/1) sapric material; weak fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

E—10 to 16 cm; light brownish gray (10YR 6/2) silt loam; weak thin platy structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

Bh—16 to 26 cm; brown to dark brown (7.5YR 4/4) silt loam; weak medium platy structure parting to weak medium granular; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

Bs—26 to 33 cm; dark yellowish brown (10YR 4/4) fine sandy loam; common fine prominent yellowish red (5YR 5/8), and distinct grayish brown (10YR 5/2) mottles; moderate medium platy structure; very friable; common very fine, fine, and many medium roots throughout; clear wavy boundary.

BC—33 to 44 cm; light olive brown (2.5Y 5/4) sandy loam; common medium distinct light olive brown (2.5Y 5/6), and olive gray (5Y 5/2) mottles; weak coarse prismatic structure; friable; few very fine and fine roots throughout; abrupt smooth boundary.

Cd—44 to 100 cm; olive (5Y 5/4) gravelly fine sandy loam; common medium prominent dark yellowish brown (10YR 4/6), and fine distinct light olive gray (5Y 6/2) mottles; moderate coarse prismatic structure; very firm; prism faces light olive gray (5Y 6/2) with yellowish brown (10YR 5/8) edges.

SOIL—COLONEL SOIL Nos —130489 LOCATION Parlin Pd Twp., Maine

Depth cm	Horizon	Sand (2-0 05)	Silt (0 05-0 002)	Clay (<0 002)	Very Coarse (2-1)	Coarse (1-0 5)	Medium (0 5-0 25)	Fine (0 25-0 1)	Very Fine (0 1-0 05)	Coarse Silt (0 05-0 02)	Fine Silt (0 02-0 002)
		Pct of < 2 mm									
0-10	Oa										
10-16	E	16 85	73 94	9 21	1 26	2 40	3 21	4 80	5 18	25 73	48 21
16-26	Bh	31 15	57 58	11 27	4 60	5 25	5 96	8 11	7 23	23 95	33 63
26-33	Bs	54 28	39 57	6 15	7 23	9 96	11 25	14 75	11 09	23 10	16 47
33-44	BC	59 49	37 21	3 30	8 82	10 64	12 04	16 42	11 57	23 26	13 95
44-100	Cd	51 85	40 81	7 34	9 80	10 88	10 64	12 50	8 03	16 60	24 21

Depth cm	Organic Carbon %	BD g/cc	Water Content (Bar Pressures) 06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0-10	40 49	0 12	286 0	270 1	255 7	245 9	234 6	136 3	119 3	85 2	80 5	0 23	2 90	3 15	3 65
10-16	2 47	1 04	42 4	40 8	37 5	33 5	28 8	19 6	14 7	10 0	8 0	0 34	3 20	3 65	4 25
16-26	3 16	0 77	67 1	63 1	59 1	57 7	57 3	19 2	15 1	12 2	11 4	0 40	3 65	3 85	4 45
26-33	1 61	0 96	46 0	43 9	40 4	39 8	38 3	8 2	6 9	5 8	5 2	0 37	4 00	4 15	4 80
33-44	0 46	1 47	20 5	19 5	15 3	12 9	10 6	4 2	3 6	2 9	2 4	0 25	4 30	4 45	5 30
44-100	0 16	1 63	14 7	13 5	12 2	10 6	9 1	6 5	5 2	3 9	2 2	0 18	4 15	4 70	5 95

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0-10	4 50	1 20	0 01	1 00	70 40	77 11	8 20	14 91	0 00	0 00	0 00	0 00	0 00	0 01	0 01	0 01	0 03
10-16	0 10	0 01	0 01	0 01	17 30	17 43	7 85	7 98	0 00	0 00	0 00	0 30	0 10	0 10	0 20	0 40	1 10
16-26	0 10	0 01	0 01	0 10	29 10	29 32	4 45	4 67	0 00	0 00	0 00	0 80	0 40	0 80	0 90	1 50	4 40
26-33	0 10	0 01	0 01	0 01	18 70	18 83	1 95	2 08	3 80	0 00	0 00	0 50	0 60	0 60	1 60	3 50	10 60
33-44	0 01	0 01	0 01	0 01	6 70	6 74	0 80	0 84	0 00	0 00	1 30	1 10	1 00	1 10	2 40	4 50	11 40
44-100	0 60	0 20	0 01	0 01	2 90	3 72	0 45	1 27	0 00	1 50	0 10	2 40	1 90	2 70	5 20	9 40	23 20

Soil Map Unit: Colonel
Location: Hobbstown Twp., Somerset County, Maine
Described By: J.W. Miller and R.V. Rourke

Soil Survey # S89-ME-130-589
Drainage Class: somewhat poorly drained
Date: 08/89

Oa—0 to 4 cm; black (10YR 2/1) sapric material; weak very fine and fine granular structure; very friable; many very fine, fine, and medium roots throughout; abrupt wavy boundary.

E/B—4 to 9 cm; grayish brown (10YR 5/2), and dark reddish brown (5YR 3/4) silt loam; weak thin platy structure parting to weak very fine and fine granular; very friable; many very fine, fine, and medium roots throughout; abrupt smooth boundary.

Bh—9 to 14 cm; brown to dark brown (7.5YR 4/4) silt loam; weak very fine and fine granular structure; very friable; many very fine, fine, and many medium roots throughout; clear wavy boundary.

Bs1—14 to 26 cm; dark yellowish brown (10YR 4/4) silt loam; common fine prominent dark reddish brown (5YR 3/3), and light olive gray (5Y 6/2) mottles; weak fine granular structure; very friable; few very fine, fine, and many medium roots throughout; clear smooth boundary.

Bs2—26 to 48 cm; dark yellowish brown (10YR 4/4) silt loam; few medium distinct dark yellowish brown (10YR 4/6), common fine prominent light brownish gray (2.5Y 6/2), and many coarse faint pale brown (10YR 6/3) mottles; weak thin platy structure; very friable; few very fine, fine, and medium roots throughout; clear smooth boundary.

BC—48 to 56 cm; olive brown (2.5Y 4/4) loam; common fine and medium distinct light brownish gray (2.5Y 6/2), and medium prominent dark yellowish brown (10YR 4/6) mottles; moderate very coarse prismatic structure parting to moderate thin platy; friable; few very fine, fine, and medium roots between peds; olive (5Y5/3) prism face; abrupt smooth boundary.

Cd—56 to 100 cm; light olive brown (2.5Y 5/4) loam; common medium prominent light olive gray (5Y 6/2), and dark yellowish brown (10YR 4/6), mottles; moderate very coarse prismatic structure parting to moderate medium platy; friable; few fine roots between peds; grayish brown (2.5Y 5/2) prism faces with yellowish brown (10YR 5/8) edges.

SOIL—COLONEL SOIL Nos 130589 LOCATION—Hobbstown Twp., Maine

Depth cm	Horizon	Sand (2–0 05)	Silt (0 05–0 002)	Clay (<0 002)	Very Coarse (2–1)	Coarse (1–0 5)	Medium (0 5–0 25)	Fine (0 25–0 1)	Very Fine (0 1–0 05)	Coarse Silt (0 05–0 02)	Fine Silt (0 02–0 002)
		Pct of < 2 mm									
0–4	Oa										
4–9	E/B	32 22	56 28	11 50	4 10	5 27	4 21	9 75	8 89	22 62	33 66
9–14	Bh	36 77	50 66	12 57	4 98	5 85	6 26	10 66	9 02	21 34	29 32
14–26	Bs1	31 83	55 11	13 06	4 16	4 42	4 93	9 25	9 07	23 69	31 42
26–48	Bs2	37 22	50 11	12 67	4 36	4 80	5 86	11 59	10 61	22 40	27 71
48–56	BC	40 82	47 95	11 23	2 52	4 17	6 46	14 82	12 85	23 12	24 83
56–100	Cd	38 91	49 61	11 48	4 52	5 74	6 66	11 87	10 12	21 47	28 14

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0–4	21 76	0 36	112 9	107 3	105 1	103 9	95 3	55 8	50 7	44 8	40 2	0 24	4 20	4 45	4 85
4–9	4 46	0 86	50 0	45 7	40 4	37 1	33 3	21 7	17 5	14 5	12 6	0 28	4 00	4 55	5 20
9–14	3 26	0 86	56 3	52 4	43 4	38 8	36 3	22 2	16 4	13 3	12 0	0 35	4 20	4 70	5 55
14–26	2 11	0 95	51 1	47 6	39 1	34 1	32 0	17 8	14 0	10 7	9 3	0 36	4 35	4 80	5 80
26–48	1 45	1 04	40 9	38 1	32 5	29 5	25 9	12 9	11 0	8 5	7 2	0 32	4 40	4 90	6 00
48–56	0 69	1 43	27 8	26 8	23 5	21 8	21 0	10 1	8 6	6 7	4 6	0 32	4 45	4 90	6 15
56–100	0 31	1 63	21 5	20 3	18 0	16 7	15 1	9 8	8 5	6 4	3 7	0 27	4 35	4 85	6 30

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0–4	23 30	4 20	0 01	0 50	38 50	66 51	0 45	28 46	0 00	0 00	0 00	0 00	0 00	0 10	0 10	0 50	0 70
4–9	8 90	1 70	0 01	0 10	20 50	31 21	0 70	11 41	0 00	0 00	0 00	0 00	0 30	0 20	0 80	1 30	2 60
9–14	4 60	0 80	0 01	0 10	25 10	30 61	1 00	6 51	0 00	0 00	0 00	0 00	0 00	0 60	1 30	2 10	4 00
14–26	2 60	0 40	0 01	0 01	18 80	21 82	0 80	3 82	0 00	0 00	0 00	0 30	0 10	0 60	1 00	1 40	3 40
26–48	2 00	0 30	0 01	0 10	14 20	16 61	0 65	3 06	0 00	3 50	0 00	0 30	0 20	0 70	1 40	2 50	8 60
48–56	1 20	0 20	0 01	0 10	9 30	10 81	0 55	2 06	0 00	0 00	0 00	0 00	0 00	0 10	0 60	1 60	2 30
56–100	0 90	0 20	0 01	0 10	6 00	7 21	0 45	1 66	2 00	0 00	0 20	0 40	0 40	0 40	1 10	1 50	6 00

Soil Map Unit: Colonel Soil Survey # S89-ME-130-689
Location: Carrying Place Twp., Somerset County, Maine Drainage Class: poorly drained
Described By: J.W. Miller, L. Krall, and R.V. Rourke Date: 08/89

Oa—0 to 8 cm; black (10YR 2/1) sapric material; weak very fine and fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

E—8 to 11 cm; light brownish gray (10YR 6/2) gravelly fine sandy loam; weak thin platy structure; very friable; many very fine, fine, and medium roots throughout; abrupt broken boundary.

Bh—11 to 20 cm; dark reddish brown (5YR 3/3) loam; weak very fine and fine granular structure; very friable; many very fine, fine, and medium roots throughout; abrupt irregular boundary.

Bs1—20 to 27 cm; yellowish red (5YR 5/6) loam; few fine prominent light brownish gray (2.5Y 6/2) mottles; weak fine granular structure; very friable; many very fine, fine, and medium roots throughout; abrupt irregular boundary.

Bs2—27 to 35 cm; brown to dark brown (7.5YR 4/4) fine sandy loam; common fine prominent light olive gray (5Y 6/2), and few yellowish brown (10YR 5/8) mottles; weak fine granular structure; very friable; many very fine and fine roots throughout; abrupt smooth boundary.

BC—35 to 46 cm; olive brown (2.5Y 4/4) fine sandy loam; common medium prominent light olive gray (5Y 6/2), and yellowish brown (10YR 5/8) mottles; weak fine and medium subangular blocky structure; friable; few very fine and fine roots throughout; clear smooth boundary.

Cd—46 to 100 cm; olive (5Y 4/3) loam; common medium faint olive (5Y 5/3), and prominent yellowish brown (10YR 5/8) mottles; moderate very coarse prismatic structure parting to weak medium and thick platy; firm; prism faces light brownish gray (2.5Y 6/2) with light olive brown (2.5Y 5/6) edges; few prominent dark reddish brown (5YR 3/4) discontinuous stains on faces of peds.

SOIL—COLONEL SOIL Nos.—130689 LOCATION—Carrying Pl. Twp., Maine

Depth cm	Horizon	Sand (2–0 05)	Silt (0 05–0 002)	Clay (<0 002)	Very Coarse (2–1)	Coarse (1–0 5)	Medium (0 5–0 25)	Fine (0 25–0 1)	Very Fine (0 1–0 05)	Coarse Silt (0.05–0.02)	Fine Silt (0 02–0 002)
		Pct of < 2 mm									
0–8	Oa										
8–11	E	48 61	44 91	6 48	2 44	6.17	9 71	16 48	13 81	20 87	24 04
11–20	Bh	37 24	48 30	14 46	2 83	4 48	6 86	11 99	11 08	21 10	27 20
20–27	Bs1	42 66	47 62	9 72	5 36	6 45	7 14	12 61	11.10	23 82	23 80
27–35	Bs2	46 31	47 11	6 58	4 01	5 91	8 37	15 08	12 94	21 79	25 32
35–46	BC	49 67	44 00	6 33	5 35	7 13	8 81	15.64	12 74	21 46	22 54
46–100	Cd	46 78	42 90	10 32	5 53	6 19	8 23	14 44	12 39	20 12	22 78

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1.1)
0–8	35 97	0 14	317 4	269 1	256 3	251 4	247.5	119 8	98 9	84 6	76 3	0 27	2 85	3 20	3 70
8–11	1 92	0.91	34 1	31 0	25.9	23 5	22 5	12 2	9 6	6.7	6 1	0 23	2 45	2 90	3 55
11–20	5 04	0 61	62 8	57 8	50 3	48 3	45 8	23 2	21 1	17 6	16 6	0 25	3.30	3 55	4 25
20–27	5 01	0 58	71 5	62 1	52 4	51 5	47 8	22 6	20 8	18 6	17 8	0 26	4 15	4 25	4 75
27–35	2 37	0 96	41 7	36 9	28 1	23 3	19 8	13 8	12 4	10 3	8 9	0 27	4 35	4 55	5 10
35–46	1 16	1 10	37 3	33 6	27 2	22 4	18 0	9 1	7.2	6 2	5 1	0 31	4 30	4 60	5 20
46–100	0 37	1 48	22 7	20.8	18 0	14 5	12 9	8 1	6 6	5 3	3 5	0 26	4 25	4 55	5.50

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0–8	8 50	3 20	0 01	0 90	75 70	88 31	3 35	15 96	0.00	0.00	0 00	0.00	0 10	0 01	0 01	0 01	0 13
8–11	0 20	0 30	0 01	0 01	15 50	16.02	5 45	5 97	0.00	0 00	5 20	1 60	2 60	1 90	2 30	2 30	15 90
11–20	0 10	0 20	0 01	0 10	45 80	46.21	11 45	11 86	0 00	1 40	0 00	0 50	0 20	0 70	0.60	1 50	4 90
20–27	0 01	0 01	0 01	0 01	41 30	41 34	2 60	2 64	0 00	0 00	0 00	0 00	0 10	0.30	0 70	3 60	4 70
27–35	0 01	0 01	0 01	0 01	22 40	22 44	1 25	1 29	0 00	0 00	0 00	0 70	0.10	0 30	1 30	4 70	7 10
35–46	0 01	0.01	0 01	0 01	12 70	12.74	0 90	0 94	0 00	0 00	0 60	0 80	0.30	0 80	3 00	5 90	11 40
46–100	0 01	0.01	0 01	0 01	6 70	6 74	0 80	0 84	1.90	0 00	0 80	0.50	0.80	1 30	3 00	6.40	14 70

Soil Map Unit: Dixfield
Location: Parlin Pond Twp., Somerset County, Maine
Described By: J.W. Miller and R.V. Rourke

Soil Survey # S89-ME-130-189
Drainage Class: somewhat poorly drained
Date: 08/89

Oa—0 to 4 cm; black (10YR 2/1) sapric material; weak fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

E/B—4 to 6 cm; 50% brown (7.5YR 5/2), and 50% dark reddish brown (5YR 3/3) gravelly silt loam; weak thin platy structure parting to weak fine granular; very friable; many very fine, fine, and medium roots throughout; abrupt wavy boundary.

Bh—6 to 8 cm; dark reddish brown (5YR 3/3) loam; weak fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

Bs1—8 to 15 cm; dark yellowish brown (10YR 3/6) loam; weak fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; clear wavy boundary.

Bs2—15 to 42 cm; dark yellowish brown (10YR 4/6) loam; weak fine granular structure; very friable; common very fine, fine, medium, and coarse roots throughout; clear wavy boundary.

BC—42 to 56 cm; light olive brown (2.5Y 5/4) loam; common fine distinct light olive gray (5Y 6/2) mottles; moderate coarse prismatic structure parting to moderate medium platy; friable; few very fine, fine, and medium roots in prism faces; prism faces grayish brown (2.5Y 5/2); abrupt smooth boundary.

Cd—56 to 100 cm; olive (5Y 5/3) gravelly loam; common fine distinct light olive brown (2.5Y 5/6), and faint light olive gray (5Y 6/2) mottles; moderate coarse prismatic structure parting to moderate thick platy; firm; few very fine, fine, and medium roots in prism faces; prism faces olive gray (5Y 5/2) with olive (5Y 5/6) edges.

SOIL—DIXFIELD SOIL Nos 130189 LOCATION—Parlin Pond Twp., Maine

Depth cm	Horizon	Sand (2–0 05)	Silt (0 05–0 002)	Clay (<0 002)	Very Coarse (2–1)	Coarse (1–0 5)	Medium (0 5–0 25)	Fine (0 25–0 1)	Very Fine (0 1–0 05)	Coarse Silt (0 05–0 02)	Fine Silt (0 02–0 002)
		Pct of < 2 mm									
0–4	Oa										
4–6	E/B	39 71	50 25	10 04	4 22	6 32	7 51	11 30	10 36	23 66	26 59
6–8	Bh	37 61	48 06	14 33	5 88	6 35	6 67	10 05	8 66	22 71	25 35
8–15	Bs1	42 05	47 49	10 46	7 12	7 72	8 26	10 69	8 26	21 43	26 06
15–42	Bs2	49 43	42 56	8 01	10 85	9 84	8 80	11 40	8 54	20 62	21 94
42–56	BC	49 57	41 83	8 60	10 54	9 49	8 82	11 92	8 80	18 46	23 37
56–100	Cd	45 36	44 04	10 60	10 50	9 80	7 84	9 83	7 39	18 45	25 59

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0–4	29 78	0 31	149 9	110 5	93 1	89 9	88 4	83 3	75 0	69 3	64 4	0 14	3 40	3 50	4 10
4–6	4 88	0 81	47 9	42 5	35 9	32 9	30 7	22 5	19 6	18 3	15 5	0 22	3 30	3 65	4 20
6–8	6 63	0 71	78 2	70 7	57 5	51 5	49 2	29 5	26 0	24 3	21 0	0 35	3 45	3 75	4 20
8–15	3 08	0 67	75 7	65 9	51 2	46 2	43 8	20 5	16 5	15 4	12 6	0 36	3 75	3 95	4 50
15–42	1 45	0 92	49 5	43 1	32 9	28 2	26 5	11 8	10 1	8 8	6 9	0 33	4 05	4 15	4 90
42–56	0 78	1 20	36 0	32 5	27 0	23 6	21 9	9 8	8 5	7 2	4 9	0 33	4 20	4 40	5 20
56–100	0 37	1 53	19 4	18 0	16 2	15 1	14 3	9 3	7 8	6 5	4 0	0 21	4 30	4 65	5 50

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0–4	1 60	0 50	0 01	0 90	58 10	61 11	6 45	9 46	0 00	0 00	0 00	0 00	0 00	0 01	0 01	0 01	0 03
4–6	0 20	0 10	0 01	0 10	22 60	23 01	7 85	8 26	0 00	13 10	0 00	0 00	0 00	0 30	0 80	0 80	15 00
6–8	0 30	0 20	0 01	0 20	39 80	40 51	7 80	8 51	0 00	0 00	0 00	0 00	0 00	0 90	1 80	1 60	4 30
8–15	0 10	0 01	0 01	0 10	26 90	27 12	4 15	4 37	0 00	0 00	0 00	0 90	0 20	0 70	1 20	2 30	5 30
15–42	0 10	0 01	0 01	0 01	15 90	16 03	2 10	2 23	0 90	0 00	0 40	0 60	0 60	0 90	2 00	4 40	9 80
42–56	0 10	0 01	0 01	0 01	10 70	10 83	1 35	1 48	0 00	0 00	1 20	1 00	0 60	1 00	2 60	2 70	9 10
56–100	0 10	0 01	0 01	0 01	7 00	7 13	0 90	1 03	0 00	0 20	2 10	1 20	1 10	1 70	4 50	5 70	16 50

Soil Map Unit: Dixfield
Location: Hobbstown Twp., Somerset County, Maine
Described By: J.W. Miller, R.V. Rourke

Soil Survey # S89-ME-130-289
Drainage Class: moderately well drained
Date: 08/89

Oa—0 to 7 cm; black (10YR 2/1) sapric material; weak very fine and fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

E—7 to 10 cm; light brownish gray (10YR 6/2) silt loam; weak thin platy structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt irregular boundary.

Bh—10 to 16 cm; dark reddish brown (5YR 3/4) loam; weak very fine and fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt irregular boundary.

Bs1—16 to 27 cm; brown to dark brown (7.5YR 4/4) gravelly loam; weak very fine and fine granular structure; very friable; many very fine, fine, and medium roots throughout; clear smooth boundary.

Bs2—27 to 40 cm; dark yellowish brown (10YR 4/4) gravelly silt loam; weak very fine and fine granular structure; very friable; few very fine, fine, and common medium roots throughout; clear wavy boundary.

BC—40 to 49 cm; light olive brown (2.5Y 5/4) very stony loam; moderate very coarse prismatic structure parting to moderate medium platy; friable; few very fine, fine, and medium roots throughout; prism faces olive 5Y 5/3; clear smooth boundary.

Cd—49 to 100 cm; olive brown (2.5Y 4/4) gravelly loam; common medium prominent dark yellowish brown (10YR 4/6), and light olive gray (5Y 6/2) mottles; moderate very coarse prismatic structure parting to moderate thick and very thick platy; very firm; prism faces olive (5Y 5/3) with yellowish brown (10YR 5/6) edges.

SOIL—DIXFIELD SOIL Nos —130289 LOCATION—Hobbstown Twp., Maine

Depth cm	Horizon	Sand (2–0 05)	Silt (0 05–0 002)	Clay (<0 002)	Very Coarse (2–1)	Coarse (1–0 5)	Medium (0 5–0 25)	Fine (0 25–0 1)	Very Fine (0 1–0 05)	Coarse Silt (0 05–0 02)	Fine Silt (0 02–0 002)
		Pct of < 2 mm									
0–7	Oa										
7–10	E	40 74	53 15	6 11	4 77	6 94	7 74	11 83	9 46	25 47	27 68
10–16	Bh	41 21	48 09	10 70	6 94	7 44	7 98	10 86	7 99	20 74	27 35
16–27	Bs1	38 26	49 70	12 04	6 70	6 72	6 88	10 50	7 46	21 08	28 62
27–40	Bs2	37 70	51 85	10 45	4 79	7 10	7 28	10 33	8 20	22 83	29 02
40–49	BC	45 37	45 96	8 67	9 63	8 12	8 13	11 31	8 18	19 76	26 20
49–100	Cd	49 93	41 05	9 02	9 35	9 44	9 83	12 89	8 42	17 94	23 11

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0–7	37 97	0 14	260 2	225 8	200 5	199 1	197 4	138 8	105 7	94 1	89 2	0 19	3 00	3 35	3 80
7–10	1 63	1 06	33 1	30 4	27 1	24 8	23 4	13 3	10 5	8 6	6 3	0 26	2 80	3 45	4 35
10–16	2 76	0 79	49 4	44 8	39 2	35 7	33 6	18 6	15 6	14 1	12 3	0 26	3 35	3 85	4 55
16–27	2 45	0 94	49 6	45 4	36 8	31 4	28 9	17 2	14 9	14 3	12 4	0 31	3 80	4 15	5 05
27–40	1 62	0 92	55 4	50 9	41 2	35 8	33 7	15 6	11 9	10 4	8 4	0 39	4 05	4 40	5 30
40–49	0 71	1 30	31 7	30 3	26 4	23 7	22 5	10 5	8 5	7 0	4 7	0 33	4 20	4 55	5 75
49–100	0 30	1 66	18 9	18 0	16 2	14 7	13 9	8 9	7 4	6 0	3 5	0 24	4 25	4 80	6 10

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0–7	16 80	3 40	0 01	1 20	72 30	93 71	1 95	23 36	0 00	0 00	0 00	0 40	0 00	0 10	0 10	0 10	0 70
7–10	1 90	0 40	0 01	0 01	11 50	13 82	3 50	5 82	0 00	0 00	1 20	0 80	1 50	0 70	3 20	3 10	10 50
10–16	2 20	0 40	0 01	0 10	26 40	29 11	4 70	7 41	0 00	0 00	1 10	0 60	0 70	0 60	1 30	1 70	6 00
16–27	1 60	0 30	0 01	0 10	25 60	27 61	2 90	4 91	8 70	2 60	1 70	1 20	0 80	1 00	1 20	1 60	18 80
27–40	1 30	0 20	0 01	0 10	17 40	19 01	1 70	3 31	3 20	5 00	1 20	0 30	0 90	1 60	1 80	4 10	18 10
40–49	0 80	0 20	0 01	0 01	9 90	10 92	1 05	2 07	38 90	1 70	0 90	1 20	0 80	0 90	2 60	4 30	51 30
49–100	0 80	0 20	0 01	0 10	5 60	6 71	0 65	1 76	4 00	1 60	0 30	1 00	0 90	1 00	2 20	4 40	15 40

Soil Map Unit: Dixfield
Location: T3 R4 BKP-WKR, Somerset County, Maine
Described By: J.W. Miller, L. Krall, and R.V. Rourke

Soil Survey # S89-ME-130-389
Drainage Class: somewhat poorly drained
Date: 08/89

Oa—0 to 19 cm; 10% dark reddish brown (5YR 3/4), and 90% very dark brown (10YR 2/2) stony sapric material; weak very fine and fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt irregular boundary.

E—19 to 24 cm; grayish brown (10YR 5/2) silt loam; massive; very friable; many very fine, fine, and medium roots throughout; abrupt wavy boundary.

Bh—24 to 25 cm; dark reddish brown (5YR 3/4) loam; weak fine granular structure; very friable; many very fine, fine, and medium roots throughout; abrupt wavy boundary.

Bs1—25 to 42 cm; dark yellowish brown (10YR 4/6) stony silt loam; weak fine granular structure; very friable; common very fine and fine roots throughout; clear smooth boundary.

Bs2—42 to 55 cm; yellowish brown (10YR 5/6) fine sandy loam; weak fine granular structure; very friable; common very fine and fine roots throughout; abrupt smooth boundary.

BC—55 to 63 cm; light olive brown (2.5Y 5/4) fine sandy loam; common medium distinct light brownish gray (2.5Y 6/2), and fine prominent dark yellowish brown (10YR 4/6) mottles; massive; friable; abrupt smooth boundary.

Cd—63 to 100 cm; olive (5Y 4/3) gravelly fine sandy loam; many coarse distinct grayish brown (2.5Y 5/2), and medium prominent dark yellowish brown (10YR 4/6) mottles; weak thin and medium platy structure; firm; abrupt smooth boundary.

SOIL—DIXFIELD SOIL Nos 130389 LOCATION—T3 R4 BKP-WKR, Maine

Depth cm	Horizon	Sand (2–0 05)	Silt (0 05–0 002)	Clay (< 0 002)	Very Coarse (2–1)	Coarse (1–0 5)	Medium (0 5–0 25)	Fine (0 25–0 1)	Very Fine (0 1–0 05)	Coarse Silt (0 05–0 02)	Fine Silt (0 02–0 002)
		Pct of < 2 mm									
0–19	Oa										
19–24	E	30 29	63 55	6 16	1 65	2 98	5 23	10 07	10 36	33 71	29 84
24–25	Bh	31 76	48 64	19 60	2 97	3 51	5 47	10 00	9 81	27 89	20 75
25–42	Bs1	40 91	50 75	8 34	3 62	4 67	6 41	12 91	13 30	32 60	18 15
42–55	Bs2	62 07	32 52	5 41	5 70	7 48	10 26	21 46	17 17	22 28	10 24
55–63	BC	54 23	38 59	7 18	6 77	6 86	10 09	17 87	12 64	20 33	18 26
63–100	Cd	53 06	40 91	6 03	6 88	7 08	9 68	16 87	12 55	19 07	21 84

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0–19	51 76	0 13	286 3	260 8	235 8	234 0	232 4	163 2	122 8	114 4	97 3	0 21	2 60	3 00	3 50
19–24	2 12	0 93	35 0	31 9	26 3	22 5	20 8	12 1	11 1	8 2	6 4	0 24	2 50	2 95	3 55
24–25	6 91							28 3	26 1	23 4	21 0		3 30	3 50	4 15
25–42	3 89	0 61	68 8	61 5	52 6	50 7	50 0	17 5	16 6	14 8	13 3	0 29	4 00	4 10	4 90
42–55	1 67	0 70	59 9	54 0	43 4	39 7	38 2	9 1	8 2	7 3	5 9	0 34	4 25	4 40	5 15
55–63	0 82	1 02	35 4	32 1	25 1	21 9	20 1	7 9	6 6	5 3	4 0	0 29	4 30	4 50	5 40
63–100	0 29	1 62	16 5	15 4	13 3	12 5	11 8	7 2	5 9	4 6	2 9	0 20	4 45	4 80	5 75

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0–19	13 40	2 90	0 01	1 00	78 50	95 81	3 65	20 96	18 30	0 00	0 00	0 00	0 10	0 01	0 01	0 01	18 43
19–24	1 00	0 20	0 01	0 10	15 20	16 51	4 10	5 41	4 90	0 00	0 00	1 10	0 40	0 70	0 30	0 40	7 80
24–25	1 10	0 30	0 01	0 20	58 40	60 01	10 00	11 61	1 20	0 00	0 00	0 00	0 60	2 30	1 70	3 90	9 70
25–42	0 40	0 01	0 01	0 10	38 80	39 32	3 25	3 77	22 70	7 00	1 00	1 10	0 50	0 70	1 10	2 10	36 20
42–55	0 20	0 01	0 01	0 01	19 40	19 63	1 70	1 93	0 00	3 20	0 40	1 40	0 40	1 40	2 60	3 70	13 10
55–63	0 10	0 01	0 01	0 01	11 70	11 83	1 10	1 23	3 40	1 00	1 80	0 70	0 90	1 10	2 50	2 70	14 10
63–100	0 10	0 01	0 01	0 01	5 60	5 73	0 65	0 78	10 60	3 40	2 20	2 10	1 70	1 60	2 40	6 00	30 00

Soil Map Unit: Dixfield
Location: Twp. 18 ED, Washington County, Maine
Described By: D.E. Wilkinson, S.E. Lee, and R.V. Rourke

Soil Survey # S89-ME-150-189
Drainage Class: somewhat poorly drained
Date: 09/89

Oa—0 to 3 cm; dark reddish brown (5YR 2/2) sapric material; weak very fine granular structure; very friable; many very fine, fine, medium, and common coarse roots throughout; abrupt wavy boundary.

E—3 to 6 cm; pinkish gray (5YR 6/2) fine sandy loam; weak very fine granular structure; very friable; many very fine, fine, medium, and common coarse roots throughout; abrupt wavy boundary.

Bh—6 to 9 cm; dark reddish brown (5YR 3/3) gravelly loam; weak very fine granular structure; very friable; common very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

Bs1—9 to 23 cm; strong brown (7.5YR 5/6) gravelly loam; weak very fine granular structure; very friable; many very fine, fine, common medium, and few coarse roots throughout; clear smooth boundary.

Bs2—23 to 42 cm; yellowish brown (10YR 5/6) very stony fine sandy loam; weak very fine granular structure; very friable; many very fine, fine, common medium, and few coarse roots throughout; clear smooth boundary.

BC—42 to 56 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; common medium distinct light brownish gray (2.5Y 6/2), and fine and medium prominent strong brown (7.5YR 5/6) mottles; massive; friable; few very fine and fine roots throughout; abrupt smooth boundary.

Cd—56 to 100 cm; olive (5Y 5/3) gravelly sandy loam; few fine and medium faint light olive gray (5Y 6/2) mottles; massive; firm.

SOIL—DIXFIELD SOIL Nos —150189 LOCATION—Twp. 18 ED, Maine

Depth cm	Horizon	Sand (2–0 05)	Silt (0 05–0 002)	Clay (<0 002)	Very Coarse (2–1)	Coarse (1–0 5)	Medium (0 5–0 25)	Fine (0 25–0 1)	Very Fine (0 1–0 05)	Coarse Silt (0 05–0 02)	Fine Silt (0 02–0 002)
		Pct of < 2 mm									
0–3	Oa										
3–6	E	44 43	49 04	6 53	3 08	5 64	7 41	14 40	13 90	25 35	23 69
6–9	Bh	40 56	46 10	13 34	3 87	5 91	6 80	12 04	11 94	24 00	22 10
9–23	Bs1	49 91	39 56	10 53	7.96	8 19	8 24	13 44	12 08	22 43	17 13
23–42	Bs2	52 14	43 25	4 61	8 96	7 81	8 38	14 52	12 47	23 25	20 00
42–56	BC	53 98	39 70	6 32	7 55	9 06	9 91	15 83	11 63	21 66	18 04
56–100	Cd	67 26	30 68	2 06	10 21	10 23	12 59	20 50	13 73	19 03	11 65

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0–3	21 59	0 33	128 8	109 8	104 3	96 4	95 7	80 4	51 7	45 1	40 1	0 23	2 75	3 15	3 75
3–6	3 24	0 90	38 6	33 0	25 7	22 1	19 9	18 9	14 0	12 6	10 9	0 20	2 80	3 15	3.85
6–9	5 27	0 64	58 8	49 2	38 6	36 4	35 4	29 9	21.7	18 3	17 5	0 20	3 55	3 70	4 45
9–23	2 68	0 86	49 1	39 0	27 5	25 3	24 7	16 3	15 5	14 1	13 1	0 22	4 35	4 55	5 25
23–42	0 65	1 05	36 6	30 3	21 0	18 0	16 4	9 5	8 9	7 6	6 3	0 25	4 50	5 05	5 60
42–56	0 33	1 16	28 7	24 5	18 2	15 7	13 6	8 0	7 0	5 4	3 8	0 24	4 40	5 15	6 00
56–100	0 11	1 47	21 7	18 3	12 9	10 8	9 5	4 0	3 5	2 6	1 7	0 24	4 80	5 40	6 30

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0–3	4 30	1 70	0 01	0 50	55 30	61 81	4 20	10 71	0 00	0 00	0.00	0 00	0 30	0 00	0 10	0 70	1 10
3–6	0 50	0 30	0 01	0 10	18 50	19 41	5 35	6.26	0 00	0 00	0 00	2 20	0 60	0 70	0 60	0 80	4 90
6–9	0.30	0 20	0 01	0 10	42 40	43 01	7 40	8 01	0 00	6 80	1 10	7.70	1 90	2 70	3 50	2 30	26.00
9–23	0 10	0 01	0 01	0 01	26 00	26 13	0 95	1 08	7 50	1 90	1 30	1 20	1 40	1 40	2.00	2 70	19 40
23–42	0.10	0 01	0 01	0 01	9 50	9 63	0 45	0 58	27 60	2 60	0 70	2 20	0 70	1 00	1 90	3 20	39 90
42–56	0 01	0 01	0.01	0 01	6 50	6 54	0 45	0 49	5 20	1 10	0 20	4 20	1 70	2 20	3 10	4 90	22 60
56–100	0 01	0 01	0 01	0 01	2 90	2 94	0 15	0 19	2 80	4 60	2 20	2 50	1 70	1 50	2 20	3 30	20 80

Soil Map Unit: Dixfield
Location: No. 14 Plt., Washington County, Maine
Described By: D.E. Wilkinson, K.J. LaFlamme, and R.V Rourke

Soil Survey # S89-ME-150-289
Drainage Class: moderately well drained
Date: 09/89

Oa—0 to 4 cm; black (5YR 2/1) sapric material; weak very fine granular structure; very friable; many very fine, fine, medium, and common coarse roots throughout; abrupt wavy boundary.

E/B—4 to 10 cm; 50% reddish gray (5YR 5/2), 20% dark reddish brown (5YR 3/2), and 30% dark reddish brown (5YR 3/3) stony loam; weak thin and medium platy structure parting to moderate very fine granular; very friable; many very fine, fine, medium, and common coarse roots throughout; abrupt irregular boundary.

Bh—10 to 20 cm; 60% yellowish red (5YR 4/6), and 40% dark reddish brown (5YR 3/3) silt loam; moderate fine granular structure; friable; many very fine, fine, medium, and common coarse roots throughout; clear smooth boundary.

Bs1—20 to 30 cm; brown to dark brown (7.5YR 4/4) gravelly silt loam; moderate very fine and fine granular structure; friable; common very fine, fine, medium and coarse roots throughout; clear wavy boundary.

Bs2—30 to 47 cm; dark yellowish brown (10YR 4/4) gravelly loam; weak very fine granular structure; few very fine, fine, and medium roots throughout; abrupt wavy boundary.

BC—47 to 58 cm; light olive brown (2.5Y 5/4) gravelly sandy loam; few medium prominent yellowish red (5YR 5/6), common faint light yellowish brown (2.5Y 6/4), and prominent olive gray (5Y 5/2) mottles; weak very coarse prismatic structure parting to weak medium and thick platy; friable; few very fine and fine roots throughout; clear smooth boundary.

Cd—58 to 100 cm; olive (5Y 5/3) gravelly loam; common medium faint light olive gray (5Y 6/2), and prominent brown to dark brown (7.5YR 4/4) mottles; moderate very coarse prismatic structure parting to weak thick platy; firm; prism faces light olive gray (5Y 6/2) with olive (5Y 5/6) edges.

SOIL—DIXFIELD SOIL Nos —150289 LOCATION No 14 Plt , Maine

Depth cm	Hor-izon	Sand (2-0 05)	Silt (0 05-0 002)	Clay (< 0 002)	Very Coarse (2-1)	Coarse (1-0 5)	Medium (0 5-0 25)	Fine (0 25-0 1)	Very Fine (0 1-0 05)	Coarse Silt (0 05-0 02)	Fine Silt (0 02-0 002)
		Pct of < 2 mm									
0-4	Oa										
4-10	E/B	43 44	48 26	8 30	4 54	5 48	7 00	13 39	13 03	22 55	25 71
10-20	Bh	31 71	51 07	17 22	4 40	4 91	5 35	8 84	8 21	18 79	32 28
20-30	Bs1	33 04	51 65	15 31	5 22	6 25	5 50	8 31	7 76	18 67	32 98
30-47	Bs2	39 43	48 89	11 68	10 56	8 12	6 03	8 06	6 66	16 20	32 69
47-58	BC	56 02	38 12	5 86	12 95	11 48	9 18	12 85	9 56	17 33	20 79
58-100	Cd	47 44	43 19	9 37	7 65	8 52	8 46	12 76	10 05	17 69	25 50

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0-4	32 06	0 21	223 1	207 9	197 3	195 7	194 0	104 2	72 0	58 0	51 8	0 33	2 95	3 25	3 85
4-10	3 78	1 11	36 9	34 9	30 7	27 0	25 1	20 6	16 3	12 7	10 6	0 27	3 10	3 45	4 10
10-20	7 73	0 60	95 1	89 4	76 9	72 0	70 3	35 8	31 1	28 1	25 4	0 38	3 90	4 10	4 65
20-30	6 59	0 49	125 5	117 5	99 2	93 6	92 1	32 6	31 4	28 4	25 8	0 45	4 25	4 35	4 90
30-47	3 03	0 83	54 3	50 4	42 7	38 6	36 5	20 4	18 4	15 5	13 0	0 31	4 40	4 60	5 15
47-58	0 81	1 45	24 5	23 3	20 9	19 0	17 3	10 1	8 2	6 5	4 6	0 27	4 45	4 85	5 50
58-100	0 22	1 63	17 1	16 3	14 9	14 1	12 9	9 7	8 1	6 5	4 0	0 20	4 45	4 90	5 95

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0-4	5 90	1 70	0 01	0 70	60 90	69 21	4 90	13 21	0 00	0 00	0 80	0 00	0 00	0 20	0 10	0 40	1 50
4-10	0 40	0 20	0 01	0 01	22 00	22 62	6 85	7 47	16 00	8 40	0 00	2 40	1 50	1 40	1 20	1 80	32 70
10-20	0 20	0 20	0 01	0 20	47 80	48 41	4 90	5 51	0 00	2 10	0 40	0 80	1 00	1 30	1 80	1 90	9 30
20-30	0 10	0 01	0 01	0 01	49 00	49 13	2 20	2 33	0 00	9 20	2 20	0 40	0 50	1 30	2 10	4 20	19 90
30-47	0 10	0 01	0 01	0 01	31 90	32 03	1 25	1 38	5 10	4 90	3 10	4 40	2 00	2 00	2 70	4 10	28 30
47-58	0 01	0 01	0 01	0 01	11 30	11 34	0 80	0 84	0 00	1 90	1 40	1 30	1 50	1 60	3 70	8 60	20 00
58-100	0 10	0 01	0 01	0 01	7 10	7 23	0 65	0 78	0 00	3 70	2 10	1 30	1 30	1 20	2 40	7 00	19 00

Soil Map Unit: Telos
Location: The Forks Plt., Somerset County, Maine
Described By: J.W. Miller and R.V. Rourke

Soil Survey # S88-ME-130-688
Drainage Class: somewhat poorly drained
Date: 07/88

Oa—0 to 4 cm; very dark brown (10YR 2/2) sapric material; weak very fine and fine granular structure; very friable; common very fine, fine, many medium, and common coarse roots throughout; abrupt wavy boundary.

E—4 to 6 cm; light brownish gray (10YR 6/2) silt loam; weak thin and medium platy structure; very friable; few very fine, fine, common medium, and many coarse roots throughout; abrupt irregular boundary.

Bhs—6 to 11 cm; 50% very dusky red (2.5YR 2/2), and 50% dark reddish brown (5YR 3/3) loam; weak medium platy structure; very friable; common very fine, fine, medium, and many coarse roots throughout; clear wavy boundary.

Bs1—11 to 20 cm; dark yellowish brown (10YR 4/6) loam; weak medium granular structure; very friable; common very fine, fine, many medium, and coarse roots throughout; abrupt wavy boundary.

Bs2—20 to 30 cm; dark yellowish brown (10YR 4/6) loam; few fine prominent light brownish gray (2.5Y 6/2) mottles; weak fine and medium granular structure; friable; common very fine, fine, few medium, and coarse roots throughout; abrupt smooth boundary.

BC1—30 to 35 cm; light olive brown (2.5Y 5/4) loam; common fine prominent light olive gray (5Y 6/2), and medium yellowish brown (10YR 5/6) mottles; weak medium platy structure; friable; few very fine, fine, medium and coarse roots throughout; abrupt irregular boundary.

BC2—35 to 62 cm; olive (5Y 5/3) loam; few medium faint light olive gray (5Y 6/2) mottles; strong very coarse prismatic structure parting to moderate medium platy; firm; abrupt smooth boundary.

Cd—62 to 100 cm; olive gray (5Y 5/2) loam; strong very coarse prismatic structure parting to weak thick platy; firm; prism faces light olive gray (5Y 6/2) with yellowish brown (10YR 5/6) edges.

SOIL—TELOS SOIL Nos —130688 LOCATION— The Forks Plt., Maine

Depth cm	Horizon	Sand (2–0 05)	Silt (0 05–0 002)	Clay (< 0 002)	Very Coarse (2 1)	Coarse (1–0 5)	Medium (0 5–0 25)	Fine (0 25–0 1)	Very Fine (0 1–0 05)	Coarse Silt (0 05–0 02)	Fine Silt (0 02–0 002)
		Pct of < 2 mm									
0–4	Oa										
4–6	E	36 87	55 36	7 77	4 17	4 70	5 79	11 08	11 13	19 49	35 87
6–11	Bhs	31 73	49 75	18 52	3 71	4 73	5 19	9 16	8 94	15 13	34 62
11–20	Bs1	36 36	48 16	15 48	4 57	5 97	6 47	10 15	9 20	18 14	30 02
20–30	Bs2	42 86	40 01	17 13	4 37	6 03	13 44	11 78	7 24	6 03	33 98
30–35	BC1	40 25	42 68	17 07	6 46	6 50	6 84	10 95	9 50	11 17	31 51
35–62	BC2	35 82	45 95	18 23	6 25	5 87	5 94	9 42	8 34	14 84	31 11
62–100	Cd	37 21	44 35	18 44	6 26	6 57	6 27	9 60	8 51	11 66	32 69

Depth cm	Organic Carbon %	BD g/cc	Water Content (Bar Pressures) 06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0–4	32 33	0 31	183 8	178 2	170 5	167 3	165 6	159 1	121 3	103 0	87 5	0 28	3 15	3 50	3 90
4–6	2 28	1 23	29 0	28 0	25 5	23 4	21 0	17 7	12 8	10 3	6 0	0 27	2 80	3 35	3 85
6–11	4 92	0 75	74 4	71 2	57 8	50 3	45 9	29 5	24 9	21 6	17 2	0 41	3 25	3 60	4 05
11–20	3 14	0 91	56 9	54 4	42 8	35 7	31 7	25 6	23 2	19 7	15 2	0 36	3 95	4 15	4 40
20–30	2 17	0 98	46 1	43 4	34 6	29 8	26 8	21 3	17 3	12 7	11 6	0 31	4 15	4 35	4 65
30–35	1 03	1 37	28 5	27 0	23 0	20 5	18 1	11 5	10 8	9 7	6 4	0 28	4 30	4 55	4 95
35–62	0 24	1 69	17 3	16 6	15 4	14 6	13 8	12 6	11 2	9 7	5 7	0 18	4 20	4 40	5 25
62–100	0 21	1 69	17 6	16 9	15 7	15 1	13 8	12 6	11 6	9 8	5 6	0 19	4 05	4 30	5 20

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76–51	51–38	38–25	25–19	19–13	13–6	6–2	Total
	me/100g																
0–4	8 65	2 03	0 07	0 91	36 80	48 46	4 20	15 86	0 00	0 00	0 90	0 00	0 00	0 00	0 20	0 20	1 30
4–6	1 30	0 28	0 03	0 27	12 70	14 58	4 90	6 78	0 00	0 00	0 00	1 90	1 60	1 00	2 60	2 20	9 30
6–11	1 15	0 26	0 04	0 11	30 50	32 06	9 60	11 16	0 00	0 00	1 10	0 40	0 40	0 60	1 00	2 10	5 60
11–20	0 30	0 07	0 02	0 13	26 20	26 72	4 55	5 07	3 80	0 00	0 00	0 60	0 60	0 80	1 80	3 60	11 20
20–30	0 14	0 04	0 02	0 12	18 10	18 42	3 15	3 47	0 00	0 00	0 00	0 90	0 70	1 30	2 10	5 30	10 30
30–35	0 07	0 02	0 01	0 09	9 80	9 99	1 60	1 79	0 00	0 00	1 30	2 40	1 60	2 20	3 30	8 70	19 50
35–62	0 15	0 07	0 02	0 12	6 50	6 86	1 70	2 06	0 00	1 00	1 10	2 00	1 40	1 60	2 60	6 60	16 30
62–100	0 23	0 11	0 02	0 15	5 70	6 21	1 75	2 26	3 70	1 50	1 50	1 20	0 50	1 10	2 40	6 00	17 90

Soil Map Unit: Telos
Location: Squaretown Twp., Somerset County, Maine
Described By: J.W. Miller and R.V. Rourke

Soil Survey # S88-ME-130-788
Drainage Class: somewhat poorly drained
Date: 07/88

A—0 to 9 cm; black (10YR 2/1) stony sapric material; weak very fine and fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

E—9 to 16 cm; light brownish gray (10YR 6/2) silt loam; weak thin platy structure; very friable; many very fine, fine, medium, and coarse roots throughout; clear wavy boundary.

Bs1—16 to 28 cm; dark yellowish brown (10YR 4/6) silt loam; weak thick platy structure parting to weak very fine and fine granular; very friable; many very fine, fine, medium, and coarse roots throughout; clear wavy boundary.

Bs2—28 to 35 cm; light olive brown (2.5Y 5/4) loam; common medium distinct light brownish gray (2.5Y 6/2), and prominent yellowish brown (10YR 5/8) mottles; weak medium platy structure parting to weak fine granular; very friable; many very fine, fine, medium, and few coarse roots throughout; clear wavy boundary.

BC1—35 to 46 cm; olive (5Y 5/4) silt loam; common medium prominent light brownish gray (2.5Y 6/2), and yellowish brown (10YR 5/6) mottles; weak thick and very thick platy structure; friable; few very fine and fine roots throughout; clear wavy boundary.

BC2—46 to 54 cm; olive (5Y 5/4) silt loam; strong very coarse prismatic structure parting to moderate thick platy; firm; prism faces light olive gray (5Y 6/2) with yellowish brown (10YR 5/8) edges; clear wavy boundary.

Cd—54 to 100 cm; olive (5Y 4/3) silt loam; strong very coarse prismatic structure; firm; prism faces light olive gray (5Y 6/2) with yellowish brown (10YR 5/8) edges.

SOIL—TELOS SOIL Nos —130788 LOCATION—Squaretown Twp., Maine

Depth cm	Horizon	Sand (2–0 05)	Silt (0 05–0 002)	Clay (< 0 002)	Very Coarse (2–1)	Coarse (1–0 5)	Medium (0 5–0 25)	Fine (0 25–0 1)	Very Fine (0 1–0 05)	Coarse Silt (0 05–0 02)	Fine Silt (0 02–0 002)
		Pct of < 2 mm									
0–9	A										
9–16	F	26 48	62 21	11 31	5 47	3 86	3 35	6 06	7 74	16 92	45 29
16–28	Bs1	26 80	56 56	16 64	6 22	5 18	3 77	5 46	6 17	12 42	44 14
28–35	Bs2	32 64	47 99	19 37	6 61	6 40	4 79	8 44	6 40	7 54	40 45
35–46	BC1	29 28	52 12	18 60	6 62	5 27	4 44	6 27	6 68	14 60	37 52
46–54	BC2	28 45	51 89	19 66	6 64	5 48	4 23	5 91	6 19	16 96	34 93
54–100	Cd	27 02	50 10	22 88	6 61	5 02	4 09	5 70	5 60	11 46	38 64

Depth cm	Organic Carbon %	BD g/cc	Water Content (Bar Pressures) 06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0–9	9 37	0 35	96 8	91 2	86 9	85 9	84 8	51 2	43 5	31 9	23 0	0 24	3 40	3 80	4 45
9–16	1 28	1 23	30 9	29 8	27 7	25 3	22 2	17 0	10 8	8 6	6 5	0 29	3 40	4 00	4 85
16–28	1 41	1 03	45 3	42 7	34 8	31 1	28 8	19 1	13 8	11 5	9 7	0 34	3 75	4 15	4 90
28–35	1 20	1 27	32 2	30 6	26 9	23 7	21 8	16 1	12 6	10 7	8 1	0 29	4 05	4 30	4 95
35–46	0 43	1 53	19 5	18 5	16 3	15 4	14 6	13 7	11 7	9 7	5 4	0 20	4 20	4 40	5 25
46–54	0 31	1 65	15 9	15 4	14 8	14 3	13 9	13 2	11 9	9 8	5 7	0 16	4 05	4 35	5 40
54–100	0 16	1 64	17 3	16 8	16 0	15 4	15 0	14 9	13 7	11 5	7 1	0 16	3 95	4 40	5 45

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0–9	3 86	0 96	0 07	0 39	21 20	26 48	5 40	10 68	16 60	0 00	0 00	1 00	0 20	0 30	0 30	0 40	18 80
9–16	0 66	0 24	0 02	0 05	10 80	11 77	7 40	8 37	0 00	2 70	0 90	0 40	1 40	0 90	2 80	3 70	12 80
16–28	0 29	0 13	0 03	0 08	13 40	13 93	4 40	4 93	0 00	0 00	0 00	0 60	0 40	0 40	1 20	3 20	5 80
28–35	0 20	0 09	0 02	0 09	11 30	11 70	2 30	2 70	0 00	0 00	0 00	0 20	0 10	0 30	1 20	5 20	7 00
35–46	0 10	0 07	0 02	0 10	6 70	6 99	1 60	1 89	0 00	0 00	0 00	0 00	0 10	0 50	1 60	6 00	8 20
46–54	0 22	0 12	0 03	0 11	6 10	6 58	1 65	2 13	0 00	0 00	0 00	0 00	0 00	0 40	1 20	5 10	6 70
54–100	0 71	0 47	0 04	0 15	5 60	6 97	1 50	2 87	0 80	0 20	0 40	0 20	0 30	0 80	1 90	4 50	9 10

Soil Map Unit: Telos
Location: Caratunk, Somerset County, Maine
Described By: J.W. Miller and R.V. Rourke

Soil Survey # S88-ME-130-888
Drainage Class: somewhat poorly drained
Date: 07/88

Oa—0 to 11 cm; black (10YR 2/1); sapric material; weak fine granular structure; very friable; many very fine, fine, medium and coarse roots throughout; abrupt irregular boundary.

E—11 to 17 cm; gray (10YR 5/1) stony silt loam; massive; very friable; many very fine, fine, medium, and coarse roots throughout; clear wavy boundary.

Bh—17 to 23 cm; dark reddish brown (5YR 2/2) silt loam; weak very fine and fine granular structure; very friable; common very fine, fine, few medium, and coarse roots throughout; clear wavy boundary.

Bs1—23 to 29 cm; dark yellowish brown (10YR 3/4) loam; weak very fine and fine granular structure; very friable; common very fine and fine roots throughout; clear smooth boundary.

Bs2—29 to 38 cm; dark yellowish brown (10YR 4/4) loam; few fine prominent grayish brown (2.5Y 5/2) mottles; weak fine granular structure; very friable; few very fine and fine roots throughout; abrupt smooth boundary.

BC—38 to 50 cm; olive brown (2.5Y 4/4) loam; few fine distinct grayish brown (2.5Y 5/2) mottles; massive; friable; few fine roots throughout; abrupt smooth boundary.

Cd—50 to 100 cm; olive (5Y 4/3) loam; strong very coarse prismatic structure parting to weak thick and very thick platy; firm; prism faces olive gray (5Y 5/2) with dark yellowish brown (10YR 5/6) edges.

SOIL—TELOS SOIL Nos.—130888 LOCATION—Caratunk, Maine

Depth cm	Horizon	Sand (2–0 05)	Silt (0 05–0 002)	Clay (<0 002)	Very Coarse (2–1)	Coarse (1–0 5)	Medium (0 5–0 25)	Fine (0 25–0 1)	Very Fine (0 1–0 05)	Coarse Silt (0 05–0 02)	Fine Silt (0 02–0 002)
		Pct of < 2 mm									
0–11	Oa										
11–17	E	37 43	55 72	6 85	6 90	6 93	5 43	8 16	10 01	20 55	35 17
17–23	Bh	31 80	53 02	15 18	6 34	6 41	4 62	6 56	7 87	21 50	31 52
23–29	Bs1	35 14	44 70	20 16	8 48	7 61	5 42	6 82	6 81	16 11	28 59
29–38	Bs2	34 23	45 78	19 99	8 23	7 11	5 40	6 58	6 91	9 45	36 33
38–50	BC	40 94	42 36	16 70	10 52	9 36	6 30	7 40	7 36	12 73	29 63
50–100	Cd	39 20	42 63	18 17	10 80	8 46	6 05	7 16	6 73	7 58	35 05

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1 1)	pH CaCl (2 1)	pH H_2O (1 1)
0–11	36 91	0 16	213 0	190 6	159 3	157 9	155 2	151 4	118 8	109 7	102 8	0 14	2 60	2 85	3 65
11–17	1 54	1 24	29 4	28 1	25 9	22 4	18 1	11 9	8 0	6 4	5 4	0 28	2 95	3 30	3 95
17–23	3 12	0 71	82 2	77 4	63 7	56 2	53 4	24 5	18 5	16 9	15 3	0 44	3 55	3 70	4 35
23–29	4 06	0 66	80 8	74 7	60 2	53 0	49 5	27 1	21 8	20 4	19 0	0 37	4 00	4 20	4 80
29–38	2 84	0 77	68 5	63 7	52 4	45 4	42 1	23 3	17 9	16 0	13 1	0 39	4 20	4 35	4 90
38–50	1 59	1 07	45 9	43 8	37 4	32 7	30 3	16 4	13 1	11 8	8 4	0 38	4 30	4 45	5 15
50–100	0 33	1 66	17 8	17 2	16 1	15 3	14 4	12 5	10 7	8 9	5 3	0 20	4 35	4 70	5 65

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0–11	8 13	3 06	0 15	0 65	26 00	37 99	4 85	16 84	0 00	0 00	0 00	0 00	0 00	0 00	0 10	0 10	0 20
11–17	0 29	0 13	0 02	0 05	8 90	9 39	3 60	4 09	16 90	0 00	0 80	2 10	1 40	0 80	1 60	1 90	25 50
17–23	0 32	0 14	0 03	0 08	25 70	26 27	6 70	7 27	0 00	0 00	0 00	0 00	0 40	0 60	1 90	4 00	6 90
23–29	0 41	0 11	0 02	0 11	23 70	24 35	5 60	6 25	0 00	0 00	0 00	0 00	0 20	0 30	1 10	2 60	4 20
29–38	0 38	0 08	0 02	0 13	22 00	22 61	2 70	3 31	0 00	1 50	0 00	1 10	0 20	0 60	2 00	4 10	9 50
38–50	0 25	0 05	0 02	0 11	15 30	15 73	1 90	2 33	0 00	0 00	1 50	0 80	1 30	1 40	3 90	5 70	14 60
50–100	0 18	0 05	0 02	0 14	6 00	6 39	1 10	1 49	4 90	1 00	0 30	0 50	0 60	0 90	2 30	3 70	14 20

Soil Map Unit: Telos
Location: Brassua Twp., Somerset County, Maine
Described By: J.W. Miller and R.V. Rourke

Soil Survey # S88-ME-130-988
Drainage Class: somewhat poorly drained
Date: 08/88

Oa—0 to 6 cm; black (10YR 2/1) sapric material; weak fine granular structure; very friable; common very fine, fine, many medium and coarse roots throughout; abrupt wavy boundary.

E—6 to 7 cm; light brownish gray (10YR 6/2) silt loam; massive; very friable; abrupt broken boundary.

Bhs—7 to 9 cm; very dark brown (10YR 2/2) silt loam; weak fine granular structure; very friable; abrupt broken boundary.

Bs1—6 to 20 cm; dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; very friable; common very fine, fine, many medium, and coarse roots throughout; abrupt wavy boundary.

Bs2—20 to 28 cm; dark yellowish brown (10YR 3/6) silt loam; weak fine granular structure; very friable; common very fine, fine, and common medium roots throughout; clear smooth boundary.

Bs3—28 to 36 cm; dark yellowish brown (10YR 4/4) silt loam; few fine distinct light brownish gray (10YR 6/2) mottles; weak fine and medium subangular blocky structure; friable; common very fine, fine, and medium roots throughout; clear smooth boundary.

BC—36 to 48 cm; light olive brown (2.5Y 5/4) silt loam; common fine prominent light brownish gray (10YR 6/2), and medium distinct light brownish gray (2.5Y 6/2) mottles; strong very coarse prismatic structure parting to weak medium platy parting to weak fine and medium subangular blocky; friable; prism faces olive gray (5Y 4/2) with yellowish brown (10YR 5/6) edges; clear wavy boundary.

Cd—48 to 100 cm; olive (5Y 5/3) silt loam; strong very coarse prismatic structure; firm; light olive gray (5Y 6/2) prism faces with yellowish brown (10YR 5/6) edges.

SOIL — TELOS SOIL Nos. — 130988 LOCATION — Brassua Twp., Maine

Depth cm	Horizon	Sand (2–0.05)	Silt (0.05–0.002)	Clay (<0.002)	Very Coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very Fine (0.1–0.05)	Coarse Silt (0.05–0.02)	Fine Silt (0.02–0.002)
		Pct of < 2 mm									
0–6	Oa										
6–20	Bs1	20.82	63.59	15.59	2.61	2.22	2.62	6.04	7.33	18.81	44.78
20–28	Bs2	24.21	63.39	12.40	5.94	3.76	3.25	5.25	6.01	20.26	43.13
28–36	Bs3	27.11	56.51	16.38	6.72	4.80	3.77	5.84	5.98	13.13	43.38
36–48	BC	29.89	54.60	15.51	6.31	4.94	4.46	6.91	7.27	12.61	41.99
48–100	Cd	27.86	59.21	12.93	5.57	4.35	3.99	6.69	7.26	18.04	41.17

Depth cm	Organic Carbon %	BD g/cc	Water Content (Bar Pressures) 0.6 %	0.1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1:1)	pH CaCl (2:1)	pH H_2O (1:1)
0–6		0.14	281.0	265.6	256.0	251.4	248.4	231.1	113.7	112.4	108.6	0.22	3.15	3.30	3.85
6–20	4.92	0.70	71.0	66.4	57.3	53.5	51.8	30.7	25.5	18.4	5.3	0.43	3.25	3.65	4.30
20–28	4.26	0.64	88.5	83.2	67.4	62.2	60.0	25.6	22.9	20.2	17.1	0.42	3.90	4.15	4.70
28–36	3.51	0.84	62.1	59.6	50.9	45.0	42.5	23.1	19.9	17.7	14.3	0.38	4.15	4.35	4.95
36–48	0.80	1.04	46.4	44.8	39.2	35.9	33.6	13.3	10.5	8.4	5.4	0.41	4.20	4.50	5.30
48–100	0.23	1.71	15.8	15.2	14.5	14.1	13.5	12.4	9.6	7.4	4.3	0.19	4.05	4.75	5.80

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0–6	11.89	3.22	0.08	0.96	44.60	60.75	3.15	19.30	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.10
6–20	0.63	0.24	0.02	0.09	34.00	34.98	14.10	15.08	3.30	1.00	0.40	0.70	0.20	1.00	1.40	1.40	9.40
20–28	0.20	0.08	0.02	0.08	31.90	32.28	5.85	6.23	0.00	0.00	0.60	1.10	0.40	0.60	1.40	1.90	6.00
28–36	0.17	0.05	0.02	0.10	26.10	26.44	3.75	4.09	0.00	0.00	0.80	0.80	0.90	1.10	2.40	4.20	10.20
36–48	0.15	0.05	0.01	0.08	9.10	9.39	1.85	2.14	0.00	0.00	0.30	0.70	0.40	1.10	2.60	4.40	9.50
48–100	1.31	0.42	0.02	0.10	3.70	5.55	0.65	2.50	4.70	0.00	0.40	0.60	0.60	0.70	1.40	2.10	10.50

Soil Map Unit: Telos
Location: Moose River Twp., Somerset County, Maine
Described By: J.W. Miller and R.V. Rourke

Soil Survey # S88-ME-131-088
Drainage Class: somewhat poorly drained
Date: 08/88

Oa—0 to 10 cm; black (5YR 2/1) sapric material; weak fine granular structure; very friable; many very fine, fine, medium, and coarse roots throughout; abrupt wavy boundary.

E—10 to 18 cm; light brownish gray (10YR 6/2) very stony silt loam; massive; very friable; many very fine, fine, and medium roots throughout; abrupt wavy boundary.

Bs1—18 to 31 cm; brown to dark brown (7.5YR 4/4) stony silt loam; weak fine granular structure; very friable; many very fine, fine, and medium roots throughout; clear smooth boundary.

Bs2—31 to 37 cm; dark yellowish brown (10YR 4/6) silt loam; common fine prominent olive gray (5Y 5/2) mottles; weak thin platy structure; friable; common very fine, fine, and many medium roots throughout; abrupt smooth boundary.

BC—37 to 44 cm; light olive brown (2.5Y 5/4) silt loam; common fine prominent olive gray (5Y 5/2) mottles; weak thin and medium platy structure; friable; few very fine, fine, and common medium roots throughout; abrupt smooth boundary.

Cd—44 to 100 cm; olive (5Y 5/3) silt loam; common fine faint light olive gray (5Y 6/2) mottles; strong very coarse prismatic structure; firm; prism faces light olive gray (5Y 6/2) with yellowish brown edges.

SOIL—TELOS SOIL Nos —131088 LOCATION—Moose River, Maine

Depth cm	Horizon	Sand (2-0 05)	Silt (0 05-0 002)	Clay (<0 002)	Very Coarse (2-1)	Coarse (1-0 5)	Medium (0 5-0 25)	Fine (0 25-0 1)	Very Fine (0 1-0 05)	Coarse Silt (0 05-0 02)	Fine Silt (0 02-0 002)
		Pct of < 2 mm									
0-10	Oa										
10-18	E	20 07	66 95	12 98	4 12	3 86	2 73	3 92	5 44	20 38	46 57
18-31	Bs1	27 48	54 75	17 77	9 51	6 51	3 49	3 86	4 11	11 96	42 79
31-37	Bs2	34 00	50 22	15 78	11 82	8 62	4 67	4 60	4 29	12 47	37 75
37-44	BC	31 82	50 77	17 41	10 50	6 98	4 45	4 99	4 90	10 95	39 82
44-100	Cd	25 30	52 10	22 60	6 84	5 61	3 91	4 55	4 39	17 17	34 93

Depth cm	Organic Carbon %	Water Content (Bar Pressures) BD g/cc	06 %	1 %	33 %	67 %	1 %	2 %	3 %	5 %	15 %	Avail H_2O cm/cm	pH KCl (1:1)	pH CaCl (2:1)	pH H_2O (1:1)
0-10	36 31	0 14	264 1	251 3	238 4	236 4	232 6	174 8	127 6	107 9	98 0	0 21	2 85	3 20	3 70
10-18	1 47	0 84	43 3	42 0	39 3	37 2	35 3	20 4	15 4	11 3	7 1	0 29	2 50	3 25	4 00
18-31	3 45	0 71	72 4	68 0	55 0	50 4	47 8	26 4	20 6	19 2	17 0	0 36	4 10	4 40	5 15
31-37	1 60	1 10	43 5	41 3	34 4	30 5	28 3	16 5	14 1	12 4	10 6	0 34	4 00	4 70	5 75
37-44	0 89	1 15	35 1	33 7	29 1	25 9	24 0	14 6	12 2	9 4	5 4	0 33	3 65	3 90	4 60
44-100	0 29	1 68	17 0	16 3	15 6	15 1	14 6	14 3	13 5	10 9	6 1	0 17	4 05	4 30	5 15

Depth cm	Ca	Mg	Na	K	Ext Acid	CEC	KCl Al+H	ECEC	Volume—% Rock Fragments (Width in mm) >76	76-51	51-38	38-25	25-19	19-13	13-6	6-2	Total
	me/100g																
0-10	13 32	2 64	0 07	0 94	41 30	58 27	3 40	20 37	0 00	0 00	0 00	0 00	0 00	0 00	0 10	0 00	0 10
10-18	1 39	0 32	0 02	0 07	15 70	17 50	8 25	10 05	34 20	1 70	1 70	1 40	1 60	1 70	2 50	3 90	48 70
18-31	0 89	0 21	0 03	0 08	27 10	28 31	7 55	8 76	0 00	0 00	0 50	1 20	1 00	1 90	3 20	6 50	14 30
31-37	0 45	0 10	0 02	0 06	16 10	16 73	2 75	3 38	0 00	0 00	0 00	0 30	0 20	1 50	3 80	8 00	13 80
37-44	0 31	0 09	0 02	0 07	8 30	8 79	1 70	2 19	0 00	0 00	0 60	0 50	0 90	1 00	2 90	7 50	13 40
44-100	1 12	0 77	0 03	0 12	4 40	6 44	0 75	2 79	0 00	0 00	0 10	0 40	0 30	0 60	1 80	3 80	7 00