Soil Survey Investigations Report No. 16

Soil Survey Laboratory Data and Descriptions for Some Soils of...

... GEORGIA NORTH CAROLINA SOUTH CAROLINA

SOIL CONSERVATION SERVICE U.S. DEPARTMENT OF AGRICULTURE
In cooperation with
Georgia, North Carolina, and South Carolina Agricultural Experiment Stations

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September 1967

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         b. Round-hole 2-mm sieve
      2. Field moist
      3. Carbonate-containing material
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      tr: trace, not measurable by quantitative procedure used or less than reportable amount
      tr(s): trace, detectable only by qualitative procedure more sensitive than quantitative procedure used
      " : analysis run but none detected
      -(s): none detected by sensitive qualitative test
      blank: analysis not run
      nd: analysis not run
      <: less than reported amount or none present
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         a. Ammonia distillation
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      3. Ca to Mg (extractable)

PREFACE

This publication is one in a new U.S. Department of Agriculture series established to preserve and make available technical information resulting from soil survey investigations. These investigations have been going on for about two decades. Data from them have been distributed in unpublished form to those immediately concerned. Some of the data and descriptions have appeared in technical journals, in regional bulletins, in USDA technical bulletins, and in the text of published soil surveys. But most were not available to all who might use them.

We intend to publish in this series all data from the soil survey laboratories that form reasonably complete characterizations of soils. Already-assembled data and descriptions will be published just as rapidly as they can be prepared for printing. Fragmentary data collected as reference points for specific soil surveys will not be included.

While these data were being assembled, there were many changes in laboratory methods. Some were improved and some new ones were devised. Consequently, laboratory data for different soils cannot always be directly compared without allowance for the method.

The method used is indicated by symbol in the column headings of the data table. These symbols are identified in the code sheet on the opposite page. Each method is described in the first number of this series, "Soil Survey Laboratory Methods and Procedures for Collecting Soil Samples," SSIR No. 1.

Ways of describing soils have also changed. Soil descriptions have become explicit on more and more features. The systems for designating horizons and for classifying soils have been changed.

The soil descriptions published here were prepared as working documents to meet a specific need of a soil survey at the time the soil samples were collected. The soil scientists who wrote them had no idea they would be published. Editing has been limited for the most part to that necessary for conformance to the "Soil Survey Manual." Field textural estimates have been retained, even though some are at variance with the laboratory data, because the field estimates themselves are important data.

There were several reasons for sampling these soils. Some were sampled to study soil genesis, some to facilitate classification, and some to obtain data to permit more useful interpretations. Those sampled for genesis or classification studies do not always fit neatly into our present concepts of soil series. Partly because of these studies, our concepts of some soil series have been modified. As a consequence, the soil series name assigned a soil at the time of sampling is not always the name that would be assigned today. Soil series names in this publication follow 1965 series definitions.

Soil Survey
Soil Conservation Service

GEORGIA

NORTH CAROLINA

SOUTH CAROLINA

GEORGIA

NORTH CAROLINA

SOUTH CAROLINA

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Americus loamy sand SOIL Nos. S62GA-96-1 LOCATION Macon County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62215-62221

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 >2 <76 Pct	2–19 Pct of <76mm	19–76 Pct of <76mm
		Pct. of < 2 mm																
0–8	Ap	88.6	4.4	7.0	1.3	16.8	26.2	35.5	8.8	1.6	2.8	30.1	79.8			tr.		
8–15	B1	78.3	9.8	11.9	1.0	10.9	20.8	35.3	10.3	5.8	4.0	26.7	68.0			tr.		
15–21	B2	80.9	5.5	13.6	0.9	10.3	21.9	37.2	10.6	1.5	4.0	22.6	70.3			tr.		
21–32	B31	81.2	5.0	13.8	1.4	13.6	22.9	33.8	9.5	1.0	4.0	29.6	71.7			tr.		
32–43	B32	79.1	6.0	14.9	1.5	12.3	20.7	35.4	9.2	1.8	4.2	30.9	69.9			tr.		
43–59	B33	78.4	5.2	16.4	2.0	11.9	20.4	34.5	9.6	4.0	1.2	32.9	68.8			2		
59–72	B34	78.5	4.0	17.5	2.2	10.6	20.0	35.6	10.1	1.4	2.6	32.1	68.4			2		

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density: 4A1g 1/10 bar	4A1e 1/3 bar	4A1h Oven dry	4D1 COLE	Water content: 4B1c 1/10 bar	4B1c 1/3 bar	4B2 15 bar		4C1 WRD	pH: 8C1c (1:1) KCl	8C1a (1:1) H_2O
	Pct.	Pct.			Pct	Pct.	g/cc	g/cc	g/cc		Pct.	Pct	Pct.		in/in		
0–8	0.58	0.029	20		0.8	0.8	1.58				6.0		2.6			4.0	4.5
8–15	0.20				1.3	1.3	1.64				7.6		3.7			4.1	4.8
15–21	0.06				1.3	1.3	1.54		1.56		8.3		3.7			4.2	5.0
21–32	0.06				1.4	1.4	1.51		1.55		7.9		3.9			4.1	4.9
32–43	0.06				1.7	1.7	1.58				8.1		4.7			4.1	5.0
43–59	0.04				1.8	1.8	1.57		1.61		9.1		5.4			4.2	5.2
59–72	0.04				2.1	2.1	1.66		1.68		10.1		5.7			4.0	5.0

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al		Ratios to clay 5D1: CEC Sum	Ext. iron	15-bar water	5D3 Ca/Mg	7C2 Total Mn	Base saturation: 5C3 Sum cations	5C1 NH_4OAc
	meq/100 g														Pct.	Pct.	Pct
0–8	0.3	tr.	0.1	0.1	0.5	3.2	3.7		0.7		0.53	0.11	0.37		0.06	14	
8–15	0.2	0.1	tr.	tr.	0.3	3.2	3.5		0.8		0.29	0.11	0.31			9	
15–21	0.4	0.1	0.1	tr.	0.6	2.3	2.9		0.4		0.21	0.10	0.27			21	
21–32	0.6	0.1	tr.	0.1	0.8	2.3	3.1		0.4		0.22	0.10	0.28			26	
32–43	0.6	tr.	tr.	tr.	0.6	2.3	2.9		0.4		0.19	0.11	0.32			21	
43–59	0.5	tr.	tr.	tr.	0.5	2.3	2.8		0.5		0.54	0.11	0.33			18	
59–72	0.4	tr.	0.1	tr.	0.5	2.5	3.0		0.5		0.17	0.12	0.32			17	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int	Qtz.	Kl.	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA SCS HYATTSVILLE MD 1966

Soil Type: Americus loamy sand
Soil No.: S62Ga-96-1
Location: Macon County, Georgia. Approximately 300 yards east of Four Point on north side of paved county road, Aerial photo No. KU-1M-107.
Vegetation and land use: Young planting of slash pines.
Slope and land form: Nearly level (0 to 2 percent slope).
Drainage: Entire profile is somewhat excessively drained.
Permeability: Rapid
Parent Material: Moderately thick beds of unconsolidated acid sands of the upper coastal plains (Clayton Formation - Paleocene epoch).
Sampled by and date: E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, April 2, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62215	0 to 8 inches. Dark brown (7.5YR 3/2) loamy sand with weak fine granular structure; very friable to loose; fine roots abundant; boundary clear, wavy.
B21t 62216	8 to 15 inches. Dark red (2.5YR 3/6) loamy sand with weak fine granular structure; very friable; roots common; has intrusions of surface soil in pores; boundary gradual and smooth.
B22t 62217	15 to 21 inches. Dark red (2.5YR 3/6) loamy sand; massive in place, breaking down into weak fine subangular blocky structure; very friable; fine roots common; boundary gradual, smooth.
B23t 62218	21 to 32 inches. Dark red (2.5YR 3/6) loamy sand; massive in place, breaking down into weak fine subangular blocky structure; very friable; fine roots common; boundary gradual, smooth.
B24t 62219	32 to 43 inches. Dark red (2.5YR 3/6) loamy sand; massive in place, breaking down into weak fine subangular blocky structure; very friable; few fine roots; slightly firmer than above layer; boundary diffuse, smooth.
B25t 62220	43 to 59 inches. Dark red (2.5YR 3/6) heavy loamy sand; massive in place, breaking into weak fine subangular blocky structure; very few small rounded iron concretions; very friable; somewhat firmer than above layer, also contains more finer material; boundary diffuse, smooth.
B26t 62221	59 to 72 inches plus. Dark red (2.5YR 3/6) loamy sand; massive in place, breaking down into weak fine subangular blocky structure; very friable; very few roots in upper portion.

Notes: pH not determined in the field. These soils are acid to very strongly acid. Colors given for moist soil (Munsell color notation used). B1 horizon has a slightly darker cast than horizons below. The profile from 15 inches to 72 inches plus is very similar, but it has slight variations in consistency.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Americus loamy sand SOIL Nos. S62GA-96-4 LOCATION Macon County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62222-62227

Depth (in.)	Horizon	1B1b Total: Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 — Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 > 2 < 76 Pct.	2 – 19	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0–6	Ap	83.5	5.3	11.2	0.9	12.5	18.6	38.9	12.6	0.8	4.5	38.6	70.9			tr.		
6–13	B1	83.0	5.1	11.9	0.6	11.0	17.2	40.8	13.4	2.4	2.7	41.7	69.6			tr.		
13–25	B21	81.9	5.8	12.3	0.1	8.9	16.0	42.0	14.9	2.2	3.6	45.6	67.0			tr.		
25–35	B22	82.6	5.1	12.3	1.0	11.7	16.9	40.5	12.5	1.5	3.6	40.1	70.1			tr.		
35–49	B23	82.2	5.1	12.7	1.9	13.3	16.9	38.2	11.9	1.4	3.7	38.0	70.3			tr.		
49–70	B24	82.3	4.6	13.1	1.2	9.0	14.3	43.3	14.5	1.6	3.0	45.1	67.8			tr.		

Depth (in.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density: 4A1g 1/10 bar	4A1e 1/3 bar	4A1h Oven dry	4D1 COLE	Water content: 4B1c 1/10 bar	4B1c 1/3 bar	4B2 15 bar		4C1 WRD	pH: 8C1c (1:1) KCl	8C1a (1:1) H_2O
	Pct.	Pct.			Pct.	Pct.	g/cc	g/cc	g/cc		Pct.	Pct.	Pct.		in/in		
0–6	0.45	0.030	15			1.1	1.64		1.65		7.2		4.0			4.2	4.6
6–13	0.23					1.2	1.58		1.59		9.0		4.0			4.3	4.7
13–25	0.10					1.2	1.51		1.54		8.4		3.9			4.3	5.3
25–35	0.06					1.2	1.52		1.54		8.7		3.9			4.2	5.1
35–49	0.06					1.2	1.53		1.57		8.9		4.0			4.2	4.8
49–70	0.04					1.3	1.58		1.58		8.1		4.1			4.2	4.9

Depth (in.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al			Ratios to clay 8D1: CEC Sum	Ext. Iron	15-bar water	8D3 Ca/Mg	7C2 Total N	Base saturation: 5C3 Sum cations	5C1 NH_4OAc
	meq/100 g															Pct.	Pct.	Pct.
0–6	0.2	tr.	tr.	0.3	0.5	4.0	4.5		0.6			0.40	0.10	0.36		0.07	11	
6–13	0.2	tr.	0.1	0.1	0.4	3.0	3.4		0.5			0.28	0.10	0.34			12	
13–25	0.4	tr.	0.1	0.1	0.6	2.3	2.9		0.3			0.24	0.10	0.32			21	
25–35	0.4	tr.	0.1	0.1	0.6	2.1	2.7		0.3			0.22	0.10	0.32			22	
35–49	0.5	tr.	tr.	tr.	0.5	2.1	2.6		0.4			0.20	0.09	0.31			19	
49–70	0.6	tr.	tr.	tr.	0.6	1.7	2.3		0.3			0.18	0.10	0.31			26	

Depth (in.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int.-Vm.[a]	Qtz.	DTA 7A3: Kl.	Gibbsite
	X-ray 7A2							
0–6	-	-		-	xx	-	28	27
6–13								
13–25	-	-		-	xx	-	28	26
25–35								
35–49	-	-		-	xx	-	28	30
49–70	-	-		-	xx	-	28	30

[a] Intergrade vermiculite - a 14Å mineral that does not collapse completely upon K saturation and heating.

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA-SCS-BELTSVILLE, MD. 1966

Soil Type: Americus loamy sand
Soil No.: S62Ga-96-4
Location: Macon County, Georgia. North of city limit of Montezuma and approximately 1/2 mile east of Georgia Highway No. 49. Aerial photo No. KU-1M-75.
Vegetation and land use: Coastal bermudagrass pasture.
Slope and land form: Gently sloping (4 percent) toward east. Slope is uniform and convex.
Drainage: Entire profile is somewhat excessively drained.
Permeability: Rapid.
Parent Material: Moderately thick beds of unconsolidated acid sands of the upper coastal plain. (Clayton Formation - Paleocene epoch)
Sampled by and date: E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, April 3, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62222	0 to 6 inches. Dark reddish brown (5YR 3/4) loamy sand with weak fine granular structure; very friable to loose; numerous fine roots; boundary abrupt, smooth.
B1 62223	6 to 13 inches. Dark red (2.5YR 3/6) to dark reddish brown (2.5YR 3/4) loamy sand with weak fine granular structure; very friable; intrusion of surface soil in pores; numerous fine roots; boundary clear, smooth.
B21 62224	13 to 25 inches. Dark red (2.5YR 3/6) loamy sand; massive in place, breaking into very weak subangular blocky structure; very friable; fine roots common; root channels and pores common; boundary gradual, smooth.
B22 62225	25 to 35 inches. Dark red (2.5YR 3/6) loamy sand; massive in place, under pressure breaks into weak subangular blocky structure; very friable; roots, root channels and pores common; boundary diffuse, smooth.
B23 62226	35 to 49 inches. Dark red (2.5YR 3/6) loamy sand which is massive in place, under pressure breaks into very weak subangular blocky structure; very friable; fine roots common, boundary diffuse, smooth.
B24 62227	49 to 70 inches plus. Dark red (2.5YR 3/6) to red (2.5YR 4/6) loamy sand which is massive in place, under slight pressure breaks into weak fine subangular blocky structure; very friable; few fine roots in upper portion.

Notes: pH not determined in the field. These soils are usually strong to very strongly acid. All soil colors refer to moist conditions. (Munsell color notation used). Has had annual applications of fertilizer.

SOIL SURVEY LABORATORY Lincoln, Nebr.

SOIL TYPE Bayboro clay loam **LOCATION** McIntosh County, Georgia

SOIL NOS. S58Ga-98-11 **LAB. NOS.** 9859-9863

DEPTH INCHES	HORIZON	1B1a PARTICLE-SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	0.2-0.02	3A1 0.02-0.002	2A2 > 2	TEXTURAL CLASS
0-10	A1	2.2	9.0	6.2	10.5	5.8	39.7	26.6	20.5	30.9	-	1-cl
10-17	A3	1.5	7.3	6.2	10.1	6.3	29.8	38.8	20.3	21.5	-	cl
17-25	B21tg	1.4	6.5	5.0	8.6	5.6	30.4	42.5	18.4	22.5	-	c
25-34	B22tg	1.2	5.5	4.6	8.0	5.0	27.1	48.6	16.2	20.5	-	c
34-64	B23tg	0.2	2.0	1.8	4.2	3.6	25.5	62.7	11.6	20.3	-	c

8C1a pH 1:1	pH 1:5	pH 1:10	ORGANIC MATTER 6A1a ORGANIC CARBON %	6B1a NITROGEN %	C/N	Free Iron Fe_2O_3% 6C1a	$CaCO_3$ equivalent %	MOISTURE TENSIONS 1/10 ATMOS. %	1/3 ATMOS. %	4B2 15 ATMOS. %
4.1			13.70	0.735	19	0.1				25.2
4.2			1.38	0.144	10	0.2				17.4
4.2			1.42	0.140	10	0.2				18.6
4.1			0.82			0.6				19.9
3.8			0.74			1.4				25.3

5A1a CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 6N2b Ca	6O2b Mg	6H1a H	6P2a Na	6Q2a K	BASE SAT. % NH_4Ac EXCH. 5C1	5C3 Base Sat. % on Sum Cations	5B1a Sum Bases	5A3a Sum Cations	Ca/Mg 8D3		Bulk Density
← milliequivalents per 100g. soil →								← me/100g →				
27.9	2.8	<0.1	46.1	0.2	0.5	12	7	3.5	49.5			
16.4	1.3	3.4	22.1	0.2	0.1	30	18	5.0	27.1	0.4		
17.4	1.0	1.9	25.0	0.3	0.1	19	12	3.3	28.3	0.5		
21.3	1.4	2.2	24.3	0.4	0.1	19	14	4.1	28.4	0.6		
25.3	2.1	2.6	28.2	0.4	0.2	21	16	5.3	33.5	0.8		

Soil Type: Bayboro clay loam
Soil Nos.: S58Ga-98-11
Location: McIntosh County, Georgia, in wooded area one mile southeast of Townsend to the right of Georgia Highway 99. See aerial photograph DSE-3L-168, dated January 26, 1953, for exact location.
Vegetation: Common bald cypress (taxodium distichum), pond bald cypress (taxodium distichum), water tupelo (nyssa aquatica), black tupelo (nyssa sylvatica), and myrtleleaf holly (ilex mytifolia).
Slope and Land Form: Level bay within the Pamlico marine terrace or "Bladen belt."
Drainage: Very poorly drained.
Collected and Described by: J. W. Calhoun, E. M. Stone, D. G. Aydelott, D. D. Bacon, and C. L. Parks, December 2, 1958.

Horizon and Lincoln Lab. No.	
A1 9859	0 to 10 inches. Black (N 2/0) clay loam that is very high in organic matter; moderate medium granular structure; friable; numerous roots; boundary gradual and wavy.
A3 9860	10 to 17 inches. Very dark gray (10YR 3/1) clay loam; weak medium angular blocky structure; firm; common faint distinct brown (7.5YR 4/4) root stains; boundary gradual and wavy.
B21tg 9861	17 to 25 inches. Dark gray (10YR 4/1) clay; moderate coarse angular blocky structure; plastic; few faint distinct brown (7.5YR 4/4) root stains; boundary gradual and wavy.
B22tg 9862	25 to 34 inches. Dark gray (N 4/0) clay; moderate medium angular blocky structure; plastic; few fine distinct brown (7.5YR 4/4) root stains; boundary gradual and wavy.
B23tg 9863	34 to 64 inches. Gray (N 5/0) clay; moderate medium angular blocky structure; plastic; many medium prominent mottles of brownish yellow (10YR 6/8) and dark reddish brown (5YR 3/4).

Remarks: The A1, B21tg and B23tg horizons were sampled for the Bureau of Public Roads. Colors given are for moist soil.

SOIL SURVEY LABORATORY Lincoln, Nebr.

SOIL TYPE Bayboro clay loam **LOCATION** McIntosh County, Georgia

SOIL NOS. S58Ga-98-12 **LAB. NOS.** 9864-9870

DEPTH INCHES	HORIZON	1B1a PARTICLE SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	0.2-0.02	3A1 0.02-0.002	2A2 > 2	TEXTURAL CLASS
0-1	A11	7.4	13.6	10.1	11.5	2.2	20.4	34.8	12.3	14.9	-	cl-scl
1-14	A12	4.3	12.2	9.2	9.5	2.0	17.5	45.3	10.4	12.9	-	c
14-19	B1tg	3.8	14.4	11.5	12.6	2.7	18.2	36.8	12.8	13.2	Tr.	cl-sc
19-32	B21tg	3.0	8.8	6.7	7.8	1.8	18.0	53.9	8.3	14.8	-	c
32-38	B22tg	3.9	9.0	6.6	7.2	1.8	17.3	54.2	8.7	13.5	-	c
38-52	B3tg	3.9	9.5	7.4	7.6	1.8	16.3	53.5	8.9	12.1	-	c
52-72	IICg	5.5	16.7	20.8	46.1	0.8	2.7	7.4	14.7	2.2	-	s

8C1a pH 1:1	pH 1:5	pH 1:10	ORGANIC MATTER 6A1a ORGANIC CARBON %	6B1a NITROGEN %	C/N	Free Iron Fe_2O_3% 6C1a		$CaCO_3$ equivalent %		MOISTURE TENSIONS 1/10 ATMOS. %	1/3 ATMOS. %	4B2 15 ATMOS. %
4.3			10.30	0.656	16	0.3						23.7
4.4			2.02	0.184	11	0.3						19.4
4.4			0.55	0.071	8	0.3						14.4
4.4			0.41	0.037	11	1.5						22.5
4.7			0.37			0.8						21.7
6.3			0.41			0.2						20.0
5.5			0.16			0.1						2.7

5A1a CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 6N2b Ca	6O2b Mg	6H1a H	6P2a Na	6Q2a K	BASE SAT. NH_4Ac EXCH. 5C1	5C3 Base Sat. % on Sum Cations	5B1a Sum Bases	5A3a Sum Cations	Ca/Mg 8D3		Bulk Density
←	milliequivalents per 100g. soil →							← me/100g →				
32.9	8.4	3.1	33.6	0.4	0.6	38	27	12.5	46.1	2.7		
22.4	5.5	2.2	23.5	0.4	0.1	37	26	8.2	31.7	2.5		
17.7	7.2	2.6	13.1	0.5	0.1	59	44	10.4	23.5	2.8		
26.6	19.4	5.2	8.7	1.1	0.2	97	75	25.9	34.5	3.7		
25.7	19.2	4.7	7.0	1.1	0.2	98	78	25.2	32.1	4.1		
23.3	19.7	3.8	3.7	1.0	0.2	106	87	24.7	28.3	5.2		
3.5	3.1	0.4	0.4	0.2	0.1	108	90	3.8	4.2			

Soil Type: Bayboro clay loam
Soil Nos.: S58Ga-98-12
Location: McIntosh County, Georgia, approximately 4½ miles east of Townsend on the right of Georgia Highway 99, in Young Swamp. See aerial photograph ASE-3L-60, dated January 26, 1953, for exact location.
Vegetation: Common bald cypress (taxodium distichum), water tupelo (nyssa aquatica), black tupelo (nyssa sylvatica), and myrtleleaf holly (ilex mytifolia).
Slope and Land Form: Level, large bay within the Pamlico marine terrace or "Bladen belt."
Drainage: Very poorly drained.
Collected and Described by: J. W. Calhoun, E. M. Stone, and D. G. Aydelott, December 2, 1958.

Horizon and Lincoln Lab. No.	
A11 9864	0 to 1 inch. Very dark gray (N 3/0) clay loam and partly decomposed forest litter.
A12 9865	1 to 14 inches. Black (N 2/0) clay loam; strong coarse columnar structure that breaks to angular blocky structure with slight pressure; plastic; boundary clear and smooth.
B1tg 9866	14 to 19 inches. Dark gray (N 4/0) clay; strong coarse angular blocky structure; very plastic; boundary clear and smooth.
B21tg 9867	19 to 32 inches. Dark gray (N 4/0) clay loam with many coarse distinct mottles of strong brown (7.5YR 5/8); strong coarse angular blocky structure; plastic; boundary clear and smooth.
B22tg 9868	32 to 38 inches. Gray (N 5/0) clay; with common medium faint mottles of olive brown (2.5Y 4/4); strong coarse angular blocky structure; very plastic; boundary clear and smooth.
B3tg 9869	38 to 52 inches. Gray (N 5/0) clay; massive; very plastic; boundary clear and smooth.
IICg 9870	52 to 72 inches. Gray (5Y 5/1) sand; structureless.

Remarks: The A11, B21tg, and B3tg horizons were sampled for the Bureau of Public Roads. Colors given are for moist soil.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Bladen fine sandy loam SOIL Nos. 855Ga-89-1 LOCATION Liberty County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 5664 - 5669

Depth (In)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 Pct.	2 – 19	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-5	A1		27.2	6.0	2.2	10.4	10.9	17.9	25.4		12.4	50.8				tr.		
5-9	A2		25.3	6.9	1.7	9.5	9.7	18.0	28.9		12.3	52.9				tr.		
9-11	B1tg		26.2	11.6	1.5	8.2	8.5	17.6	26.4		13.8	50.1				tr.		
11-15	B21tg		25.9	19.2	1.1	7.0	7.1	15.7	24.0		13.9	45.9				-		
15-38	B22tg		22.5	37.4	1.1	5.3	5.7	11.4	16.6		12.2	34.0				-		
38-60	B23tg		17.8	40.1	2.1	11.4	8.7	9.3	10.6		8.9	25.0				tr.		

Depth (In.)	6A1a Organic carbon Pct.	Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct	Ext. iron as Fe Pct.	Bulk density: 4A1e ⅓ bar g/cc	Bulk density: 4A1h Oven dry g/cc	4D1 COLE	Water content: 4B1c ⅓ bar Pct.	Water content: 4B2 15 bar Pct.		4C1 WRD in/in		pH: 8C1c (1:1) KCl	pH: 8C1a (1:1) H_2O
0-5	1.01	0.045	22													4.6
5-9	0.69	0.023	30													4.6
9-11	0.37															4.6
11-15	0.30															4.5
15-38	0.17															4.4
38-60	0.10															4.2

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al		Ratios to clay: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg		Base saturation: 5C3 Sum cations Pct.	5C1 NH_4OAc Pct
	meq/100 g																
0-5	1.0	0.4	0.1	0.1		5.9	7.5									21	
5-9	0.8	0.5	tr.	tr.		5.6	7.0									20	
9-11	0.9	0.5	tr.	0.1		5.5	7.0									21	
11-15	1.2	0.7	0.1	0.1		8.3	10.4									20	
15-38	2.6	1.0	0.2	0.1		14.4	18.3									21	
38-60	7.0	1.2	0.3	0.2		12.6	21.3									41	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int	Qtz.	Kl.	Gibbsite	
	7A2 X-ray						7A3		

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA SCS-HYATTSVILLE, MD 1969

Soil Type: Bladen fine sandy loam.
Soil No.: S55Ga-89-1
Location: Liberty County, Georgia. About 3.7 miles southwest of Fleming, Georgia on newly constructed unpaved county road.
Vegetation and land use: Cutover pine forest which includes slash, longleaf and loblolly pine with an occasional oak and a few gallberries.
Slope and land form: Level.
Drainage: Poorly drained of water.
Sampled by and date: A. H. Hasty and party. October 28, 1955.

Horizon and Beltsville Lab. No.	
A1 5664	0 to 5 inches. Very dark gray (10YR 3/1) fine sandy loam; weak fine crumb structure; friable; low organic content and few roots; strongly acid; boundary clear and smooth.
A2 5665	5 to 9 inches. Gray (10YR 5/1) to light gray (10YR 6/1) dry, fine sandy loam with a few fine distinct mottles of yellowish brown (10YR 5/8) and yellow (10YR 7/6); weak fine crumb and subangular blocky structure; friable to firm, slightly sticky and hard; strongly acid; boundary gradual and wavy.
B1tg 5666	9 to 11 inches. Mottled gray (10YR 5/1), yellowish brown (10YR 5/8) and olive yellow (2.5Y 6/6) fine sandy clay loam; weak fine and medium subangular blocky structure; firm and hard, slightly sticky wet; few fine pores and root holes; strongly acid; boundary abrupt and wavy.
B21tg 5667	11 to 15 inches. Mottled yellowish brown (10YR 5/6), gray to light gray (10YR 6/1) and strong brown (7.5YR 5/6) fine sandy clay loam; weak fine and medium subangular blocky structure; very sticky, very hard and firm; many fine pores and root holes; mottles are common, medium and prominent; slight development of clay skins; strongly acid; boundary diffuse and irregular.
B22tg 5668	15 to 38 inches. Gray (10YR 5/1) distinctly mottled with common medium areas of yellowish brown (10YR 5/8) and strong brown (7.5YR 5/6) heavy fine sandy clay or clay; weak medium subangular blocky structure; very sticky, very hard, and very firm; contains a few fine pores; strongly acid.
B23tg 5669	38 to 60 inches. Light gray to gray (10YR 6/1) fine sandy clay; mottles are common, fine and distinct of strong brown (7.5YR 5/6) and yellowish brown (10YR 5/8); structureless; very firm, very sticky and very hard; strongly acid.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Bladen fine sandy loam SOIL Nos. S550a-89-2 LOCATION Liberty County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 5670 - 5676

Depth (in.)	Horizon	1B1b Total Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 Pct	2 – 19 Pct. of < 76mm	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-4	A11		37.5	6.9	0.3	2.7	4.1	24.2	24.3		17.4	60.5				tr.		
4-7	A12		35.6	7.0	1.5	3.8	4.4	29.8	17.9		18.2	53.1				-		
7-10	A3		36.0	9.2	0.7	9.8	1.9	26.8	15.6		17.4	52.2				-		
10-15	B1t		37.0	12.7	0.8	13.4	1.9	20.1	9.1		16.9	36.0				-		
15-34	B21tg		24.8	43.1	0.6	1.4	1.5	18.8	9.8		14.1	27.5				-		
34-58	B22tg		27.4	43.1	0.3	6.7	0.6	12.3	9.6		14.1	30.6				-		
58-66	B23tg		27.2	37.4	0.4	11.0	0.5	11.0	12.5		15.6	31.4				-		

Depth (in.)	6A1a Organic carbon Pct	Nitrogen Pct	C/N		Carbonate as $CaCO_3$ Pct.	Ext. iron as Fe Pct.	Bulk density: 4A1e ⅓ bar g/cc	4A1h Oven dry g/cc	4D1 COLE	Water content: Pct.	4B1c ⅓ bar Pct.	4B2 15 bar Pct.		4C1 WRD in/in	pH: 8C1c (1:1) KCl	8C1a (1:1) H_2O
0-4	2.20	0.095	23													4.1
4-7	1.17	0.059	20													4.4
7-10	0.54	0.060	9													4.5
10-15	0.22															4.4
15-34	0.09															4.1
34-58	0.10															4.0
58-66	0.12															3.8

Depth (in.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al		Ratios to clay: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg		Base saturation: 5C3 Sum cations Pct.	5C1 NH_4OAc Pct.
	meq/100 g																
0-4	1.8	0.9	0.1	0.1		11.7	14.6									20	
4-7	1.0	0.6	0.1	tr.		9.1	10.8									16	
7-10	0.8	0.8	0.1	tr.		6.6	8.3									20	
10-15	0.7	1.1	0.1	0.1		8.7	10.7									19	
15-34	2.7	3.5	0.4	0.2		19.0	25.8									26	
34-58	3.3	3.9	0.5	0.2		18.6	26.5									30	
58-66	3.2	3.7	0.6	0.3		16.2	24.0									32	

Depth (in.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl	Vm.	Mi	Int.	Qtz.	Kl.	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA SCS HYATTSVILLE MD 1966

Soil Type: Bladen fine sandy loam
Soil No.: S55Ga-89-2
Location: Liberty County, Georgia. Southwest corner of Fleming, Georgia Experiment Station. Cut back about one foot in three-year-old ditch bank.
Vegetation and land use: Forest stand composed of slash and loblolly pine with a heavy ground cover of wiregrass. Only a scattering of hardwood brush noted.
Slope and land form: Level.

Horizon and Beltsville Lab. No.	
A11 5670	0 to 4 inches. Dark gray (N4/) very fine sandy loam; weak fine crumb structure; friable; small amount of organic matter and numerous roots; strongly acid; boundary clear and smooth.
A12 5671	4 to 7 inches. Dark gray (N 4/) fine sandy loam with a few fine faint mottles of light gray (N 7/) and pale yellow (2.5Y 8/4); weak fine crumb; strongly acid; boundary gradual and wavy.
A3 5672	7 to 10 inches. Grayish brown (2.5Y 5/2) very fine sandy loam or fine sandy clay loam with common faint medium mottles of yellow (2.5Y 7/6) and light gray (2.5Y 7/2); fine granular structure; a few dark brown to black spots that appear to be charcoal fragments; friable to firm, slightly sticky; boundary abrupt and wavy.
B1t 5673	10 to 15 inches. Grayish brown (2.5Y 5/2) fine sandy clay loam or fine sandy clay with common medium distinct mottles of yellow (10YR 7/6) and strong brown (7.5YR 5/6); weak subangular blocky; firm, sticky and hard; strongly acid; boundary diffuse and irregular.
B21tg 5674	15 to 34 inches. Gray (10YR 5/1) clay with common medium distinct mottles of yellowish brown (10YR 5/8) and yellow (10YR 7/8); very firm, very sticky and very hard; very strongly acid; boundary diffuse and irregular.
B22tg 5675	34 to 58 inches. Gray (10YR 5/1) clay with common medium distinct mottles of strong brown (7.5YR 5/8) and yellow (10YR 7/8); very firm, very hard and very sticky; very strongly acid; boundary diffuse and irregular.
B23tg 5676	58 to 66 inches. Gray (5Y 5/1) clay with common medium distinct mottles of yellowish brown (10YR 5/8) and pale yellow (5Y 7/4); very firm, very sticky and very hard; very strongly acid.

SOIL SURVEY LABORATORY Lincoln, Nebr. December 1958

SOIL TYPE Bladen fine sandy loam **LOCATION** McIntosh County, Georgia

SOIL NOS. S58Ga-98-7 **LAB. NOS.** 7914-7919

DEPTH INCHES	HORIZON	1H1a PARTICLE SIZE-DISTRIBUTION (in m.m.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	0.2-0.02	3A1 0.02-0.002	2A2 > 2	TEXTURAL CLASS
0-3	A11	0.8a	1.9a	1.8a	23.5a	21.4b	32.4	18.2	52.8	20.2	-	1
3-8	A12	0.2a	1.2a	1.3a	20.1a	22.5b	30.0	24.7	51.5	18.0	-	1
8-15	B21tg	0.2	0.8	1.0	15.3	16.4	24.5	41.8	38.2	15.6	-	c
15-26	B22tg	0.2	0.7	0.8	10.9	16.8	21.5	49.1	34.1	13.2	-	c
26-42	B23tg	0.2	0.6	0.7a	11.1a	13.0a	21.0	53.4	30.2	13.3	-	c
42-50	B24tg	-	0.6	0.6a	5.9a	16.5a	20.4	56.0	28.3	13.1	-	c

8C1a pH 1:1	pH 1:5	pH 1:10	ORGANIC MATTER 6A1a ORGANIC CARBON %	6B1a NITROGEN %	C/N	Free Iron Fe_2O_3% 6C1a	$CaCO_3$ equivalent %	MOISTURE TENSIONS 1/10 ATMOS. %	1/3 ATMOS. %	4B2 15 ATMOS. %
5.1			4.78	0.186	26	0.8				9.8
4.8			1.14	0.070	16	1.0				9.7
4.7			0.58	0.050	12	1.9				14.8
4.8			0.29	0.038	8	2.1				17.2
4.7			0.17			2.4				18.2
4.5			0.13			2.4				18.9

5A1a CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 6N2b Ca	6Q2b Mg	6H1a H	6P2a Na	6Q2a K	5B1a BASE SAT. % NH_4Ac EXCH. 5C1	5C3 Base Sat. % on Sum Cations	5E1a Sum Bases	5A3a Sum Cations	Ca/Mg 8D3	Bulk Density
← milliequivalents per 100g. soil →								← me/100g →			
15.6	4.5	2.0	16.1	0.1	0.2	44	30	6.8	22.9	2.2	
10.8	1.2	1.5	12.4	<0.1	0.1	26	18	2.8	15.2	0.8	
15.3	0.3	1.6	17.6	0.1	0.1	14	11	2.1	19.7		
17.4	<0.1	1.4	19.6	0.2	0.1	10	8	1.7	21.3		
18.1	<0.1	1.6	21.0	0.2	0.1	10	8	1.9	22.9		
19.7	<0.1	1.8	23.5	0.2	0.1	11	8	2.1	25.6		

a. Common irregular light brown concr. (Fe-Mn?)
b. Few irregular light brown concr. (Fe-Mn?)

Soil Type: Bladen fine sandy loam
Soil Nos.: S58Ga-98-7
Location: Approximately 300 feet east of S58Ga-98-6 on Mr. Livingston Townsend's farm, one mile east of crossroads of U. S. Highway 17 and Georgia Highway 99 (at Eulonia, Georgia) in cut-over wooded area. See Photograph DSE-2L-172, dated January 25, 1953, for site location. McIntosh County, Georgia.
Vegetation: Cut-over wooded area of slash pine (pinus caribaea var. elliottii), sweet gum (liquidambar styraciflua), red oak (quercus borealis), and post oak (quercus stellata); gallberry (illex glabra).
Topography: Level to flat areas interwoven with slightly lower concave or depressed areas that act as drainage ways during high rainfall seasons. Capability Unit IIIw-2.
Collected and Described by: F. T. Ritchie, K. W. Flach, R. H. Jordan, J. W. Calhoun, and E. M. Stone, April 17, 1958.

Horizon and Lincoln Lab. No.	
A11 7914	0 to 3 inches. Black (N 2/0) fine sandy loam; weak fine granular structure; loose; boundary abrupt and smooth.
A12 7915	3 to 8 inches. Dark gray (5Y 4/1) to very dark gray (5Y 3/1) clay loam, distinctly mottled with coarse medium mottlings of dark brown (7.5YR 4/4); weak to moderate fine subangular blocky breaking to weak fine granular structure; very friable; boundary gradual and smooth.
B21tg 7916	8 to 15 inches. Very dark gray (N 3/0) to very dark grayish brown (2.5Y 3/2) clay loam, distinctly mottled with common fine mottlings of dark yellowish brown (10YR 4/4); moderate fine subangular blocky structure; very sticky to very plastic; boundary gradual and smooth.
B22tg 7917	15 to 26 inches. Dark gray (5Y 4/1) clay with few fine to medium prominent mottlings of dark brown (7.5YR 4/4); moderate medium and fine subangular blocky structure; very sticky and very plastic; boundary gradual and wavy.
B23tg 7918	26 to 42 inches. Dark gray (5Y 4/1) clay with few fine to medium prominent mottlings of dark brown (7.5YR 4/4); weak to moderate prismatic structure that breaks into fine prisms that break into weak to moderate medium and fine angular blocky structure; very sticky and very plastic; boundary gradual and smooth.
B24tg 7919	42 to 50 inches. Dark gray (N 4/0) clay with common medium prominent mottlings of brown (7.5YR 5/4) and dark red (10R 3/6); weak to moderate medium prismatic structure that breaks into weak to moderate medium subangular blocky structure; very sticky and very plastic.

Remarks: Color of soil moist unless otherwise stated.

SOIL SURVEY LABORATORY Lincoln, Nebr. December 1958

SOIL TYPE Bladen fine sandy loam **LOCATION** McIntosh County, Georgia

SOIL NOS. S58Ga-98-9 **LAB. NOS.** 7926-7931

DEPTH INCHES	HORIZON	1B1a PARTICLE-SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	3A1 0.2-0.02	0.02-0.002	2A2 > 2	TEXTURAL CLASS
0-5	A11	0.9	3.4	3.1	22.2	44.0	20.7	5.7	70.1	12.4	Tr.	vfsl
5-9½	B2e	0.6	3.2	2.8	24.3	41.4	21.3	6.4	71.1	12.2	Tr.	vfsl
9½-14	B2sc.	0.9	2.7	2.6	12.4	47.7	20.7	13.0	65.0	12.4	Tr.	vfsl
14-30	B21tg	0.2	1.1	1.1	9.5	20.2	14.3	53.6	33.1	9.3	Tr.	c
30-41	B22tg	0.1	0.9	1.1	12.1	25.1	13.5	47.2	40.4	8.9	Tr.	c
41-57	B23tg	0.4	1.6	2.0	3.4	37.5	12.7	42.4	43.0	8.0	-	c

8C1a pH 1:1	pH 1:5	pH 1:10	6A1a ORGANIC MATTER ORGANIC CARBON %	6B1a NITROGEN %	C/N	Free Iron Fe_2O_3% 6C1a	$CaCO_3$ equivalent %	MOISTURE TENSIONS 4B1a 1/10 ATMOS. %	4B1a 1/3 ATMOS. %	4B2 15 ATMOS. %
4.8			1.84	0.077	24	0.3		24.9	13.1	2.8
5.1			0.52	0.025	21	0.3		19.0	9.8	2.4
5.2			0.21	0.014		0.5		22.3	12.9	4.6
4.9			0.17	0.039		2.2				18.3
4.7			0.09			2.1				16.9
4.6			0.08			1.3				15.4

5A1a CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 6N2b Ca	6O2b Mg	6N1a H	6P2a Na	6Q2a K	BASE SAT. % NH_4Ac EXCH. 5C1	5C3 Base Sat. % on Sum Cations	5B1a Sum Bases	5A3a Sum Cations	Ca/Mg	Bulk Density
←	milliequivalents per 100g. soil →							← me/100g →			
7.0	0.4	0.4	8.6	<0.1	<0.1	11	8	0.8	9.4		
3.2	0.1	0.2	3.6	<0.1	<0.1	9	8	0.3	3.9		
5.0	<0.1	0.2	5.0	0.1	<0.1	6	6	0.3	5.3		
21.0	<0.1	2.4	22.5	0.6	0.2	15	12	3.2	25.7		
20.4	<0.1	2.6	21.1	0.7	0.2	17	14	3.5	24.6		
18.5	<0.1	2.6	19.6	0.7	0.2	19	15	3.5	23.1		

Soil Type: Bladen fine sandy loam
Soil Nos.: S58Ga-98-9
Location: Approximately 2 miles north of Townsend, Georgia. Turn north at Townsend on the Townsend-Jones road, go approximately 2 miles, turn left on graded road and cross Seaboard Air Line railroad at Buxford; go through gate and turn right (north) at old house, go approximately 1/4 mile. Sample taken in pines on east side of woods road. See Photograph DSB-3L-170, dated January 26, 1953, for site location. McIntosh County, Georgia.
Vegetation: Beautiful stand of slash pine (pinus caribaea var. elliottii), gallberry (illex glabra), and scattered wax myrtle (myrica ceroferia).
Topography: Level to flat areas interwoven with slightly lower concave or depressed areas that act as drainage ways during high rainfall seasons. Capability Unit IIIw-2.
Collected and Described by: L. T. Alexander, F. T. Ritchie, K. W. Flach, R. H. Jordan, J. W. Calhoun, and E. M. Stone, April 18, 1958.

Horizon and Lincoln Lab. No.	
A11 7926	0 to 5 inches. Black (10YR 2/1 to N 2/0) loose fine sandy loam; weak fine granular structure; boundary clear and smooth.
A12 7927	5 to 7 inches. Black (10YR 2/1) material from the layer above.
A2g 7927	7 to 9½ inches. Light brownish gray (2.5Y 6/2) to light gray (2.5Y 7/2) loamy fine sand with common medium distinct mottlings of brownish yellow (10YR 6/6); weak fine and medium subangular blocky structure breaking down to weak fine granular structure; nonsticky to slightly sticky; black (10YR 2/1) material from layer above in wormholes; boundary clear and wavy.
A3g 7928	9½ to 14 inches. Grayish brown (2.5Y 5/2) fine sandy clay loam with many coarse faint mottlings of light brownish gray (2.5Y 6/2) and many coarse distinct mottles of yellowish brown (10YR 5/6); weak fine to medium subangular blocky structure breaking into weak fine granular; sticky to slightly plastic when wet; boundary clear and smooth.
B21tg 7929	14 to 30 inches. Gray (N 5/0) clay with common medium prominent mottlings of yellowish brown (10YR 5/6) and dark red (10R 3/6); weak to moderate prismatic structure that breaks into strong moderate subangular blocky; very sticky and very plastic; boundary gradual and smooth.
B22tg 7930	30 to 41 inches. Gray (N 5/0) clay with many medium prominent mottlings of yellowish brown (10YR 5/6) and a few medium prominent mottles of yellowish brown (10YR 5/8) and dark red (10R 3/6); weak to moderate prismatic structure that breaks into strong moderate subangular blocky; very sticky and very plastic when wet; boundary gradual and smooth.
B23tg 7931	41 to 57 inches. Dark gray (5Y 4/1) clay with many coarse prominent mottlings of strong brown and common fine prominent mottles of red (2.5YR 5/6); weak to moderate prismatic structure that breaks into strong moderate subangular blocky; very sticky and very plastic when wet.

Remarks: The A12 and A2g horizons were combined for sampling purposes. Colors are for wet soils.

SOIL SURVEY LABORATORY Lincoln, Nebr. December 1958

SOIL TYPE Dunbar fine sandy loam **LOCATION** McIntosh County, Georgia

SOIL NOS. S58Ga-98-8 **LAB. NOS.** 7920-7925

DEPTH INCHES	HORIZON	1B1a PARTICLE-SIZE DISTRIBUTION (in mm.) (per cent)								3A1	2A2	TEXTURAL CLASS
		VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	0.2-0.02	0.02-0.002	> 2	
0-3	A1	0.9	2.0	2.3	30.6	29.3	29.2	5.7	60.0	15.7	Tr.	fsl
3-9	A3g	0.3	1.3	1.7	30.1	26.4	29.5	10.7	65.3	16.5	Tr.	fsl
9-16	B1tg	0.3	1.1	1.4	20.9	24.4	28.5	23.4	52.8	17.6	Tr.	l
16-21	B21tg	0.1	0.8	1.2	18.0	20.7	27.1	32.1	45.5	17.5	Tr.	cl
21-31	B22tg	0.2	0.4	0.7a	12.6a	15.1a	20.9	50.1	33.6	13.2	Tr.	c
31-47	B23tg	0.2	0.5	0.8a	13.6a	13.1a	22.1	49.7	33.0	13.8	-	c

	pH		ORGANIC MATTER			Free Iron				MOISTURE TENSIONS		
8C1a			6A1a	6B1a		Fe_2O_3% 6C1a		$CaCO_3$ equiv.		4B1a 1/10 ATMOS.	4B1a 1/3 ATMOS.	4B2 15 ATMOS.
1:1	1:5	1:10	ORGANIC CARBON %	NITROGEN %	C/N			%		%	%	%
5.1			2.50	0.104	24	0.4				28.0	15.9	3.6
5.2			0.52	0.028	18	0.4				19.7	12.2	3.7
4.9			0.20	0.030		1.0						8.5
4.7			0.17	0.030		1.3						10.7
4.7			0.17	0.042		2.0						16.8
4.6			0.16			2.3						16.7

5A1a	EXTRACTABLE CATIONS					5B1a	BASE SAT., NH_4Ac	5C3	5B1a	5A3a	Ca/Mg		Bulk
CATION EXCHANGE CAPACITY NH_4Ac	6N2b Ca	6G2b Mg	6H1a H	6P2a Na	6Q2a K	EXCH. 5C1		Base Sat. % on Sum Cations	Sum Bases	Sum Cations			Density
←	———	milliequivalents per 100g. soil	———	———	———	→			← me/100g →				
7.1	1.3	0.7	5.4	<0.1	0.1	30		28	2.1	7.5			
4.8	0.8	0.6	8.6	<0.1	<0.1	29		14	1.4	10.0			
8.2	0.5	1.0	9.6	0.1	<0.1	20		14	1.6	11.2			
10.4	<0.1	1.0	12.4	0.1	0.1	12		9	1.2	13.6			
18.2	<0.1	1.8	21.9	0.2	0.1	12		9	2.1	24.0			
18.8	<0.1	1.6	22.4	0.2	0.1	10		8	1.9	24.3			

a. Common smooth and irregular light brown concr. (Fe-Mn?)

Soil Type: Dunbar fine sandy loam
Soil Nos.: S58Ga-98-8
Location: Approximately 200 feet south of S58Ga-98-7 on Mr. Livingston Townsend's farm, 1 mile east of crossroads of U. S. Highway 17 and Georgia Highway 99 (at Eulonia, Georgia) in cut-over wooded area. See Photograph DSE-2L-172, dated January 25, 1953, for site location. McIntosh County, Georgia.
Vegetation: Cut-over wooded area of slash pine (pinus caribaea var. elliottii), sweet gum (liquidambar styraciflua), red oak (quercus borealis), and post oak (quercus stellata); gallberry (illex glabra).
Topography: Nearly level (0 to 2 percent) moderately well-drained areas within the Pamlico marine terrace or "Bladen belt." It is more sloping than the Bladen soils and between 20 and 30 feet in elevation. Capability Unit IIw-3.
Collected and Described by: F. T. Ritchie, K. W. Flach, R. H. Jordan, J. W. Calhoun, and E. M. Stone, April 17, 1958.

Horizon and Lincoln Lab. No.	
A1 7920	0 to 3 inches. Black (N 2/0) fine sandy loam; weak fine granular structure; very friable when moist, sticky when wet; boundary abrupt.
A3g 7921	3 to 9 inches. Grayish brown (10YR 5/2) fine sandy loam with common medium faint mottlings of yellowish brown (10YR 5/4); weak fine granular structure; very friable when moist, slightly sticky when wet; boundary clear and smooth.
B1tg 7922	9 to 16 inches. Yellowish brown (10YR 5/6) fine sandy clay loam with many coarse mottlings of grayish brown (2.5Y 5/2) and a few fine to medium mottlings of strong brown (7.5YR 5/6); subangular blocky structure; friable when moist, sticky when wet; boundary gradual and smooth.
B21tg 7923	16 to 21 inches. Gray (10YR 6/1) fine sandy clay with many medium prominent mottlings of yellowish brown (10YR 5/6) and common medium mottles of red (2.5YR 4/8); moderate medium angular blocky structure; slightly firm when moist, very sticky when wet; boundary gradual and smooth.
B22tg 7924	21 to 31 inches. Gray (N 5/0) clay with many medium prominent mottlings of dark red (2.5YR 3/6) and common medium mottles of yellowish brown (10YR 5/6); strong medium angular blocky structure; firm when moist, very sticky when wet; boundary gradual and smooth.
B23tg 7925	31 to 47 inches. (60 inches plus) Gray (10YR 5/1) fine sandy clay with many medium prominent mottlings of dark red (2.5YR 3/6) and common medium distinct mottles of yellowish brown (10YR 5/6); moderate medium angular blocky structure; firm when moist, very sticky when wet.

Remarks: Color of soil moist unless otherwise stated.

SOIL SURVEY LABORATORY Lincoln, Nebr. December 1958

SOIL TYPE Dunbar fine sandy loam **LOCATION** McIntosh County, Georgia

SOIL NOS. S58Ga-98-10 **LAB. NOS.** 7932-7937

DEPTH INCHES	HORIZON	1B1a PARTICLE SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	3A1 0.2-0.02	0.02-0.002	2A2 > 2	TEXTURAL CLASS
0-5	A1	0.9	4.9	5.9	26.5	38.0	17.7	6.1	62.2	11.1	Tr.	vfsl
5-11	A3g	1.0	4.8	5.5	32.5	31.5	18.5	6.2	61.8	12.1	Tr.	fsl
11-17	B1g	0.9	4.4	5.0	28.2	30.3	18.7	12.5	56.4	12.8	Tr.	vfsl
17-24	B21tg	1.2	4.0	4.7	25.4	27.8	18.2	18.7	51.4	12.8	Tr.	vfsl
24-33	Cca	0.9	4.3	4.6	18.0	16.4	10.4	45.4	30.2	8.1	Tr.	c
33-48	Desc.	0.4	3.2	4.1	22.1	22.5	11.5	36.2	41.2	8.2	Tr.	sc

8C1a pH 1:1	pH 1:5	pH 1:10	6A1a ORGANIC CARBON %	6B1a NITROGEN %	C/N	Free Iron Fe_2O_3% 6C1a	$CaCO_3$ equivalent %	MOISTURE TENSIONS 4B1a 1/10 ATMOS. %	4B1a 1/3 ATMOS. %	4B2 15 ATMOS. %
4.5			1.52	0.070	22	0.2		22.1	11.3	3.2
4.9			0.50	0.026	19	0.3		17.3	9.6	2.3
4.8			0.13	0.020		0.4		20.5	11.9	4.4
4.8			0.17	0.016		0.8				6.7
4.8			0.14			3.9				15.6
4.8			0.09			1.7				12.7

5A1a CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 6N2b Ca	6O2b Mg	6H1a H	6P2a Na	6Q2a K	BASE SAT. % NH_4Ac EXCH. 5C1	5C3 Base Sat. % on Sum Cations	5B1a Sum Bases	5A3a Sum Cations	Ca/Mg	Bulk Density
←	milliequivalents per 100g. soil →							← me/100g →			
6.3	<0.1	<0.1	8.6	<0.1	<0.1				8.6		
3.2	<0.1	0.1	3.6	<0.1	<0.1	3	3	0.1	3.7		
4.1	<0.1	0.3	4.1	<0.1	<0.1	7	7	0.3	4.4		
6.3	<0.1	0.8	4.6	0.1	<0.1	14	16	0.9	5.5		
15.9	<0.1	1.8	17.2	0.2	0.1	13	11	2.1	19.3		
14.0	<0.1	1.8	14.4	0.2	0.1	15	13	2.1	16.5		

Soil Type: Dunbar fine sandy loam
Soil Nos.: 8580a-98-10
Location: Approximately 2 miles north of Townsend, Georgia. Turn north at Townsend on the Townsend-Jones road, go approximately 2 miles, turn left on graded road and cross Seaboard Air Line railroad at Hunford; go through gate and turn right (north) at old house; go approximately 800 feet. Sample taken in pines on west side of woods road. Approximately 850 feet south of site No. 9. See Photograph DSE-3L-170, dated January 26, 1953, for site location. McIntosh County, Georgia.
Vegetation: Beautiful stand of slash pine (pinus caribaea var. elliottii), gallberry (ilex glabra), and scattered wax myrtle (myrica cecferia).
Topography: Nearly level (0 to 2 percent) moderately well-drained areas within the Pamlico marine terrace or "Bladen belt." It is more sloping than the Bladen soils and between 20 and 30 feet in elevation. Capability Unit IIw-3.
Collected and Described by: L. T. Alexander, F. T. Ritchie, K. W. Flach, R. H. Jordan, J. W. Calhoun, and E. M. Stone, April 18, 1958.

Horizon and Lincoln Lab. No.	
A1 7932	0 to 5 inches. Gray (N 5/0) fine sandy loam; weak fine granular structure; loose; boundary gradual and irregular.
A3g 7933	5 to 11 inches. Gray (5Y 5/1) fine sandy loam with common fine distinct mottlings of strong brown (7.5YR 5/6) that increase with depth; areas of A1 material interfingering in the upper part of this horizon; very weak fine and medium subangular blocky structure that breaks to weak fine granular; loose to slightly sticky; boundary gradual and wavy.
B1g 7934	11 to 17 inches. Grayish brown (2.5Y 5/2) to light brownish gray (2.5Y 6/2) fine sandy loam (slightly heavier than the above layer) with many medium and coarse mottlings of yellowish brown (10YR 5/6) and a few fine prominent mottles of reddish brown (5YR 5/4) to yellowish red (5YR 5/6); weak medium and fine subangular blocky structure; slightly sticky and nonplastic; boundary gradual and smooth.
B21tg 7935	17 to 24 inches. Gray (5Y 5/1 to 6/1) fine sandy clay loam with common medium prominent mottlings of yellowish brown (10YR 5/6); weak medium and fine subangular blocky structure; sticky to slightly plastic when wet; boundary clear and irregular.
IIB22tg 7936	24 to 33 inches. Dark gray (N 4/0) to gray (N 5/0) heavy sandy clay to clay with many coarse prominent mottlings of strong brown (7.5YR 5/6) and few fine prominent mottles of dusky red (10R 3/4); weak medium prismatic structure that breaks to moderate medium angular blocky; very sticky and very plastic; boundary gradual and smooth.
IIB23tg 7937	33 to 48 inches. Dark gray (N 4/0) to gray (N 5/0) sandy clay with many coarse prominent mottlings of strong brown (7.5YR 5/8) and a few fine prominent mottles of dusky red (10R 3/4); weak medium prismatic structure that breaks to moderate medium angular blocky; very sticky and very plastic.

Remarks: Colors given are for wet soil.

SOIL SURVEY LABORATORY ; Lincoln Nebr. December 1958

SOIL TYPE Eulonia fine sandy loam **LOCATION** McIntosh County, Georgia

SOIL NOS. S58Ga-98-3 **LAB. NOS.** 7886-7892

DEPTH INCHES	HORIZON	1B1a PARTICLE SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	3A1 0.2-0.02	0.02-0.002	2A2 > 2	TEXTURAL CLASS
0-4½	A11	0.7	2.8	3.0	50.5	23.4	15.4	4.2	70.5	8.6	Tr.	lfs
4½-10	A21	0.6	2.9	2.8	49.1	24.8	16.4	3.4	72.4	9.3	Tr.	lfs
10-14	A22	0.8	2.9	2.8	49.3	24.4	16.3	3.5	72.1	9.6	Tr.	lfs
14-22	B21t	0.8	2.3	2.2	40.9	19.3	14.2	20.3	58.5	8.4	Tr.	scl
22-33	See	0.4	1.9	2.2	44.3	13.5	7.2	30.5	51.8	4.4	Tr.	scl
33-43	Desc.	0.5	1.9	2.2	51.1	11.3	5.6	27.4	53.6	3.8	Tr.	scl
43-50		0.1	0.8	1.0	56.7	11.7	2.2	27.5	60.6	1.5	-	scl

8C1a pH 1:1	pH 1:5	pH 1:10	ORGANIC MATTER 6A1a ORGANIC CARBON %	6B1a NITROGEN %	C/N	Free Iron Fe_2O_3 % 6C1a	$CaCO_3$ equivalent %	MOISTURE TENSIONS 4B1a 1/10 ATMOS. %	4B1a 1/3 ATMOS. %	4B2 15 ATMOS. %
5.6			1.96	0.073	27	0.3		19.3	10.4	3.6
5.7			0.16	0.011		0.3		12.5	6.8	1.9
5.7			0.09	0.010		0.3		11.8	7.0	1.9
5.2			0.13	0.025		1.8				8.4
4.6			0.06	0.013		2.7				11.2
4.7			0.05			2.3				10.6
4.8			0.05			1.5				9.7

5A1a CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 6N2b Ca	6O2b Mg	6H1a H	6P2a Na	5B1a 6Q2a K	BASE SAT. % NH_4Ac EXCH. 5C1	5C3 Base Sat. % On Sum Cations	5B1a Sum Bases	5A3a Sum Cations	Ca/Mg	Bulk Density
←	milliequivalents per 100g. soil →							me/100g			
6.4	1.8	0.4	8.2	<0.1	0.1	36	22	2.3	10.5		
1.0	0.1	<0.1	1.8	<0.1	<0.1	10	5	0.1	1.9		
0.7	0.1	<0.1	1.4	<0.1	<0.1	14	7	0.1	1.5		
4.8	0.6	1.1	4.6	0.1	0.1	40	29	1.9	6.5		
8.0	0.1	1.1	10.1	0.1	0.1	18	12	1.4	11.5		
7.2	0.1	0.6	9.6	0.1	0.1	12	8	0.9	10.5		
7.9	0.2	0.9	9.2	0.1	0.1	16	12	1.3	10.5		

Soil Type: Eulonia fine sandy loam
Soil Nos.: S58Ga-98-3
Location: 3.6 miles south of Eulonia, Georgia, in borrow pit on east side of U. S. Highway No 17 (also 8 miles) north of Darien Court House) on west bank of borrow pit and north of center road going in by International Paper Company "Tree Farm" sign. See Photograph 2L-174 dated January 25, 1953 for site location. Capability Unit IIe-3. McIntosh County, Georgia.
Vegetation: Slash pine (pinus caribaea var. elliottii), sweet gum (liquidambar styraciflua), gallberry (illex glabra), and saw palmetto (serenoa repens).
Topography: Level to nearly level (0 to 2 percent slope) moderately well-drained areas within the Pamlico marine terrace or shore line. Slightly higher elevation, between 20 and 30 feet, than the surrounding areas of Bladen and Bayboro.
Collected and Sampled by: L. T. Alexander, K. W. Flach, R. H. Jordan, D. G. Aydelott and E. M. Stone, April 15, 1958.

Horizon and Lincoln Lab. No.

A11 7886 — 0 to 4½ inches. Black (N 2/0) fine sandy loam; fine granular structure; loose when moist, nonsticky when wet; mat of plant roots in this layer; boundary gradual and smooth.

A12 — 4½ to 6½ inches. A mixture of A11 and A21.

A21 7887 — 6½ to 10 inches. Light olive brown (2.5Y 5/2 to 5/4) to light yellowish brown (2.5Y 5/2 to 6/4) fine sand; structureless; loose when moist, nonsticky when wet; boundary clear and smooth.

A22 7888 — 10 to 14 inches. Light brownish gray (2.5Y 6/2) fine sand; structureless; loose when moist, nonsticky when wet; boundary abrupt and smooth.

B21t 7889 — 14 to 22 inches. Yellowish brown (10YR 5/6) sandy clay loam; medium fine granular structure; friable when moist, nonplastic when wet; boundary abrupt and smooth.

IIB22t 7890 — 22 to 33 inches. Dark red (10R 3/6) sandy clay with many coarse prominent mottlings of light brownish gray (2.5Y 6/2) and yellowish brown (10YR 5/6); weak angular blocky structure; friable to firm when moist; very sticky to slightly plastic when wet; boundary gradual and wavy.

IIB23tg 7891 — 33 to 43 inches. Dark red (10R 3/6) sandy clay to clay with many coarse prominent mottlings of light brownish gray (2.5Y 6/2) and yellowish brown (10YR 5/6); angular blocky structure; slightly friable when moist, very sticky when wet; boundary gradual and wavy.

IIB24t 7892 — 43 to 50 inches. Variegated light olive brown (2.5Y 5/6) dark red (10R 3/6) and yellowish brown (10YR 5/6) sandy clay loam; angular blocky structure; slightly friable when moist, very sticky when wet.

Remarks: Depth to IIB22t horizon varies within a few feet from 14 to 40 inches showing uneven clay layer overcapped by sandier material.

Color of soil moist unless otherwise stated.

Mineralogy (Methods 7A, 7B).

Composition of the coarse silt fraction and of selected sand fractions

Horizon	Size Fraction (mm)	Quartz	Feldspar[a]	Composition (in percent of size fraction) Biotite[b]	Enstatite	Sphene	Rutile	Opaques
A22	0.020-0.050	80[c]	12	--	2	1	1	3
	0.050-0.075	79	14	--	1	2	1	4
	0.075-0.150	100	--	--				
	0.210-0.300	100	--	--				
IIB22t	0.020-0.050	81[c]	14	1	2	tr.	1	4
	0.050-0.075	76	14	1	1	1	2	6
	0.075-0.150	100	tr.					
	0.210-0.300	100						

a/ Strongly weathered, predominantly orthoclase with about 10 percent plagioclase.
b/ Very strongly weathered if present.
c/ Traces of plant opal.

Composition of the clay fraction

Horizon	Vermiculite-Montmorillonite interstratified	Vermiculite	Kaolinite
A22	x	xx	25%
IIB22t	xxx		40%

Relative concentrations: x = detected; xx = moderate; xxx = abundant; xxxx = dominant.

SOIL SURVEY LABORATORY Lincoln, Nebr. December 1958

SOIL TYPE Eulonia fine sandy loam **LOCATION** McIntosh County, Georgia

SOIL NOS. S58Ga-98-6 **LAB. NOS.** 7907-7913

DEPTH INCHES	HORIZON	1B1a PARTICLE-SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	3A1 0.2-0.02	0.02-0.002	2A2 > 2	TEXTURAL CLASS
0-3½	A11	1.0	3.9	3.9	31.4	21.8	31.0	7.0	59.3	17.7	-	fsl
3½-7	A12	1.1	3.5	3.3	30.9	23.2	29.9	8.1	59.8	18.0	Tr.	fsl
7-11	A2	0.6	3.2	3.2	24.9	30.4	29.4	8.3	61.2	17.5	-	vfsl
11-18	B21t	0.9a	2.6a	2.7a	18.1a	23.9b	24.4	27.4	46.9	14.9	Tr.	scl
18-24	See	0.3a	1.4a	1.6a	14.8a	8.4b	13.4	60.1	24.8	8.8	-	c
24-34	Desc.	0.2	1.8	2.2	28.4	10.5	7.3	49.6	35.6	5.4	-	c
34-48+	IIB3g	1.2	4.6	4.9	34.2	26.9	7.6	20.6	52.9	5.4	-	scl

8C1a pH 1:1	pH 1:5	pH 1:10	ORGANIC MATTER 6A1a ORGANIC CARBON %	6B1a NITROGEN %	C/N	Free Iron Fe_2O_3% 6C1a	$CaCO_3$ equivalent %	MOISTURE TENSIONS 4B1a 1/10 ATMOS. %	4B1a 1/3 ATMOS. %	4B2 15 ATMOS. %
4.8			6.71	0.261	26	0.4				8.2
4.9			1.25	0.071	18	0.6		28.5	16.1	3.7
5.2			0.43	0.032	13	0.7		20.3	13.4	3.0
4.8			0.36	0.036	10	1.9				9.9
4.7			0.44	0.050	9	3.5				21.4
4.7			0.25			2.0				17.0
4.7			0.05			0.6				7.0

5A1a CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 6N2b Ca	6O2b Mg	6H1a H	6P2a Na	6Q2a K	BASE SAT. % NH_4Ac EXCH. 5C1	5C3 Base Sat. % by Sum Cations	5B1a Sum Bases	5A3a Sum Cations	Ca/Mg 8D3	Bulk Density
← milliequivalents per 100g. soil →								← me/100g →			
14.0	3.8	1.6	17.4	<0.1	0.2	40	24	5.6	23.0	2.4	
6.1	0.4	0.5	9.6	<0.1	0.1	16	9	1.0	10.6		
3.5	0.2	0.4	6.3	<0.1	<0.1	17	9	0.6	6.9		
10.2	0.8	1.2	12.0	0.1	0.1	22	15	2.2	14.2		
21.7	1.2	2.4	27.5	0.2	0.2	18	13	4.0	31.5	0.5	
18.2	0.2	1.8	24.0	0.2	0.2	13	9	2.4	26.4		
8.6	0.1	0.4	11.0	0.1	0.1	8	6	0.7	11.7		

a. Common, irregular light brown concr. (Fe-Mn?)
b. Few irregular light brown concr. (Fe-Mn?)

Soil Type: Eulonia fine sandy loam
Soil Nos.: S58Ga-98-6
Location: Approximately 200 feet northwest of S58Ga-98-5 on Mr. Livingston Townsend's farm, 1 mile east of crossroads of U. S. Highway 17 and Georgia Highway 99 (at Eulonia, Georgia) in cut-over wooded area. See Photograph DSE-2L-172, dated January 25, 1953, for site location. McIntosh County, Georgia.
Vegetation: Cut-over wooded area of slash pine (pinus caribaea var. elliottii), sweet gum (liquidambar styraciflua), red oak (quercus borealis), and post oak (quercus stellata); gallberry (ilex glabra).
Topography: Nearly level to very gently sloping (0 to 5 percent) moderately well-drained areas within the Pamlico marine terrace or "Bladen belt." It is more sloping than the Bladen soils and between 20 and 30 feet in elevation. Capability Unit IIs-3.
Collected and Described by: F. T. Ritchie, K. W. Flach, R. H. Jordan, J. W. Calhoun and E. M. Stone, April 17, 1958.

Horizon and Lincoln Lab. No.	
A11 7907	0 to 3½ inches. Black (10YR 2/1) fine sandy loam; weak fine granular structure; very friable when moist, nonsticky when wet; boundary clear and wavy.
A12 7908	3½ to 7 inches. Dark grayish brown (10YR 4/2) to brown (10YR 5/3) loamy fine sand; structureless; loose when moist, nonsticky when wet; boundary clear and smooth.
A2 7909	7 to 11 inches. Light yellowish brown (10YR 6/4) fine sandy loam; weak fine granular structure; very friable when moist, slightly sticky when wet; boundary gradual and irregular.
B21t 7910	11 to 18 inches. Yellowish brown (10YR 5/4 to 5/6) fine sandy clay loam with a few small brown iron concretions that are hard in the center; moderate medium subangular blocky structure; friable when moist and sticky when wet; boundary clear and smooth.
IIB22tg 7911	18 to 24 inches. Grayish brown (10YR 5/2) fine sandy clay with many medium distinct mottlings of dark brown (7.5YR 4/4); a few soft iron concretions that are dark brown (7.5YR 3/2) inside upon breaking; strong medium subangular blocky structure; firm when moist, very sticky when wet; boundary gradual and irregular.
IIB23tg 7912	24 to 34 inches. Gray (10YR 5/1) clay prominently mottled with many coarse mottles of red (2.5YR 4/6) and brownish yellow (10YR 6/8); small columnar structure breaking down to strong medium angular blocky structure; firm when moist, slightly sticky when wet; boundary clear and wavy.
IIB3g 7913	34 to 48 inches plus. Grayish brown (2.5Y 5/2) loamy fine sand prominently mottled with brown (10YR 5/3) and red (2.5YR 4/8) with gray sandy clay loam balls; moderate medium subangular blocky structure; very friable when moist, slightly sticky when wet.

Remarks: Color of soil moist unless otherwise stated.

SCS-421
10-64 (Rev. 9-66)

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Eustis loamy sand SOIL Nos. S62GA-111-14 LOCATION Peach County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62237-62245

Depth (In)	Horizon	1B1b Size class and particle diameter (mm) 3A1 — Total: Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)	3B2 Cm	Coarse fragments 3B1: 2A2 > 2 < 76 Pct.	2 – 19 Pct. of < 76mm	19 – 76 Pct. of < 76mm
		Pct of < 2 mm															
0–8	Ap	90.9	6.2	2.9	1.4	11.9	13.7	37.9	26.0	3.0	3.2	50.1	64.9		tr.		
8–16	A3	86.6	6.8	6.6	1.4	11.8	12.8	36.1	24.5	2.4	4.4	47.0	62.1		tr		
16–27	B11	81.2	6.4	12.4	1.1	11.6	12.4	33.3	22.8	2.5	3.9	43.7	58.5		tr.		
27–34	B12	83.9	6.8	9.3	1.4	10.9	12.3	35.0	24.3	2.9	3.9	46.7	59.6		tr.		
34–43	B13	83.5	5.9	10.6	1.5	10.0	11.5	36.0	24.5	2.7	3.2	47.5	59.0		tr.		
43–49	B21t	79.1	4.2	16.7	1.5	11.8	12.9	32.5	20.4	2.0	2.2	40.0	58.7		tr.		
49–56	B22t	80.0	3.2	16.8	1.3	10.4	12.0	34.3	22.0	1.9	1.3	41.9	58.0		tr.		
56–66	B31	85.0	1.8	13.2	1.3	12.3	14.8	35.5	21.1	0.2	1.6	39.9	63.9		tr.		
66–76	B32	82.9	2.9	14.2	1.2	12.2	14.0	34.0	21.5	1.9	1.0	42.4	61.4		tr.		

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density: 1/10 bar	4A1e ⅓ bar	4A1h Oven dry	4D1 COLE	Water content: 4B1c 1/10 bar	4B1c ⅓ bar	4B2 15 bar		4C1 WRD	pH: 8C1c (1:1) KCl	8C1a (1:1) H_2O
	Pct.	Pct			Pct.	Pct.	g/cc	g/cc	g/cc		Pct.	Pct.	Pct.		in/in		
0–8	0.39	0.021	18			0.2	1.58		1.58		6.4		1.2			4.3	4.9
8–16	0.11					0.5	1.68		1.68		7.4		2.2			4.2	4.8
16–27	0.04					0.9	1.52		1.56		9.2		4.1			4.6	5.4
27–34	0.04					0.7	1.58		1.63		7.4		3.2			4.7	5.7
34–43	0.04					0.8	1.59		1.61		8.0		3.5			4.7	5.7
43–49	0.04					1.4	1.56		1.58		14.5		5.5			4.0	4.8
49–56	0.04					1.3	1.56				11.4		5.4			4.8	5.5
56–66	0.04					1.2	1.58				9.0		4.2			4.8	5.6
66–76	0.02					1.2	1.70				9.9		4.8			4.8	5.6

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al			Ratios to clay 8D1: CEC Sum	Ext Iron	15-bar water	8D3 Ca/Mg	7C2 Total Mn	Base saturation: 5C3 Sum cations	5C1 NH_4OAc
	meq/100 g															Pct.	Pct	Pct.
0–8	0.6	0.2	tr.	0.1	0.9	1.9	2.8		0.3			0.96	0.07	0.41		0.02	32	
8–16	0.9	0.2	tr.	0.1	1.2	1.7	2.9		0.4			0.44	0.08	0.33			41	
16–27	0.8	0.2	tr.	0.1	1.1	1.9	3.0		0.2			0.24	0.07	0.33			37	
27–34	0.8	0.3	tr.	0.1	1.2	1.3	2.5		0.1			0.27	0.08	0.34			48	
34–43	1.0	0.2	tr.	0.1	1.3	1.0	2.3		0.1			0.22	0.08	0.33			57	
43–49	1.5	0.3	tr.	0.1	1.9	1.7	3.6		0.1			0.22	0.08	0.33			53	
49–56	1.4	0.4	tr.	0.1	1.9	1.7	3.6		tr.			0.21	0.08	0.32			53	
56–66	0.9	0.3	tr.	tr.	1.2	1.3	2.5		tr.			0.19	0.09	0.32			48	
66–76	1.3	0.3	tr.	tr.	1.6	1.5	3.1		tr.			0.22	0.08	0.34			52	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int. – Vm.[a]	Qtz.	Kl	Gibbsite
	7A2 X-ray						DTA 7A3	
0–8	-	-		-	xxx		35	2
8–16	-	-		-	xxx		30	2
16–27	-	-		-	xx		38	4
27–34								
34–43	-	-		-	xx		38	3
43–49								
49–56	-	-		-	xx		40	2
56–66								
66–76	-	-		-	xx		36	1

[a] Intergrade vermiculite – a 14Å mineral that does not collapse completely upon K saturation and heating.

Mt. = Montmorillonite, Chl = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA-SCS HYATTSVILLE MD 1968

Soil Type: Eustis loamy sand
Soil No.: S62Ga-111-14
Location: Peach County, Georgia. Approximately 7 miles east of Fort Valley on Georgia Highway No. 96. Turn south on dirt road 1/4 mile west of Housers Mill pont. Site located 1 and 1/4 miles down dirt road in field approximately 300 yards south of road. Aerial photo No. LD-1P-163.
Vegetation and land use: Field planted in oats.
Slope and land form: Very gently sloping area with slopes ranging from 2 to 5 percent. Gently rolling topography.
Drainage: Somewhat excessively drained with very slow runoff.
Permeability: Rapid.
Parent Material: Residuum from coarse textured sediments of the middle and upper coastal plains. (Clayton Formation-Paleocene epoch)
Sampled by and date: L. T. Alexander, F. T. Ritchie, E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, April 9, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62237	0 to 8 inches. Dark grayish brown (10YR 4/2) loamy sand with weak fine granular structure; loose; numerous fine roots; boundary abrupt, smooth.
A3 62238	8 to 16 inches. Dark brown (7.5YR 4/4) to yellowish red (5YR 4/4) loamy sand with very weak fine granular structure; loose; numerous fine roots; boundary gradual, smooth.
B11 62239	16 to 27 inches. Yellowish red (5YR 4/6) loamy sand; massive in place; loose; fine roots common; boundary gradual, smooth.
B12 62240	27 to 34 inches. Yellowish red (5YR 4/8) loamy sand; massive in place, breaks into very weak fine and medium granular structure; loose to very friable; fine roots common; boundary gradual, smooth.
B13 62241	34 to 43 inches. Red (2.5YR 4/8) loamy sand; massive in place, breaks into weak medium subangular blocky structure; very friable; fine roots common; bleaching around root channels; boundary gradual, smooth.
B21t 62242	43 to 49 inches. Red (2.5YR 4/6) sandy loam with weak medium subangular blocky structure; very friable; fine roots common; boundary clear, smooth.
B22t 62243	49 to 56 inches. Red to dark red (2.5YR 4/6 to 3/6) sandy loam; weak medium subangular blocky structure; very friable; few fine roots; boundary clear, smooth.
B31 62244	56 to 66 inches. Red to dark red (2.5YR 4/6 to 3/6) loamy sand to light sandy loam; weak subangular blocky structure; very friable; few fine roots; boundary gradual, smooth.
B32 62245	66 to 76 inches plus. Red (2.5YR 4/6) loamy sand; very weak medium subangular blocky structure; very friable; few fine roots in upper part.

Notes: A little compaction between Ap and A3 horizon. Entire profile appears to be massive in place, but under pressure breaks into designated structure. pH not determined in the field. These soils commonly are strongly acid. All colors refer to moist condition.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Faceville sandy loam SOIL Nos. 862GA-111-8 LOCATION Peach County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62260-62266

Depth (In.)	Horizon	1B1b Total 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)	Silt 0.05-0.02	Int III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)		3B2 Cm	Coarse fragments 3B1 2A2 > 2 < 76 Pct.	2-19	19-76 Pct. of < 76mm
		Size class and particle diameter (mm) 3A1 — Sand, Silt — Pct. of < 2 mm																
0-8	Ap	76.4	17.6	6.0	1.1	8.3	9.0	29.9	28.1	6.2	11.4	52.8	48.3			tr.		
8-14	B1	68.5	12.4	19.1	0.7	7.0	7.4	27.7	25.7	5.2	7.2	48.1	42.8			tr.		
14-18	B21	57.7	12.6	29.7	0.7	5.6	6.0	23.8	21.6	5.0	7.6	41.2	36.1			tr.		
18-26	B22	57.0	11.8	31.2	0.7	5.5	6.5	22.6	21.7	5.3	6.5	41.1	35.3			tr.		
26-34	B23	57.1	10.0	32.9	1.3	5.4	6.5	22.5	21.4	4.8	5.2	40.2	35.7			tr.		
34-40	B24	55.1	7.9	37.0	1.1	5.6	6.2	21.9	20.3	3.9	4.0	37.4	34.8			tr.		
40-63	B25	54.1	6.7	39.2	0.8	5.2	5.8	21.9	20.4	4.1	2.6	37.8	23.7			tr.		

Depth (In.)	6A1a Organic carbon Pct.	6B2a Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.	6C1a Ext. iron as Fe Pct.	Bulk density g/cc	4A1e ⅓ bar g/cc	4A1h Oven dry g/cc	4D1 COLE	Water content Pct.	4B1c ⅓ bar Pct.	4B2 15 bar Pct.		4C1 WRD in/in	pH	8C1c (1:1) KCl	8C1a (1:1) H_2O
0-8	0.64	0.028	23			0.4		1.56	1.56			7.0	2.6				3.8	4.8
8-14	0.20					1.0		1.65	1.68				5.6				3.9	4.9
14-18	0.12					1.7		1.64	1.70				9.7				4.1	5.2
18-26	0.08					2.0		1.64	1.69				10.2				4.5	5.6
26-34	0.10					2.4		1.68	1.72				10.8				4.5	5.6
34-40	0.08					2.7		1.70	1.76				12.0				4.2	5.7
40-63	0.04					2.8		1.74	1.78				13.0				4.0	4.8

Depth (In.)	Extractable bases 5B1a 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC 5A3a Sum cations		6G1d Ext. Al			Ratios to clay 6D1 CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg	7C2 Total Mn Pct.	Base saturation 5C3 Sum cations Pct.	5C1 NH_4OAc Pct.
	meq/100 g																	
0-8	0.4	tr.	tr.	0.1	0.5	3.8	4.3		0.8			0.72	0.07	0.43		0.04	12	
8-14	0.6	0.1	tr.	0.1	0.8	3.4	4.2		0.9			0.22	0.05	0.29			19	
14-18	2.0	0.3	tr.	0.1	2.4	3.8	6.2		0.6			0.27	0.06	0.33			39	
18-26	2.3	0.5	tr.	0.1	2.9	3.2	6.1		0.3			0.20	0.06	0.33			48	
26-34	2.1	0.6	tr.	tr.	2.7	3.2	5.9		0.2			0.18	0.07	0.33			46	
34-40	1.6	0.7	tr.	tr.	2.3	3.8	6.1		0.5			0.16	0.07	0.33			38	
40-63	0.8	0.7	tr.	tr.	1.5	4.2	5.7		0.9			0.14	0.07	0.33			26	

Depth (In.)	Clay Fraction Analysis 7A1b-d Mt.	Chl.	Vm	Mi	Int.. Vm. [a]	Qtz	Kl.	Gibbsite	
			7A2 X-ray				DTA 7A3		
0-8	-	-		-	xxx		30	1	
8-14									
14-18	-	-		-	xx		30	1	
18-26									
26-34	-	-		-	xx		40	tr.	
34-40									
40-63	-	-		-	xx		37	tr.	

[a] Intergrade vermiculite - a 14Å mineral that does not collapse completely upon K saturation and heating.

Mt. = Montmorillonite, Chl. = chlorite, Vm = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA-SCS HYATTSVILLE MD. 1969

Soil Type: Faceville sandy loam
Soil No.: S62Ga-111-8
Location: Peach County, Georgia. Georgia Highway No. 96, 1 mile east of Fort Valley city limits. Turn right on paved road at Horticulture Station. Approximately 2 and 1/4 miles down this road. Site located on east side of road. Aerial photo No. LB-1P-97.
Vegetation and land use: Fallow at the present, to be planted to either corn or peanuts.
Slope and land form: Level area with slopes less than 2 percent.
Drainage: Well drained with very little runoff.
Permeability: Moderate.
Parent Material: Residuum from beds of unconsolidated heavy sandy clays and clays of the coastal plain, locally influenced by impure limestone. (Clayton Formation - Paleocene epoch)
Sampled by and date: E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, April 4, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62260	0 to 8 inches. Dark grayish brown (10YR 4/2) to very dark grayish brown (10YR 3/2) sandy loam to fine sandy loam; weak fine granular structure; very friable; roots abundant; boundary abrupt, smooth.
A3 62261	8 to 14 inches. Yellowish red (5YR 4/6) mixed with red (2.5YR 4/6) sandy clay loam, that has pockets of sandy loam; very weak medium subangular blocky structure; very friable; contains many fine roots and pores; boundary clear, smooth.
B11t 62262	14 to 18 inches. Red (2.5YR 4/8) sandy clay with weak medium subangular blocky structure; friable; roots and pores common; boundary clear, smooth.
B12t 62263	18 to 26 inches. Dark red (2.5YR 3/6) to red (2.5YR 4/6) sandy clay with weak medium subangular blocky structure; friable; fine roots and pores common; (this is an arbitrary horizon for sampling purposes. Very similar to layers above and below).
B13t 62264	26 to 34 inches. Dark red (2.5YR 3/6) sandy clay; weak medium subangular blocky structure; friable when moist, hard when dry; fine roots common; pores and root channels common; boundary diffuse, smooth.
B21t 62265	34 to 40 inches. Dark red (2.5YR 3/6) sandy clay with weak medium subangular blocky structure; friable to firm when moist, hard when dry; fine roots common; boundary gradual, smooth.
B22t 62266	40 to 63 inches plus. Dark red (2.5YR 3/6) sandy clay; massive in places; breaks into weak medium subangular blocky structure; firm when moist, hard when dry; slightly brittle; few fine roots; few patchy clay films.

Notes: Profile seems to become slightly firmer with depth. pH not determined in the field. These soils are usually strong to very strongly acid. The entire profile seems to be massive in place, but breaks down under pressure to designated structure. Few patchy clay films on ped faces noted in lower horizon. All soil colors refer to moist condition (Munsell color notations). B22 horizon was arbitrary for sampling purposes.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Faceville sandy loam SOIL Nos. S62Ga-111-10 LOCATION Peach County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62267-62273

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 < 76 Pct.	2 – 19	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-9	Ap	77.3	16.4	6.3	1.4	6.2	6.4	29.4	33.9	8.8	7.6	62.7	43.4			tr.		
9-15	B21	51.5	13.8	34.7	0.9	3.8	3.9	20.0	22.9	5.0	7.8	42.3	28.6			tr.		
15-26	B22	51.0	13.6	35.4	0.7	4.2	4.1	19.1	22.9	6.4	7.2	42.2	28.1			tr.		
26-41	B23	51.3	12.1	36.6	0.6	4.0	4.2	19.7	22.8	5.9	6.2	42.0	28.5			tr.		
41-50	B24	46.8	10.7	42.5	0.6	3.7	3.9	18.0	20.6	3.1	7.6	35.7	26.2			tr.		
50-58	B25	45.1	7.9	47.0	0.6	3.5	3.7	17.7	19.6	4.0	3.9	35.4	25.5			tr.		
58-84	B26	44.1	6.4	49.5	0.8	3.7	3.5	17.6	18.5	3.7	2.7	33.9	25.6			tr.		

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density g/cc	4A1e ⅓ bar g/cc	4A1h Oven dry g/cc	4D1 COLE	Water content Pct.	4B1c ⅓ bar Pct.	4B2 15 bar Pct.		4C1 WRD in/in	pH 8C1c (1:1) KCl	8C1a (1:1) H_2O
	Pct.	Pct.			Pct	Pct.											
0-9	0.81	0.030	27			0.8		1.66	1.67			7.4	3.3			4.1	4.9
9-15	0.18					2.1		1.66	1.72			15.3	11.3			4.5	5.4
15-26	0.10					2.4		1.60	1.64			17.9	11.6			5.0	5.8
26-41	0.08					2.7		1.66	1.70			17.7	12.1			4.8	5.5
41-50	0.06					3.7		1.70	1.74			18.9	14.9			4.0	5.2
50-58	0.02					4.0		1.70	1.74			19.8	16.3			3.9	5.2
58-84	0.02					4.2							16.9			3.9	5.4

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC 5A3a Sum cations		6G1d Ext Al			Ratios to clay 8D1: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg	7C2 Total Mn Pct.	Base saturation: 5C3 Sum cations Pct.	5C1 NH_4OAc Pct.
	meq/100 g																	
0-9	1.1	0.3	tr.	0.2	1.6	3.8	5.4		0.5			0.86	0.13	0.52		0.02	30	
9-15	2.4	0.6	tr.	0.1	3.1	4.2	7.3		0.3			0.21	0.06	0.32			42	
15-26	2.5	0.6	tr.	0.1	3.2	3.6	6.8		0.2			0.19	0.07	0.33			47	
26-41	1.7	1.0	tr.	0.1	2.8	3.6	6.4		0.1			0.17	0.07	0.33			44	
41-50	0.4	0.4	0.1	0.1	1.0	5.5	6.5		1.2			0.15	0.09	0.35			15	
50-58	0.2	0.7	0.1	0.1	1.1	5.7	6.8		1.6			0.14	0.08	0.35			16	
58-84	0.1	0.6	0.1	tr.	0.8	5.9	6.7		1.8			0.14	0.08	0.34			12	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int.	Qtz.	Kl.	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA-SCS-HYATTSVILLE MD. 1966

Soil Type: Faceville sandy loam
Soil No.: S62Ga-111-10
Location: Peach County, Georgia. Approximately 1 and 1/4 miles north of airport farm. In cultivated field approximately 3/4 mile north of paved county road. Site 1/4 mile east of field road. Aerial photo No. LB-1P-163.
Vegetation and land use: Fallow, to be planted in cultivated crops.
Slope and land form: Level area with slopes less than 2 percent.
Drainage: Well drained throughout profile. Very little surface runoff.
Permeability: Moderate
Parent Material: Residuum from thick beds of unconsolidated sandy clays and clays of coastal plain origin. Locally influenced by limestone. (Clayton Formation - Paleocene epoch).
Sampled by and date: E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan, and T. A. Rigdon, April 4, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62267	0 to 9 inches. Brown to dark brown (10YR 4/3) sandy loam to fine sandy loam with weak fine granular structure; very friable; roots abundant; many fine root channels and pores; boundary abrupt, smooth.
B1t 62268	9 to 15 inches. Red (2.5YR 4/6) sandy clay with weak medium subangular blocky structure; friable; some mixing of Ap horizon; roots, channels and pores common; boundary gradual, smooth.
B21t 62269	15 to 26 inches. Dark red (2.5YR 3/6) to red (2.5YR 4/6) sandy clay; friable to firm; weak medium subangular blocky structure; intrusion of organic matter in root channels and pores; many fine roots and root channels; boundary diffuse, smooth.
B22t 62270	26 to 41 inches. Dark red (2.5YR 3/6) to red (2.5YR 4/8) sandy clay with weak medium subangular blocky structure; friable when moist, hard when dry; fine roots, channels, and pores common; boundary clear, smooth.
B23t 62271	41 to 50 inches. Dark red (2.5YR 3/6) sandy clay with common, medium and distinct mottles of yellowish brown (10YR 5/8) and pale brown (10YR 6/3); weak medium subangular blocky structure; firm, few patchy clay films on ped faces; few fine roots; boundary clear, smooth.
B24t 62272	50 to 58 inches. Dark red (10R 3/6) sandy clay; massive in place, under pressure breaks into weak medium subangular blocky structure; friable when moist, hard when dry; few patchy clay films.
B25t 62273	58 to 84 inches. Arbitrary horizon for sampling, very similar to B24t above.

Notes: All soil colors refer to moist condition (Munsell color notation used). pH not determined in the field. These soils are usually strong to very strongly acid.

SOIL SURVEY LABORATORY Lincoln, Nebr. December 1958

SOIL TYPE Fairhope fine sandy loam **LOCATION** McIntosh County, Georgia

SOIL NOS. 858Ga-98-4 **LAB. NOS.** 7893-7898

DEPTH INCHES	HORIZON	1B1a PARTICLE-SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	3A1 0.2-0.02	0.02-0.002	2A2 > 2	TEXTURAL CLASS
0-6	Ap	0.6	1.7	1.9	37.4	36.5	17.7	4.2	76.8	9.6	Tr.	lfs
6-12	A2	1.1	1.4	1.8	41.1	26.5	23.9	4.2	72.1	14.4	Tr.	fsl
12-19	Bse	0.3	0.8	1.1	17.0	18.3	13.3	49.2	37.6	8.1	Tr.	c
19-28	Bsc.	0.2a	1.1a	1.5a	13.6a	16.2a	11.9	55.5	31.1	7.7	Tr.	c
28-41		0.1a	0.2a	0.4a	26.4a	17.6a	11.3	44.0	46.2	7.0	-	c
41-51	IIIC	<0.1	<0.1	0.1	35.7	42.2	2.5	19.5	77.8	1.8	-	vfsl

DEPTH INCHES	pH 8C1a 1:1	pH 1:5	pH 1:10	ORGANIC MATTER 6A1a ORGANIC CARBON %	6B1a NITROGEN %	C/N	Free Iron Fe_2O_3% 6C1a	$CaCO_3$ equivalent %	MOISTURE TENSIONS 4B1a 1/10 ATMOS. %	4B1a 1/3 ATMOS. %	4B2 15 ATMOS. %
0-6	5.4			0.75	0.043	17	0.4		17.7	8.9	2.8
6-12	5.7			0.24	0.018	13	0.3		16.5	9.6	2.1
12-19	4.9			0.34	0.035	10	3.6				17.3
19-28	4.7			0.17	0.025		4.3				20.0
28-41	4.6			0.04			2.1				14.9
41-51	4.7			0.04			1.0				7.4

DEPTH INCHES	5A1a CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 6N2b Ca	6G2b Mg	6H1a H	6P2a Na	6Q2a K	5B1a BASE SAT. % NH_4Ac EXCH. 5C1	5C3 Base Sat. % on Sum Cations	5B1a Sum Bases	5A3a Sum Cations	Ca/Mg 8D3	Bulk Density
		milliequivalents per 100g. soil							me/100g			
0-6	3.9	0.7	<0.1	4.1	<0.1	0.1	20	16	0.8	4.9		
6-12	1.9	0.5	0.3	2.7	<0.1	<0.1	42	23	0.8	3.5		
12-19	15.1	1.9	2.8	13.9	0.1	0.1	32	26	4.9	18.8	0.7	
19-28	17.9	0.6	3.0	19.6	0.1	0.2	22	16	3.9	23.5		
28-41	17.6	0.1	2.8	19.6	0.1	0.1	18	14	3.1	22.7		
41-51	7.8	<0.1	1.2	9.6	0.1	0.1	18	13	1.4	11.0		

a. Common smooth light brown and red coner. (Fe?)

Soil Type: Fairhope fine sandy loam
Soil Nos.: S58Ga-98-4
Location: Six miles north of Darien, Georgia, and one mile west of U. S. Highway No. 17 on north side of graded road--200 feet in woods. See Photograph DSE-3L-64, dated January 26, 1953, for site location. Capability Unit IIe-3. McIntosh County, Georgia.
Vegetation: Slash pine (pinus caribaea var. elliottii), sweet gum (liquidambar styraciflua), gallberry (ilex glabra).
Topography: Level to nearly level (0 to 2 percent slope) moderately well-drained area within the Pamlico marine terrace or shore line. Slightly higher elevation, between 20 and 30 feet, than the surrounding areas of Bladen and Bayboro.
Collected and Described by: L. T. Alexander, K. W. Flach, R. H. Jordan, D. G. Aydelott, and E. M. Stone, April 16, 1958.

Horizon and Lincoln Lab. No.	
Ap 7893	0 to 6 inches. Very dark gray to very dark grayish brown (2.5Y 3/1) loamy fine sand with weak fine granular structure; nonsticky; boundary abrupt and smooth.
A2 7894	6 to 12 inches. Grayish brown (2.5Y 5/2) to light brownish-gray (2.5Y 6/2) loamy fine sand with tongues of Ap material in the upper 2 inches; weak fine subangular structure; nonsticky to very sticky; boundary abrupt and wavy.
IIB2lt 7895	12 to 19 inches. Reddish brown (2.5YR 4/4) clay with few medium faint mottlings of grayish brown (2.5Y 5/2) in the upper 2 inches of the horizon; medium peds break and inside colors are weak red (10R 4/4) centers with many medium prominent mottlings or borders of reddish brown (2.5YR 4/4) and grayish brown (2.5Y 5/2); moderate medium angular blocky structure in the upper 2 inches with common fine pinholes and grading to moderate fine granular structure in the lower part of the horizon; sticky and very plastic; boundary gradual.
IIB22tg 7896	19 to 28 inches. Gray (5Y 5/1) clay with many large prominent mottlings of weak red (10R 4/4), frequency decreasing from top to bottom; moderate fine and medium angular blocky structure; sticky and very plastic; boundary gradual.
IIB23tg 7897	28 to 41 inches. Gray (5Y 5/1 to 5/0) clay with many fine prominent mottlings of dark red (10R 3/6); weak medium to coarse angular blocky structure; firm; sticky and very plastic; boundary gradual.
IIIC 7898	41 to 51 inches. Dark red (2.5YR 3/6) loamy fine sand variegated with gray (5Y 6/1); structureless; firm when moist, nonsticky when wet.

Remarks: Water had to be pumped out of pit before sampling. Color of soil wet unless otherwise stated.

SOIL SURVEY LABORATORY Lincoln, Nebr. December 1958

SOIL TYPE Fairhope fine sandy loam **LOCATION** McIntosh County, Georgia

SOIL NOS. S58Ga-98-5 **LAB. NOS.** 7899-7906

DEPTH INCHES	HORIZON	3Bla PARTICLE-SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	0.2-0.02	0.02-0.002	3A1 2A2 > 2	TEXTURAL CLASS
0-5	A1	0.3	2.3	2.7	36.5	22.4	27.8	7.5	65.2	15.5	Tr.	fsl
5-9	A2	0.8	1.8	2.2	27.0	29.2	31.0	8.0	63.5	18.6	Tr.	vfsl
9-16	IIB21t	0.3	1.2	1.4	20.6	15.0	22.1	39.4	41.0	13.7	Tr.	cl
16-24	IIB22t	0.2	0.9	1.0	14.8	13.3	19.4	50.4	33.4	12.0	-	c
24-32	See	0.1	0.4	0.5	11.2	13.6	16.7	57.5	29.7	10.4	-	c
32-47	Desc.	0.2	0.8	0.7	9.7	20.0	15.0	53.6	34.7	9.0	-	c
47-60		0.9a	4.1a	3.9a	19.3a	9.9b	14.1	47.8	30.4	7.8	-	c
60-69		0.8a	3.6a	3.8a	22.3a	8.3b	13.1	48.1	29.7	8.4	-	c

8Cla pH 1:1	pH 1:5	pH 1:10	ORGANIC MATTER 6Ala ORGANIC CARBON %	6Bla NITROGEN %	C/N	Free Iron Fe_2O_3% 6Cla		$CaCO_3$ equivalent %		MOISTURE TENSIONS 1/10 ATMOS. %	1/3 ATMOS. %	4B2 15 ATMOS. %
5.9			4.70	0.142	33	0.7						5.6
5.7			0.42	0.029	14	0.3						3.3
4.9			0.25	0.033	8	2.8						14.8
4.8			0.21	0.040		3.5						18.5
4.7			0.18			4.3						20.0
4.6			0.13			2.5						18.6
4.5			0.08			2.9						17.2
4.4			0.07			0.6						16.3

5Ala CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 6N2b Ca	6O2b Mg	6Hla H	6P2a Na	6Q2a K	5Bla BASE SAT. % NH_4Ac EXCH. 5Cl	5C3 Base Sat. % on Sum Cations	5Bla Sum Bases	5A3a Sum Cations	Ca/Mg 8D3	Bulk Density
← milliequivalents per 100g. soil →								← me/100g. →			
10.0	4.3	1.1	9.1	<0.1	0.1	55	38	5.5	14.6	3.9	
2.6	0.6	0.2	3.6	<0.1	<0.1	31	18	0.8	4.4		
12.3	0.8	1.9	13.4	0.1	0.1	24	18	2.9	16.3		
16.2	0.1	2.0	18.6	0.1	0.1	14	11	2.3	20.9		
19.3	<0.1	1.8	22.0	0.1	0.1	10	8	2.0	24.0		
20.6	0.1	2.0	25.9	0.2	0.2	12	9	2.5	28.4		
20.6	<0.1	1.8	28.3	0.2	0.2	11	7	2.2	30.5		
19.7	<0.1	1.7	25.9	0.2	0.2	11	8	2.1	28.0		

a. Common irregular light brown concr. (Fe?)
b. Few irregular light brown concr. (Fe?)

Soil Type: Fairhope fine sandy loam
Soil Nos.: 958Ga-98-5
Location: One mile east of crossroads of U. S. Highway No. 17 and Georgia Highway 99 (at Eulonia, Georgia) in cut-over wooded area on Mr. Livingston Townsend's farm, on north side of Georgia Highway 99 approximately 300 feet east of drainage ditch. See Photograph DSE-2L-172, dated January 25, 1953, for site location, Capability Unit IIe-3. McIntosh County, Georgia.
Vegetation: Cut-over wooded area of slash pine (pinus caribaea var. elliottii), sweet gum (liquidambar styraciflua), red oak (quercus borealis), and post oak (quercus stellata); gallberry (illex glabra).
Topography: Nearly level to very gently sloping (0 to 5 percent) moderately well-drained areas within the Pamlico marine terrace or "Bladen belt." It is more sloping than the Bladen soils and between 20 and 30 feet in elevation.
Collected and Described by: L. T. Alexander, K. W. Flach, R. H. Jordan, D. G. Aydelott, and E. M. Stone, April 16, 1958.

Horizon and Lincoln Lab. No.	
A1 7899	0 to 5 inches. Black (N 2/0) fine sandy loam; weak to moderate fine granular structure; loose when moist, nonsticky when wet; boundary gradual and irregular.
A2 7900	5 to 9 inches. Grayish brown to light olive brown (2.5Y 5/3) fine sandy loam to loamy fine sand; worm-holes filled with A1 material in upper 3 inches; weak fine subangular blocky structure; very friable when moist, nonsticky when wet; boundary clear and smooth.
IIB21t 7901	9 to 16 inches. Dark brown (7.5YR 4/4) clay to sandy clay with few fine prominent mottles of grayish brown (2.5Y 5/2); moderate medium subangular blocky to angular blocky; friable when moist, sticky and plastic when wet; boundary gradual and smooth.
IIB22t 7902	16 to 24 inches. Dark yellowish brown (10YR 4/4) clay with many coarse prominent mottlings of olive gray (5Y 5/2); moderate fine to medium angular blocky structure; slightly firm when moist, sticky and very plastic when wet; boundary gradual and smooth.
IIB23tg 7903	24 to 32 inches. Grayish brown (2.5Y 5/2) clay with many coarse prominent mottlings of dark red (2.5YR 3/6); weak to moderate medium angular blocky to subangular blocky structure breaking down to weak angular blocky; sticky and very plastic; boundary gradual and smooth. Mottlings range from 80 percent to 30 percent downward within this horizon.
IIB24tg 7904	32 to 47 inches. Gray (5Y 5/1) clay with many coarse prominent mottlings of yellowish red (5YR 3/6); weak to moderate fine and medium angular blocky structure; sticky and very plastic; boundary gradual and smooth.
IIB25tg 7905	47 to 60 inches. Gray (5Y 6/1) clay with many coarse prominent mottlings of strong brown (7.5YR 5/6) and dark reddish brown (5YR 3/2); weak to moderate fine blocky structure; friable to slightly firm when moist, sticky to very plastic when wet; boundary gradual and smooth.
IIB26tg 7906	60 to 69 inches. Gray (5Y 6/1) clay with many coarse prominent mottlings of strong brown (7.5YR 5/6) and dark reddish brown (5YR 3/2); weak to moderate fine blocky structure; friable to slighty firm when moist, sticky to very plastic when wet; boundary gradual and smooth.

Remarks: Color of soil moist unless otherwise stated.

SOIL SURVEY LABORATORY Lincoln, Nebr. December 1958

SOIL TYPE Galestown fine sand **LOCATION** McIntosh County, Georgia

SOIL NOS. 858Ga-98-1 **LAB. NOS.** 7875-7879

DEPTH INCHES	HORIZON	PARTICLE-SIZE DISTRIBUTION (in mm.) (per cent) 1Bla: VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	3A1: 0.2-0.02	0.02-0.002	2A2: > 2	TEXTURAL CLASS
0-7	Ap	0.1a	0.6a	4.7	83.2	5.4	2.5	3.5	57.8	1.9	-	fs
7-12	C1	<0.1	0.2	4.1	83.2	5.9	2.7	3.9	59.9	1.8	-	fs
12-29	C2	<0.1	0.2	4.7	82.0	6.3	2.9	3.9	60.3	2.1	Tr.	fs
29-44	C3	<0.1	0.3	4.7	78.6	9.6	3.0	3.8	59.8	2.1	Tr.	fs
44-51+	C4	<0.1	0.3	5.0	80.4	9.2	1.8	3.3	58.5	1.1	-	fs

DEPTH INCHES	HORIZON	pH 8C1a 1:1	pH 1:5	pH 1:10	ORGANIC MATTER 6A1a ORGANIC CARBON %	6B1a NITROGEN %	C/N	Free Iron Fe_2O_3% 6C1a	MOISTURE TENSIONS b/ 4B1d 1/10 Atmos. %	4B1d 1/3 Atmos %	4B2 15 Atmos. %	MOISTURE TENSIONS 4B1a 1/10 ATMOS. %	4B1a 1/3 ATMOS. %	4B2 15 ATMOS. %
0-7	Ap	5.4			1.29	0.060	22	0.3	16.9	5.3	3.9	8.5	6.0	2.3
7-12	C1	5.6			0.28	0.019	15	0.4	13.3	2.9	1.9	4.8	3.6	2.0
12-29	C2	5.6			0.14	0.011		0.3	14.5	3.5	2.3	4.9	3.8	2.0
29-44	C3	5.4			0.10			0.4	11.2	3.6	2.5	6.2	4.2	1.9
44-51+	C4	5.2			0.04			0.3	11.9	3.2	2.0	5.0	3.2	1.3

DEPTH INCHES	HORIZON	5A1a CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 6N2b Ca	6Q2b Mg	6H1a H	6P2a Na	6Q2a K	BASE SAT. % NH_4Ac EXCH. 5C1	5C3 Base Sat. % on Sum Cations	5B1a Sum Bases	5A3a Sum Cations	Ca/Mg	Bulk Density g/ 4A3a
		← milliequivalents per 100g. soil →								← me/100g. →			
0-7	Ap	4.4	0.1	0.1	5.0	<0.1	<0.1	4	4	0.2	5.2		1.32
7-12	C1	1.6	0.3	0.1	2.7	<0.1	<0.1	25	13	0.4	3.1		1.39
12-29	C2	1.4	0.3	<0.1	2.3	<0.1	<0.1	21	12	0.3	2.6		1.36
29-44	C3	1.3	0.1	0.1	2.7	<0.1	<0.1	15	7	0.2	2.9		1.42
44-51+	C4	0.9	<0.1	0.1	2.7	<0.1	<0.1	11	4	0.1	2.8		1.38

a. Partly organic matter.

b. 1/10 and 1/3 bar determined on 1 by 2 inch soil cores. 15 bar determined on 1 centimeter by 2 inch soil cores. Each value is the mean of duplicate determinations. These determinations were made by the Beltsville Laboratory.

c. Determinations made by Beltsville Laboratory.

Soil Type: Galestown fine sand
Soil Nos.: S58Ga-98-1
Location: Sparsely wooded area (old field 50 years ago) one mile east of U. S. Highway No. 17 on south side of graded road to Meridian, southwest of large borrow pit in pine thicket. See Photograph DSR-2L-176, dated January 25, 1953, for site location. McIntosh County, Georgia.
Vegetation: Slash pine (pinus caribaea var. elliottii), a few small live oak (quercus virginiana), post oak (quercus stellata), laurel oak (quercus laurifolia), and wax myrtle (myrica ceroferia).
Topography: Level to nearly level, broad sand ridge that runs parallel to the seacoast and ranges from 30 to 40 feet in elevation. This area lies approximately 3 miles inland from the present marshland and is thought to be part of an old beach between the Pamlico marine terrace or shore line - 25 to 40 feet in elevation (and from 6,000 to 9,000 years old) and the Silver Bluff marine terrace or shore line - 8 to 10 feet in elevation (and from 4,000 to 6,000 years old). Capability Unit IIIs-2.
Collected and Described by: L. T. Alexander, K. W. Flach, R. H. Jordan, D. G. Aydelott, D. D. Bacon, and E. M. Stone, April 14, 1958.

Horizon and Lincoln Lab. No.	
Ap 7875	0 to 7 inches. Very dark gray (10YR 3/1) fine sand; weak fine granular structure; loose; some plant roots were observed in this layer; strongly acid; boundary clear and irregular.
C1 7876	7 to 12 inches. Yellowish brown (10YR 5/4 to 5/6) fine sand with common to distinct mottled or mixed in Ap material; very weak granular structure; loose; nonsticky when wet; strongly acid; boundary gradual and smooth.
C2 7877	12 to 29 inches. Yellowish brown (10YR 5/4 to 5/6) fine sand; structureless; loose; nonsticky; very strongly acid; boundary gradual and smooth.
C3 7878	29 to 44 inches. Yellowish brown (10YR 5/6) fine sand with common medium faint mottlings of strong brown (7.5YR 5/6) that range to many coarse prominent mottlings of the same color; structureless; loose; nonsticky; very strongly acid; boundary gradual and smooth.
C4 7879	44 to 51 inches plus. Yellowish brown (10YR 5/4) fine sand with many coarse faint mottlings of pale brown (10YR 6/3) and common medium prominent mottlings of yellowish red (5YR 5/8); structureless; loose; nonsticky; very strongly acid. Water seeping into hole at 48 inches.

Remarks: Color of soil moist unless otherwise stated.

SOIL SURVEY LABORATORY Lincoln, Nebr. December 1958

SOIL TYPE Galestown fine sand **LOCATION** McIntosh County, Georgia

SOIL NOS. S58Ga-98-2 **LAB. NOS.** 7880, 7885, 7881-7884

DEPTH INCHES	HORIZON	1B1a PARTICLE-SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	0.2-0.02	3A1 0.02-0.002	2A2 > 2	TEXTURAL CLASS
0-2	A1	1.3a	1.8a	4.0	77.9	8.3	3.6	3.1	64.3	2.3	-	fs
(1½-2)	A2	1.8a	2.0a	3.8	79.5	7.0	3.2	2.7	62.9	2.2	-	fs
2-10	A3	<0.1	0.3	1.5	81.5	10.5	3.2	3.0	74.0	2.1	-	fs
10-27	C1	<0.1	0.1	1.3	81.6	10.7	2.5	3.8	73.0	1.4	-	fs
27-43	C2	<0.1	0.2	1.5	77.9	14.5	2.2	3.7	71.2	1.1	-	fs
43-50	C3g	<0.1	0.3	1.5	83.2	10.6	2.1	2.3	69.8	1.0	-	fs

8C1a pH 1:1	pH 1:5	pH 1:10	ORGANIC MATTER 6A1a ORGANIC CARBON %	6B1a NITROGEN %	C/N	Free Iron Fe_2O_3% 6C1a	$CaCO_3$ equivalent %		MOISTURE TENSIONS 4B1a 1/10 ATMOS. %	4B1a 1/3 ATMOS. %	4B2 15 ATMOS. %
4.8			2.81	0.168	17	0.2			11.4	8.4	4.8
4.8			2.55	0.156	16	0.2			Unable to wet		
5.5			0.54	0.023	23	0.3			7.9	5.1	2.2
5.1			0.12	0.017		0.3			5.6	3.2	1.3
5.0			0.07			0.3			5.8	2.8	1.5
5.1			0.05			0.1			5.3	2.5	1.1

5A1a CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 5B1a 6N2b Ca	6O2b Mg	6H1a H	6P2a Na	6Q2a K	BASE SAT. % NH_4Ac EXCH. 5C1	5C3 Base Sat. % on Sum Cations	5B1a Sum Bases	5A3a Sum Cations	Ca/Mg		Bulk Density
← milliequivalents per 100g. soil →								← me/100g →				
7.5	0.9	0.3	10.9	<0.1	0.1	17	11	1.3	12.2			
4.6	0.5	<0.1	5.9	<0.1	0.1	13	9	0.6	6.5			
2.0	0.1	0.2	4.1	<0.1	<0.1	15	7	0.3	4.4			
1.4	0.1	0.1	2.7	<0.1	<0.1	14	7	0.2	2.9			
1.2	<0.1	0.2	2.2	<0.1	<0.1	17	8	0.2	2.4			
0.9	<0.1	<0.1	1.8	<0.1	<0.1				1.8			

a. Partly organic matter

Soil Type: Galestown fine sand
Soil Nos.: S58Ga-98-2
Location: 0.5 mile west of Meridian, Georgia, north of graded road to U. S. Highway No. 17. Turn north at old cemetery and go 200 yards up woods road and 100 feet west of woods road. Trees blazed and pit staked. See Photograph DSE-8L-52, dated January 25, 1953, for site location. Approximately 2 miles due east of site No. 1. McIntosh County, Georgia.
Vegetation: Large live oak (quercus virginiana), hickory (carya glabra), holly (illex opaca), longleaf pine (pinus palustris), slash pine (pinus caribaea var. elliottii), wax myrtle (myrica ceroferia), and large clumps of saw palmetto (serenoa repens). The large trees hung heavy with Spanish moss.
Topography: Level to nearly level broad sand ridge that is parallel to the present seacoast and lies approximately a mile from the present marshland and is considered to be an old beach or off-shore bar and as part of the Silver Bluff marine terrace or shore line (4,000 to 6,000 years old). Capability Unit IIIs-2.
Collected and Described by: L. T. Alexander, K. W. Flach, R. H. Jordan, D. G. Aydelott, D. D. Bacon, and E. M. Stone, April 14, 1958.

Horizon and Lincoln Lab. No.	
A1 7880	0 to 2 inches (0 to 1½ inches) Dark reddish brown (5YR 2/2) fine sand; structureless; nonsticky; mass of tree roots found in this layer; boundary abrupt and smooth.
A2 7885	(1½ to 2 inches.) Gray (2.5Y 6/2 to 6/0) fine sand; structureless in places and individual white sand grains in places; loose; boundary abrupt. (Small bag samples were taken of this layer to verify slight podzolization as shown by the eluviation in the A2 horizon.)
A3 7881	2 to 10 inches. Yellowish brown (10YR 5/4) fine sand; weak granular structure; nonsticky; boundary abrupt.
C1 7882	10 to 27 inches. Yellowish brown (10YR 5/4 to 5/6) fine sand, structureless; nonsticky; boundary clear and smooth.
C2 7883	27 to 43 inches. Dark brown (10YR 4/3) to brown (10YR 5/3) fine sand with many coarse faint mottlings of dark brown (7.5YR 4/4) and few faint fine mottlings of strong brown (7.5YR 5/6); structureless; nonsticky; boundary clear and smooth.
C3g 7884	43 to 50 inches. Gray to light brownish gray (2.5Y 6/0 to 6/2) fine sand; structureless; nonsticky. Water seeped into hole at this depth.

Remarks: Color of soil wet unless otherwise stated.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Grady loam SOIL Nos. S62-GA-76-6 LOCATION Houston County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62415 - 62421

Depth (In)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 <76 Pct.	2 - 19 Pct. of < 76mm	19 - 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-6	Ap	25.3	36.2	38.5	0.5	1.4	2.4	16.0	5.0	10.4	25.8	25.1	20.3			tr.		
6-11	B1g	19.0	28.3	52.7	0.5	0.9	1.4	11.4	4.8	8.0	20.3	20.4	14.2			tr.		
11-18	B21g	21.9	27.7	50.4	0.4	0.8	1.4	13.6	5.7	8.3	19.4	23.3	16.2			tr.		
18-29	B22g	17.4	20.3	62.3	0.1	0.5	1.3	11.7	3.8	6.2	14.1	17.7	13.6			tr.		
29-39	B23g	35.9	18.4	45.7	0.3	1.6	2.8	24.5	6.7	5.4	13.0	29.5	29.2			tr.		
39-45	B3g	37.3	12.3	50.4	0.4	1.6	3.1	24.9	7.3	5.1	7.2	30.1	30.0			tr.		
45-50	Dg	57.9	10.4	31.7	0.4	2.7	4.4	39.1	11.3	5.1	5.3	41.3	46.6			tr.		

Depth (In.)	6A1a Organic carbon Pct.	6B2a Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.	6C1a Ext. Iron as Fe Pct.	Bulk density: 4A1e ⅓ bar g/cc	Bulk density: 4A1h Oven dry g/cc	4D1 COLE	Water content: Pct	Water content: 4B1c ⅓ bar Pct.	Water content: 4B2 15 bar Pct.		4C1 WRD in/in		pH: 8C1c (1:1) KCl	pH: 8C1a (1:1) H_2O
0-6	4.28	0.339	13			0.1	1.09	1.16			30.3	15.9				3.8	4.7
6-11	0.30					0.2	1.48	1.60			22.7	17.3				3.5	4.5
11-18	0.22					0.2	1.47	1.57			23.4	16.8				3.6	4.8
18-29	0.12					tr.	1.57	1.68			24.2	15.0				4.0	5.2
29-39	0.18					0.3	1.60	1.68			21.2	20.2				3.7	5.1
39-45	0.06					0.4	1.71	1.82			18.4	16.5				3.9	5.4
45-50	0.02					tr.	1.60	1.66			16.3	10.7				3.9	5.5

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations	CEC	6G1d Ext. Al		Ratios to clay 8D1: CEC Sum	Ratios to clay 8D1: Ext. iron	Ratios to clay 8D1: 15-bar water	8D3 Ca/Mg	7D2 Total Mn Pct.	Base saturation: 5C3 Sum cations Pct.	Base saturation: 5C1 NH_4OAc Pct.
	meq/100 g																
0-6	2.9	0.3	0.1	0.2	3.5	24.0	27.5		3.1		0.71	-	0.41		0.008	13	
6-11	1.1	0.2	0.1	0.1	1.5	9.7	11.2		4.0		0.21	-	0.33			13	
11-18	1.4	0.2	0.1	0.1	1.8	7.9	9.7		2.6		0.19	-	0.33			19	
18-29	2.0	0.6	0.1	tr.	2.7	4.9	7.6		0.8		0.12	-	0.24		0.004	36	
29-39	2.4	0.6	0.1	0.1	3.2	7.6	10.8		1.6		0.24	0.01	0.44			30	
39-45	2.6	0.8	0.1	tr.	3.5	5.2	8.7		0.8		0.17	0.01	0.33		0.004	40	
45-50	1.7	0.6	0.1	tr.	2.4	3.2	5.6		0.6		0.18	-	0.34			43	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int.	Qtz.	Kl.	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA-SCS HYATTSVILLE, MD. 1966

Soil Type: Grady loam
Soil No.: S62Ga-76-6
Location: Houston County, Georgia. Approximately 1/2 mile east of U. S. Highway No. 41 on Centerville road. South side of road. Aerial photo No. KK-2P-27.
Vegetation and land use: Pasture (fescue and native grasses).
Slope and land form: Level depressed area with slopes less than 1 percent.
Drainage: Poorly to very poorly drained.
Permeability: Slow to very slow.
Parent Material: Beds of unconsolidated fine textured marine sediments. In places, these sediments include slight additions of limestone residuum of Clayton formation, Eocene epoch.
Sampled by and date: J. F. Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, July 16, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62415	0 to 6 inches. Black (10YR 2/1) when moist to very dark gray (10YR 3/1) when dry; loam with weak to moderate fine granular structure; friable; slightly hard when dry; contains numerous fine and medium roots; boundary abrupt and smooth.
B21tg 62416	6 to 11 inches. Gray (5Y 6/1) clay with weak medium subangular blocky structure; firm; hard when dry, sticky when wet; intrusions of organic matter in root channels and pores; many fine roots; boundary gradual and wavy.
B22tg 62417	11 to 18 inches. Light gray (N 7/) clay with weak medium subangular blocky structure; very firm; very hard when dry, very sticky when wet; contains many fine roots; root channels and pores common; intrusions of organic matter; boundary gradual and wavy.
B23tg 62418	18 to 29 inches. Light gray (N 7/) clay with weak medium subangular blocky structure; very firm; very hard when dry, very sticky when wet; some intrusions of organic matter; many fine roots; pores and root channels common; boundary gradual and wavy.
B24tg 62419	29 to 39 inches. Light gray (N 7/) clay with weak medium subangular blocky structure; very firm; very hard when dry, very sticky when wet; fine roots, root channels and pores common; boundary gradual and wavy.
B25tg 62420	39 to 45 inches. Gray (N 6/) clay with common, medium and prominent mottles of light yellowish brown (10YR 6/4), yellowish brown (10YR 5/8) and red (2.5YR 4/8); weak medium subangular blocky structure; very firm; very hard when dry, very sticky when wet; few fine roots; boundary gradual and wavy.
B3g 62421	45 to 50 inches plus. Light gray (N 7/) sandy clay loam, which contains pockets of sandy loam and fine sand; sandy pockets are almost white; massive, breaks into weak fine subangular blocky structure; friable; hard when dry; slightly sticky when wet.

Notes: Entire profile is massive in places, but under pressure breaks into designated structure. All soil colors refer to moist conditions (Munsell Color Notation used).

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Grady loam SOIL Nos. S62GA-111-21 LOCATION Peach County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62422-62427

Depth (in.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: (0.05–0.02)	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 > 2 < 76 Pct.	Coarse fragments 3B1: 2 – 19	Coarse fragments 3B1: 19 – 76
		Pct. of < 2 mm															Pct. of < 76mm	
0–5	Ap	38.6	22.5	38.9	0.4	2.1	3.8	23.8	8.5	7.6	14.9	30.5	30.1			tr.		
5–10	B1g	32.8	19.1	48.1	0.1	1.5	2.4	19.8	9.0	7.0	12.1	29.6	23.8			tr.		
10–19	B21g	40.9	14.8	44.3	0.4	2.0	3.1	24.2	11.2	5.0	9.8	33.3	29.7			tr.		
19–38	B22g	56.5	9.4	34.1	0.4	2.3	3.9	33.8	16.1	4.7	4.7	44.6	40.4			tr.		
38–44	B3g	36.1	10.1	53.8	0.5	1.5	2.6	21.8	9.7	5.1	5.0	30.4	26.4			tr.		
44–62	Cg	37.1	10.2	52.7	0.3	1.6	2.8	22.9	9.5	5.0	5.2	30.5	27.6			tr.		

Depth (in.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density: 4A1e ⅓ bar	Bulk density: 4A1h Oven dry	4D1 COLE	Water content: 4B1c ⅓ bar	Water content: 4B2 15 bar		4C1 WRD	pH: 8C1c (1:1) KCl	pH: 8C1a (1:1) H_2O
	Pct.	Pct.			Pct	Pct.	g/cc	g/cc	g/cc	Pct.	Pct.	Pct.	in/in		
0–5	4.31	0.195	22			0.1		1.00	1.06		36.6	15.6			4.0	5.1
5–10	0.60	0.057	10			tr.		1.38	1.48		22.8	16.1			4.0	4.8
10–19	0.15					0.2		1.56	1.64		21.0	14.8			3.8	4.9
19–28	0.06					0.2		1.72	1.76		16.2	11.6			3.9	5.1
38–44	0.06					0.7						18.9			3.9	4.5
44–62	0.06					2.0						19.4			3.9	4.7

Depth (in.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations	6G1d Ext. Al	Ratios to clay 6D1: CEC Sum	Ext. Iron	15-bar water	8D3 Ca/Mg	7C2 Total Mn	Base saturation: 5C3 Sum cations Pct.	5C1 NH_4OAc Pct.
	meq/100 g												Pct.		
0–5	1.0	0.5	tr.	0.2	1.7	26.7	28.4	3.4	0.73	–	0.40		0.02	6	
5–10	0.5	0.1	0.1	0.1	0.8	11.6	12.4	4.1	0.26	–	0.33			6	
10–19	0	0.2	tr.	tr.	0.2	7.9	8.1	3.3	0.18	–	0.33			2	
19–38	tr.	0.1	tr.	tr.	0.1	5.4	5.5	2.0	0.16	–	0.34			2	
38–44	tr.	0.2	tr.	tr.	0.2	9.2	9.4	4.3	0.17	0.01	0.35			2	
44–62	tr.	0.2	tr.	tr.	0.2	9.4	9.6	4.0	0.18	0.04	0.37			2	

Depth (in.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int. Vm.[a]	Qtz	Kl.	Gibbsite
	X-ray 7A2						DTA 7A3	
0–5	–	–			xx		45	1
5–10								
10–19	–	–			xx		35	2
19–38	–	–			xx		40	1
38–44								
44–62	–	–			xxx		30	tr

[a] Interlayer vermiculite - a 14Å mineral that does not collapse completely upon K saturation and heating.

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA SCS-BELTSVILLE MD 1966

Soil Type: Grady loam
Soil No.: S62Ga-111-21
Location: Peach County, Georgia. Approximately 3/4 mile north of Tabor's peach-packing shed on U. S. Highway No. 41, turn west on dirt road. Approximately 1/2 mile out this road from U. S. Highway No. 41. Site approximately 100 yards north of road in ponded area. Aerial photo No. LB-1P-187.
Vegetation and land use: Idle at the present time. Formerly covered with stand of pines.
Slope and land form: Level depressed areas with slopes less than 1 percent.
Drainage: Poorly to very poorly drained.
Permeability: Slow to very slow.
Parent Material: Bed of unconsolidated fine textured marine sediments. In places, these sediments include slight additions of limestone residuum of Clayton Formation - Eocene epoch.
Sampled by and date: J. F. Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, July 16, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62422	0 to 5 inches. Black (N 2/) loam with weak fine granular structure; friable, slightly hard when dry; many fine and medium roots; organic matter moderate; boundary gradual and smooth.
B21tg 62423	5 to 10 inches. Gray (N 5/) clay loam with weak medium subangular blocky structure; firm; hard when dry; sticky when wet; many fine roots, root channels and pores; intrusion of organic matter on ped faces and in root channels; boundary abrupt and smooth.
B22tg 62424	10 to 19 inches. Gray (5Y 6/1) clay with weak medium subangular blocky structure; very firm; very hard when dry, very sticky when wet; slight intrusions of organic matter; many fine roots; root channels and pores common; few fine yellow mottles in root channels; boundary gradual and wavy.
IIB23tg 62425	19 to 38 inches. Gray (5Y 6/1) clay marginal to sandy clay with few, medium and prominent mottles of brownish yellow (10YR 6/8) and red (2.5YR 4/8); weak medium subangular blocky structure; very firm; very hard when dry, very sticky when wet; fine roots, root channels and pores common; boundary gradual and wavy.
IIIB24tg 62426	38 to 44 inches. Gray (5Y 6/1) clay with common, medium and prominent mottles of strong brown (7.5YR 5/8) brownish yellow (10YR 6/8) and red (2.5YR 4/8); weak medium subangular blocky structure; very firm; very hard when dry, very sticky when wet; few fine roots; pores common; boundary gradual and irregular.
IIIB25tg 62427	44 to 62 inches plus. Light gray (5Y 7/1) clay to clay loam with many medium and prominent mottles of yellowish red (5YR 5/8) and red (2.5YR 4/8); massive, under pressure breaks into weak medium subangular blocky structure; very firm; very hard when dry, very sticky when wet.

Notes: Entire profile massive in place but under pressure breaks into designated structure. All soil colors refer to moist condition (Munsell color notation used).

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Greenville sandy loam SOIL Nos. S62GA-111-7 LOCATION Peach County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62246-62252

Depth (In.)	Horizon	1B1b Total Sand (2–0 05)	Silt (0.05–0 002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Coarse (1–0 5)	Medium (0.5–0.25)	Fine (0.25–0 1)	Very fine (0.1–0 05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0 1)		3B2 Cm	Coarse fragments 3B1: 2A2 > 2 < 76 Pct.	2 – 19	19 – 76
		Pct. of < 2 mm															Pct. of < 76mm	
0-7	Ap	70.7	16.1	13.2	0.9	5.3	7.1	31.0	26.4	6.7	9.4	54.7	44.3			tr.		
7-11	B21	50.0	15.0	35.0	0.7	3.6	4.8	22.1	18.8	6.0	9.0	40.3	31.2			tr.		
11-21	B22	49.0	13.6	37.4	0.7	3.9	4.8	21.4	18.2	5.7	7.9	39.3	30.8			tr.		
21-33	B23	49.4	11.6	39.0	1.0	3.6	4.3	21.6	18.5	5.0	6.6	38.8	30.9			tr.		
33-44	B24	48.4	9.2	42.4	1.0	3.6	4.0	21.3	18.2	4.4	4.8	37.4	30.2			tr.		
44-58	B25	44.5	6.8	48.7	0.6	3.2	3.5	19.9	16.8	3.4	3.4	34.1	27.7			tr.		
58-94	B26	43.6	5.0	51.4	0.6	2.9		19.8	16.8	3.1	1.9	33.7	26.8			tr.		

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density:	4A1a ⅓ bar	4A1h Oven dry	4D1 COLE		Water content: 4B1c ⅓ bar	4B2 15 bar		4C1 WRD	pH: 8C1c (1:1) KCl	8C1a (1:1) H_2O
	Pct.	Pct.			Pct.	Pct.	g/cc	g/cc	g/cc		Pct	Pct.	Pct		in/in		
0-7	0.88	0.041	21			0.9		1.68	1.70			10.4	4.8			4.0	4.8
7-11	0.26					2.1		1.63	1.68			16.0	11.4			4.4	5.3
11-21	0.18					2.4		1.60	1.66			16.9	12.2			4.8	5.6
21-33	0.12					2.7		1.58	1.64			18.0	12.5			5.0	5.7
33-44	0.02					3.0		1.60	1.65			19.4	13.8			5.2	6.2
44-58	0.04					3.5		1.64	1.70			19.7	16.1			4.0	5.0
58-94	0.04					4.1							17.1			4.0	4.9

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al			Ratios to clay CEC Sum	Ratios to clay CEC Ext. iron	Ratios to clay CEC 15-bar water	8D3 Ca/Mg	7C2 Total Mn.	Base saturation: 5C3 Sum cations	5C1 NH_4OAc
	meq/100 g															Pct.	Pct.	Pct.
0-7	1.4	0.2	tr.	0.2	1.8	5.9	7.7		0.7			0.58	0.07	0.36		0.08	23	
7-11	2.4	0.6	tr.	0.2	3.2	5.2	8.4		0.3			0.24	0.06	0.32			38	
11-21	2.5	0.6	0.1	0.2	3.4	4.0	7.4		0.2			0.20	0.06	0.33			46	
21-33	2.5	0.5	tr.	0.1	3.1	3.8	6.9		tr.			0.18	0.07	0.32			45	
33-44	2.4	0.5	tr.	tr.	2.9	3.4	6.3		tr.			0.15	0.07	0.32			46	
44-58	1.3	0.8	0.1	tr.	2.2	5.4	7.6		0.8			0.16	0.07	0.33			29	
58-94	0.8	0.5	0.1	tr.	1.4	4.9	6.3		0.9			0.12	0.08	0.33			22	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm	Mi.	Int	Qtz.	Kl.	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA SCS HYATTSVILLE MD 1966

Soil Type: Greenville fine sandy loam
Soil No.: S62Ga-111-7
Location: Peach County, Georgia. Approximately 1/2 mile east of railroad crossing on Georgia Highway No. 96 in Fort Valley. South side of highway, across from Shiloh Church. Aerial photo No. LB-1P-57.
Vegetation and land use: Planted to young pines; formerly in cultivation.
Slope and land form: Level. Slopes less than 2 percent.
Drainage: Well drained with very little surface runoff.
Permeability: Moderate.
Parent Material: Residuum from moderately fine and fine textured coastal plain materials. Underlain in many places by siliceous limestone. (Clayton Formation - Paleocene epoch)
Sampled by and date: E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, April 4, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62246	0 to 7 inches. Dark brown (7.5YR 3/2) to dark reddish brown (5YR 3/3) fine sandy loam with weak fine granular structure; very friable; numerous fine roots; boundary abrupt, smooth.
B21t 62247	7 to 11 inches. Dark red (2.5YR 3/6) to dark reddish brown (2.5YR 3/4) sandy clay with weak medium subangular blocky structure; intrusions of surface soil; friable; fine roots common; root channels and pores common; boundary clear, smooth.
B22t 62248	11 to 21 inches. Dark red (2.5YR 3/6) sandy clay with weak to moderate medium subangular blocky structure; friable; very few iron and manganese concretions; organic matter on faces of peds; fine roots common, pores common; boundary gradual, smooth.
B23t 62249	21 to 33 inches. Arbitrary horizon for sampling. Very similar to B22t horizon. Consistency may be somewhat more friable.
B24t 62250	33 to 44 inches. Dark red (2.5YR 3/6) sandy clay with weak medium subangular blocky structure; friable; patchy clay films on face of peds; fine roots common, pores and root channels common; boundary diffuse smooth.
B25t 62251	44 to 58 inches. Arbitrary horizon for sampling. Very similar to B24t horizon. Seems a little firmer in place.
B26t 62252	58 to 94 inches. Dark red (2.5YR 3/6) sandy clay; massive, breaking down into weak fine subangular blocky structure; friable; patchy clay films on faces of peds; few fine roots.

Notes: Sample from 86 to 94 inches was taken with auger. pH not determined in the field. These soils are usually strong to very strongly acid. All colors refer to moist condition (Munsell color notation).

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Greenville sandy loam SOIL Nos. 8620A-111-9 LOCATION Peach County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62253 - 62259

Depth (In)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 > 2 <76 Pct.	2 - 19 Pct. of < 76mm	19 - 76 Pct. of < 76mm
		Pct of < 2 mm																
0-7	Ap	73.3	11.2	15.5	1.9	8.9	8.6	35.5	18.4	5.3	5.9	46.3	54.9			tr.		
7-11	B21	45.9	11.9	42.2	0.9	5.2	5.1	21.6	13.1	4.3	7.6	31.5	32.8			tr.		
11-23	B22	44.2	11.7	44.1	1.0	5.4	5.2	20.4	12.2	4.9	6.8	30.6	32.0			tr.		
23-34	B23	49.8	10.0	40.2	1.4	6.0	5.4	23.3	13.7	4.4	5.6	33.4	36.1			tr.		
34-48	B24	50.9	9.4	39.7	1.7	5.9	5.8	23.7	13.8	4.4	5.0	33.6	37.1			tr.		
48-61	B25	50.7	7.2	42.1	1.7	6.2	5.9	23.2	13.7	3.9	3.3	33.0	37.0			tr.		
61-97	B26	50.2	6.3	43.5	1.6	6.6	6.0	23.0	13.0	3.3	3.0	31.5	37.2			tr.		

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. Iron as Fe	Bulk density: 4A1e ⅓ bar	Bulk density: 4A1h Oven dry	4D1 COLE	Water content:	Water content: 4B1c ⅓ bar	Water content: 4B2 15 bar		4C1 WRD	pH:	pH: 8C1c (1:1) KCl	pH: 8C1a (1:1) H_2O
	Pct.	Pct			Pct	Pct.	g/cc	g/cc	g/cc	Pct.	Pct.	Pct.		in/in			
0-7	0.54	0.031	17			1.0		1.91	1.92		7.2	5.3				4.1	4.9
7-11	0.24					2.4		1.55	1.62		18.0	13.5				4.2	5.2
11-23	0.10					2.7		1.51	1.56		19.2	14.4				4.3	5.2
23-34	0.08					2.6		1.62	1.66		17.4	13.1				4.0	5.1
34-48	0.06					2.6		1.74	1.78		16.4	13.3				3.9	5.1
48-61	0.02					2.4		1.71	1.75		17.2	13.8				3.9	5.0
61-97	0.04					4.1						14.7				3.9	5.3

Depth (In)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations	6G1d Ext Al		Ratios to clay 8D1: CEC Sum	Ext. Iron	15-bar water	8D3 Ca/Mg	7D2 Total Mn	Base saturation: 5C3 Sum cations	5C1 NH_4OAc
	meq/100 g													Pct.	Pct.	Pct.
0-7	1.1	0.2	tr.	0.2	1.5	4.4	5.9	0.6		0.38	0.06	0.34		0.07	25	
7-11	2.2	0.6	tr.	0.1	2.9	6.0	8.9	0.6		0.21	0.06	0.32			33	
11-23	1.4	0.6	tr.	0.1	2.1	5.3	7.4	0.5		0.17	0.06	0.33			28	
23-34	0.4	0.3	tr.	tr.	0.7	4.9	5.6	0.8		0.14	0.06	0.32		0.02	12	
34-48	0.3	0.2	0.1	tr.	0.6	4.9	5.5	1.2		0.14	0.06	0.34			11	
48-61	tr.	0.1	tr.	tr.	0.1	5.1	5.2	1.4		0.12	0.06	0.33			2	
61-97	0.1	0.2	tr.	tr.	0.3	4.7	5.0	1.2		0.11	0.09	0.34		0.02	6	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm (7A2 X-ray)	Mi	Int. Vm.[a]	Qtz.	Kl. (DTA 7A3)	Gibbsite (DTA 7A3)
0-7	-	-	-	-	xx	-	42	8
7-11	-	-	-	-	xx	-	38	6
11-23								
23-34	-	-	-	-	xx	-	40	6
34-48								
48-61	-	-	-	-	xx	-	40	2
61-97								

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

a Intergrade vermiculite - a 14Å mineral that does not collapse completely upon K saturation and heating.

USDA-SCS-BELTSVILLE, MD. 1966

Soil Type: Greenville fine sandy loam
Soil No.: S62Ga-111-9
Location: Peach County, Georgia. Georgia Highway No. 96 west of Fort Valley. Turn right at first dirt road just outside of city limits, 1/4 mile up dirt road to where road makes sharp turn to left. Site located in peach orchard left side of road at turn. Aerial photo No. LB-1P-39.
Vegetation and land use: Peach orchard.
Slope and land form: Level with slopes less than 2 percent.
Drainage: Well drained with very little surface runoff.
Permeability: Moderate.
Parent Material: Residuum from moderately fine and fine textured coastal plain materials. Underlain in many places by siliceous limestone. (Clayton Formation - Paleocene epoch)
Sampled by and date: E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan and T. A. Higdon, April 4, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62253	0 to 7 inches. Dark reddish brown (5YR 3/4) fine sandy loam with weak fine granular structure; very friable; many fine roots; boundary abrupt, wavy.
B21t 62254	7 to 11 inches. Dark red (2.5YR 3/6) to dark reddish brown (2.5YR 3/4) sandy clay; weak medium subangular blocky structure; friable; surface soil in pores and on ped faces; fine roots and root channels common; boundary clear, smooth.
B22t 62255	11 to 23 inches. Dark reddish brown (2.5YR 3/4) sandy clay with weak to moderate medium subangular blocky structure; friable; organic stains on faces of peds; fine roots common; pores common; boundary diffuse, smooth.
B23t 62256	23 to 34 inches. Dark reddish brown (2.5YR 3/4) sandy clay with weak medium subangular block structure; friable; fine roots common, pores and root channels common; boundary diffuse, smooth.
B24t 62257	34 to 48 inches. Dark reddish brown (2.5YR 3/4) sandy clay; weak coarse angular blocky structure, breaking into weak medium subangular blocky structure; friable; few patchy clay films on ped faces; few fine roots; boundary diffuse, smooth.
B25t 62258	48 to 61 inches. Dark reddish brown (2.5YR 3/4) sandy clay with weak medium subangular blocky structure; friable, few patchy clay films on ped faces; boundary gradual, smooth.
B26t 62259	61 to 97 inches plus. Dark reddish brown (2.5YR 3/4) sandy clay; weak medium subangular blocky structure which is massive in place; friable to firm; patchy clay films on ped faces.

Notes: pH not determined in the field. These soils are usually strong to very strongly acid. Samples taken 89 inches to 97 inches with soil auger. All soil colors refer to moist condition.

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10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Greenville loam SOIL Nos. S62GA-111-22 LOCATION Peach County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62400-62407

Depth (in.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand Very coarse (2–1)	Sand Coarse (1–0.5)	Sand Medium (0.5–0.25)	Sand Fine (0.25–0.1)	Sand Very fine (0.1–0.05)	Silt 0.05–0.02	Silt Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1 2A2 ≥ 2 < 76 Pct.	Coarse fragments 3B1 2–19 Pct. of < 76mm	Coarse fragments 3B1 19–76 Pct. of < 76mm
		Pct. of < 2 mm																
0–6	Ap	55.6	19.8	24.6	1.0	5.8	6.1	26.5	16.2	7.1	12.7	41.2	39.4			tr.		
6–12	B11	45.2	14.6	40.2	1.0	4.7	4.7	20.6	14.2	5.3	9.3	34.5	31.0			tr.		
12–17	B12	44.6	14.3	41.1	1.0	4.0	4.6	20.6	14.4	5.7	8.6	35.0	30.2			tr.		
17–24	B21	43.2	13.2	43.6	0.7	4.4	4.3	19.8	14.0	5.6	7.6	33.7	29.2			tr.		
24–33	B22	52.0	12.9	45.1	0.7	4.2	4.4	19.8	12.9	6.1	6.8	32.7	29.1			tr.		
33–43	B23	42.8	9.7	47.5	1.0	3.9	4.5	20.0	13.4	4.3	5.4	31.4	29.4			tr.		
43–53	B24	40.9	9.5	49.6	0.9	4.1	4.1	18.9	12.9	5.4	4.1	31.5	28.0			tr.		
53–81	B25	42.7	1.9	55.4	1.0	4.4	4.4	19.9	13.0	0.9	1.0	27.0	29.7			tr.		

Depth (in.)	6A1a Organic carbon	Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density 4A1e ⅓ bar	Bulk density 4A1h Oven dry	4D1 COLE	Water content 4B1c ⅓ bar	Water content 4B2 15 bar		4C1 WRD	pH 8C1c (1:1) KCl	pH 8C1e (1:1) H_2O
	Pct.	Pct.			Pct.	Pct.	g/cc	g/cc	g/cc	Pct.	Pct.	Pct.	in/in		
0–6	0.94	0.051	18			1.4		1.84	1.88		11.4	7.9		4.2	5.2
6–12	0.19					1.7		1.66	1.73		16.5	12.3		4.8	5.8
12–17	0.16					2.5		1.62	1.70		16.7	12.6		4.9	5.9
17–24	0.11					2.5		1.62	1.70		17.8	13.5		4.9	5.9
24–33	0.06					3.0		1.65	1.72		19.2	14.4		5.1	6.0
33–43	0.06					3.2		1.68	1.62		19.4	15.2		5.1	6.1
43–53	0.04					3.3		1.70	1.64		19.6	16.1		5.4	6.1
53–81	0.04					3.9						17.2		4.4	5.1

Depth (in.)	Extractable bases 5B1a 6N2d Ca	6Q2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC 5A3a Sum cations	6G1d Ext. Al	Ratios to clay 8D1 CEC Sum	Ratios to clay 8D1 Ext. iron	Ratios to clay 8D1 15-bar water	8D3 Ca/Mg	7D2 Total Mn	Base saturation 5C3 Sum cations	Base saturation 5C1 NH_4OAc
	meq/100 g												Pct.	Pct.	Pct.
0–6	2.3	0.4	tr.	0.3	3.0	8.7	11.7	0.7	0.48	0.06	0.32		0.18	26	
6–12	2.7	0.9	0.1	0.3	4.0	5.6	9.6	0.8	0.24	0.04	0.30			42	
12–17	2.6	1.0	tr.	0.3	3.9	5.1	9.0	0.2	0.22	0.06	0.31			43	
17–24	3.0	0.8	tr.	0.2	4.0	4.9	8.9	0.1	0.20	0.06	0.31		0.03	45	
24–33	3.3	0.7	tr.	0.1	4.1	5.0	9.1	tr.	0.20	0.07	0.32			45	
33–43	3.2	0.8	tr.	0.1	4.1	4.8	8.9	tr.	0.19	0.07	0.32			46	
43–53	3.1	0.9	tr.	0.1	4.1	4.7	8.8	tr.	0.18	0.07	0.32		0.02	47	
53–81	1.7	0.9	tr.	0.1	2.7	5.9	8.6	0.2	0.16	0.07	0.31			31	

Depth (in.)	Clay Fraction Analysis 7A1b-d Mt.	Chl.	Vm.	Mi	Int.	Qtz.	Kl.	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl. = chlorite, Vm = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant

USDA SCS-HYATTSVILLE MD 1966

Soil Type: Greenville loam
Soil No.: S62Ga-111-22
Location: Peach County, Georgia. On Georgia Highway No. 96, approximately 1 and 1/4 miles west of the center of Fort Valley. North side of Highway in peach orchard. Aerial photo No. LB-1P-39.
Vegetation and land use: Peach orchard.
Slope and land form: Level area with slopes less than 2 percent.
Drainage: Well drained with very little runoff.
Permeability: Moderate.
Parent Material: Residuum from thick beds of unconsolidated sandy clay loam, sandy clay, and clayey material underlain in places with siliceous limestone materials. Clayton Formation - Paleocene epoch.
Sampled by and date: J. F. Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, July 18, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62400	0 to 6 inches. Dark brown (10YR 3/3) loam with weak fine granular structure; very friable; many fine roots; boundary abrupt and smooth.
B1t 62401	6 to 12 inches. Dark reddish brown (2.5YR 3/4) to dark red (2.5YR 3/6) clay loam with weak fine subangular blocky structure; friable; mixing of surface soil from above layer; many fine roots; root channels and pores common; boundary gradual and smooth.
B21t 62402	12 to 17 inches. Dark red (2.5YR 3/6) clay with weak fine to medium subangular blocky structure; friable; intrusions of surface soil in root channels; many fine roots; root channels and pores common; boundary gradual and wavy.
B22t 62403	17 to 24 inches. Dark red (2.5YR 3/6) clay with weak medium subangular blocky structure; friable to firm; hard when dry; fine roots, root channels and pores common; some mixing of materials from above layers; boundary gradual and wavy.
B23t 62404	24 to 33 inches. Dark red (2.5YR 3/6) clay with weak medium subangular blocky structure; friable to firm, hard when dry; few fine roots; pores and root channels common; few thin patchy clay films on ped faces in lower part; boundary gradual and wavy.
B24t 62405	33 to 43 inches. Arbitrary horizon for sampling. Very similar to B23t horizon.
B25t 62406	43 to 53 inches. Arbitrary horizon for sampling. Very similar to B23t horizon.
B26t 62407	53 to 81 inches. Arbitrary horizon for sampling. Very similar to B23t horizon.

Notes: Profile massive in place but under pressure breaks into designated structure. All soil colors refer to moist condition (Munsell Color Notation used).

SCS-421
10-64 (Rev. 9-66)

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Greenville loam SOIL Nos. S62GA-111-23 LOCATION Peach County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62408 - 62414

Depth (In.)	Horizon	1B1b Size class and particle diameter (mm) 3A1 Total Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥2 <76 Pct.	2–19	19–76 Pct. of < 76mm
		Pct. of < 2 mm																
0-9	Ap	45.7	28.5	25.8	1.8	7.8	6.4	21.0	8.7	9.5	19.0	29.2	37.0			tr.		
9-16	B11	39.6	18.1	42.3	0.8	6.0	6.1	17.7	9.0	5.4	12.7	25.1	30.6			tr.		
16-22	B12	40.2	16.0	43.8	1.6	6.8	5.8	17.0	9.0	5.2	10.8	25.1	31.2			tr.		
22-30	B21	40.4	12.6	47.0	2.0	6.7	5.5	17.0	9.2	4.6	8.0	24.8	31.2			tr.		
30-38	B22	39.5	13.4	47.1	1.6	6.5	5.5	17.2	8.7	4.7	8.7	24.3	30.8			tr.		
38-56	B23	39.9	12.1	48.0	2.0	6.7	5.8	16.9	8.5	4.2	7.9	23.1	31.4			tr.		
56-84	B24	45.0	9.2	45.8	2.0	8.5	7.0	19.1	8.4	3.9	5.3	23.5	36.6			tr.		

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		6C1a Carbonate as $CaCO_3$	Ext. iron as Fe	Bulk density: 4A1e ⅓ bar	4A1h Oven dry	4D1 COLE	Water content:	4B1c ⅓ bar	4B2 15 bar		4C1 WRD	pH: 8C1c (1:1) KCl	8C1a (1:1) H_2O
	Pct.	Pct.			Pct	Pct.	g/cc	g/cc	g/cc		Pct.	Pct.	Pct.	in/in		
0-9	1.55	0.090	17			1.7		1.58	1.64			16.2	10.2		4.6	5.7
9-16	0.54	0.046	12			1.5		1.42	1.49			19.2	14.2		4.8	5.9
16-22	0.26					2.1		1.36	1.46			19.9	14.1		4.9	5.8
22-30	0.17					1.8		1.48	1.54			20.4	14.2		5.0	5.9
30-38	0.10					2.4		1.42	1.49			21.8	14.8		4.6	5.5
38-56	0.08					2.4		1.48	1.56			21.8	15.3		4.0	5.3
56-84	0.02					2.6							14.8		3.0	5.0

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext Al		Ratios to clay: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg	7D2 Total Mn	Base saturation: 5C3 Sum cations	5C1 NH_4OAc
	meq/100 g														Pct.	Pct	Pct.
0-9	4.3	0.7	tr.	0.7	5.7	11.1	16.8		0.1		0.65	0.06	0.40		0.36	34	
9-16	3.9	0.9	0.1	0.5	5.4	9.3	14.7		0.1		0.35	0.04	0.34			37	
16-22	3.2	0.7	0.1	0.4	4.4	7.1	11.5		0.1		0.26	0.05	0.32			38	
22-30	3.0	0.7	0.1	0.3	4.1	6.2	10.3		0.1		0.22	0.04	0.30			40	
30-38	2.4	0.9	tr.	0.2	3.5	6.8	10.3		0.2		0.22	0.05	0.31			34	
38-56	1.5	0.9	tr.	0.1	2.5	8.0	10.5		1.0		0.22	0.05	0.32			24	
56-84	0.3	0.3	tr.	0.1	0.7	7.7	8.4		2.5		0.18	0.06	0.32			8	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl	Vm.	Mi.	Int Vm.[a]	Qtz.	Kl.	Gibbsite
	7A2 X-ray						DTA 7A3	
0-9	-	-	-	-	x	-	30	3
9-16								
16-22	-	-	-	-	x	-	30	2
22-30								
30-38	-	-	-	-	x	-	36	1
38-56								
56-84	-	-	-	-	x	-	46	tr.

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz. = quartz, Kl = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

a Interlayer vermiculite - a 14Å mineral that does not collapse completely upon K saturation and heating.

USDA SCS-HYATTSVILLE MD 1966

Soil Type: Greenville loam
Soil No.: S62Ga-111-23
Location: Peach County, Georgia. Approximately 1/4 mile north of city limits of Fort Valley on U. S. Highway No. 341. Southside of highway in cultivated field. Aerial photo No. LB-1P-41.
Vegetation and land use: Cultivated field - peas.
Slope and land form: Level area with slopes less than 2 percent.
Drainage: Well drained with very little runoff.
Permeability: Moderate.
Parent Material: Residuum from thick beds of unconsolidated sandy clay loam, sandy clay, and clayey material underlain in places by siliceous limestone materials (Clayton Formation - Paleocene epoch).
Sampled by and date: J. F. Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, July 18, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62408	0 to 9 inches. Dark reddish brown (5YR 3/2) loam with weak fine granular structure; very friable; many fine roots; boundary abrupt, smooth.
B21t 62409	9 to 16 inches. Dark reddish brown (2.5YR 3/4 to 2/4) clay loam with weak fine to medium subangular blocky structure; friable; mixing of surface soil from above layer; many fine roots; pores and root channels common; boundary gradual and wavy.
B22t 62410	16 to 22 inches. Dark red (2.5YR 3/6) to dark reddish brown (2.5YR 3/4) clay loam with weak fine to medium subangular blocky structure; friable; intrusions of surface soil; many fine roots; pores and root channels common; boundary gradual and wavy.
B23t 62411	22 to 30 inches. Dark red (2.5YR 3/6) to dark reddish brown (2.5YR 3/4) clay with weak medium subangular blocky structure; friable to firm; hard when dry; contains many fine roots; some darker stains on ped faces and old root channels; boundary gradual and wavy.
B24t 62412	30 to 38 inches. Dark red (2.5YR 3/6) to dark reddish brown (2.5YR 3/4) clay with weak to moderate medium subangular blocky structure; friable to firm, hard when dry, slightly sticky when wet; fine roots, root channels and pores common; few thin patchy clay films on ped faces in lower part; boundary diffuse and irregular.
B25t 62413	38 to 56 inches. Arbitrary horizon for sampling. Very similar to B22t horizon.
B26t 62414	56 to 84 inches. Arbitrary horizon for sampling. Very similar to B22t horizon.

Notes: Profile massive in place but under pressure breaks into designated structure. All soil colors refer to moist conditions (Munsell Color Notation used).

SCS-421
10-64 (Rev. 9-65)

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Lakeland loamy sand SOIL Nos. S56Ga-137-2 LOCATION Tift County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB Nos. 56366 - 56371

Depth (in.)	Horizon	181b Total Sand (2–0 05)	Total Silt (0 05–0 002)	Total Clay (< 0 002)	Sand Very coarse (2–1)	Sand Coarse (1–0 5)	Sand Medium (0.5–0.25)	Sand Fine (0 25–0.1)	Sand Very fine (0 1–0 05)	Silt 0.05–0 02	Silt Int. III (0.02–0 002)	Silt Int II (0 2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1 2A2 ≥ 2 Pct.	2 – 19 Pct. of < 2mm	19–76 Pct. of < 76mm
		Pct. of < 2 mm																
0-7	Ap		6.1	2.6	1.1	15.3	28.0	38.0	8.9		3.7	26.6				tr.		
7-17	A2		6.6	5.7	1.4	15.7	27.6	35.6	7.4		4.3	23.6				tr.		
17-26	A3		6.9	5.5	1.0	12.9	26.5	37.8	9.4		4.0	27.6				2		
26-35	B11		7.2	9.9	0.9	11.7	24.0	36.7	9.6		4.0	28.3				2		
35-43	B12		6.5	8.6	2.1	13.9	25.5	35.3	8.1		3.8	25.2				2		
43-51	B2tg		5.1	16.3	3.3	15.6	23.8	29.2	6.7		3.0	20.9				11		

Depth (in.)	6A1a Organic carbon Pct.	Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.	6C1a Ext. iron as Fe_2O_3 Pct.	Bulk density 4A1e ⅓ bar g/cc	Bulk density 4A1h Oven dry g/cc	4D1 COLE	Water content Pct.	Water content 4B1c ⅓ bar Pct.	Water content 4B2 15 bar Pct.		4C1 WRD in/in	pH 8C1c (1:1) KCl	pH 8C1a (1:1) H_2O
0-7	0.40	0.025	16			0.2										5.0
7-17	0.17					0.3										4.6
17-26	0.11					0.3										4.5
26-35	0.08					0.9										4.5
35-43	0.08					0.9										4.6
43-51	0.02					2.2										4.8

Depth (in.)	Extractable bases 5B1a 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC 5A3a Sum cations	6G1d Ext. Al	Ratios to clay CEC Sum	Ratios to clay Ext. iron	Ratios to clay 15-bar water	8D3 Ca/Mg	Base saturation 5C3 Sum cations Pct.	Base saturation 5C1 NH_4OAc Pct.
	meq/100 g													
0-7	0.5	0.3	0.1	0.2		2.1	3.2						34	
7-17	0.3	0.3	tr.	0.2		1.9	2.7						30	
17-26	0.4	0.2	tr.	0.1		1.7	2.8						25	
26-35	0.4	0.3	tr.	0.1		2.5	3.3						24	
35-43	0.4	0.3	tr.	0.1		2.1	2.9						28	
43-51	0.3	0.3	tr.	0.1		2.9	3.6						19	

Depth (in.)	Clay Fraction Analysis 7A1b-d Mt.	Chl.	Vm (7A2 X-ray)	Mi.	Int.	Qtz.	Kl. (DTA 7A3)	Gibbsite (DTA 7A3)
0-7								
7-17								
17-26								
26-35								
35-43			xx+				15	4
43-51			xx				40	8

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA-SCS-HYATTSVILLE MD 1966

Soil Type: Lakeland loamy sand.
Soil No.: S56Ga-137-2
Location: Tift County, Georgia. Cultivated field - 630 feet north of county road opposite homestead on Hook's farm. Aerial photo No. 4M-64 - delineation 62-B-1.
Vegetation and land use: Cultivated to peanuts during 1955 season.
Slope and land form: 1-1/2 percent.
Sampled by and date: Pedersen and Middleton. February 1956.
Described by: Middleton, Pedersen and Calhoun.

Horizon and Beltsville Lab. No.	
Ap 56366	0 to 7 inches. Dark grayish brown (10YR 4/2) loose, loamy sand, with weak fine granular structure. Boundary clear and smooth.
A2 56367	7 to 17 inches. Yellowish brown (10YR 5/6) very friable loamy sand, with weak fine granular structure. Boundary gradual and smooth.
A3 56368	17 to 26 inches. Light yellowish brown (10YR 6/4), with a few spots of very pale brown (10YR 7/4), very friable loamy sand; weak fine granular structure. Boundary gradual and wavy.
B11 56369	26 to 35 inches. Yellowish brown (10YR 5/8) very friable loamy sand, with common, medium distinct mottles of pale brown (10YR 6/3), and yellowish red (5YR 5/8); weak fine granular structure; few soft iron concretions. Boundary gradual and wavy.
B12 56370	35 to 43 inches. Yellowish brown (10YR 5/8), very friable loamy sand, with common, medium, distinct mottles of pale brown (10YR 6/3), and yellowish red (5YR 5/8); weak fine granular structure; few soft iron concretions. Boundary clear and smooth.
B2tg 56371	43 to 51 inches. Strong brown (7.5YR 5/8) wet, slightly sticky, sandy loam with common, medium and distinct mottles of light gray (10YR 7/2) wet, and red (2.5YR 4/6) wet, moderate, medium subangular blocky structure. A number of soft iron concretions were observed in this horizon.

Notes: Color of soil moist unless otherwise stated.

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Lakeland loamy sand SOIL Nos. 856Ga-137-3 LOCATION Tift County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 56372 - 56378

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 Pct.	2 – 19 Pct. of < 76mm	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-10	Ap		12.2	3.0	2.6	14.2	19.6	33.8	14.6		2.7	41.5				1		
10-23	A2		9.1	3.5	2.9	14.1	19.3	34.2	16.9		4.0	39.5				2		
23-32	A3		9.4	5.2	3.3	12.9	17.7	34.1	17.4		4.0	41.2				2		
32-40	B21t		10.1	13.8	2.5	9.7	14.8	31.0	18.1		3.4	41.8				1		
40-50	B22t		9.0	16.0	2.8	11.8	16.3	28.9	15.2		3.4	35.6				1		
50-63	B23t		10.0	11.4	2.2	13.0	17.9	29.7	15.8		3.4	37.5				tr.		
63-70+	B24tg		8.9	16.2	2.3	11.1	17.6	29.2	14.7		2.9	35.5				tr.		

Depth (In.)	6A1a Organic carbon Pct.	Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.	6C1a Ext. iron & Fe2O3 Pct.	Bulk density: 4A1a ⅓ bar g/cc	Bulk density: 4A1h Oven dry g/cc	4D1 COLE	Water content Pct.	Water content: 4B1c ⅓ bar Pct.	Water content: 4B2 15 bar Pct.		4C1 WRD in/in	pH: 8C1c (1:1) KCl	pH: 8C1a (1:1) H_2O
0-10	0.24	0.014				0.2										6.0
10-23	0.06					0.2										5.2
23-32	0.04					0.3										4.4
32-40	0.06					0.5										4.5
40-50	0.04					1.3										4.7
50-63	0.02					1.1										4.9
63-70+	0.02					0.4										4.7

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6N2a Ext. acidity	CEC: 5A3a Sum cations	CEC	6G1d Ext. Al			Ratios to clay: CEC Sum	Ratios to clay: Ext. iron	Ratios to clay: 15-bar water	8D3 Ca/Mg		Base saturation: 5C3 Sum cations Pct.	Base saturation: 5C1 NH_4OAc Pct.
	meq/100 g																	
0-10	1.1	0.3	tr.	0.2		1.3	2.9										55	
10-23	0.2	0.2	0.1	0.2		0.8	1.5										47	
23-32	0.1	tr.	tr.	0.1		2.1	2.3										9	
32-40	0.7	0.2	tr.	0.2		2.5	3.6										31	
40-50	0.7	0.1	0.1	0.2		3.1	4.2										26	
50-73	0.7	0.3	tr.	0.1		1.7	2.8										39	
63-70+	0.5	0.5	0.1	0.1		2.1	3.3										36	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt	Chl.	Vm.	Mi.	Int.	Qtz.	Kl.	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl. = chlorite, Vm = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant

USDA SCS HYATTSVILLE MD 1966

Soil Type: Lakeland loamy sand.
Soil No.: S56Ga-137-3
Location: Tift County, Georgia. Cultivated field - 100 yards south of Piney Woods Church; 3/4 mile north of St. John's Baptist Church; Tumlin farm.
Vegetation and land use: Cultivated to corn during 1955 season.
Slope and land form: 2-1/2 percent.
Sampled by: Nasty, Pedersen, and Middleton.
Described by and date: Nasty, Middleton, Pedersen, and Calhoun. February 1956.

Horizon and Beltsville Lab. No.	
Ap 56372	0 to 10 inches. Dark grayish brown (2.5Y 4/2), loose, loamy sand with weak fine crumb structure. Boundary clear and wavy.
A2 56373	10 to 23 inches. Light yellowish brown (2.5Y 6/4), loose, loamy sand, with weak fine crumb structure. Boundary gradual and smooth.
A3 56374	23 to 32 inches. Yellow (2.5Y 7/6), very friable loamy sand, with weak fine crumb structure. Boundary gradual and wavy.
B21t 56375	32 to 40 inches. Yellowish brown (10YR 5/6) friable sandy loam, with a few strong, brown (7.5YR 5/8) soft iron concretions; and moderate, fine, granular structure. Boundary gradual and wavy.
B22t 56376	40 to 50 inches. Yellowish brown (10YR 5/6) friable sandy loam with some strong brown (7.5YR 5/8) soft iron concretions; and weak medium subangular blocky structure. Boundary clear and wavy.
B23t 56377	50 to 63 inches. Yellow (10YR 7/8) firm loamy sand, with common, medium, and distinct mottles of red (2.5YR 5/8), and light yellowish brown (2.5Y 6/4); moderate, medium subangular blocky structure. Boundary clear and wavy.
B24tg 56378	63 to 70 inches plus. Yellow (10YR 7/8) friable loamy sand, with many, medium, and prominent mottles of light gray (2.5Y 7/2) and red (2.5YR 5/8); structureless.

Notes: Color of soil moist unless otherwise stated.

SCS-421
10-64 (Rev. 9-66)

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Lucy loamy sand SOIL Nos. S62GA-111-13 LOCATION Peach County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62228-62236

Depth (in.)	Horizon	1B1b Total Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int III (0.02–0.002)	Int II (0.2–0.02)	(2–0.1)	3B2 Cm	Coarse fragments 3B1: 2A2 > 2 < 76 Pct.	2–19 Pct. of < 76mm	19–76 Pct. of < 76mm
		Pct. of < 2 mm															
0–6	Ap	92.4	5.0	2.6	1.6	13.5	16.4	42.2	18.7	1.4	3.6	42.7	73.7		tr.		
6–16	A3	86.1	6.3	7.6	1.0	12.1	15.4	40.2	17.4	1.5	4.8	40.8	68.7		tr.		
16–24	B11	84.6	6.3	9.1	1.2	13.2	16.0	37.7	16.5	1.7	4.6	39.1	68.1		tr.		
24–32	B12	84.4	6.3	9.3	1.6	12.0	14.9	39.4	16.5	2.0	4.3	39.4	67.9		tr.		
32–42	B13	83.2	3.8	13.0	2.0	13.4	15.4	37.4	15.0	0.4	3.4	35.1	68.2		tr.		
42–54	B21	74.2	4.0	21.8	0.8	10.4	13.7	34.8	14.5	1.9	2.1	34.8	59.7		tr.		
54–64	B22t	77.4	3.5	19.1	1.0	9.7	13.5	36.0	17.2	1.6	1.9	38.5	60.2		tr.		
64–77	B31t	79.4	3.6	17.0	1.1	9.8	14.0	37.6	16.9	1.8	1.8	39.1	62.5		tr.		
77–86	B32	84.3	3.2	12.5	1.7	11.5	13.8	40.1	17.2	2.2	1.0	41.0	67.1		tr.		

Depth (in.)	6A1a Organic carbon	Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density: 1/10 bar	4A1e ⅓ bar	4A1h Oven dry	4D1 COLE	Water content: 4H1c 1/10 bar	4B1c ⅓ bar	4B2 15 bar		4C1 WRD	pH:	8C1c (1:1) KCl	8C1a (1:1) H_2O
	Pct	Pct			Pct.	Pct.	g/cc	g/cc	g/cc		Pct.	Pct.	Pct.		in/in			
0–6	0.58	0.023	25			0.2	1.66				6.8		1.6				5.4	5.8
6–16	0.12					0.6	1.60				6.9		2.7				4.1	5.3
16–24	0.11					0.6	1.55		1.56		7.9		3.0				4.3	5.3
24–32	0.04					0.7	1.59		1.59		7.0		3.2				4.3	5.3
32–42	0.04					0.9	1.58		1.59		9.1		3.8				4.5	5.6
42–54	0.06					1.7	1.56		1.57		27.6		6.9				4.8	5.7
54–64	0.06					1.4	1.57		1.58		12.5		6.0				5.0	5.8
64–77	0.04					1.3	1.62		1.63		10.8		5.5				4.8	5.8
77–86	0.04					1.0	1.66		1.68		12.2		4.2				4.7	5.6

Depth (in.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al			Ratios to clay 6D1: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg	7C2 Total Mn	Base saturation: 5C3 Sum cations	5C1 NH_4OAc
	meq/100 g															Pct.	Pct.	Pct.
0–6	2.2	0.2	tr.	0.1	2.5	1.3	3.8		tr.			1.46	0.08	0.62		0.02	66	
6–16	0.5	0.2	tr.	0.1	0.8	1.9	2.7		0.4			0.36	0.08	0.36			30	
16–24	0.5	tr.	tr.	0.1	0.6	1.9	2.5		0.3			0.27	0.06	0.33			24	
24–32	0.6	0.2	tr.	0.1	0.9	1.5	2.4		0.2			0.26	0.08	0.34			38	
32–42	1.0	0.3	tr.	0.1	1.4	1.5	2.9		0.1			0.22	0.07	0.29			48	
42–54	0.8	0.3	tr.	0.1	1.2	2.3	3.5		tr.			0.16	0.08	0.32			34	
54–64	1.4	0.3	tr.	tr.	1.7	2.1	3.8		tr.			0.20	0.07	0.31			45	
64–77	1.0	0.3	tr.	tr.	1.3	1.7	3.0		tr.			0.18	0.08	0.32			43	
77–86	0.6	0.4	tr.	tr.	1.0	1.3	2.3		tr.			0.18	0.08	0.34			43	

Depth (in.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm	Mi.	Int.	Qtz.	Kl.	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA SCS-HYATTSVILLE, MD. 1966

Soil Type: Lucy loamy sand
Soil No.: S62Ga-111-13
Location: Peach County, Georgia. On paved county road that intersects with Georgia Highway No. 96 approximately one mile east of Fort Valley city limits and approximately 2 and 1/2 miles west of Houston County line. Aerial photo No. LB-1P-125.
Vegetation and land use: Newly established coastal bermudagrass pasture.
Slope and land form: Very gently sloping (3 percent) toward southwest. On ridge crest in gently rolling topography.
Drainage: Somewhat excessively drained with slow runoff and rapid internal drainage.
Permeability: Rapid.
Parent Material: Residuum from coarse textured sediments of the middle and upper coastal plain. (Clayton Formation - Paleocene epoch)
Sampled by and date: L. T. Alexander, F. T. Ritchie, E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, April 9, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62228	0 to 6 inches. Dark grayish brown (10YR 4/2) loamy sand with weak fine granular structure; loose; numerous fine roots; boundary abrupt, smooth.
A3 62229	6 to 16 inches. Brown or dark brown (7.5YR 4/4) to yellowish red (5YR 5/6) loamy sand with very weak fine granular structure; loose; intrusions and mixing of surface soil; numerous fine roots; boundary gradual, smooth.
B11 62230	16 to 24 inches. Yellowish red (5YR 5/6) loamy sand; massive in place, breaks into weak fine and medium granular structure; loose to very friable; many fine roots; boundary gradual, smooth.
B12 62231	24 to 32 inches. Yellowish red (5YR 4/8) loamy sand; massive in place, under pressure breaks into very weak fine and medium granular structure; very friable; fine roots common; boundary gradual, smooth.
B13 62232	32 to 42 inches. Yellowish red (5YR 4/6) loamy sand which is massive in place, but under pressure breaks into very weak medium subangular blocky structure; very friable; fine roots common; boundary clear, smooth.
B21 62233	42 to 54 inches. Red (2.5YR 4/8) sandy loam with weak medium subangular blocky structure; very friable; fine roots common; boundary clear, smooth.
B22t 62234	54 to 64 inches. Red to dark red (2.5YR 4/6 to 3/6) sandy loam with weak medium subangular blocky structure; very friable; few fine roots; boundary gradual, smooth.
B31t 62235	64 to 77 inches. Red to dark red (2.5YR 4/6 to 3/6) loamy sand to light sandy loam; weak medium subangular blocky structure; very friable; few fine roots, boundary gradual, smooth.
B32 62236	77 to 86 inches plus. Red to dark red (2.5YR 4/6 to 3/6) loamy sand with weak medium subangular blocky structure; very friable.

Notes: A little compaction between Ap and A3 horizons (plow sole) noted. pH not determined in the field. These soils are usually strongly acid. Soil colors refer to moist condition (Munsell color notation).

SCS-421
10-64 (Rev. 9-66)

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Lynchburg loamy fine sand SOIL Nos. 8560a-137-9 LOCATION Tift County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 56416 - 56421

Depth (In.)	Horizon	181b Total Sand (2-0 05)	Silt (0.05-0.002)	Clay (< 0 002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-0.1)	Very fine (0.1-0.05)	Silt: 0.05-0.02	Int. III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 Pct.	2 - 19 Pct. of < 76mm	19 - 76 Pct. of < 76mm
		Pct of < 2 mm																
0-9	Ap		12.1	6.0	4.5	17.3	18.4	29.1	12.6		7.5	32.1				14		
9-18	A3		11.0	9.2	4.5	14.6	17.0	30.2	13.5		6.4	34.2				9		
18-26	B2		10.9	13.6	4.0	14.6	16.1	28.2	12.6		6.6	32.1				11		
26-33	B3		10.7	15.4	4.4	15.5	16.6	26.0	11.4		6.8	29.1				20		
33-45	C1		10.5	18.8	3.5	15.2	16.9	25.2	9.9		6.8	26.5				26		
45+	C2		10.4	19.9	4.2	16.3	16.4	23.6	9.2		6.6	24.8				23		

Depth (In.)	6A1a Organic carbon Pct.	Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.	6C1a Ext. iron as Fe_2O_3 Pct.	Bulk density: 4A1e ⅓ bar g/cc	4A1h Oven dry g/cc	4D1 COLE	Water content: Pct.	4B1c ⅓ bar Pct.	4B2 15 bar Pct.		4C1 WRD in/in	pH: 8C1c (1:1) KCl	8C1a (1:1) H_2O
0-9	0.50	0.038	13			0.4										4.9
9-18	0.13					0.5										4.6
18-26	0.08					0.6										4.5
26-33	0.07					0.4										4.7
33-45	0.03					1.4										4.7
45+	0.03					1.6										4.9

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al	Ratios to clay: CEC Sum	Ext. Iron	15-bar water	8O3 Ca/Mg		Base saturation: 5C3 Sum cations Pct.	5C1 NH_4OAc Pct.
	meq/100 g															
0-9	1.0	0.2	tr.	0.1		4.4	4.8								8	
9-18	0.4	0.1	tr.	0.1		2.6	3.2								18	
18-26	0.4	0.1	tr.	0.1		2.9	3.5								17	
26-33	0.4	0.3	0.1	0.1		3.1	4.0								22	
33-45	0.4	0.2	tr.	0.1		3.6	4.3								16	
45+	0.4	0.5	0.1	0.1		4.2	5.3								21	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int.	Qtz.	Kl.	Gibbsite
	7A2 X-ray						DTA 7A3	
0-9								
9-18								
18-26								
26-33			xx+				40	4
33-45								
45+	x		xx				43	3

Mt. = Montmorillonite, Chl. = chlorite, Vm = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA-SCS-HYATTSVILLE MD 1966

Soil Type: Lynchburg loamy fine sand.
Soil No.: S56Ga-137-9
Location: Tift County, Georgia. 1/2 mile N. E. on first dirt road to the left off U. S. Highway 82, east from intersection of U. S. Highways 82 and 319. Pit dug in pastured area on Harvey Thompson's farm 350 yards N. W. of his home.
Vegetation and land use: Pasture grasses, including Bahia, Bermuda and Carpet. This area has been in pasture for a number of years.
Slope and land form: 2-1/2 percent.
Sampled by and date: Alexander, Ritchie, Cady, Pedersen, Stevens, Stone, and Calhoun. February 1956.
Described by: Alexander, Ritchie, Cady, Pedersen, Stevens, Stone, and Calhoun.

Horizon and Beltsville Lab. No.	
Ap 56416	0 to 9 inches. Very dark gray (10YR 3/1), very friable, loamy fine sand; weak fine crumb structure, and containing numerous grass roots evenly distributed. Boundary abrupt and smooth.
A3 56417	9 to 18 inches. Grayish brown (2.5Y 5/2) very friable, light sandy loam; weak fine crumb structure, and containing a few grass roots, but not nearly as many as the layer above. A few small, hard, iron concretions were observed in this layer. Boundary clear and smooth.
B2 56418	18 to 26 inches. Pale yellow (2.5Y 7/4) friable, sandy loam, with common, medium, distinct mottles of yellow (10YR 7/8); weak, fine, subangular blocky structure, and containing a few small, hard iron concretions. Boundary gradual and smooth.
B3 56419	26 to 33 inches. Light gray (10YR 7/2) friable light sandy clay loam, with common, medium, distinct mottles of brownish yellow (10YR 6/6), and red (2.5YR 4/6); moderate, medium, subangular blocky structure, and containing a few small hard iron concretions. Boundary gradual and smooth.
C1 56420	33 to 45 inches. Yellowish brown (10YR 5/6), friable light sandy clay loam, with common medium, distinct mottles of yellowish red (5YR 4/8), and light brownish gray (2.5Y 6/2); moderate, medium subangular blocky structure. Boundary gradual and smooth. Water seeped into pit in several places at a depth of 33 inches.
C2 56421	45 inches plus. Light gray (10YR 7/2), strongly cemented, and very firm sandy clay loam with many, coarse, prominent mottles of red (10R 4/8), grayish brown (2.5Y 5/2), and yellowish brown (10YR 5/8); moderate, coarse, angular blocky structure.

Notes: Color of soil moist unless otherwise stated.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Lynchburg loamy sand SOIL Nos. 8560a-137-10 LOCATION Tift County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 56422 - 56427

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand Very coarse (2–1)	Sand Coarse (1–0.5)	Sand Medium (0.5–0.25)	Sand Fine (0.25–0.1)	Sand Very fine (0.1–0.05)	Silt 0.05–0.02	Silt Int III (0.02–0.002)	Silt Int II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1 2A2 ≥ 2 Pct.	2 – 19 Pct of < 76mm	19 – 76 Pct of < 76mm
		Pct. of < 2 mm																
0-9	Ap		11.0	3.8	5.7	19.8	17.6	27.7	14.4		5.8	34.3				tr.		
9-14	A3		11.6	5.0	5.3	17.0	16.7	28.0	16.4		5.4	37.8				1		
14-25	B2		11.8	7.3	4.3	17.0	16.2	27.5	15.9		6.0	36.5				tr.		
25-37	B3		10.6	20.4	3.8	14.0	14.0	23.8	13.4		5.1	31.8				tr.		
37-50	C1		9.7	27.3	3.0	14.1	13.9	21.0	11.0		5.7	25.8				tr.		
50-56+	C2		10.5	31.8	2.9	12.9	11.9	19.9	10.1		6.3	24.9				tr.		

Depth (In.)	6A1a Organic carbon Pct.	Nitrogen Pct	C/N		Carbonate as $CaCO_3$ Pct.	6C1a Ext. iron as Fe_2O_3 Pct.	Bulk density 4A1e ⅓ bar g/cc	Bulk density 4A1h Oven dry g/cc	4D1 COLE	Water content Pct.	Water content 4B1c ⅓ bar Pct.	Water content 4B2 15 bar Pct.		4C1 WRD in/in	pH 8C1c (1:1) KCl	pH 8C1a (1:1) H_2O
0-9	0.97	0.057	17			0.3										4.9
9-14	0.27					0.3										4.8
14-25	0.10					0.4										4.7
25-37	0.05					1.0										4.7
37-50	0.02					1.5										4.7
50-56+	0.03					2.2										4.6

Depth (In.)	Extractable bases 5B1a 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC 5A3a Sum cations	6G1d Ext. Al		Ratios to clay CEC Sum	Ratios to clay Ext. iron	Ratios to clay 15-bar water	8D3 Ca/Mg		Base saturation 5C3 Sum cations Pct	Base saturation 5C1 NH_4OAc Pct.
	meq/100 g															
0-9	0.7	0.5	0.1	0.1		6.3	7.7								18	
9-14	tr.	0.2	tr.	0.1		3.1	3.3								9	
14-25	tr.	0.2	tr.	0.1		2.1	2.4								12	
25-37	tr.	0.3	tr.	0.1		1.9	2.3								17	
37-50	tr.	0.2	0.1	tr.		2.7	3.0								10	
50-56+	0.6	0.4	tr.	0.1		5.6	6.7								16	

Depth (In.)	Clay Fraction Analysis 7A1b-d Mt.	Chl.	Vm.	Mi	Int.	Qtz.	Kl.	Gibbsite	
	7A2 X-ray						DTA 7A3		
0-9									
9-14									
14-25									
25-37	x		xx				45	x	
37-50									
50-56+	x						45	0	

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA SCS HYATTSVILLE MD. 1966

Soil Type: Lynchburg loamy sand.
Soil No.: S56Ga-137-10
Location: Tift County, Georgia. 2.2 miles north of Piney Woods Church, and 2.9 miles north of St. Johns Baptist Church. Pit dug 420 yds. west of county road.
Vegetation and land use: Sparse growth of slash and longleaf pine, recently cut over, with native grasses and weeds and gallberry bushes as undergrowth.
Slope and land form: One percent.
Sampled by and date: Alexander, Ritchie, Cady, Pedersen, Stevens, Stone, and Calhoun. February 1956.
Described by: Alexander, Ritchie, Cady, Pedersen, Stevens, Stone, and Calhoun.

Horizon and Beltsville Lab. No.	
Ap 56422	0 to 9 inches. Black (N 2/) very friable loamy sand, weak, fine, granular structure, and containing numerous tree and grass roots, uniformly distributed. Boundary abrupt and smooth.
A3 56423	9 to 14 inches. Grayish brown (2.5Y 5/2) very friable loamy sand, with a few spots of pale yellow (2.5Y 7/4); weak, fine granular structure and containing some roots, but not nearly as many as the layer above. Boundary clear and smooth.
B2 56424	14 to 25 inches. Light yellowish brown (2.5Y 6/4) very friable sandy loam; weak fine subangular blocky structure and containing some shrub and tree roots. Boundary gradual and smooth.
B3 56425	25 to 37 inches. Light gray (10YR 7/1) friable, sandy clay loam, with a few fine, medium, faint mottles of yellowish brown (10YR 5/8); moderate medium, subangular blocky structure. Boundary gradual and smooth.
C1 56426	37 to 50 inches. Yellowish brown (10YR 5/8) friable, sandy clay loam, with many coarse, prominent mottles of dark red (10R 3/6), and light gray (N 7/); moderate medium, subangular blocky structure. Boundary gradual and smooth. Water seeped into pit in several places at a depth of 38 inches.
C2 56427	50 to 56 inches. Gray (N 6/) firm, sandy clay loam, with many coarse prominent mottles of red (2.5YR 4/6), and olive yellow (2.5Y 6/6); moderate, medium, angular blocky structure.

Notes: Color of soil moist unless otherwise stated.

SCS-421
10-64 (Rev. 8-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Marlboro fine sandy loam SOIL Nos. S62GA-111-11 LOCATION Peach County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62274 - 62280

Depth (in.)	Horizon	Size class and particle diameter (mm) 3A1 — Total: Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)	3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 <76 Pct.	2 – 19	19 – 76
		Pct. of ≤ 2 mm														Pct. of ≤ 76mm	
0-7	Ap	79.0	17.4	3.6	1.0	4.1	6.9	39.9	27.1	9.4	8.0	63.8	51.9		tr.		
7-10	A2	61.0	17.8	21.2	0.5	3.2	5.3	31.5	20.5	7.1	10.7	49.5	40.5		tr.		
10-19	B21	48.4	14.3	37.3	0.7	2.6	3.9	24.3	16.9	5.9	8.4	40.1	31.5		tr.		
19-25	B22	49.2	11.2	39.6	0.3	2.4	4.0	24.8	17.7	5.9	5.3	40.7	31.5		tr.		
25-29	B3	50.5	12.1	37.4	0.5	2.8	4.0	25.5	17.7	5.7	6.4	41.5	32.8		tr.		
29-40	C1	49.1	12.2	38.7	0.8	2.4	4.0	24.8	17.1	6.1	6.1	40.6	32.0		tr.		
40-50	C2	47.3	11.7	41.0	0.6	2.4	4.0	24.0	16.3	4.7	7.0	37.8	31.0		tr.		

Depth (in.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density: 4A1e ⅓ bar	4A1h Oven dry	4D1 COLE	Water content: Pct.	4B1c ⅓ bar	4B2 15 bar		4C1 WRD	pH: 8C1c (1:1) KCl	8C1a (1:1) H_2O
	Pct.	Pct.			Pct.	Pct.	g/cc	g/cc	g/cc		Pct.	Pct.		In/In		
0-7	0.54	0.019	28			0.3		1.68	1.68		7.1	1.8			4.2	5.1
7-10	0.40	0.022				1.1		1.64	1.68		14.5	7.1			4.0	4.9
10-19	0.18					1.8		1.40	1.47		22.8	12.5			4.2	5.0
19-25	0.10					2.0		1.48	1.54		21.7	12.8			4.4	5.2
25-29	0.08					2.2		1.57	1.61		19.9	13.0			4.1	5.2
29-40	0.04					2.3		1.60	1.64		19.5	14.1			4.0	5.0
40-50	0.04					2.6		1.62	1.66		20.3	15.3			4.0	4.8

Depth (in.)	Extractable bases 5B1a — 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al		Ratios to clay: CEC Sum	Ext. iron	8D1 15-bar water	8D3 Ca/Mg	Base saturation: 5C3 Sum cations Pct	5C1 NH_4OAc Pct.
	meq/100 g															
0-7	1.0	0.1	tr.	0.1	1.2	2.8	4.0		0.4		1.11	0.08	0.50		30	
7-10	1.4	0.2	0.1	0.1	1.8	4.2	6.0		0.8		0.28	0.05	0.33		30	
10-19	2.2	0.7	tr.	0.1	3.0	5.6	8.6		0.7		0.23	0.05	0.34		35	
19-25	1.7	1.0	tr.	tr.	2.7	5.2	7.9		0.5		0.20	0.05	0.32		34	
25-29	0.4	0.5	tr.	tr.	0.9	5.4	6.3		0.7		0.17	0.06	0.35		14	
29-40	0.1	0.6	0.1	tr.	0.8	5.6	6.4		1.0		0.16	0.06	0.36		12	
40-50	tr.	0.4	0.1	tr.	0.5	5.8	6.3		1.1		0.15	0.06	0.37		8	

Depth (in.)	Clay Fraction Analysis 7A1b-d — Mt.	Chl.	Vm.	Mi.	Int. Vm.[a]	Qtz.	Kl.	Gibbsite
	X-ray 7A2						DTA 7A3	
0-7	-	-	-	-	xxx	x	30	1
7-10	-	-	-	-	xx	tr.	30	1
10-19								
19-25	-	-	-	-	xx	tr.	34	1
25-29								
29-40	-	-	-	-	xx	-	35	1
40-50								

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, Mi = mica, Int. = Interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

a Interlayer vermiculite - a 14Å mineral that does not collapse completely upon K saturation and heating.

USDA-SCS-BELTSVILLE, MD. 1969

Soil Type: Marlboro fine sandy loam
Soil No.: S62Ga-111-11
Location: Peach County, Georgia. East of Clopine on U. S. Highway No. 301, approximately 1 mile west of Houston County line. South side of highway in peach orchard.
Vegetation and land use: Peach orchard.
Slope and land form: Level area with slopes less than 2 percent.
Drainage: Well drained in surface portion. Internal drainage somewhat restricted.
Permeability: Moderate to moderately slow.
Parent Material: Residuum from thick beds of unconsolidated sandy loams and sandy clays of coastal plain origin (Clayton formation - Paleocene epoch).
Sampled by and date: E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, April 5, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62274	0 to 7 inches. Dark grayish brown (2.5Y 4/2) to very dark grayish brown (2.5Y 3/2) fine sandy loam with fine granular structure; very friable; numerous roots; boundary abrupt, smooth.
AB 62275	7 to 10 inches. Dark grayish brown (10YR 4/2) mixed with yellowish brown (10YR 5/8) sandy clay loam; contains some material from above layer; weak medium subangular blocky structure; friable, boundary clear, smooth.
B21t 62276	10 to 19 inches. Yellowish brown (10YR 5/8) sandy clay with weak medium subangular blocky structure; friable; hard when dry; roots common; root channels and pores common; boundary gradual, smooth.
B22t 62277	19 to 25 inches. Yellowish brown (10YR 5/8) sandy clay; weak to moderate medium subangular blocky structure; friable; hard when dry; roots, root channels and pores common; boundary clear, smooth.
B23t 62278	25 to 29 inches. Yellowish brown (10YR 5/8) sandy clay with few fine and distinct mottles of dark red (2.5YR 3/6); weak medium subangular blocky structure; friable when moist, hard when dry; few roots; pores common; boundary clear, smooth.
B24tg 62279	29 to 40 inches. Yellowish brown (10YR 5/8) sandy clay with common, medium and distinct mottles of light yellowish brown (10YR 6/4), strong brown (7.5YR 5/6), light gray (2.5Y 7/2) and red (2.5YR 4/6); weak medium subangular blocky structure; friable to firm; slightly brittle and weakly cemented; root channels and pores common; boundary gradual, smooth.
B25tg 62280	40 to 50 inches plus. Yellowish brown (10YR 5/8) sandy clay; common, medium and distinct mottles of strong brown (7.5YR 5/6), red (2.5YR 4/6), light gray (2.5Y 7/2) and pale brown (10YR 6/3); weak medium subangular blocky structure; firm, hard when dry; slightly compact and brittle; slightly cemented.

Notes: Water in pit at 30 inches during sampling. B24tg and B25tg horizons have some pan characteristics. Water movement restricted. pH not determined in the field. These soils are usually acid throughout profile. Soil color refers to moist condition (Munsell color notation used).

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Norfolk sandy loam SOIL Nos. 8620A-46-1 LOCATION Dooly County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62428 - 62435

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt (0.05–0.02)	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 > 2 <76 Pct.	2 – 19	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-7	Ap	85.8	10.6	3.6	3.2	13.3	18.8	36.2	14.3	5.4	5.2	37.4	71.5			1		
7-12	A2	75.0	14.2	10.8	2.3	12.4	17.3	30.6	12.4	6.5	7.7	33.7	62.6			tr.		
12-16	B1	65.0	14.8	20.2	2.6	9.3	14.2	27.4	11.5	5.7	9.1	31.6	53.5			tr.		
16-23	B21	58.7	11.8	29.5	2.1	9.0	12.6	24.2	10.8	5.3	6.5	28.0	47.9			1		
23-30	B22	61.5	11.3	27.2	2.2	11.0	13.8	24.7	9.8	6.3	5.0	27.8	51.7			1		
30-39	B3	60.0	10.5	29.5	2.3	9.6	13.5	24.7	9.9	5.8	4.7	27.7	50.1			tr.		
39-53	C1	57.9	9.7	32.4	3.1	11.5	14.1	20.7	8.5	5.8	3.9	24.1	49.4			2		
53-60	D2	59.1	8.8	32.1	4.1	13.3	14.1	19.6	8.0	4.0	4.8	21.4	51.1			tr.		

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density	4A1e ⅓ bar	4A1h Oven dry	4D1 COLE	Water content	4B1c ⅓ bar	4B2 15 bar		4C1 WRD	pH 8C1c (1:1) KCl	8C1a (1:1) H_2O
	Pct	Pct.			Pct	Pct.	g/cc	g/cc	g/cc		Pct.	Pct.	Pct.		In/In		
0-7	0.54	0.032	17			0.2		1.68	1.68			4.1	1.7			5.6	6.3
7-12	0.22					0.6		1.73	1.76			6.9	3.6			4.6	5.6
12-16	0.15					1.1		1.64	1.68			10.9	6.8			4.0	4.8
16-23	0.10					1.5		1.54	1.62			14.2	9.4			4.4	5.3
23-30	0.11					1.5		1.52	1.58			13.3	8.8			4.7	5.4
30-39	0.10					1.7		1.70	1.73			15.0	9.8			4.4	5.0
39-53	0.04					3.0		1.72	1.74			16.9	12.6			4.0	5.0
53-60	0.04					3.1		1.72	1.75			16.8	12.4			4.0	4.7

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext acidity	CEC: 5A3a Sum cations		6G1d Ext. Al		Ratios to clay 8D1: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg		Base saturation: 5C3 Sum cations Pct	5C1 NH_4OAc Pct.
	meq/100 g																
0-7	2.5	0.5	0.1	0.2	3.3	2.2	5.5		tr.		1.53	0.06	0.47			60	
7-12	0.9	0.3	tr.	0.4	1.6	2.4	4.0		0.2		0.37	0.06	0.33			40	
12-16	0.9	0.2	tr.	0.4	1.5	5.0	6.5		0.9		0.32	0.05	0.34			23	
16-23	2.1	0.5	tr.	0.2	2.8	4.9	7.7		0.3		0.26	0.05	0.32			36	
23-30	1.7	0.7	tr.	0.1	2.5	4.7	7.2		0.2		0.26	0.06	0.32			35	
30-39	1.2	0.7	tr.	tr.	1.9	5.3	7.2		0.4		0.24	0.06	0.33			26	
39-53	0.2	0.3	0.1	tr.	0.6	6.6	7.2		1.2		0.22	0.09	0.39			8	
53-60	0.1	0.3	0.1	tr.	0.5	6.1	6.6		1.4		0.20	0.10	0.39			8	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int.	Qtz.	Kl.	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl = chlorite, Vm. = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA-SCS HYATTSVILLE MD 1966

Soil Type: Norfolk sandy loam
Soil No.: S62Ga-46-1
Location: Dooly County, Georgia. Approximately 2 miles west of Unadilla on Byromville road. Southside of road in cultivated field. Aerial photo No. JT-2M-81.
Vegetation and land use: Fallow at the present time. To be planted to cultivated crop at later date.
Slope and land form: Level area with slopes less than 2 percent.
Drainage: Well drained with very little surface runoff.
Permeability: Moderate to moderately rapid.
Parent Material: Residuum from unconsolidated stratified marine sediments. Flint River formation - Oligocene epoch.
Sampled by and date: J. F. Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, July 17, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62428	0 to 7 inches. Very dark grayish brown (2.5Y 3/2) sandy loam with weak fine granular structure; very friable; many fine roots; few small rounded iron concretions; boundary abrupt and smooth.
A3 62429	7 to 12 inches. Yellowish brown (10YR 5/4) sandy loam with weak fine granular structure; very friable; mixed organic matter from above layer; many fine roots; boundary clear and smooth.
B21t 62430	12 to 16 inches. Yellowish brown (10YR 5/8) light sandy clay loam; weak fine subangular blocky structure; very friable; fine roots, root channels and pores common; boundary gradual and wavy.
B22t 62431	16 to 23 inches. Yellowish brown (10YR 5/8) sandy clay loam with weak fine to medium subangular blocky structure; very friable to friable; fine roots, root channels and pores common; boundary gradual and wavy.
B23t 62432	23 to 30 inches. Yellowish brown (10YR 5/8) sandy clay loam with weak medium subangular blocky structure; friable; contains few large pecan roots; fine roots, root channels and pores common; boundary gradual and wavy.
B24t 62433	30 to 39 inches. Yellowish brown (10YR 5/8) sandy clay loam with few, medium and distinct mottles of strong brown (7.5YR 5/8); weak medium subangular blocky structure; friable, hard when dry; few fine roots; root channels and pores common; boundary gradual and wavy.
B25tg 62434	39 to 53 inches. Yellowish brown (10YR 5/8) sandy clay loam with many, coarse and prominent mottles of strong brown (7.5YR 5/8) light gray (10YR 7/1) and dark red (2.5YR 3/6); weak medium subangular blocky structure; friable when moist, hard slightly compact and cemented when dry; brittle; few pores and root channels; boundary gradual and wavy.
B26tg 62435	53 to 60 inches plus. Mottled yellowish brown (10YR 5/8), strong brown (7.5YR 5/8), light gray (10YR 7/1) and dark red (2.5YR 3/6) sandy clay loam; mottles are many, medium, and distinct; massive, breaking into weak medium subangular blocky structure; friable when moist; hard, compact and slightly cemented when dry; brittle; contains few soft iron concretions; few fine roots, root channels and pores.

Notes: Profile massive in places, but under pressure breaks into designated structure. All colors refer to moist condition (Munsell color notation used).

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Norfolk loamy sand SOIL Nos. S62GA-76-7 LOCATION Houston County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62436-62443

Depth (In.)	Horizon	181b Total Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: (0.05–0.02)	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		382 Cm	Coarse fragments 381: 2A2 > 2 <76 Pct.	2 – 19	19 – 76
		Pct of < 2 mm														Pct. of < 76mm		
0–6	Ap	86.3	10.6	3.1	4.2	14.7	16.3	34.3	16.8	5.5	5.1	40.3	69.5			2		
6–10	A2	74.1	15.0	10.9	3.0	14.4	15.3	29.3	12.1	6.2	8.8	32.3	62.0			1		
10–14	B1	71.5	13.1	15.4	4.5	14.7	14.7	26.1	11.5	5.3	7.8	30.0	60.0			3		
14–20	B21	64.4	12.4	23.2	3.2	11.9	13.0	24.9	11.4	4.9	7.5	29.4	53.0			6		
20–33	B22	61.0	9.6	29.4	3.1	11.1	11.8	23.8	11.2	4.3	5.3	28.1	49.8			5		
33–39	B3	61.0	8.6	30.4	4.3	12.0	11.7	22.6	10.4	3.9	4.7	25.9	50.6			2		
39–48	C1	61.4	8.1	30.5	4.5	13.5	11.8	21.5	10.1	3.3	4.8	24.4	51.3			2		
48–58	C2	61.5	8.3	30.2	5.2	16.2	12.8	18.6	8.7	3.3	5.0	21.3	52.8			2		

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		6C1a Carbonate as $CaCO_3$	Ext. iron as Fe	Bulk density	4A1e ⅓ bar	4A1h Oven dry	4D1 COLE	Water content	4B1c ⅓ bar	4B2 15 bar		4C1 WRD	pH	8C1c (1:1)	8C1a (1:1)
	Pct.	Pct.			Pct.	Pct.	g/cc	g/cc	g/cc		Pct.	Pct.	Pct.		m/in		KCl	H_2O
0–6	0.40	0.020	20		0.3			1.76	1.76			3.3	1.4				4.6	5.4
6–10	0.11				0.6			1.74	1.76			5.3	3.6				4.6	5.6
10–14	0.10				1.6			1.74	1.78			7.9	5.1				4.2	5.0
14–20	0.08				1.3			1.78	1.80			10.5	7.3				4.3	5.2
20–33	0.08				1.7			1.68	1.73			14.3	9.5				4.5	5.3
33–39	0.06				2.2			1.72	1.78			14.2	10.6				4.6	5.1
39–48	0.02				2.5			1.78	1.80			14.5	10.7				4.5	5.1
48–58	0.02				3.0			1.80	1.82			14.2	10.8				4.4	5.2

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6N2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al			Ratios to clay 8D01: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg		Base saturation: 5C3 Sum cations Pct.	5C1 NH_4OAc Pct.
	meq/100 g																	
0–6	1.3	0.2	tr.	0.1	1.6	2.1	3.7		0.1			1.19	0.10	0.45			43	
6–10	1.2	0.3	tr.	0.2	1.7	1.8	3.5		0.1			0.32	0.06	0.33			49	
10–14	1.3	0.4	tr.	0.1	1.8	3.2	5.0		0.5			0.32	0.10	0.33			36	
14–20	2.0	0.5	tr.	0.1	2.6	4.0	6.6		0.3			0.28	0.06	0.31			39	
20–33	1.9	0.6	tr.	tr.	2.5	4.5	7.0		0.2			0.24	0.06	0.32			36	
33–39	1.4	0.8	tr.	tr.	2.2	4.7	6.9		0.1			0.23	0.07	0.35			32	
39–48	0.9	0.8	tr.	tr.	1.7	4.7	6.4		0.2			0.21	0.08	0.35			27	
48–58	0.8	0.6	tr.	tr.	1.4	4.7	6.1		0.2			0.20	0.10	0.36			23	

Depth (In.)	Clay Fraction Analysis 7A1b-e: Mt.	Chl.	Vm.	Mi.	Int.	Qtz.	Kl.	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA-SCS HYATTSVILLE MD. 1966

Soil Type: Norfolk loamy sand
Soil No. S62Ga-76-7
Location: Houston County, Georgia. Approximately 3/4 mile west of U. S. Highway No. 41 on county line road. Approximately 700 feet north of county line road in cultivated field. Aerial photo No. KK-1P-147.
Vegetation and land use: Cotton
Slope and land form: Level area with slopes less than 2 percent.
Drainage: Well drained with very little surface runoff.
Permeability: Moderate to moderately rapid.
Parent Material: Residuum from unconsolidated stratified marine sediments. (Flint River formation - Oligocene epoch).
Sampled by and date: J. F. Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, July 17, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62436	0 to 6 inches. Dark grayish brown (2.5Y 4/2) loamy sand with weak fine granular structure; very friable; many fine roots; contains few small rounded iron concretions; boundary clear and smooth.
A2 62437	6 to 10 inches. Light yellowish brown (10YR 6/4) to yellowish brown (10YR 5/4) loamy sand with weak fine granular structure; very friable; contains few small rounded iron concretions; mixing of Ap material in root channels; many fine roots; boundary clear and smooth.
A3 62438	10 to 14 inches. Yellowish brown (10YR 5/8) light sandy clay loam with weak fine subangular blocky structure; very friable; fine roots, root channels and pores common; some surface soil in root channels; boundary gradual and wavy.
B21t 62439	14 to 20 inches. Yellowish brown (10YR 5/8) sandy clay loam with weak fine to medium subangular blocky structure; very friable to friable; fine roots, root channels and pores common; boundary diffuse and irregular.
B22t 62440	20 to 33 inches. Yellowish brown (10YR 5/8) sandy clay loam with weak medium subangular blocky structure; friable when moist, slightly hard when dry; fine roots common; pores and root channels common; boundary gradual and wavy.
B23t 62441	33 to 39 inches. Yellowish brown (10YR 5/8) sandy clay loam with few, medium and distinct mottles of strong brown (7.5YR 5/8); weak medium subangular blocky structure; friable when moist; hard when dry; few fine roots; boundary gradual and wavy.
B24tg 62442	39 to 48 inches. Yellowish brown (10YR 5/8) sandy clay loam with many, medium and distinct mottles of strong brown (7.5YR 5/8) and light gray (10YR 7/1); weak medium subangular blocky structure; friable when moist, hard, compact and slightly cemented when dry, brittle; boundary gradual and wavy.
B25tg 62443	48 to 58 inches plus. Yellowish brown (10YR 5/8) sandy clay loam with many, medium and distinct mottles of yellow (10YR 7/6), strong brown (7.5YR 5/8) and light gray (10YR 7/1); massive, breaking into weak medium subangular blocky structure; friable when moist, hard, compact, and brittle when dry; slightly cemented; few soft and hard rounded iron concretions.

Notes: Profile massive in place but under pressure breaks into designated structure. All colors refer to moist condition (Munsell color notation used).

SCS 421
10-64 (Rev 9-66)

U. S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Norfolk fine sandy loam SOIL Nos. S62GA-111-6 LOCATION Peach County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos 62281 - 62286

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 <76 Pct	2–19 Pct. of < 76mm	19–76 Pct. of < 76mm
		Pct of < 2 mm																
0-8	Ap	75.1	19.6	5.3	1.8	7.4	7.8	36.8	21.3	9.9	9.7	55.6	53.8			tr.		
8-12	A2	67.3	19.5	13.2	0.8	6.4	7.4	33.2	19.5	8.6	10.9	50.6	47.8			tr.		
12-21	B21	52.5	15.7	31.8	0.9	5.3	5.8	25.5	15.0	6.8	8.9	39.6	37.5			tr.		
21-29	B22	55.1	14.9	30.0	1.6	5.4	6.0	26.4	15.7	6.9	8.0	40.4	39.4			tr.		
29-36	B3	57.2	14.2	28.6	1.4	5.9	5.9	27.6	16.4	7.0	7.2	41.8	40.8			tr.		
36-44	C1	58.8	13.6	27.6	1.2	6.0	6.1	28.8	16.7	6.8	6.8	42.6	42.1			tr.		

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density: 4A1a ⅓ bar	Bulk density: 4A1h Oven dry	4D1 COLE		Water content: 4B1c ⅓ bar	Water content: 4B2 15 bar		4C1 WRD	pH: 8C1c (1:1) KCl	pH: 8C1a (1:1) H_2O
	Pct.	Pct.			Pct	Pct.	g/cc	g/cc	g/cc		Pct.	Pct.	Pct.	in/in		
0-8	0.69	0.027	26			0.4		1.71	1.72			8.5	2.6			4.1	4.6
8-12	0.25					0.7							4.6			3.9	5.0
12-21	0.18					1.7		1.58	1.64			17.2	10.8			4.5	5.3
21-29	0.10					1.7		1.64	1.68			16.2	10.1			4.5	5.5
29-36	0.04					1.7		1.70	1.74			16.4	10.2			4.3	5.1
36-44	0.04					1.7		1.70	1.72			16.5	10.0			4.1	5.2

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext acidity	CEC: 5A3a Sum cations	CEC	6G1d Ext Al		Ratios to clay 8D1: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg		Base saturation: 5C3 Sum cations Pct.	5C1 NH_4OAc Pct
	meq/100 g																
0-8	0.8	0.3	tr.	0.1	1.2	4.2	5.4		0.8		1.02	0.08	0.49			22	
8-12	1.1	0.3	tr.	0.1	1.5	3.2	4.7		0.6		0.36	0.05	0.35			32	
12-21	2.5	0.5	tr.	0.1	3.1	4.4	7.5		0.4		0.24	0.05	0.34			41	
21-29	1.8	0.5	tr.	tr.	2.3	4.2	6.5		0.4		0.22	0.06	0.34			35	
29-36	0.6	0.7	0.1	tr.	1.4	4.2	5.6		0.5		0.20	0.06	0.36			25	
36-44	tr.	0.3	0.1	tr.	0.4	4.2	4.6		0.7		0.17	0.06	0.36			9	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int.	Qtz	Kl	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl = chlorite, Vm. = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA SCS-HYATTSVILLE MD. 1966

Soil Type: Norfolk fine sandy loam
Soil No.: S62Ga-111-6
Location: Peach County, Georgia. Approximately 1 mile west of Fort Valley city limits. On Nakomis road which turns off Georgia Highway No. 49 at cemetery. North side of road in peach orchard. Aerial photo No. LB-1P-39.
Vegetation and land use: Peach orchard.
Slope and land form: Nearly level with slopes less than 2 percent.
Drainage: Well drained in surface portion. Internal drainage somewhat restricted. Very little surface runoff.
Permeability: Moderate to moderately slow.
Parent Material: Residuum from thick beds of unconsolidated sandy loams and sandy clays of the coastal plains. (Clayton formation - Paleocene epoch).
Sampled by and date: E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, April 3, 1962.
Described by: John C. Woods.

Horizon and
Beltsville
Lab. Number

Ap
62281 — 0 to 8 inches. Very dark grayish brown (2.5Y 3/2) fine sandy loam with weak fine granular structure; very friable; boundary abrupt, wavy.

A3
62282 — 8 to 12 inches. Yellowish brown (10YR 5/4) streaked with very dark grayish brown (2.5Y 3/2) sandy clay loam; weak fine granular structure; intrusion of material from Ap horizon; friable; boundary clear, wavy.

B21t
62283 — 12 to 21 inches. Yellowish brown (10YR 5/6) sandy clay with weak moderate subangular blocky structure; friable; boundary gradual, smooth.

B22t
62284 — 21 to 29 inches. Yellowish brown (10YR 5/6) sandy clay; weak to moderate subangular blocky structure; friable; roots and pores common; few soft concretions in lower part; boundary clear, smooth.

B23t
62285 — 29 to 36 inches. Yellowish brown (10YR 5/6) sandy clay with common, medium and distinct mottles of strong brown (7.5YR 5/6) and red (2.5YR 4/6); weak moderate subangular blocky structure; friable, few fine roots; boundary gradual, smooth.

B24t
62286 — 36 to 44 inches. Yellowish brown (10YR 5/6) sandy clay with common, medium and distinct mottles of strong brown (7.5YR 5/6); pale brown (10YR 6/3) and light gray (2.5Y 7/2); massive in place, breaking into weak fine subangular blocky structure; friable, but brittle; slightly crusted or cemented; boundary arbitrary.

B25tg
Not Sampled — 44 to 75 inches plus. Yellowish brown (10YR 5/6) sandy clay to heavy sandy clay loam; common, medium and prominent mottles of strong brown (7.5YR 5/6), red (2.5YR 4/6), light gray (2.5Y 7/2) and yellow (10YR 7/6); massive; few soft, brown iron concretions; friable to firm, hard when dry; slightly compact and brittle.

Notes: Description of the B25tg horizon was made from auger boring. In the B24tg and B25tg horizons, there seems to be a weakly developed pan which restricts internal drainage. Water in pit at 30 inches depth during sampling. pH not determined in the field. These soils are usually strong to very strongly acid. All soil colors refer to moist condition (Munsell Color Notations). Orchard has had annual application of fertilizer.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Norfolk loamy sand SOIL Nos. 356Ga-137-6 LOCATION Tift County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 56395 - 56401

Depth (In.)	Horizon	1B1b Total Sand (2–0 05)	Total Silt (0 05–0 002)	Total Clay (< 0 002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0 5)	Sand: Medium (0 5–0.25)	Sand: Fine (0 25–0.1)	Sand: Very fine (0.1–0.05)	Silt (0.05–0 02)	Silt: Int. III (0.02–0.002)	Int II (0.2–0.02)	(2–0 1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 Pct.	2 – 19 Pct. of < 76mm	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-10	Ap		6.9	2.1	2.8	16.5	23.5	35.0	13.2		3.5	34.3				tr.		
10-18	B1		8.7	2.7	2.7	16.3	22.1	34.0	13.5		4.6	35.1				tr.		
18-29	B21		9.6	4.5	2.2	15.3	19.4	34.2	14.8		4.7	37.4				tr.		
29-42	B22		8.8	11.5	3.0	13.5	16.8	32.1	14.3		4.3	35.8				tr.		
42-52	B3		1.5	14.2	10.6	26.2	19.5	21.4	6.6		2.5	15.1				tr.		
52-63	C1		4.8	15.6	3.2	19.4	22.8	26.2	8.0		2.8	21.9				tr.		
63+	C2		3.7	15.9	3.5	20.7	23.0	25.7	7.5		1.8	20.8				tr.		

Depth (In.)	6A1a Organic carbon Pct.	Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.	6C1a Ext. iron as Fe_2O_3 Pct.	Bulk density: 4A1e ⅓ bar g/cc	Bulk density: 4A1h Oven dry g/cc	4D1 COLE	Water content: Pct.	Water content: 4B1c ⅓ bar Pct.	Water content: 4B2 15 bar Pct.		4C1 WRD in/in	pH: 8C1c (1:1) KCl	pH: 8C1a (1:1) H_2O
0-10	0.26	0.018	14			0.2										5.2
10-18	0.11					0.3										4.8
18-29	0.02					0.3										4.7
29-42	0.08					1.2										4.7
42-52	0.02					1.5										4.7
52-63	0.05					0.7										4.6
63+	0.00					0.5										4.6

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations	CEC	6G1d Ext. Al			Ratios to clay: CEC Sum	Ratios to clay: Ext. iron	Ratios to clay: 15-bar water	8D3 Ca/Mg		Base saturation: 5C3 Sum cations Pct.	Base saturation: 5C1 NH_4OAc Pct.
	meq/100 g																	
0-10	0.4	0.2	tr.	0.1		1.9	2.6										27	
10-18	0.8	0.1	0.1	0.1		1.5	2.6										42	
18-29	0.3	0.1	tr.	0.1		1.5	2.0										25	
29-42	0.6	0.1	tr.	0.1		2.9	3.7										21	
42-52	0.9	0.2	tr.	0.1		2.5	3.7										32	
52-63	0.4	0.3	0.1	0.1		2.5	3.4										26	
63+	0.2	0.2	0.1	0.1		2.5	3.1										19	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt	Chl.	Vm.	Mi.	Int. Vm. Mt.	Qtz.	Kl.	Gibbsite	
			7A2 X-ray				DTA 7A3		
0-10									
10-18									
18-29									
29-42			xxx				35	tr.	
42-52									
52-63									
63+					x		50	0	

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA SCS HYATTSVILLE MD. 1966

Soil Type: Norfolk loamy sand, thick surface phase.
Soil No.: 8560a-137-6
Location: Tift County, Georgia. 2-1/2 miles N. E. Tifton, Ga., on unpaved county road, turn right and go south 1/2 mile to Moore Farm. Site located in cultivated field 150 yards west of county road.
Vegetation and land use: Cultivated area, recently turned and has been in cultivation to row crops for many years.
Slope and land form: 1-1/2 percent.
Sampled by and date: Alexander, Cady, Pedersen, Stevens, Stone, and Calhoun. February 1956.
Described by: Alexander, Cady, Pedersen, Stevens, Stone, and Calhoun.

Horizon and Beltsville Lab. No.	
Ap 56395	0 to 10 inches. Grayish brown (2.5Y 5/2), nearly loose, loamy sand, with weak fine, crumb structure. A few yellow (2.5Y 8/6) spots were observed in this horizon. Boundary abrupt and smooth.
B1 56396	10 to 18 inches. Pale yellow (2.5Y 7/4), nearly loose loamy sand, with weak, fine, crumb structure. Boundary gradual and smooth.
B21 56397	18 to 29 inches. Yellow (2.5Y 8/6) very friable, sandy loam, with weak, fine subangular blocky structure. Boundary gradual and smooth.
B22 56398	29 to 42 inches. Yellowish brown (10YR 5/8), friable sandy loam, with a few, medium, distinct mottles of strong brown (7.5YR 5/6), weak, fine subangular blocky structure. Boundary gradual and smooth.
B3 56399	42 to 52 inches. Brownish yellow (10YR 6/8), friable sandy loam, with common, medium distinct mottles of yellowish, red (5YR 5/8); moderate, medium, subangular blocky structure. Boundary gradual and smooth.
C1 56400	52 to 63 inches. Brownish yellow (10YR 6/8) friable sandy loam, with common, medium prominent mottles of light gray (2.5Y 7/2) and red (10R 4/6); moderate, medium, subangular blocky structure. Boundary gradual and smooth.
C2 56401	63 inches plus. White (10YR 8/1) firm, sandy loam, with many, medium, distinct mottles of light olive brown (2.5Y 5/6), and reddish yellow (7.5YR 6/8); structureless.

Notes: Color of soil moist unless otherwise stated.

SCS-421
10-64 (Rev 9-66)

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Norfolk loamy sand, thick surface phase SOIL Nos. S56Ga-137-8 LOCATION Tift County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 56409 - 56415

Depth (in.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int III (0.02–0.002)	Int II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 > 2 Pct.	2–19 Pct. of < 76mm	19–76 Pct. of < 76mm
		Pct. of < 2 mm																
0-12	Ap		7.0	2.4	2.0	15.9	23.1	35.0	14.6		3.1	36.1				tr.		
12-18	B1		9.1	4.2	1.6	10.8	19.9	36.8	17.6		4.3	41.7				tr.		
18-27	B21		8.8	6.4	2.6	13.4	19.2	34.0	15.6		4.1	44.7				2		
27-38	B22		7.5	13.0	3.8	15.4	17.5	30.0	12.8		4.2	31.4				36		
38-49	B3		5.6	17.7	4.5	16.7	19.2	26.7	9.6		3.4	25.1				3		
49-60	C1		4.3	17.6	3.7	17.5	21.3	26.9	8.7		2.8	22.8				tr.		
60-70+	C2		2.9	20.8	2.7	15.9	23.8	27.5	6.4		1.9	19.1				tr.		

Depth (In.)	6A1a Organic carbon	Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe_2O_3	Bulk density: 4A1e ⅓ bar	4A1h Oven dry	4D1 COLE	Water content:	4B1c ⅓ bar	4B2 15 bar		4C1 WRD	pH: 8C1c (1:1) KCl	8C1a (1:1) H_2O
	Pct	Pct.			Pct.	Pct.	g/cc	g/cc		Pct.	Pct.	Pct.		in/in		
0-12	0.20	0.019				0.2										5.1
12-18	0.05					0.2										4.8
18-27	0.03					0.6										4.6
27-38	0.06					0.9										4.7
38-49	0.02					1.9										4.8
49-60	0.02					1.8										4.5
60-70+	0.02					2.5										4.5

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext Al		Ratios to clay: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg		Base saturation: 5C3 Sum cations Pct.	5C1 NH_4OAc Pct
	meq/100 g																
0-12	0.3	0.1	tr.	0.1		2.5	3.0									17	
12-18	0.3	0.1	tr.	0.1		1.5	2.0									25	
18-27	0.2	0.2	tr.	0.1		1.9	2.4									21	
27-38	0.6	0.1	0.1	0.2		2.1	3.1									32	
38-49	0.8	0.3	tr.	0.1		3.1	4.3									28	
49-60	0.2	0.2	tr.	0.1		3.7	4.2									12	
60-70+	0.2	0.2	tr.	0.1		2.9	3.4									15	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt	Chl.	Vm. (7A2 X-ray)	Mi.	Int. Vm. Mt. (7A2 X-ray)	Qtz.	Kl (DTA 7A3)	Gibbsite (DTA 7A3)	
0-12									
12-18									
18-27									
27-38									
38-49			xx				37	3	
49-60									
60-70+					x		45	0	

Mt. = Montmorillonite, Chl = chlorite, Vm. = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant

USDA SCS-HYATTSVILLE, MD 1966

Soil Type: Norfolk loamy sand, thick surface phase.
Soil No.: S56Ga-137-8
Location: Tift County, Georgia. 2.7 miles east on first dirt road to the right off U. S. Highway 31 N. E. from intersection of U. S. Highways 82 and 319. Pit was dug 150 feet south of dirt road in cultivated field.
Vegetation and land use: Cultivated to row crops for a number of years.
Slope and land form: One percent.
Sampled and described by: Alexander, Cady, Pedersen, Stevens, Stone, and Calhoun.

Horizon and Beltsville Lab. No.	
Ap 56409	0 to 12 inches. Dark grayish brown (2.5Y 4/2) nearly loose, loamy sand; weak fine, crumb structure, and containing a moderate number of small hard iron concretions. Boundary abrupt and smooth.
B1 56410	12 to 18 inches. Pale yellow (2.5Y 7/4) nearly loose, loamy sand, with weak fine crumb structure, and containing, a moderate number of small hard iron concretions. Boundary clear and smooth.
B21 56411	18 to 27 inches. Yellow (10YR 7/8) very friable, sandy loam, weak, fine, subangular blocky structure, and containing a moderate number of small hard iron concretions. Boundary gradual and smooth.
B22 56412	27 to 38 inches. Brownish yellow (10YR 6/8) friable sandy clay loam; moderate, medium, subangular blocky structure, and containing numerous small hard iron concretions. Boundary gradual and smooth.
B3 56413	38 to 49 inches. Yellowish brown (10YR 5/8), friable, sandy clay loam, with common, medium, distinct mottles of strong brown (7.5YR 5/6); moderate, medium, subangular blocky structure, and containing a moderate number of small soft and hard iron concretions. Boundary gradual and smooth.
C1 56414	49 to 60 inches. Brownish yellow (10YR 6/8), firm, sandy clay loam, with common, medium, distinct mottles of red (10R 4/6); moderate, medium, subangular blocky structure. Boundary gradual and smooth.
C2 56415	60 to 70 inches plus. Olive yellow (2.5Y 6/8) firm sandy clay loam, with many, coarse, prominent mottles of pink (5YR 7/3); moderate, medium, angular blocky structure.

Notes: Color of soil moist unless otherwise stated.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Rains loamy sand SOIL Nos. 857Ga-137-11 LOCATION Tift County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 57803 - 57807

Depth (in.)	Horizon	1B1b Total: Sand (2-0.05)	Silt (0.05-0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 — Sand: Very coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-0.1)	Very fine (0.1-0.05)	Silt: 0.05-0.02	Int. III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 > 2 Pct.	2 - 19	19 - 76 (Pct. of < 76mm)
		Pct. of < 2 mm																
0-7	A1g		8.0	5.2	8.1	21.8	17.4	25.0	14.5		2.3	33.9				2		
7-24	A2g		7.2	8.3	7.7	21.4	16.7	24.4	14.3		1.6	33.0				3		
24-36	B21tg		4.3	29.6	9.8	20.0	13.4	15.1	7.8		1.2	18.9				3		
36-52	B22tg		4.3	29.4	6.7	19.5	14.7	17.3	8.1		1.5	20.0				2		
52-62+	B22tg		4.6	31.1	9.8	19.2	11.5	15.0	8.8		1.4	20.1				2		

Depth (in.)	6A1a Organic carbon Pct.	Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.	6C1a Ext. iron as Fe_2O_3 Pct.	Bulk density: 4A1e ⅓ bar g/cc	4A1h Oven dry g/cc	4D1 COLE	Water content: Pct.	4B1c ⅓ bar Pct.	4B2 15 bar Pct		4C1 WRD in/in	pH: 8C1c (1:1) KCl	8C1a (1:1) H_2O
0-7	1.06	0.043	25			0.3										4.4
7-24	0.20					0.1										4.3
24-36	0.12					1.4										4.3
36-52	0.05					1.4										4.4
52-62+	0.06					1.4										4.6

Depth (in.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al	Ratios to clay: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg	Base saturation: 5C3 Sum cations Pct.	5C1 NH_4OAc Pct.
	meq/100 g														
0-7	0.3	0.2	tr.	0.1		5.8	6.4							9	
7-24	0.2	0.5	tr.	tr.		3.1	3.8							18	
24-36	0.2	0.5	0.1	0.1		6.1	7.0							13	
36-52	0.4	0.4	tr.	0.1		5.2	6.1							15	
52-62+	0.5	0.6	tr.	0.1		5.6	6.8							18	

Depth (in.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int. Vm. Mt. (7A2 X-ray)	Qtz.	Kl. (DTA 7A3)	Gibbsite (DTA 7A3)
0-7								
7-24								
24-36					x		50	0
36-52								
52-62+					x		50	0

Mt. = Montmorillonite, Chl = chlorite, Vm = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA SCS HYATTSVILLE MD 1969

Soil Type: Rains loamy sand.
Soil No.: S57Ga-137-11
Location: Tift County, Georgia. 1/2 mile N. W. of Engineering Building, Abraham Baldwin farm along field road - 100 yds. east of road.
Vegetation and land use: Wooded area consisting mostly of longleaf pine and bay trees with native grasses and gallberry bushes as undergrowth.
Slope and land form: One percent.
Sampled by: Stevens and Calhoun.

Horizon and Beltsville Lab. No.	
A1g 57803	0 to 7 inches. Very dark gray (N 3/), very friable loamy sand, weak, fine, granular structure, and containing numerous tree and shrub roots uniformly distributed. Boundary clear and smooth. Strongly acid.
A2g 57804	7 to 24 inches. Gray (N 5/) very friable loamy sand with common, fine distinct mottles of yellowish brown (10YR 5/4), weak, fine granular structure and containing a few tree roots. Boundary gradual and wavy. Strongly acid.
B21tg 57805	24 to 36 inches. Gray (N 5/) sandy clay loam with many, medium, distinct mottles of brownish yellow (10YR 6/8), moderate, medium, subangular blocky structure; friable; contains a few tree and shrub roots. Boundary gradual and wavy. Very strongly acid.
B22tg 57806	36 to 52 inches. Dark gray (N 4/) sandy clay loam with many coarse prominent mottles of light gray (N 7/); yellowish brown (10YR 5/8) and red (2.5YR 4/6), moderate, medium, subangular blocky structure; friable; boundary gradual and smooth. Strongly acid.
B22tg 57807	52 to 62 inches plus. Dark gray (N 4/) sandy clay loam with many coarse prominent mottles of yellowish brown (10YR 5/6) and red (2.5YR 4/6) moderate, medium, subangular blocky structure; friable; strongly acid.

Notes: Color soil moist unless otherwise stated.

SCS-421
10-64 (Rev. 9-66)

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Rains loamy sand SOIL Nos. 8570a-137-12 LOCATION Tift County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 57808 - 57812

Depth (in.)	Horizon	Size class and particle diameter (mm) 3A1 — Total: Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 >2 Pct.	2–19	19–76 Pct. of <76mm
		Pct. of < 2 mm																
0-6	A1g		11.5	4.6	4.6	15.2	16.2	30.3	17.6		3.5	41.9				3		
6-23	A2g		10.1	5.5	4.9	15.1	16.2	30.0	18.2		2.5	41.7				2		
23-35	B11tg		10.1	17.5	5.9	14.1	14.5	24.2	13.7		3.9	33.3				2		
35-48	B12tg		9.5	16.3	6.7	16.5	15.8	23.6	11.6		3.8	29.8				2		
48-64+	B2tg		8.9	22.9	5.9	14.4	13.9	22.3	11.7		2.9	29.8				2		

Depth (in.)	6A1a Organic carbon Pct	Nitrogen Pct.	C/N	Carbonate as $CaCO_3$ Pct.	6C1a Ext. iron as Fe_2O_3 Pct.	Bulk density: 4A1e ⅓ bar g/cc	4A1h Oven dry g/cc	4D1 COLE	Water content: Pct.	4B1c ⅓ bar Pct.	4B2 15 bar Pct.	4C1 WRD in/in	pH: 8C1c (1:1) KCl	8C1a (1:1) H_2O
0-6	1.41	0.044	32		0.2									4.5
6-23	0.21				0.2									4.5
23-35	0.14				0.6									4.4
35-48	0.02				2.0									4.7
48-64+	0.00				2.1									4.7

Depth (in.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al	Ratios to clay: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg	Base saturation: 5C3 Sum cations Pct.	5C1 NH_4OAc Pct.
	meq/100 g														
0-6	1.0	0.5	tr.	0.1		6.3	7.0							10	
6-23	0.2	0.3	tr.	0.1		2.3	2.9							21	
23-35	0.2	0.5	tr.	tr.		4.1	4.8							14	
35-48	0.5	0.6	tr.	0.1		3.1	4.3							28	
48-64+	0.7	0.7	tr.	0.1		4.0	5.5							27	

Depth (in.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int. Vm. Mt.	Qtz.	Kl.	Gibbsite
			7A2 X-ray				DTA 7A3	
0-6								
6-23								
23-35					x		45	tr.
35-48								
48-64+					x		50	0

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

BEDA-SCS-HYATTSVILLE, MD. 1965

Soil Type: Rains loamy sand.
Soil No.: S57Ga-137-12
Location: Tift County, Georgia. 2-1/2 miles west of Tifton, Georgia, on old Ty Ty road; 300 yards north of road and 250 yards N. E. of Otis Marchant's residence.
Vegetation and land use: Longleaf pine mixed with poplar and bay with gallberry understory.
Slope and land form: One percent.
Sampled and described by: Stevens, Gilbert, and Calhoun.

Horizon and Beltsville Lab No.	
A1g 57808	0 to 6 inches. Dark gray (N 4/) very friable loamy sand, weak, fine granular structure, and containing numerous tree and shrub roots uniformly distributed. Boundary clear and smooth. Strongly acid.
A2g 57809	6 to 23 inches. Gray (N 5/) very friable loamy sand with common, fine, faint mottles of pale yellow (2.5Y 7/4), weak, fine granular structure and containing some tree and shrub roots. Boundary gradual and smooth. Strongly acid.
B11tg 57810	23 to 35 inches. Gray (N 5/) sandy clay loam with many, coarse, distinct mottles of olive yellow (10YR 6/6), moderate, medium, subangular blocky structure; friable; contains a few tree roots. Boundary gradual and smooth. Very strongly acid.
B12tg 57811	35 to 48 inches. Gray (10YR 6/1) sandy clay loam with many coarse prominent mottles of yellowish brown (10YR 5/8), and red (2.5YR 4/8), moderate, medium subangular blocky structure; friable; boundary gradual and smooth. Very strongly acid.
B2tg 57812	48 to 64 inches plus. Gray (N 6/) sandy clay loam with many, coarse, prominent mottles of yellowish brown (10YR 5/8) and red (2.5YR 4/6) moderate, medium, subangular blocky structure; friable; strongly acid.

Notes: Color soil moist unless otherwise stated.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Red Bay sandy loam SOIL Nos. 862GA-76-2 LOCATION Houston County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62287 - 62295

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt (0.05–0.02)	Silt: Int III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 > 2 <76 Pct.	2 – 19 Pct. of < 76mm	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-8	Ap	85.9	10.0	4.1	1.5	8.0	12.4	50.3	13.7	4.4	5.6	48.5	72.2			tr.		
8-12	A3	74.4	12.2	13.4	1.0	7.9	10.8	42.9	11.8	4.1	8.1	42.3	62.6			tr.		
12-17	B1	68.4	11.8	19.8	1.0	6.1	9.4	40.4	11.5	3.8	8.0	40.8	56.9			tr.		
17-28	B21	62.3	10.5	27.2	1.1	5.6	8.7	36.5	10.4	3.7	6.8	36.5	51.9			tr.		
28-38	B22	59.5	8.8	31.7	1.3	6.2	8.9	33.9	9.2	3.2	5.6	33.1	50.3			tr.		
38-49	B23	54.9	6.7	38.4	1.5	5.8	7.8	31.3	8.5	3.0	3.7	30.9	46.4			tr.		
49-61	B24	52.6	5.5	41.9	1.2	5.6	7.5	30.4	7.9	2.7	2.8	28.9	44.7			tr.		
61-71	B25	53.1	4.6	42.3	1.1	6.2	8.0	30.2	7.6	2.6	2.0	28.1	45.5			tr.		
71-111	B26	52.3	2.7	45.0	1.0	5.4	7.7	30.9	7.3	1.8	0.9	27.7	45.0			tr.		

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density: 4A1e ⅓ bar	Bulk density: 4A1h Oven dry	4D1 COLE	Water content: 4B1c ⅓ bar	Water content: 4B2 15 bar		4C1 WRD	pH: 8C1c (1:1) KCl	pH: 8C1a (1:1) H_2O
	Pct.	Pct.			Pct.	Pct.	g/cc	g/cc	g/cc		Pct.	Pct.	in/in		
0-8	0.40	0.017	24			0.3		1.64	1.64		5.1	1.8			5.3	5.9
8-12	0.20					0.7		1.71	1.73		7.2	4.4			4.5	5.3
12-17	0.10					1.2		1.66	1.68		9.7	6.2			4.6	5.3
17-28	0.08					1.7		1.66	1.70		12.3	8.5			4.7	5.6
28-38	0.06					2.1		1.71	1.76		15.4	10.4			5.1	5.7
38-49	0.04					2.6		1.74	1.80		16.3	12.7			4.5	5.1
49-61	0.04					3.1		1.72	1.76		17.7	14.2			4.1	4.8
61-71	0.02					3.2		1.70	1.75		18.4	14.2			4.2	4.9
71-111	0.02					3.6						14.6			4.3	5.0

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations	6G1d Ext. Al	Ratios to clay 8D1: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg	7D2 Total Mn	Base saturation: 5C3 Sum cations	5C1 NH_4OAc
	meq/100 g												Pct.	Pct.	Pct.
0-8	1.5	0.4	tr.	0.2	2.1	1.5	3.6	-	0.88	0.07	0.44		0.05	58	
8-12	0.7	0.4	tr.	0.2	1.3	2.3	3.6	0.2	0.27	0.05	0.33			36	
12-17	1.1	0.6	tr.	0.2	1.9	2.8	4.7	0.2	0.24	0.06	0.31			40	
17-28	1.7	0.7	tr.	0.1	2.5	3.0	5.5	0.2	0.20	0.06	0.31			45	
28-38	1.9	0.9	tr.	0.1	2.9	2.8	5.7	0.1	0.18	0.07	0.33			51	
38-49	1.4	0.8	tr.	tr.	2.2	3.6	5.8	0.2	0.15	0.07	0.33			38	
49-61	0.7	0.5	0.1	tr.	1.3	4.2	5.5	0.8	0.13	0.07	0.34			24	
61-71	0.7	0.6	0.1	tr.	1.4	4.2	5.6	0.7	0.13	0.08	0.34			25	
71-111	0.8	0.6	0.1	tr.	1.5	3.8	5.3	0.6	0.12	0.08	0.32			28	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm.	Mi.	Int.	Qtz	Kl.	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA-SCS-HYATTSVILLE, MD. 1968

Soil Type: Red Bay sandy loam
Soil No.: S62Ga-76-2
Location: Houston County, Georgia. On dirt road approximately 1/2 mile south of Centerville. East side of road in cultivated field. Aerial photo No. KK-2P-25.
Vegetation and land use: Fallow, to be planted in peanuts.
Slope and land form: Level area with slopes less than 2 percent.
Drainage: Well drained with very little surface runoff.
Permeability: Moderate to moderately rapid.
Parent Material: Residuum from thick beds of unconsolidated acid sandy loams, sandy clay loams, and sandy clays of coastal plain origin. Clayton formation - Paleocene epoch.
Sampled by and date: E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, April 6, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62287	0 to 8 inches. Dark grayish brown (10YR 4/2) to very dark grayish brown (10YR 3/2) sandy loam with weak fine granular structure; very friable; many fine roots; boundary abrupt, wavy.
A3 62288	8 to 12 inches. Yellowish red (5YR 4/6) sandy loam to light sandy clay loam; weak fine granular structure; intrusion of organic matter, with some mixing; numerous fine roots; very friable; boundary clear, wavy.
B1t 62289	12 to 17 inches. Dark red (2.5YR 3/6) sandy clay loam with very weak medium subangular blocky structure; very friable; many fine roots; some intrusions of surface soil in root channels and pores; boundary clear, smooth.
B21t 62290	17 to 28 inches. Dark red (2.5YR 3/6) sandy clay loam with weak medium subangular blocky structure; friable; surface soil in root channels and pores; fine roots common; few thin patchy, clay films on ped faces; boundary gradual, smooth.
B22t 62291	28 to 38 inches. This is an arbitrary boundary for sampling and is very similar to description for B21t horizon above.
B23t 62292	38 to 49 inches. Dark red (10R 3/6) sandy clay loam with weak medium subangular blocky structure; friable; few thin patchy clay films on ped faces; fine roots common; pores and root channels common; boundary gradual, smooth.
B24t 62293	49 to 61 inches. Dark red (10R 3/6) sandy clay loam with moderate medium subangular blocky structure; firm, many thin patchy clay films on ped faces; few fine roots; boundary gradual, smooth.
B25t 62294	61 to 71 inches. Dark red (10R 3/6) heavy sandy clay loam; massive, breaking into weak medium subangular blocky structure; firm, hard when dry; patchy clay films on ped faces common; boundary gradual, smooth.
B26t 62295	71 to 111 inches plus. Dark red (10R 3/6) heavy sandy clay loam; to light sandy clay; massive; firm, hard when dry; contains few thin patchy clay films on faces of peds.

Notes: B26t horizon sampled with soil auger from bottom of pit. Soil colors refer to moist condition. pH not determined in the field. These soils are strongly acid throughout.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Red Bay sandy loam SOIL Nos. 862GA-96-2 LOCATION Macon County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62303 - 62309

Depth (in.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 <76 Pct.	2 - 19	19 - 76
		Pct. of < 2 mm														Pct. of < 76mm		
0-7	Ap	78.3	7.9	13.8	1.5	16.7	20.7	26.2	13.2	4.4	3.5	31.2	65.1			tr.		
7-12	B1	63.0	8.8	28.2	1.4	14.7	16.1	20.4	10.4	3.8	5.0	24.7	52.6			tr.		
12-21	B21	63.0	9.4	27.6	1.1	13.7	16.3	21.1	10.8	4.5	4.9	26.2	52.2			tr.		
21-32	B22	63.0	8.6	28.4	1.5	14.1	16.7	20.2	10.5	3.7	4.9	24.9	52.5			tr.		
32-40	B23	64.0	7.5	28.5	2.1	16.9	17.2	18.6	9.2	2.5	5.4	21.3	54.8			tr.		
40-58	B31	64.7	6.5	28.8	2.2	16.6	17.6	19.3	9.0	2.6	3.9	21.7	55.7			tr.		
58-64	B32	65.2	6.0	28.8	1.2	14.5	17.5	21.2	10.8	2.3	3.7	24.1	54.4			tr.		

Depth (in.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density:	4A1e ⅓ bar	4A1h Oven dry	4D1 COLE	Water content:	4B1c ⅓ bar	4B2 15 bar		4C1 WRD	pH:	8C1c (1:1) KCl	8C1a (1:1) H_2O
	Pct.	Pct			Pct.	Pct.	g/cc	g/cc	g/cc		Pct.	Pct.	Pct.		In/in			
0-7	0.42	0.027	16			1.3		1.77	1.78			7.3	4.4				4.5	5.1
7-12	0.16					2.5		1.60	1.64			12.7	8.3				4.4	5.2
12-21	0.10					2.5		1.62	1.66			11.6	8.1				4.6	5.4
21-32	0.08					2.6		1.62	1.66			11.9	8.3				4.2	5.0
32-40	0.08					2.7		1.68	1.72			12.6	8.7				4.1	5.0
40-58	0.06					2.8		1.70	1.74			12.4	9.0				4.0	5.0
58-64	0.04					2.8		1.71	1.74			12.1	8.6				4.1	5.0

Depth (in.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6N2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al			Ratios to clay 8D1: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg	7D2 Total Mn	Base saturation: 5C3 Sum cations	5C1 NH_4OAc
	meq/100 g															Pct.	Pct.	Pct.
0-7	0.9	0.3	tr.	0.1	1.3	3.8	5.1		0.4			0.37	0.09	0.32		0.10	25	
7-12	1.2	0.3	tr.	0.2	1.7	4.3	6.0		0.4			0.21	0.09	0.29			28	
12-21	1.4	0.2	tr.	0.1	1.7	3.4	5.1		0.2			0.18	0.09	0.29			33	
21-32	1.1	0.2	tr.	tr.	1.3	3.6	4.9		0.6			0.17	0.09	0.29			27	
32-40	1.2	0.3	tr.	tr.	1.5	3.6	5.1		0.6			0.18	0.09	0.30			29	
40-58	0.7	0.3	tr.	tr.	1.0	3.4	4.4		0.5			0.15	0.10	0.31			23	
58-64	0.3	0.3	tr.	tr.	0.6	3.2	3.8		0.7			0.13	0.10	0.30			16	

Depth (in.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm. (7A2 X-ray)	Mi.	Int. Vm.[a]	Qtz.	Kl. (DTA 7A3)	Gibbsite	
0-7	-	-	-	-	xx	-	40	5	
7-12									
12-21	-	-	-	-	xx	-	30	3	
21-32	-	-	-	-	xx	-	35	2	
32-40									
40-58	-	-	-	-	xx	-	40	2	
58-64									

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

a Interlayer vermiculite - a 14Å mineral that does not collapse completely upon K saturation and heating.

SCSA-SCS-HYATTSVILLE MD. 1966

Soil type: Red Bay sandy loam
Soil No.: S62Ga-96-2
Location: Approximately 1 mile north of Four Point, Macon County, Georgia, on Georgia Highway No. 224. East side of highway in peach orchard; aerial photo KU-1M-107.
Vegetation and use: Peach orchard.
Slope and land form: Level area with slopes less than 2 percent.
Drainage: Well drained with very little surface runoff.
Permeability: Moderate to rapid.
Parent material: Medium and moderately coarse textured marine sediments of the upper coastal plains. Clayton Formation - Paleocene epoch.
Samples collected by: E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, April 3, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62303	0 to 7 inches. Dark reddish brown (5YR 3/3) sandy loam with weak fine granular structure; very friable; many fine roots; boundary clear, wavy.
B21t 62304	7 to 12 inches. Dark red (2.5YR 3/6) light sandy clay loam with weak medium subangular blocky structure; friable; fine roots common; pores common; boundary clear, smooth.
B22t 62305	12 to 21 inches. Dark red (10R 3/6) sandy clay loam with weak medium subangular blocky structure; friable; fine roots common; pores common; few patchy clay films on peds; boundary gradual, smooth.
B23t 62306	21 to 32 inches. This horizon is arbitrary and is very similar to above horizon.
B24t 62307	32 to 40 inches. Dark red (10R 3/6) sandy clay loam; massive, breaking down into weak medium subangular blocky structure; friable; few fine roots; few patchy clay films on ped faces; pores common; boundary diffuse, smooth.
B25t 62308	40 to 58 inches. Dark red (10R 3/6) light sandy clay loam; massive; breaks down into weak medium subangular blocky structure; friable to firm; few fine roots; few patchy clay film on peds; boundary clear, smooth.
B26t 62309	58 to 64 inches. Dark red (10R 3/6) sandy loam to light sandy clay loam; massive, under pressure breaks into weak medium subangular blocky structure; friable; very fine roots in upper portion; few fine root channels and pores.

Notes: ph not determined in the field had been recently limed and fertilized. All soil colors refer to moist condition (Munsell color notation used).

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Red Bay sandy loam SOIL Nos. 8620A-96-3 LOCATION Macon County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62310 - 62314

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 <76 Pct	2 – 19	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-10	Ap	80.5	10.4	9.1	1.8	14.3	14.2	36.6	13.6	4.0	6.4	38.8	66.9			tr.		
10-16	B1	70.3	8.7	21.0	0.7	9.6	12.0	34.1	13.9	4.7	4.0	40.1	56.4			tr.		
16-31	B21	65.0	9.2	25.8	1.0	7.5	10.2	32.5	13.8	5.2	4.0	39.7	51.2			tr.		
31-45	B22	66.1	6.9	27.0	0.9	8.1	10.8	32.4	13.9	3.6	3.3	38.0	52.2			tr.		
45-64	B3	63.5	9.9	26.6	0.8	7.7	10.4	31.4	13.2	8.2	1.7	40.5	50.3			tr.		

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe	Bulk density:	4A1e ⅓ bar	4A1h Oven dry	4D1 COLE	Water content:	4B1c ⅓ bar	4B2 15 bar		4C1 WRD	pH:	8C1c (1:1) KCl	8C1a (1:1) H_2O
	Pct.	Pct.			Pct.	Pct.	g/cc	g/cc	g/cc		Pct.	Pct.	Pct.		in/in			
0-10	0.66	0.032	21			0.7		1.74	1.73			8.4	3.4				5.0	5.8
10-16	0.19					1.7		1.68	1.65			10.0	6.4				4.5	5.3
16-31	0.08					1.9		1.72	1.67			11.4	8.0				4.6	5.5
31-45	0.06					2.2		1.76	1.71			13.2	8.5				4.8	5.9
45-64	—					2.4		1.70	1.72			13.8	9.1					5.4

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6Q2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations		6G1d Ext. Al			Ratios to clay 8D1: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg	7D2 Total Mn	Base saturation: 5C3 Sum cations	5C1 NH_4OAc
	meq/100 g															Pct.	Pct.	Pct.
0-10	2.5	0.6	tr.	0.3	3.4	3.0	6.4		tr.			0.70	0.08	0.37		0.08	53	
10-16	1.5	0.8	tr.	0.1	2.4	3.0	5.4		0.2			0.26	0.08	0.30			44	
16-31	1.7	0.6	tr.	0.1	2.4	2.6	5.0		0.1			0.19	0.07	0.31			48	
31-45	1.6	0.5	tr.	tr.	2.1	2.1	4.2		tr.			0.16	0.08	0.31			50	
45-64	0.9	0.7	tr.	tr.	1.6	2.3	3.9		0.1			0.15	0.09	0.34			41	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl	Vm	Mi.	Int.	Qtz.	Kl	Gibbsite
	7A2 X-ray						7A3	

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant

USDA SCS HYATTSVILLE MD. 1966

Soil Type: Red Bay sandy loam
Soil No.: S62Ga-96-3
Location: Macon County, Georgia. Approximately 1- 3/4 miles east of Montezuma city limits on Georgia Highway No. 26, approximately 1 mile south of highway in cultivated field. Aerial photo No. KU-1M-109.
Vegetation and land use: Fallow, to be planted to peanuts.
Slope and land form: Level area with slopes less than 2 percent.
Drainage: Well drained with very little surface runoff.
Permeability: Moderate to rapid.
Parent Material: Medium and moderately coarse textured marine sediments of the upper coastal plains. Clayton Formation - Paleocene epoch.
Sampled by and date: E. J. Pedersen, John Fleming, J. C. Woods, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, April 3, 1962.
Described by: John C. Woods.

Horizon and Beltsville Lab. Number	
Ap 62310	0 to 10 inches. Dark brown (7.5YR 3/2) sandy loam with weak fine granular structure; very friable; fine roots abundant; boundary abrupt, wavy.
B21t 62311	10 to 16 inches. Dark red (2.5YR 3/6) light sandy clay loam; weak medium subangular blocky structure; friable; many fine roots; pores and root channels common; boundary clear, wavy.
B22t 62312	16 to 31 inches. Dark red (2.5YR 3/6) sandy clay loam with weak medium subangular blocky structure; friable; fine roots common; many root channels and pores; boundary diffuse, smooth.
B23t 62313	31 to 45 inches. Dark red (2.5YR 3/6) sandy clay loam; weak medium subangular blocky structure; friable to firm; fine roots, root channels and pores common; boundary diffuse, smooth.
B24t 62314	45 to 64 inches plus. Dark red (2.5YR 3/6) light sandy clay loam; massive in place, breaks down into weak medium subangular blocky structure; friable; few roots; few fine root channels and pores.

Notes: pH not determined in the field. These soils are usually strong to very strongly acid. Area where samples were taken has been in cultivated crops for many years. All soil colors refer to moist condition (Munsell color notation used).

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Red Bay sandy loam SOIL Nos. S62GA-111-12 LOCATION Peach County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 62296 - 62302

Depth (In.)	Horizon	1B1b Total Sand (2-0.05)	Silt (0.05-0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-0.1)	Very fine (0.1-0.05)	Silt: 0.05-0.02	Int. III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)	3B2 Cm	Coarse fragments 3B1: 2A2 >2 <76 Pct.	2-19	19-76 Pct. of <76mm
		Pct. of < 2 mm															
0-7	Ap	77.5	15.8	6.7	2.4	9.1	9.6	35.5	20.9	6.0	9.8	50.5	56.6		tr.		
7-11	A3	73.1	13.8	13.1	2.3	9.2	9.6	32.2	19.8	5.9	7.9	47.3	53.3		tr.		
11-15	B1	68.1	12.4	19.5	2.6	9.7	8.8	29.4	17.6	5.2	7.2	42.7	50.5		tr.		
15-29	B21	58.0	10.4	31.6	2.2	7.0	7.2	25.2	16.4	4.9	5.5	38.2	41.6		tr.		
29-48	B22	56.6	8.0	35.4	2.2	7.2	7.2	24.4	15.6	4.1	3.9	36.1	41.0		tr.		
48-59	B23	54.5	6.6	38.9	2.8	6.8	6.8	23.2	14.9	4.4	2.2	34.9	39.6		tr.		
59-71	B24	55.4	5.2	39.4	3.0	7.6	6.5	23.9	14.4	3.6	1.6	33.8	41.0		tr.		

Depth (In.)	6A1a Organic carbon Pct	6B2a Nitrogen Pct	C/N		Carbonate as $CaCO_3$ Pct.	6C1a Ext. iron as Fe Pct.	Bulk density: 4A1e 1/3 bar g/cc	4A1h Oven dry g/cc	4D1 COLE	Water content: Pct.	4B1c 1/3 bar Pct.	4B2 15 bar Pct.	4C1 WRD in/in	pH: 8C1c (1:1) KCl	8C1a (1:1) H_2O
0-7	1.02	0.039	26			0.4	1.72	1.71			8.2	2.8		4.6	5.2
7-11	0.22					0.7	1.66	1.68			7.5	4.2		3.9	5.0
11-15	0.18					1.1	1.68	1.72			10.2	6.0		4.2	5.1
15-29	0.10					1.8	1.70	1.74			14.0	9.9		4.6	5.5
29-48	0.08					2.3	1.67	1.72			16.3	11.3		5.0	5.8
48-59	0.04					2.6	1.68	1.74			17.7	12.7		5.2	5.9
59-71	0.06					2.8		1.68	1.71			16.9	12.8		4.4	5.0

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations	6G1d Ext. Al			Ratios to clay 8D1: CEC Sum	Ext. iron	15-bar water	8D3 Ca/Mg	7D2 Total Mn Pct.	Base saturation: 5C3 Sum cations Pct	5C1 NH_4OAc Pct.
	meq/100 g																
0-7	2.4	0.4	0.1	0.3	3.2	4.7	7.9		0.1		1.18	0.06	0.42		0.09	40	
7-11	0.9	0.2	tr.	0.2	1.3	3.4	4.7		0.6		0.36	0.05	0.32			28	
11-15	1.4	0.2	tr.	0.2	1.8	3.4	5.2		0.5		0.27	0.06	0.31			35	
15-29	2.5	0.6	tr.	0.2	3.3	3.4	6.7		0.3		0.64	0.06	0.31			49	
29-48	2.1	0.9	tr.	0.1	3.1	3.0	6.1		0.1		0.17	0.06	0.32			51	
48-59	1.2	0.7	tr.	0.1	2.0	3.0	5.0		tr.		0.13	0.07	0.33			40	
59-71	1.2	0.7	tr.	0.1	2.0	3.6	5.6		0.4		0.14	0.07	0.32			36	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl	Vm.	Mi	Int Vm.[a]	Qtz	Kl.	Gibbsite
	7A2 X-ray						DTA 7A3	
0-7	-	-	-	-	xx	-	30	1
7-11								
11-15	-	-	-	-	xx	-	30	1
15-29								
29-48	-	-	-	-	xx	-	42	2
48-59								
59-71	-	-	-	-	xx	-	38	tr.

Mt. = Montmorillonite, Chl. = chlorite, Vm = Vermiculite, mi = mica, Int. = Interstratified layer, Qtz = quartz, Kl = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

a Interlayer vermiculite - a 14Å mineral that does not collapse completely upon K saturation and heating.

USDA-SCS HYATTSVILLE MD. 1966

Soil Type: Red Bay sandy loam
Soil No.: S62Ga-111-12
Location: Peach County, Georgia. 3/4 mile north of bridge over Mossy Creek on U. S. Highway No. 41. Turn left on Smyrna Church road in cultivated field on north side of road. Aerial photo No. KK-1P-191.
Vegetation and land use: Field planted in young peach trees.
Slope and land form: Level area with slopes less than 2 percent.
Drainage: Well drained with very little runoff.
Permeability: Moderate to moderately rapid.
Parent Material: Residuum from thick beds of unconsolidated acid sandy loams, sandy clay loams, and sandy clays of coastal plain origin. Clayton Formation - Paleocene epoch.
Sampled by and date: E. J. Pedersen, John Fleming, H. J. Byrd, J. L. Sullivan and T. A. Rigdon, April 6, 1962.
Described by: John C. Woods.

Horizon and
Beltsville
Lab. Number

Ap
62296 — 0 to 7 inches. Very dark grayish brown (10YR 3/2) sandy loam with weak fine granular structure; very friable; numerous fine roots; boundary abrupt, wavy.

A3
62297 — 7 to 11 inches. Yellowish red (5YR 4/6) sandy loam to light sandy clay loam; weak fine granular structure; very friable; intrusions of organic matter; many fine roots; boundary clear, wavy.

B1t
62298 — 11 to 15 inches. Dark red (2.5YR 3/6) to dark reddish brown (2.5YR 3/4) sandy clay loam with weak medium subangular blocky structure; friable; some mixing of surface soil; many roots, root channels and pores common; boundary clear, smooth.

B21t
62299 — 15 to 29 inches. Dark red (2.5YR 3/6) sandy clay loam with weak medium subangular blocky structure; friable; fine roots common; pores and root channels common; few very thin patchy clay films on ped faces; boundary diffuse, smooth.

B22t
62300 — 29 to 48 inches. Dark red (2.5YR 3/6) sandy clay loam with weak to moderate medium subangular blocky structure; friable to firm; thin patchy clay films on face of peds common; few fine roots; few pores and root channels; boundary diffuse, smooth.

B23t
62301 — 48 to 59 inches. Dark red (10R 3/6) sandy clay loam; weak medium subangular blocky structure; friable to firm, hard when dry; common thin patchy clay films on ped faces; few fine roots, root channels, and pores; boundary diffuse, smooth.

B24t
62302 — 59 to 71 inches plus. Dark red (10R 3/6) sandy clay loam; weak medium subangular blocky structure; friable to firm; few thin patchy clay films on faces of peds; few root channels.

Notes: In the B23 and B24 horizons there was a 3 inch root channel adjacent to sampling area which had some surface soil mixed in it. All soil colors refer to moist condition (Munsell color notation used). pH not determined in the field. These soils are usually strongly acid.

SCS-421
10-64 (Rev. 9-66)

U. S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Tifton loamy sand SOIL Nos. S56Ga-137-1 LOCATION Tift County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 56356 - 56365

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 Pct.	2 - 19 Pct. of < 76mm	19 - 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-8	Ap		7.7	3.8	3.4	11.9	16.7	38.8	17.7		3.4	41.4				8		
8-10	A3		8.6	9.6	3.8	13.4	15.9	33.9	14.8		4.0	36.3				5		
10-14	B1		8.6	14.2	2.7	10.6	13.9	34.9	15.9		4.1	38.1				10		
14-21	B21		8.1	21.2	3.4	10.1	12.2	30.6	14.4		4.2	34.6				16		
21-27	B22		7.2	30.8	3.1	9.1	11.2	26.4	12.2		3.9	29.1				6		
27-32	B23		7.9	33.8	4.2	10.3	11.2	22.3	10.3		4.5	25.2				5		
32-36	B3		9.3	33.3	4.8	11.5	11.4	19.9	9.8		5.1	24.0				3		
36-41	C1		10.2	35.1	6.0	13.2	10.8	16.4	8.3		6.1	20.7				2		
41-52+	C2		9.7	33.7	4.3	14.6	11.8	17.0	8.9		5.2	21.9				1		

Depth (In.)	6A1a Organic carbon Pct.	Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.	6C1a Ext. iron as Fe_2O_3 Pct.	Bulk density: 4A1e ⅓ bar g/cc	Bulk density: 4A1h Oven dry g/cc	4D1 COLE	Water content Pct.	Water content: 4B1c ⅓ bar Pct.	Water content: 4B2 15 bar Pct.		4C1 WRD in/in	pH: 8C1c (1:1) KCl	pH: 8C1a (1:1) H_2O
0-8	0.35	0.030	12			0.5										5.2
8-10	0.16					1.0										4.5
10-14	0.10					1.5										4.5
14-21	0.16					2.0										5.0
21-27	0.11					3.1										5.6
27-32	0.06					3.9										5.7
32-36	0.07					5.3										4.7
36-41	0.04					5.1										4.8
41-52+	0.06					7.6										4.7

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC: 5A3a Sum cations	CEC	6G1d Ext. Al		Ratios to clay: CEC Sum	Ratios to clay: Ext. iron	Ratios to clay: 15-bar water	8D3 Ca/Mg		Base saturation: 5C3 Sum cations Pct.	5C1 NH_4OAc Pct.
	meq/100 g																
0-8	0.6	0.3	tr.	0.3		2.7	3.9									31	
8-10	0.3	0.3	tr.	0.2		2.7	3.5									23	
10-14	0.4	0.3	tr.	0.2		2.9	3.8									24	
14-21	1.2	0.5	tr.	0.2		3.1	5.0									38	
21-27	2.0	0.7	tr.	0.1		3.8	6.6									42	
27-32	1.6	0.8	tr.	0.1		3.8	6.1									38	
32-36	0.6	0.8	tr.	0.1		4.7	6.2									24	
36-41	0.3	0.7	tr.	0.1		4.9	6.0									18	
41-52+	0.4	0.4	tr.	0.1		5.1	6.1									16	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm. (7A2 X-ray)	Mi.	Int. Vm., Mt. (7A2 X-ray)	Qtz.	Kl. (DTA 7A3)	Gibbsite (DTA 7A3)	
0-8									
8-10									
10-14									
14-21									
21-27									
27-32			xx				45	8	
32-36									
36-41									
41-52+			x				40	3	

Mt. = Montmorillonite, Chl = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA-SCS-HYATTSVILLE MD. 1966

Soil Type: Tifton loamy sand.
Soil No.: S56Ga-137-1
Location: Tift County, Georgia. Cultivated field, 300 feet S. W. of old barn on county road, 1.7 miles N. W. of Dairy Barn on Coastal Plain Experiment Station.
Vegetation and land use: Cultivated and in corn during 1955 season.
Slope and land form: 2-1/2 percent.
Sampled by and date: Pedersen, Middleton, and Calhoun. February 1956.
Described by: Pedersen, Middleton, and Calhoun.

Horizon and Beltsville Lab. No.	
Ap 56357	0 to 8 inches. Very dark grayish brown (2.5Y 3/2), grayish brown (2.5Y 5/2) when dry, loose, loamy sand, with weak fine crumb structure, and containing numerous small hard iron concretions. Some plant roots were observed in this layer. Boundary abrupt and smooth. Strongly acid.
A3 56358	8 to 10 inches. Dark yellowish brown (10YR 4/4), nearly loose, loamy sand with weak, fine crumb structure, and numerous hard iron concretions. Boundary clear and smooth. Strongly acid.
B1 56359	10 to 14 inches. Yellowish brown (10YR 5/8) very friable, light sandy loam, with weak, fine, subangular blocky structure and containing numerous small, hard iron concretions. Boundary clear and smooth. Strongly acid.
B21 56360	14 to 21 inches. Yellowish brown (10YR 5/8) friable, sandy loam with moderate, fine, subangular blocky structure, and numerous small, hard iron concretions. Boundary gradual and smooth. Strongly acid.
B22 56361	21 to 27 inches. Yellowish brown (10YR 5/8) friable, sandy clay loam with moderate, medium, subangular blocky structure, and containing some small hard iron concretions. Boundary gradual and smooth. Strong to medium acid.
B23 56362	27 to 32 inches. Strong brown (7.5YR 5/8) friable sandy clay loam with moderate, medium subangular blocky structure, and containing some small hard iron concretions. Boundary gradual and smooth. Strongly acid.
B3 56363	32 to 36 inches. Yellowish brown (10YR 5/6) friable, light sandy clay loam with common, medium, and prominent mottles of red (2.5YR 4/6); moderate, medium, subangular blocky structure; and containing some soft iron concretions. Boundary gradual and smooth. Strongly acid.
C1 56364	36 to 41 inches. Yellowish brown (10YR 5/6), firm sandy clay loam with many medium, and prominent mottles of red (10R 4/6); moderate, medium angular blocky structure. Boundary abrupt and smooth. Strongly acid.
C2 56365	41 to 52 inches plus. Dominantly yellowish brown (10YR 5/6), firm sandy clay loam with many, coarse, prominent mottles of red (10R 4/6), and light gray (2.5Y 7/2); strong, coarse angular blocky structure. Strongly acid. Water seeped into hole at a depth of 52 inches.

Notes: Color of soil moist unless otherwise stated.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Tifton loamy sand, thick surface phase SOIL Nos. 856Ga-137-4 LOCATION Tift County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 56379 - 56386

Depth (In.)	Horizon	1B1b Size class and particle diameter (mm) 3A1												3B2	Coarse fragments 3B1		
		Total			Sand					Silt					2A2		
		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)	0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		Cm	≥ 2	2 – 19	19 – 76
		Pct. of < 2 mm													Pct.	Pct. of < 76mm	
0-9	Ap		9.0	3.8	4.6	19.2	20.2	31.3	11.9		4.7	32.2			4		
9-14	A2		10.9	8.0	4.1	14.5	17.1	31.9	13.5		6.1	35.0			11		
14-19	B1		9.7	13.5	4.5	16.2	16.8	28.2	11.1		10.0	25.7			51		
19-28	B21		8.9	21.2	5.4	14.2	15.1	25.0	10.2		1.7	30.3			26		
28-34	B22		8.7	23.8	7.5	16.7	15.2	20.3	7.8		5.4	21.0			11		
34-39	B3		8.5	25.3	5.5	15.9	15.2	21.3	8.3		5.2	21.9			12		
39-49	C1		6.8	23.6	4.7	19.8	17.8	20.7	6.6		4.1	18.7			10		
49-57+	C2		5.7	28.5	14.1	26.7	11.4	10.1	3.5		3.4	10.4			9		

Depth (In.)	6A1a Organic carbon	Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe_2O_3	Bulk density			4D1	Water content			4C1	pH		
								4A1a	4A1h			4B1a	4B2			8C1c	8C1a
								⅓ bar	Oven dry	COLE		⅓ bar	15 bar	WRD		(1:1)	(1:1)
	Pct.	Pct.			Pct.	Pct.	g/cc	g/cc	g/cc		Pct.	Pct.	Pct.	in/in		KCl	H_2O
0-9	0.24	0.029				0.3											5.6
9-14	0.12					0.5											5.0
14-19	0.11					1.0											5.0
19-28	0.11					2.2											5.4
28-34	0.11					2.3											5.1
34-39	0.05					2.4											4.8
39-49	0.02					3.1											4.8
49-57+	0.02					3.3											4.8

Depth (In.)	Extractable bases 5B1a					6H2a	CEC		6G1d			Ratios to clay			8D3		Base saturation	
	6N2d	6O2b	6P2a	6Q2a		Ext.	5A3a										5C3	5C1
	Ca	Mg	Na	K	Sum	acidity	Sum cations		Ext. Al			CEC Sum	Ext. iron	15-bar water	Ca/Mg		Sum cations	NH_4OAc
	meq/100 g																Pct	Pct.
0-9	1.5	0.3	0.1	0.2		2.5	4.6										46	
9-14	2.7	0.4	tr.	0.2		1.9	5.2										63	
14-19	0.9	0.4	tr.	0.1		2.3	3.7										38	
19-28	1.5	0.5	tr.	0.1		2.9	5.0										42	
28-34	1.7	0.4	0.1	0.1		3.6	5.9										39	
34-39	0.9	0.3	tr.	0.2		3.8	5.2										27	
39-49	0.4	0.4	0.1	0.1		3.8	4.8										21	
49-57+	0.3	0.3	0.1	0.1		3.6	4.4										18	

Depth (In.)	Clay Fraction Analysis 7A1b-d								
	Mt.	Chl.	Vm	Mi.	Int.	Qtz	Kl.	Gibbsite	
	X-ray 7A2				Vm, Mt.		DTA 7A3		
0-9									
9-14									
14-19									
19-28									
28-34									
34-39			xxx				30	6	
39-49									
49-57+					x		30	13	

Mt. = Montmorillonite, Chl. = chlorite, Vm = Vermiculite, mi = mica, Int. = interstratified layer, Qtz = quartz, Kl = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant

USDA-SCS-HYATTSVILLE MD. 1966

Soil Type: Tifton loamy sand, thick surface phase.
Soil No.: S560a-137-4
Location: Tift County, Georgia. Border between experimental plots, 200 yards, S. E. Agronomy Barn, Coastal Plain Experiment Station.
Vegetation and land use: Cultivated to various row crops and legumes.
Slope and land form: One percent.
Sampled by and date: Pedersen, Calhoun, Middleton, and Carter. February 1956.
Described by: Pedersen, Calhoun, Middleton, and Carter.

Horizon and Beltsville Lab. No.	
Ap 56379	0 to 9 inches. Very dark grayish brown (10YR 3/2), nearly loose loamy sand with weak, fine granular structure. Many small hard iron concretions were observed in this layer. Boundary abrupt and smooth.
A2 56380	9 to 14 inches. Olive yellow (2.5Y 6/6), nearly loose, loamy sand, with weak, fine granular structure and containing numerous small, hard iron concretions. Boundary clear and smooth.
B1 56381	14 to 19 inches. Yellowish brown (10YR 5/8) very friable sandy loam; weak, fine subangular blocky structure, and containing numerous small, hard iron concretions. Boundary clear and smooth.
B21 56382	19 to 28 inches. Yellowish brown (10YR 5/6) very friable, light sandy clay loam; moderate, medium, subangular blocky structure and containing numerous small, hard iron concretions. Boundary clear and smooth.
B22 56383	28 to 34 inches. Yellowish brown (10YR 5/8) friable sandy clay loam with common, medium and distinct mottles of strong brown (7.5YR 5/6); moderate, medium, subangular blocky structure, and containing numerous small, hard iron concretions. Boundary clear and smooth.
B3 56384	34 to 39 inches. Yellowish brown (10YR 5/8) friable, heavy sandy loam, with many, medium, distinct mottles of yellowish red (5YR 4/8); moderate medium, subangular blocky structure, and containing many soft iron concretions. Boundary clear and smooth.
C1 56385	39 to 49 inches. Strong brown (7.5YR 5/8) friable sandy loam with many, medium, distinct mottles of very pale brown (10YR 7/4) and yellowish red (5YR 4/8); moderate, medium, subangular blocky structure. Boundary abrupt and smooth.
C2 56386	49 to 57 inches plus. Yellowish brown (10YR 5/8) friable, sandy clay loam with many, coarse, prominent mottles of weak red (10R 4/4) and white (2.5Y 8/2) structureless. Water seeped into pit in several places at a depth of 50 inches.

Notes: Color of soil moist unless otherwise stated.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Tifton loamy sand SOIL Nos. S56Ga-137-5 LOCATION Tift County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 56387 - 56394

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand Very coarse (2–1)	Sand Coarse (1–0.5)	Sand Medium (0.5–0.25)	Sand Fine (0.25–0.1)	Sand Very fine (0.1–0.05)	Silt 0.05–0.02	Silt Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1 2A2 ≥ 2 Pct.	2 – 19 Pct. of < 76mm	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-8	Ap		7.6	5.1	15.8	27.0	14.8	21.0	8.7		4.3	22.7				30		
8-12	A2		9.7	11.2	11.8	22.6	13.8	21.1	9.8		6.1	24.7				tr.		
12-18	B1		10.0	15.4	10.0	20.2	13.5	21.1	9.8		5.9	24.9				37		
18-27	B2		8.3	25.5	13.6	19.7	10.3	15.3	7.3		5.2	18.4				35		
27-35	B3		6.7	29.4	10.7	18.2	10.8	16.5	7.7		3.9	19.2				36		
35-43	C1		6.7	33.0	9.4	18.9	10.4	14.9	6.7		4.3	16.8				24		
43-56	C2		7.8	33.9	10.0	19.4	9.8	13.1	6.0		5.0	15.6				20		
56-74+	C3		6.6	35.8	6.1	13.7	8.2	19.4	10.2		3.2	25.6				4		

Depth (In.)	6A1a Organic carbon Pct.	Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.	6C1a Ext. iron as Fe_2O_3 Pct.	Bulk density 4A1a ⅓ bar g/cc	Bulk density 4A1h Oven dry g/cc	4D1 COLE	Water content Pct.	Water content 4B1c ⅓ bar Pct.	Water content 4B2 15 bar Pct.		4C1 WRD in/in	pH 8C1c (1:1) KCl	pH 8C1a (1:1) H_2O
0-8	0.32	0.028	11			0.4										4.8
8-12	0.33	0.022	15			0.8										4.7
12-18	0.43	0.028	15			1.0										4.7
18-27	0.10					2.1										5.3
27-35	0.08					2.2										4.9
35-43	0.05					3.1										5.0
43-56	0.05					3.3										4.8
56-74+	0.05					3.2										4.6

Depth (In.)	Extractable bases 5B1a 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC 5A3a Sum cations	6G1d Ext. Al		Ratios to clay CEC Sum	Ratios to clay Ext. iron	Ratios to clay 15-bar water	8D3 Ca/Mg		Base saturation 5C3 Sum cations Pct.	Base saturation 5C1 NH_4OAc Pct.
	meq/100 g															
0-8	0.4	0.2	tr.	0.1		4.2	4.9								14	
8-12	0.4	0.2	tr.	0.2		5.4	6.2								13	
12-18	0.6	0.2	tr.	0.2		4.6	5.6								18	
18-27	1.5	0.4	0.1	0.1		4.4	6.5								32	
27-35	0.8	0.3	tr.	0.1		4.0	5.2								36	
35-43	0.4	0.4	tr.	0.1		4.6	5.5								16	
43-56	0.3	0.3	tr.	0.1		4.8	5.5								13	
56-74+	0.4	0.6	tr.	0.1		4.8	5.9								19	

Depth (In.)	Clay Fraction Analysis 7A1b-d Mt	Chl.	Vm. (7A2 X-ray)	Mi.	Int. Vm. Mt. (X-ray)	Qtz.	Kl. (DTA 7A3)	Gibbsite (DTA 7A3)	
0-8			xx				30	6	
8-12			xxx				35	8	
12-18									
18-27									
27-35			xx				40	tr.	
35-43									
43-56									
56-74+					x		45	2	

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz = quartz, Kl = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundent, xxxx = dominant.

USDA SCS-BYATTSVILLE, MD 1966

Soil Type: Tifton loamy sand.
Soil No.: S56Ga-137-5
Location: Tift County, Georgia. 1/2 mile N. E. of the Center of Omega, Ga., along U. S. Highway No. 319 in cultivated field 120 feet south of Highway and 175 yards S. W. of Ponder Plant Company building on Ponder Farm.
Vegetation and land use: Cultivated area, recently turned, and has been in cultivation to row crops for a number of years.
Slope and land form: 2-1/2 percent.
Sampled by and date: Alexander, Cady, Pedersen, Middleton, Calhoun, and Carter. February 1956.
Described by: Alexander, Cady, Pedersen, Middleton, Calhoun, and Carter.

Horizon and Beltsville Lab. No.	
Ap 56387	0 to 8 inches. Very dark grayish brown (10YR 3/2), nearly loose, loamy sand, with weak fine crumb structure, and containing numerous small hard iron concretions. Boundary clear and smooth.
A2 56388	8 to 12 inches. Dark yellowish brown (10YR 4/4), very friable, light sandy loam with streaks of yellowish brown (10YR 5/6) and some spots of very dark grayish brown (10YR 3/2); weak, fine crumb structure and containing numerous small, hard iron concretions. Boundary clear and smooth.
B1 56389	12 to 18 inches. Yellowish brown (10YR 5/6) very friable sandy loam with some streaks of very dark grayish brown (10YR 3/2), moderate medium, subangular blocky structure and containing numerous small, hard iron concretions. Boundary gradual and smooth.
B2 56390	18 to 27 inches. Yellowish brown (10YR 5/8) friable sandy clay loam; moderate, medium subangular blocky structure, and containing numerous small, hard, iron concretions. Boundary clear and smooth.
B3 56391	27 to 35 inches. Yellowish brown (10YR 5/8) friable sandy clay loam, with common, medium, prominent mottles of red (2.5YR 4/8); moderate, medium, subangular blocky structure, and containing numerous small soft iron concretions and a few hard iron concretions. Boundary abrupt and smooth.
C1 56392	35 to 43 inches. Yellowish brown (10YR 5/8), firm sandy clay loam, with common, medium, and distinct mottles of yellowish red (5YR 4/8); moderate medium, angular blocky structure, and containing a few small soft iron concretions. Boundary clear and smooth. Water seeped into the pit in a few places at the depth of 36 inches.
C2 56393	43 to 56 inches. Yellowish brown (10YR 5/6), firm sandy clay loam, with many, medium, prominent mottles of red (2.5YR 4/8), and light gray (2.5Y 7/2); moderate, medium, angular blocky structure. Boundary gradual and smooth.
C3 56394	56 to 74 inches plus. Brownish yellow (10YR 6/8) firm sandy clay loam, with many coarse, prominent mottles of red (10R 4/6), and light gray (2.5Y 7/2); moderate, medium, angular blocky structure.

Notes: Color of soil moist unless otherwise stated.

SCS-421
10-64 (Rev. 9-66)

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Tifton loamy sand, thick surface phase SOIL Nos. 8560a-137-7 LOCATION Tift County, Georgia

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 56402 - 56408

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)		3B2 Cm	Coarse fragments 3B1: 2A2 ≥ 2 Pct	2 - 19 Pct. of < 76mm	19–76 Pct. of < 76mm
		Pct. of < 2 mm																
0-11	Ap		8.1	3.2	4.2	18.6	20.3	31.6	14.0		3.9	35.2				tr.		
11-18	A3		9.7	8.8	3.9	17.9	18.7	28.3	12.7		5.2	31.6				1		
18-23	B1		8.7	21.9	4.2	15.7	15.0	23.7	10.8		4.5	27.3				25		
23-34	B21		7.2	33.5	4.4	12.6	12.8	20.2	9.3		3.6	23.6				5		
34-44	B22		6.1	28.2	4.4	16.2	15.7	20.9	8.5		3.1	21.8				1		
44-57	C1		4.4	26.6	5.1	19.1	17.0	20.2	7.6		2.2	19.3				tr.		
57-62	C2		4.7	25.5	3.9	18.2	17.7	21.1	8.9		2.4	21.3				tr.		

Depth (In.)	6A1a Organic carbon	Nitrogen	C/N		Carbonate as $CaCO_3$	6C1a Ext. iron as Fe_2O_3	Bulk density 4A1e ⅓ bar	Bulk density 4A1h Oven dry	4D1 COLE	Water content:	4B1c ⅓ bar	4B2 15 bar		4C1 WRD	pH 8C1c (1:1) KCl	pH 8C1a (1:1) H_2O
	Pct.	Pct.			Pct.	Pct.	g/cc	g/cc		Pct.	Pct.	Pct.		In/in		
0-11	0.36	0.024	15			0.2										5.8
11-18	0.10					0.5										4.9
18-23	0.13					1.3										4.6
23-34	0.17					2.6										4.8
34-44	0.02					2.6										4.8
44-57	0.02					1.6										4.8
57-62	0.03					1.6										4.8

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	Sum	6H2a Ext. acidity	CEC 5A3a Sum cations	6G1d Ext. Al		Ratios to clay: CEC Sum	Ext. iron	15-bar water	6D3 Ca/Mg		Base saturation 5C3 Sum cations Pct.	5C1 NH_4OAc Pct.
	meq/100 g															
0-11	1.3	0.4	tr.	0.3		2.1	4.1								49	
11-18	0.5	0.2	tr.	0.2		2.1	3.0								30	
18-23	1.0	0.3	tr.	0.3		3.6	4.2								17	
23-34	1.3	0.6	tr.	0.2		4.4	6.5								32	
34-44	0.5	0.4	tr.	0.1		4.2	5.2								19	
44-57	0.4	0.4	0.1	0.1		3.8	4.8								21	
57-62	0.2	0.4	0.1	0.1		3.8	4.6								38	

Depth (In.)	Clay Fraction Analysis 7A1b-d: Mt.	Chl.	Vm. (7A2 X-ray)	Mi.	Int. Vm. Mt.	Qtz.	Kl. (DTA 7A3)	Gibbsite	
0-11			xxx				35	4	
11-18			xx				37	4	
18-23									
23-34			xx				37	4	
34-44									
44-57									
57-62					x		45	1	

Mt. = Montmorillonite, Chl. = chlorite, Vm. = Vermiculite, mi = mica, Int. = interstratified layer, Qtz. = quartz, Kl. = Kaolinite

Relative amounts: blank = not determined, dash = not detected, tr. = trace, x = small, xx = moderate, xxx = abundant, xxxx = dominant.

USDA-SCS-HYATTSVILLE MD 1966

Soil Type: Tifton loamy sand, thick surface phase.
Soil No.: S56Ga-137-7
Location: Tift County, Georgia. 1/4 mile southwest center of Omega, Ga., along U. S. Highway 319, 150 feet north of Highway in pecan grove, and 500 feet southwest of H. A. Hornbuckle's home.
Vegetation and land use: Cultivated to pecans with oats interplanted this winter. This field has been in pecans for over 40 years.
Slope and land form: 3 percent.
Sampled and described by: Alexander, Cady, Pedersen, Stevens, Stone, and Calhoun.

Horizon and Beltsville Lab. No.	
Ap 56402	0 to 11 inches. Dark grayish brown (2.5Y 4/2) nearly loose, loamy sand; weak fine crumb structure containing a few small hard iron concretions. Boundary abrupt and smooth.
A3 56403	11 to 18 inches. Light olive brown (2.5Y 5/6), nearly loose, loamy sand; weak fine crumb structure, and containing a few small hard iron concretions. Boundary gradual and smooth.
B1 56404	18 to 23 inches. Yellowish brown (10YR 5/8), very friable, light sandy clay loam; moderate medium, subangular blocky structure, and containing a few small hard iron concretions. Boundary gradual and smooth.
B21 56405	23 to 34 inches. Yellowish brown (10YR 5/8) friable, sandy clay loam; moderate, medium, subangular blocky structure, and containing a few small hard iron concretions. Boundary gradual and smooth.
B22 56406	34 to 44 inches. Brownish yellow (10YR 6/8) friable, sandy clay loam; moderate, medium, subangular blocky structure, containing a few small soft iron concretions. Boundary clear and smooth.
C1 56407	44 to 57 inches. Brownish yellow (10YR 6/8) friable, sandy clay loam, with common, medium, prominent mottles of light red (2.5YR 6/6) and light gray (10YR 7/2); moderate, medium subangular blocky structure. Water seeped into pit in several places at 44 inches depth. Boundary gradual and smooth.
C2 56408	57 to 62 inches. Yellowish brown (10YR 5/8) firm, sandy clay loam, with common, medium, prominent mottles of light red (2.5YR 6/6), and light gray (10YR 7/2); moderate medium, angular blocky structure.

Notes: Color of soil moist unless otherwise stated.

SOIL SURVEY LABORATORY Lincoln, Nebr.

SOIL TYPE Weston fine sandy loam **LOCATION** McIntosh County, Georgia

SOIL NOS. S58Ga-98-13 **LAB. NOS.** 9871-9876

DEPTH INCHES	HORIZON	1B1a PARTICLE-SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	3A1 0.2-0.02	0.02-0.002	2A2 > 2	TEXTURAL CLASS
0-5	A1	6.2	21.7	17.0	31.7	9.4	11.6	2.4	32.1	7.7	-	lcos
5-16	A21	6.6	21.1	16.8	31.5	9.4	12.2	2.4	32.7	8.0	-	lcos
16-23	A22	7.2	22.3	16.6	28.5	8.1	13.1	4.2	28.6	9.5	-	lcos
23-31	B1	6.4	19.7	15.7	26.7	7.8	12.0	11.7	27.9	8.0	-	cosl
31-44	See	6.1	16.9	11.6	20.1	5.9	11.0	28.4	21.0	8.0	-	scl
44-66	Desc.	4.7	23.2	16.6	17.3	4.5	6.3	27.4	16.1	4.2	Tr.	scl

8C1a pH 1:1	pH 1:5	pH 1:10	ORGANIC MATTER 6A1a ORGANIC CARBON %	6B1a NITROGEN %	C/N	Free Iron Fe_2O_3 % 6C1a		$CaCO_3$ equivalent %		MOISTURE TENSIONS 4B1a 1/10 ATMOS. %	4B1a 1/3 ATMOS. %	4B2 15 ATMOS. %
4.6			1.38	0.047	29	0.1				11.4	7.4	2.8
5.0			0.23	0.008		0.1				9.3	4.5	1.0
5.0			0.15	0.008		0.1				11.0	5.9	1.7
4.9			0.14	0.009		0.4				14.2	9.5	4.5
4.4			0.19			2.9						11.4
4.0			0.11			2.2						10.5

5A1a CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 6N2b Ca	6O2b Mg	6H1a H	6P2a Na	6Q2a K	BASE SAT. % NH_4Ac EXCH. 5C1	5C3 Base Sat. % on Sum Cations	5B1a Sum Bases	5A3a Sum Cations	Ca/Mg		Bulk Density
← milliequivalents per 100g. soil →								← me/100g. →		8D3		
3.6	0.2	<0.1	5.6	<0.1	<0.1	6	3	0.2	5.8			
1.5	0.2	0.3	2.0	<0.1	<0.1	33	20	0.5	2.5			
2.2	0.2	0.8	2.4	<0.1	<0.1	45	29	1.0	3.4			
4.9	0.7	0.3	5.2	0.1	<0.1	22	17	1.1	6.3			
12.0	2.6	0.6	11.8	0.3	0.1	30	23	3.6	15.4			
11.9	4.3	1.0	9.8	0.4	0.1	49	37	5.8	15.6	4.3		

Soil Type: Weston fine sandy loam
Soil Nos.: S58Ga-98-13
Location: McIntosh County, Georgia, approximately 2.1 miles southeast of Townsend in a wooded area. See aerial photograph DSE-3L-168, dated January 26, 1953, for exact location.
Vegetation: Slash pine (pinus caribaea var. elliottii), sweet gum (liquidambar styraciflua), and gallberry (ilex glabra).
Slope and Land Form: Nearly level areas within the Pamlico marine terrace or "Bladen belt."
Drainage: Poorly drained.
Collected and Described by: J. W. Calhoun, E. M. Stone, D. D. Bacon and D. G. Aydelott, December 3, 1958.

Horizon and Lincoln Lab. No.	
A1 9871	0 to 5 inches. Very dark gray (N 3/0) loamy sand; weak medium granular structure; nonsticky; boundary clear and smooth.
A21 9872	5 to 16 inches. Gray to light gray (5Y 6/1) light loamy sand with few medium distinct mottles of olive yellow (2.5Y 6/6); weak fine to moderate granular structure; boundary gradual and wavy.
A22 9873	16 to 23 inches. Gray to light gray (10YR 6/1) loamy sand with common medium faint mottles of yellowish brown (10YR 5/6); weak fine to moderate granular structure; boundary gradual and wavy.
B1 9874	23 to 31 inches. Gray (10YR 5/1) sandy clay with coarse medium faint mottles of yellowish brown (10YR 5/8) sand lenses; weak coarse angular blocky structure; slightly sticky; boundary gradual and wavy.
IIB21tg 9875	31 to 44 inches. Dark gray (N 4/0) clay with many fine distinct mottles of yellowish brown (10YR 5/8) sand lenses and many common prominent mottles of yellowish red (5YR 4/8) root stains; weak coarse angular blocky structure; plastic clay with nonsticky sand; boundary gradual and wavy.
IIB22tg 9876	44 to 66 inches. Dark gray (N 4/0) sandy clay with many coarse prominent mottles of yellowish red (5YR 4/8) and yellowish brown (10YR 5/8); also dark gray (5Y 4/1) sand lenses that fit into mottled pattern; structureless; plastic clay with nonsticky sand lenses; boundary gradual and wavy.

Remarks: The A1, IIB21tg, and IIB22tg horizons were sampled for the Bureau of Public Roads.

Colors given are for moist soil.

SOIL SURVEY LABORATORY Lincoln, Nebr.

SOIL TYPE Weston fine sandy loam **LOCATION** McIntosh County, Georgia

SOIL NOS. S58Ga-98-14 **LAB. NOS.** 9877-9883

DEPTH INCHES	HORIZON	1B1a PARTICLE SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	3A1 0.2-0.02	0.02-0.002	2A2 > 2	TEXTURAL CLASS
0-6	A11	2.7	14.0	15.5	45.1	6.6	10.7	5.4	35.6	7.0	-	ls
6-11	A12	2.5	13.5	15.2	45.2	6.8	11.3	5.5	36.8	7.3	-	ls
11-19	A3	2.6	13.6	15.2	43.2	6.4	11.8	7.2	34.4	8.1	-	ls
19-23	B1	2.5	12.6	14.4	37.5	5.2	11.0	16.8	29.2	7.5	-	fsl
23-34	See	2.2	10.6	12.6	33.6	4.4	9.1	27.5	25.5	6.4	-	scl
34-57	Desc.	2.1	10.7	11.7	33.1	4.0	10.2	28.2	25.1	7.4	-	scl
57-64		2.1	18.9	26.8	25.8	2.7	3.3	20.4	14.0	1.8	-	scl-sl

8C1a pH 1:1	pH 1:5	pH 1:10	ORGANIC MATTER 6A1a ORGANIC CARBON %	6B1a NITROGEN %	C/N	Free Iron Fe_2O_3% 6C1a	$CaCO_3$ equivalent %	MOISTURE TENSIONS 4B1a 1/10 ATMOS. %	4B1a 1/3 ATMOS. %	4B2 15 ATMOS. %
4.7			1.25	0.066	19	0.2		9.9	7.1	3.3
4.8			0.62	0.039	16	0.2		9.0	6.3	2.6
4.8			0.54	0.027	20	0.3		11.0	7.5	3.2
4.9			0.52	0.031	17	0.5				6.9
4.8			0.37	0.027	14	1.1				11.6
5.2			0.26			2.2				12.6
6.5			0.11			3.0				9.5

5A1a CATION EXCHANGE CAPACITY NH_4Ac	EXTRACTABLE CATIONS 5B1a 6N2b Ca	6O2b Mg	6H1a H	6P2a Na	6Q2a K	BASE SAT. % NH_4Ac EXCH. 5C1	5C3 Base Sat. % on Sum Cations	5B1a Sum Bases	5A3a Sum Cations	Ca/Mg 8D3		Bulk Density
← milliequivalents per 100g. soil →							← me/100g →					
5.6	1.6	0.5	6.0	<0.1	0.1	39	27	2.2	8.2			
4.2	1.2	0.3	7.6	<0.1	<0.1	36	16	1.5	9.1			
5.4	1.5	0.4	8.5	0.1	<0.1	37	19	2.0	10.5			
10.0	4.2	0.3	8.5	0.2	<0.1	47	36	4.7	13.2			
16.3	10.0	1.1	11.8	0.7	0.1	73	50	11.9	23.7	9.1		
16.3	13.0	1.1	4.5	1.1	0.2	94	77	15.4	19.9	11.8		
12.0	9.6	0.8	9.0	0.8	0.2	95	56	11.4	20.4			

Soil Type: Weston fine sandy loam
Soil Nos.: S58Ga-98-14
Location: McIntosh County, Georgia, approximately 1.1 mile southeast of Townsend. For exact location see aerial photograph DSE-3L-168, dated January 26, 1953.
Vegetation: Slash pine (pinus caribaea var. elliottii), sweet gum (liquidambar styraciflua), red oak (quercus borealis) and gallberry (ilex glabra).
Slope and Land Form: Nearly level (0 to 2 percent) areas within the Pamlico marine terrace or "Bladen belt."
Drainage: Poorly drained.
Collected and Described by: J. W. Calhoun, E. M. Stone, D. D. Bacon, and D. G. Aydelott, December 3, 1958.

Horizon and Lincoln Lab. No.	
A11 9877	0 to 6 inches. Very dark gray (10YR 3/1) loamy sand; weak granular structure; boundary gradual and wavy.
A12 9878	6 to 11 inches. Very dark gray (10YR 3/1) loamy sand; weak medium granular structure; boundary clear and wavy.
A3 9879	11 to 19 inches. Dark gray (N 4/0) sandy loam; few fine distinct mottles of yellowish brown (10YR 5/8); weak medium subangular blocky structure; slightly sticky; boundary gradual and wavy.
B1 9880	19 to 23 inches. Dark gray (N 4/0) sandy clay loam; few fine distinct mottles of yellowish brown (10YR 5/8) light olive brown (2.5Y 5/6) and yellowish red (5YR 4/8); weak medium angular blocky structure; sticky; boundary gradual and wavy.
IIB21tg 9881	23 to 34 inches. Dark gray (N 4/0) sandy clay with 20 percent sand lenses; common medium distinct mottles of yellowish brown (10YR 5/8) and yellowish red (5YR 4/8); moderate coarse angular blocky structure; slightly plastic; boundary gradual and wavy.
IIB22tg 9882	34 to 57 inches. Dark gray (N 4/0) sandy clay with 30 percent sand lenses; common medium distinct mottles of yellowish brown (10YR 5/8) and dark gray (5Y 4/1); massive; slightly plastic; boundary gradual and wavy.
IIB23tg 9883	57 to 64 inches. Yellowish brown (10YR 5/6) clay with common medium distinct mottles of olive (5Y 5/6); also gray (N 5/0) sand lenses which follow the mottle pattern and make up 30 percent of horizon; massive; sticky.

Remarks: The A11, IIB21tg and IIB22tg horizons were sampled for the Bureau of Public Roads.

Colors given are for moist soil.

SCS-421
10-64

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Bayboro loam SOIL Nos. 855NC-94-1 LOCATION Washington County, North Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 5652 - 5657

Depth (In.)	Horizon	1B1b Size class and particle diameter (mm) 3A1 — Total: Sand (2–0.05)	Total: Silt (0.05–0.002)	Total: Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments: ≥ 2 Pct.	Coarse fragments: 2–19 Pct of < 76mm	Coarse fragments: 19–76 Pct of < 76mm
		Pct. of < 2 mm																
0-11	Ap		36.6	26.3	0.4	1.3	3.4	23.6	8.4		24.5	33.5						
11-18	B1g		35.9	31.6	0.1	0.4	2.1	20.4	9.5		24.8	33.0						
18-34	B2g		35.7	31.8	"	0.4	2.2	20.4	9.5		24.8	33.0						
34-53	B3g		32.0	55.5	0.1	0.3	0.3	4.5	7.3		21.1	21.9						
53-67	D1		5.4	6.0	"	0.2	3.2	75.0	10.2		3.4	55.8						
67+	D2		12.6	12.5	"	1.0	6.8	62.9	4.2		8.6	28.9						

Depth (In.)	6A1a Organic carbon Pct.	6H1a Nitrogen Pct	C/N		Carbonate as $CaCO_3$ Pct.		Bulk density g/cc	g/cc	g/cc		Water content Pct.	Pct.	Pct.				pH 8C1a (1:1) H_2O
0-11	7.72	0.425	18														5.0
11-18	0.52	0.068	8														4.2
18-34	0.29																4.2
34-53	0.26																4.2
53-67	0.03																4.6
67+	0.05																4.1

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	6H2a Ext. acidity	CEC: 5A3a Sum cations										Base saturation: 5C3 Sum cations Pct	Pct.
	meq/100 g																
0-11	5.8	4.3	0.1	0.8	39.4	50.4										22	
11-18	0.7	0.7	0.1	0.2	18.3	20.0										8	
18-34	0.6	0.8	0.1	0.2	15.7	17.4										10	
34-53	1.8	2.9	0.2	0.6	28.8	34.3										16	
53-67	0.1	0.7	0.1	0.2	2.7	3.8										29	
67+	0.5	1.3	0.1	0.2	4.3	6.4										33	

Depth (In.)

Soil Type: Bayboro loam
Soil No.: S55NC-94-1
Location: Washington County, North Carolina. Tidewater Research Station near Plymouth, North Carolina, southeast corner of block M-5 (150 feet northwest of corner).

Horizon and Beltsville Lab. No.	
Ap 5652	0 to 11 inches. Black (10YR 2/1) when moist dark gray (10YR 4/1) when dry loam having a moderate fine crumb structure; friable consistence; boundary is gradual and wavy with a concentration of roots within the boundary.
B1g 5653	11 to 18 inches. Dark gray (10YR 4/1) clay; weak medium angular blocky structure; some root channels and some penetration of A material; firm when moist; very plastic and very sticky. when wet; very faint clay skins are noted on the vertical cleavage planes. Boundary is clear smooth.
B2g 5654	18 to 34 inches. Dark gray (10YR 4/1) mottled with yellowish red (5YR 5/8) silty clay to clay; medium moderate prismatic structure breaking to a medium blocky structure; distinct clay skins mottles fine common distinct and tend to follow root channels; some streaks of fine sandy material are also found in old root channels; firm when moist very plastic and very sticky when wet; boundary gradual and relatively smooth.
B3g 5655	34 to 53 inches. Gray (10YR 5/1) highly mottled clay with strong brown and yellowish red (7.5YR 5/8 and 5YR 5/8); mottles many fine and distinct; has many medium to fine sedge or cane roots with much of the mottling following the root channels. Structure is massive with some clay skins along old root channels and in cracks; on card sample this horizon has the greatest shrinkage of any horizon. An occasional pocket of sandier material is present; very plastic and very sticky when wet; boundary clear and wavy.
D1 5656	53 to 67 inches. Light brownish gray (10YR 6/2) light fine sandy loam mottled with strong brown and gray. Mottles are common fine and faint; boundary gradual wavy.
D2 5657	67 inches plus. Dark gray (N/4) loamy sand nearly loose single grain to structureless; occasional seams or pockets or sandy clay loam material; occasional mica flakes were observed.

SCS-421
10-64

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Bayboro loam SOIL Nos. S55NC-94-2 LOCATION Washington County, North Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 5658 - 5663

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt (0.05–0.02)	Silt: Int III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments > 2 Pct	Coarse fragments 2 – 19 Pct. of < 76mm	Coarse fragments 19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-10	Ap		39.7	13.0	0.2	2.5	10.4	28.8	5.4		28.8	30.3						
10-16	A3		35.2	24.1	0.6	2.1	8.6	25.1	4.3		26.7	25.0						
16-27	B2g		35.3	37.2	0.2	1.6	6.2	16.6	2.9		27.7	18.1						
27-45	B3g		36.8	41.8	0.2	1.2	5.6	11.8	2.6		29.2	15.7						
45-60	D1		12.6	6.7	0.3	1.4	6.8	66.4	5.8		9.4	40.7						
60+	D2		11.0	8.6	0.6	1.4	5.0	66.2	7.2		7.8	42.0						

Depth (In.)	6A12 Organic carbon Pct.	6B1a Nitrogen Pct	C/N		Carbonate as $CaCO_3$ Pct.		Bulk density g/cc	g/cc	g/cc		Water content Pct	Pct.	Pct.			pH 8C1a (1:1) H_2O
0-10	3.65	0.178	20													4.5
10-16	0.49	0.052	9													4.4
16-27	0.22															4.5
27-45	0.23															4.6
45-60	0.05															4.7
60+	0.07															4.3

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations									Base saturation 5C3 Sum cations Pct	Pct.
	meq/100 g															
0-10	1.8	1.5	0.1	Tr.	23.2	26.6									13	
10-16	0.2	0.4	0.1	0.1	12.7	13.5									6	
16-27	0.3	0.7	0.1	0.1	16.1	17.3									7	
27-45	1.6	2.1	0.2	0.2	12.2	16.3									25	
45-60	0.9	0.8	0.1	0.1	1.8	3.7									51	
60+	1.3	0.8	0.1	0.1	2.2	4.5									51	

Depth (In.)					

Soil Type: Bayboro loam
Soil No.: S55NC-94-2
Location: Washington County, North Carolina. 100 feet from northwest corner of Block G-3, Tidewater Research Station, Plymouth, North Carolina.

Horizon and Beltsville Lab. No.	
Ap 5658	0 to 10 inches. Very dark gray (10YR 3/1) loam gray (10YR 5/1) when dry; friable; medium fine granular structure; boundary clear and wavy.
A3 5659	10 to 16 inches. Dark gray (10YR 4/1) mottled with gray (10YR 6/1) and yellowish brown (10YR 5/8) very fine sandy clay loam moderate fine subangular blocky structure; friable consistence; mottles are few fine and distinct; boundary is gradual and wavy.
B2g 5660	16 to 27 inches. Dark gray (10YR 4/1) mottled with gray (10YR 5/1) and yellowish red (5YR 5/8) clay; coarse prismatic structure breaking into medium to fine angular blocks; distinct clay skins; very plastic and very sticky when wet; firm when moist, very hard when dry; mottling few to common fine and distinct; boundary clear and wavy.
B3g 5661	27 to 45 inches. Gray (10YR 5/1) mottled with yellowish red (5YR 5/8) clay; very plastic and very sticky when wet; firm when moist very hard when dry; distinct clay skins are present; tendency toward coarse prismatic structure breaking into medium to fine angular blocks contains many to medium fine sedge or cane roots along which much of the mottling occurs; mottles are common fine distinct; boundary is gradual and wavy; very fine sand is found along vertical sides of prisms.
D1 5662	45 to 60 inches. Dark gray mottled with yellowish brown (10YR 5/8) and yellowish red (5YR 5/8) loamy sand; massive structure compact in place; mottles are medium common and distinct; few thin lenses of gray clay; boundary is clear smooth; soil material contains a few mica flakes.
D2 5663	60 inches plus. Dark gray (N/4) loamy fine sand with lenses of dark gray clay; the clay is very plastic and very sticky when wet; sand is compact in place; massive structure; a few mica flakes may be observed.

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U. S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Cecil loam SOIL Nos. S60NC-45-2 LOCATION Henderson County, North Carolina

SOIL SURVEY LABORATORY Lincoln, Nebraska LAB. Nos. 14585 - 14594

Depth (In.)	Horizon	1B1b Total: Sand (2–0.05)	Total: Silt (0.05–0.002)	Total: Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments: > 2 Pct.	Coarse fragments: 2–19 Pct. of < 76mm	Coarse fragments: 19–76 Pct. of < 76mm
		Pct. of < 2 mm																
0-3	A1		24.4	11.3	2.7	14.1	12.4	24.7	10.4		15.9	30.7						
3-8	A2		25.1	15.7	1.6	10.9	11.5	24.7	10.5		16.7	31.0						
8-13	B21		22.7	33.2	1.7	8.3	8.2	17.8	8.1		16.4	23.2						
13-23	B22		18.8	44.4	1.4	6.7	6.6	14.7	7.4[a]		13.9	19.6						
23-28	B23		17.7	46.4	1.1	5.8	5.9	15.3[a]	7.8[a]		13.8	19.4						
28-38	B3		14.1	48.3	1.3	6.6	6.2	15.3[a]	8.2[a]		8.3	21.9						
38-48	C1		16.3	32.1	5.1	9.8	8.1	19.1[a]	9.5[a]		10.8	24.9						
48-70	C2		15.2	11.8	2.7	13.6	13.2	29.3[a]	14.2[a]		6.9	37.4						
70-84	C3		14.2	4.6	4.4	14.5	14.4	32.2[a]	15.7[a]		6.8	40.0						
84-108	C4		17.2	2.2	2.9	13.2	13.2	33.2[a]	18.1[a]		9.0	44.2						

Depth (In.)	6A1a Organic carbon	6B1a Nitrogen	C/N		Carbonate as $CaCO_3$		Bulk density: 4A1e 1/3 bar	Bulk density: 4A1h Oven dry		Water content: 4B1c 1/3 bar	Water content: 4B2 15 bar				pH		
	Pct	Pct			Pct.		g/cc	g/cc	g/cc	Pct.	Pct.	Pct.					(1:1)
0-3	1.63	0.108	15					1.35	1.39		19.6	6.0					
3-8	0.64	0.059	11					1.52	1.56		16.3	7.0					
8-13	0.32							1.46	1.55		24.3	16.4					
13-23	0.22							1.28	1.39		34.0	20.4					
23-28	0.17							1.22	1.32		37.3	22.5					
28-38	0.11							1.23	1.30[b]		38.6	22.5					
38-48	0.07								1.42[c]			16.7					
48-70	0.04								1.40[c]			7.5					
70-84	0.02								1.38			4.4					
84-108	0.02											4.0					

Depth (In.)	Extractable bases: 6N2d Ca	Extractable bases: 6O2b Mg	Extractable bases: 6P2d Na	5B1a 6Q2a K	6H2a Ext. acidity	CEC: 5A3a Sum cations									Base saturation	
	meq/100 g														Pct.	Pct.
0-3	Tr.	0.1	Tr.	0.1	10.1	10.3										
3-8	Tr.	0.1	Tr.	0.1	5.8	6.0										
8-13	Tr.	0.1	Tr.	0.1	7.5	7.7										
13-23	Tr.	0.2	Tr.	0.1	8.5	8.8										
23-28	Tr.	0.3	Tr.	0.1	8.7	9.1										
28-38	Tr.	0.1	Tr.	0.1	9.4	9.6										
38-48	Tr.	0.1	Tr.	0.1	7.8	8.0										
48-70	Tr.	Tr.	Tr.	0.2	5.9	6.1										
70-84	Tr.	Tr.	Tr.	0.1	3.7	3.8										
84-108	Tr.	Tr.	Tr.	0.2	4.4	4.6										

Depth (In.)

a Few mica flakes.
b One clod.
c Unequilibrated clods.

Soil Type: Cecil loam
Soil No.: S60NC-45-2
Location: Henderson County, North Carolina, about 5 miles northeast of Hendersonville. The site is located on the Ralph Orr farm, 1.1 miles north of Howard Gap Road on old Dana Road in wooded area about 100 feet from road.
Vegetation and land use: Second growth timber including red, white, and black oak, laurel, gum, short leaf and white pine.
Slope and land form: Gently sloping (3 percent).
Drainage: Well drained.
Permeability: Moderate.
Parent Material: Residuum from granite gneiss with thin beds of mica schist.
Sampled by and date: E. J. Pedersen, J. Fleming, L. E. Aull, R. J. McCracken, C. I. Rich, J. M. King, January 14, 1960.
Described by: G. H. Robinson.

Horizon and Lincoln Lab. Number	
O2	1 to 0 inches. Very dark brown (10YR 2/2) partially decomposed organic material consisting of leaves and twigs, with some soil material.
A1 14585	0 to 3 inches. Dark grayish brown (10YR 4/2) grading to brown (10YR 4/3) loam; weak fine granular structure; very friable; few white sand grains; numerous fine and medium roots; clear smooth boundary.
A2 14586	3 to 8 inches. Strong brown (7.5YR 5/6) - with some brown (7.5YR 5/4) in the upper part - loam; weak fine subangular blocky readily breaking into weak medium granular structure; very friable; fine and medium pores common; medium and fine roots common; some fine gravel; clear smooth boundary.
B21 14587	8 to 13 inches. Yellowish red (5YR 5/8) clay loam; weak medium and fine subangular blocky structure; friable; thin patchy clay films; few fine mica flakes; fine pores are common; some penetration of organic material in old root channels; few medium and fine roots; gradual smooth boundary.
B22 14588	13 to 23 inches. Yellowish red (5YR 4/6) grading to red (2.5YR 4/6) clay loam; moderate fine subangular blocky structure; friable; thin continuous clay films; mica flakes common; crushed color one unit higher in value; few fine medium roots; clear smooth boundary.
B23 14589	23 to 28 inches. Red (2.5YR 4/8) (2.5YR 5/8 crushed) clay loam; weak medium subangular blocky structure; friable; thin patchy clay films; some clay films are more prominent, especially on the vertical faces; mica flakes common and become more numerous with depth; occasional fine and medium root; gradual wavy boundary.
B3 14590	28 to 38 inches. Red (2.5YR 5/6) sandy clay loam; weak medium angular blocky structure; very friable; fine mica flakes are common; discontinuous yet distinct clay films; occasional root; gradual wavy boundary.
C1 14591	38 to 48 inches. Red (2.5YR 4/6) (2.5YR 5/6 crushed) weathered granite gneiss with thin beds of mica schist; texture averages about a sandy clay loam; clay films distinct on faces of cracks; material is well oxidized; mica flakes common to numerous; rock controlled structure with some indication of formation of peds.
C2 14592	48 to 70 inches. Yellowish red, strong brown, pale brown weathered rock with some lens of soil material; rock minerals consist largely of mica, quartz, and feldspar, with some dark minerals.
C3 14593	70 to 84 inches. Gray, light gray, and yellowish brown weathered rock that is soft and easily dug out; biotite mica and perhaps some ferromagnesium minerals are common; some soil material in cracks.
C4 14594	84 to 108 inches. Light gray and pale brown weathered rock; some biotite mica and maybe a few ferromagnesium minerals present.

SCS-421
10-64

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Halewood loam SOIL Nos. S60NC-45-1 LOCATION Henderson County, North Carolina

SOIL SURVEY LABORATORY Lincoln, Nebraska LAB. Nos. 14576 - 14584

Depth (In.)	Horizon	1B1b Total Sand (2-0.05)	Total Silt (0.05-0.002)	Total Clay (<0.002)	Sand: Very coarse (2-1)	Sand: Coarse (1-0.5)	Sand: Medium (0.5-0.25)	Sand: Fine (0.25-0.1)	Sand: Very fine (0.1-0.05)	Silt (0.05-0.02)	Silt: Int. III (0.02-0.002)	Int II (0.2-0.02)	(2-0.1)	Coarse fragments 2A2 >2 Pct.	Coarse fragments 2-19 Pct. of <76mm	Coarse fragments 19-76 Pct. of <76mm
		Pct. of < 2 mm														
0-4	A1		29.2	20.4	2.2	7.6	10.0	22.0	8.6		22.4	26.1		3		
4-8	A2		28.8	24.3	1.0	6.0	9.0	21.9	9.0		22.3	26.2		1		
8-16	B1		26.4	31.9	1.5	4.8	7.5	19.4	8.5		20.3	24.4		3		
16-24	B21		24.2	35.4	1.5	4.6	7.0	18.8	8.5[a]		18.5	23.8		4		
24-35	B22		14.1	44.9	1.4	5.6	7.6	18.8	7.6[a]		10.6	20.4		3		
35-39	B31		10.6	30.7	1.4	8.3	12.2	27.3[a]	9.5[a]		6.9	25.7		1		
39-44	B32		11.4	17.6	1.4	10.0	14.7	33.5[a]	11.4[a]		6.8	30.7		Tr.		
44-72	C1		13.0	17.7	1.3	10.7	14.0	31.7[a]	11.6[a]		7.7	30.9		1		
72-112	C2		17.5	3.4	1.5	12.4	14.9	34.5[a]	15.8[a]		10.1	39.2		Tr.		

Depth (In.)	6A1a Organic carbon	6E1a Nitrogen	C/N	Carbonate as $CaCO_3$	Bulk density 4A1e 1/3 bar	Bulk density 4A1h Oven dry	Water content 4B1c 1/3 bar	Water content 4B2 15 bar	pH (1:1)
	Pct	Pct.		Pct	g/cc	g/cc	Pct.	Pct.	
0-4	2.69	0.196	14		1.22	1.28[b]	31.3	9.0	
4-8	0.60	0.077	8		1.50	1.56	19.6	9.5	
8-16	0.28				1.52	1.56	22.5	12.7	
16-24	0.19				1.48	1.55	23.3	14.2	
24-35	0.15				1.41	1.50	27.2	19.2	
35-39	0.09				1.56	1.60	19.9	13.7	
39-44	0.02				1.62	1.63	15.6	8.9	
44-72	0.04					1.74[b]		8.5	
72-112	Tr.					1.58[b]		3.8	

Depth (In.)	Extractable bases 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	5B1a Sum	6H2a Ext. acidity	CEC 5A3a Sum cations	Base saturation 5C3 Sum cations Pct	Base saturation Pct.
	meq/100 g								
0-4	0.3	0.5	Tr.	0.3	1.1	14.9	16.0	7	
4-8	Tr.	0.5	Tr.	0.3	0.8	8.2	9.0	9	
8-16	Tr.	1.2	Tr.	0.3	1.5	1.5	9.7	2	
16-24	Tr.	0.7	Tr.	0.2	0.9	7.5	8.4	11	
24-35	Tr.	0.6	Tr.	0.2	0.8	8.8	9.6	8	
35-39	Tr.	0.2	Tr.	0.2	0.4	6.4	6.8	6	
39-44	Tr.	Tr.	Tr.	0.1	0.1	4.0	4.1	2	
44-72	Tr.	Tr.	Tr.	0.1	0.1	3.8	3.9	2	
72-112	Tr.	0.1	Tr.	0.1	0.2	1.9	2.1	10	

Depth (In.)

a Few mica flakes.
b Unequilibrated clods.

Soil Type: Halewood loam
Soil No.: S60NC-45-1
Location: Henderson County, North Carolina, northwest of Hendersonville on the Dr. Koontz farm. The profile site was located 125 feet south of the Fanning Bridge Road opposite the lane leading to the tenant house on the New Mountain Horticultural Research Station. The location is near the French Broad River, west of Fletcher, North Carolina.
Vegetation and land use: Second growth timber including red oak, white oak, black gum, and dogwood. The area is a pastured woodlot and lacks an O2 horizon.
Slope and land form: Strongly sloping (14 percent).
Drainage: Well drained.
Permeability: Moderate.
Parent Material: Residuum from granite gneiss that is relatively low in mica content.
Sampled by and date: E. J. Pedersen, J. Fleming, L. E. Aull, R. J. McCracken, C. I. Rich, J. M. King, January 14, 1960.
Described by: G. H. Robinson

Horizon and Lincoln Lab. Number	
A1 14576	0 to 4 inches. Dark brown (10YR 3/3) loam; moderate fine granular structure; very friable; high in organic matter content; numerous medium and fine roots; few fine mica flakes; clear smooth boundary.
A2 14577	4 to 8 inches. Brown to dark brown (7.5YR 4/4) (strong brown 7.5YR 5/6 crushed) loam; weak fine subangular blocky breaking to moderate medium granular structure; very friable; numerous medium and fine pores; some penetration of A1; medium and fine roots common; few fine mica flakes; clear smooth boundary.
B1 14578	8 to 16 inches. Yellowish red (5YR 5/6) (strong brown 7.5YR 5/6 crushed) clay loam; weak medium subangular blocky structure; friable; few fine mica flakes; few fine pores; thin discontinuous clay films; few gravel; few medium and fine roots; clear smooth boundary.
B21 14579	16 to 24 inches. Yellowish red (5YR 4/6) (5YR 5/8 crushed) clay loam; moderate medium subangular blocky structure; friable; thin continuous clay films in most places but some sand grains may stick through the film; few gravel; few pores; few medium and fine roots; few mica flakes; clear smooth boundary.
B22 14580	24 to 35 inches. Red (2.5YR 4/6) heavy clay loam; moderate medium subangular blocky structure; friable; thin continuous clay films; fine and medium pores common; medium and fine mica flakes common; occasional gravel; few medium and fine roots; gradual wavy boundary.
B31 14581	35 to 39 inches. Red (10R 4/6) sandy clay loam; moderate medium angular blocky showing some effects of rock structure; friable; slightly sticky; patchy distinct clay films; mica flakes common to many; occasional root; gradual irregular boundary.
B32 14582	39 to 44 inches. Red (10R 4/6) sandy loam; weak medium angular blocky with some platy structure inherited from rock structure; very friable; clay films on some surfaces (thin discontinuous with some thick films on vertical faces); mica flakes common; occasional root; quartz content in this horizon seems to be high; occasional coating of organic and/or manganese on structural faces; gradual irregular boundary. This might be a C1 horizon.
C1 14583	44 to 72 inches. Red (10R 4/6) with some (2.5YR 4/6) weathered parent material of about a sandy loam texture and having structure inherited from the rock; some penetration of clay in cracks; very friable; spots and coatings of dark material are common; mica is common; occasional root; gradual irregular boundary.
C2 14584	72 to 112 inches. Gray and light gray soft weathered granite gneiss; very friable; few dark coatings; few interbedded ledges of mica schist.

SCS-421
10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Hayesville loam SOIL Nos. 860NC-22-1 LOCATION Clay County, North Carolina

SOIL SURVEY LABORATORY Lincoln, Nebraska LAB. Nos. 14561 - 14568

Depth (in.)	Horizon	1B1b Total: Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments: > 2 Pct.	2 – 19	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-2	A1		28.1	16.2	3.0	5.2	6.5	23.9	17.1		18.0	41.5						
2-5	A2		27.5	20.3	3.8	5.1	6.1	21.7	15.5		18.7	37.1						
5-9	B1		24.7	32.7	3.8	5.0	4.8	17.0	12.0		17.8	29.0						
9-16	B21		21.2	42.8	2.4	4.7	4.6	13.7	10.6		14.7	25.1						
16-24	B22		19.9	42.8	2.0	5.7	5.2	13.3	11.1		14.2	24.7						
24-31	B3		24.3	28.9	2.9	9.5	7.1	14.7	12.6		15.5	29.1						
31-44	C1		26.9	18.7	5.2	11.5	8.4	16.3	13.0		17.4	30.9						
44-54	C2		24.6	1.6	4.3	18.3	12.8	22.2	16.2		12.8	39.0						

Depth (In.)	6A1a Organic carbon Pct.	6H1a Nitrogen Pct	C/N	Carbonate as $CaCO_3$ Pct	Bulk density: 4A1e 1/3 bar g/cc	4A1h Oven dry g/cc	Water content: 4B1c 1/3[a] bar Pct.	4B2 15 bar Pct.	pH: 8C1a (1:1) H_2O
0-2	2.49	0.095	26					7.2	
2-5	0.85	0.056	15		1.36	1.40	21.7	8.8	
5-9	0.43	0.054	8		1.40	1.47	23.5	14.4	
9-16	0.38	0.053	7		1.27	1.36	33.2	19.4	
16-24	0.31				1.33	1.41	30.0	20.3	
24-31	0.08				1.46	1.52	23.6	14.9	
31-44	0.06					1.58[b]		10.3	
44-54	0.02					1.70[b]		2.4	

Depth (In.)	Extractable bases: 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	6H2a Ext. acidity	CEC: 5A3a Sum cations	Base saturation: 5C3 Sum cations Pct.	Pct.
	meq/100 g							
0-2	Tr.	0.1	Tr.	0.2	8.7	9.0		
2-5	Tr.	Tr.	Tr.	0.2	5.9	6.1		
5-9	Tr.	Tr.	Tr.	0.2	6.8	7.0		
9-16	Tr.	0.3	Tr.	0.1	7.8	8.2		
16-24	Tr.	0.2	Tr.	0.1	7.8	8.1		
24-31	Tr.	Tr.	Tr.	0.1	5.4	5.5		
31-44	Tr.	0.1	Tr.	0.1	4.4	4.6		
44-54	0.1	0.3	Tr.	0.1	1.9	2.4		

Depth (In.)

a Clods
b Unequilibrated clods

Soil Type: Hayesville loam
Soil No.: S60NC-22-1
Location: Clay County, North Carolina, near Hayesville, on the B. M. Nicely farm. Sample site is on County Highway 1139 about .8 mile west from the junction with County Highway 1140 and .3 mile south from the junction of 1140 and U. S. 64.
Vegetation and land use: Cutover woods consisting of red and black oak with an undergrowth of laurel.
Slope and land form: Moderately steep (20 percent).
Drainage: Well drained.
Permeability: Moderate.
Parent Material: Residuum from a mica gneiss which is relatively low in mica content.
Sampled by and date: E. J. Pedersen, J. Fleming, L. Aull, R. J. McCracken, C. I. Rich, J. W. Turpin, J. M. King, January 13, 1960.
Described by: G. H. Robinson.

Horizon and Lincoln Lab. Number	
O2	1/2 to 0 inches. Very dark grayish brown (10YR 3/2) decomposed leaves and twigs mixed with some mineral soil material. Fresh leaves and twigs on the surface.
A1 14561	0 to 2 inches. Brown to dark brown (7.5YR 5/4 to 4/4) loam which may grade to reddish brown in places, especially where the soil has been disturbed by tree throw; weak medium granular structure; very friable; few very fine mica flakes; some variation in organic matter content and in thickness of the A1; fine and medium roots common; clear smooth boundary.
A2 14562	2 to 5 inches. Yellowish red (5YR 4/6) loam; weak fine subangular blocky which readily breaks to medium granular structure; very friable; some penetration of A1 soil material; few very fine mica flakes; fine and medium roots are common; few fine to medium size pores; clear smooth boundary.
B1 14563	5 to 9 inches. Red (2.5YR 5/6) crushing to yellowish red (5YR 5/6) clay loam; moderate medium subangular blocky structure; friable; thin discontinuous clay films; fine and medium mica flakes are common; occasional schist fragments; medium sized pores are common; fine and medium roots are common; clear smooth boundary.
B21 14564	9 to 16 inches. Red (2.5YR 4/6) clay loam; moderate medium subangular blocky structure; friable; thin continuous clay films; medium and large mica flakes are few to common; few schist fragments are present; soil material contains a few medium sized pores; few fine and medium roots; clear wavy boundary.
B22 14565	16 to 24 inches. Red (2.5YR 4/6) (2.5YR 5/8 dry) clay loam; weak medium angular and subangular blocky structure; friable; thin discontinuous clay films with continuous clay films on some peds; medium and fine pores are few; fine mica flakes are common; few fine and medium roots; gradual wavy boundary.
B3 14566	24 to 31 inches. Red (2.5YR 4/6) with splotches of red (10R 4/6) light sandy clay loam; weak medium angular and subangular blocky structure; very friable; numerous very fine pores; thin discontinuous clay films; redder spots appear to have been inherited from the rock color; occasional fine root; few mica flakes; gradual wavy boundary.
C1 14567	31 to 44 inches. Red (2.5YR 4/6) with streaks and pockets of strong brown and weak red soil material. The soil material of this horizon averages a loam texture; very friable; rock controlled structure (weak platy) with some evidence of clay movement in the form of thin discontinuous clay films on vertical and some horizontal faces; fine pores are common; occasional root and root channel; the minerals identified include fine mica flakes; quartz, iron oxides, and some feldspar. There appeared to be a few streaks of dark material which consists of organic matter and/or manganese; gradual irregular boundary.
C2 14568	44 to 54 inches. Weak red (10R 4/3) as a general color but consists of white and yellowish quartz, some biotite mica, whitish feldspar, and iron oxides; local spots of black material, organic matter, and manganese are common; streaks of strong brown color are also common; consists of weathered low mica gneiss; rock controlled structure; occasional lens of fine textured material that may have weathered in place.

Notes: Ledge rocks of more resistant material (higher in quartz) are common and may come within 18 to 24 inches of the surface.

SCS-421
10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Hayesville loam SOIL Nos. S60NC-22-2 LOCATION Clay County, North Carolina

SOIL SURVEY LABORATORY Lincoln, Nebraska LAB. Nos. 14569 - 14575

Depth (In.)	Horizon	1B1b Total Sand (2-0.05)	Total Silt (0.05-0.002)	Total Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2-1)	Sand: Coarse (1-0.5)	Sand: Medium (0.5-0.25)	Sand: Fine (0.25-0.1)	Sand: Very fine (0.1-0.05)	Silt (0.05-0.02)	Silt: Int. III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)			Coarse fragments: > 2 Pct.	Coarse fragments: 2 - 19 Pct. of < 76mm	Coarse fragments: 19 - 76 Pct. of < 76mm
		Pct of < 2 mm																
0-1½	A1		29.8	11.1	2.5	7.0	8.2	25.3	16.1		19.1	40.4						
1½-4½	A2		32.7	10.6	3.9	6.6	7.5	23.5	15.2		21.8	39.0						
4½-10	B1		31.3	14.6	3.3	6.4	7.5	22.7	14.2		20.8	36.9						
10-15	B21		21.7	43.9	1.2	4.2	5.0	14.7	9.3		15.7	23.2						
15-24	B22		16.4	55.3	2.0	3.9	4.0	10.9	7.5		10.9	19.0						
24-29	B3/C1		22.0	35.9	3.1	5.8	5.7	15.9	11.6		14.7	28.0						
29-41	C		20.8	15.0	4.9	11.6	9.8	23.6	14.3		13.0	34.6						

Depth (In.)	6A1a Organic carbon	6H1a Nitrogen	C/N		Carbonate as $CaCO_3$		Bulk density: 4A1e 1/3 bar	Bulk density: 4A1h Oven dry		Water content: 4B1c 1/3 bar	Water content: 4B2 15 bar			pH		
	Pct	Pct.			Pct.		g/cc	g/cc	g/cc	Pct	Pct.	Pct.				(1 1)
0-1½	1.84	0.107	17					1.52	1.54		13.1	5.5				
1½-4½	0.58	0.046	13					1.61	1.62		14.8	4.2				
4½-10	0.30							1.69	1.71		13.0	5.1				
10-15	0.35	0.060	6					1.38	1.46		26.6	16.6				
15-24	0.04							1.28	1.35		29.9	22.2				
24-29	0.11								1.54[a]			16.8				
29-41	0.04								1.54[a]			8.1				

Depth (In.)	Extractable bases 6N2d Ca	6G2b Mg	6P2d Na	5B1a 6G2a K	6H2a Ext. acidity	CEC 5A3a Sum cations								Base saturation 5C3 Sum cations Pct.	Pct.
	meq/100 g														
0-1½	0.2	0.2	Tr.	0.2	7.7	8.3									
1½-4½	Tr.	0.3	Tr.	0.1	3.7	4.1									
4½-10	Tr.	0.3	0.1	0.1	3.0	3.4									
10-15	0.1	0.6	Tr.	0.2	7.3	8.2									
15-24	Tr.	0.8	Tr.	0.2	8.5	9.5									
24-29	Tr.	0.4	Tr.	0.2	6.6	7.2									
29-41	0.1	0.5	Tr.	0.1	4.0	4.7									

a Unequilibrated clods

Depth (In.)						

Soil Type: Hayesville loam
Soil No.: S60NC-22-2
Location: Clay County, North Carolina, east of Hayesville, North Carolina, on the Baylor Roach Estate which is 3.2 miles south of the junction of U. S. Highway 64 and N. C. Highway 69 on Highway 69, then, .8 mile east on County Road 1140, then, .15 mile north on field road.
Vegetation and land use: Second growth timber including short leaf and Virginia pine, sassafras, red and white oak, with an undergrowth of some laurel and other low growing shrubs.
Slope and land form: Strongly sloping (15 percent).
Drainage: Well drained.
Permeability: Moderate.
Parent Material: Residuum from mica gneiss that is relatively low in mica.
Sampled by and date: E. J. Pedersen, J. Fleming, L. Aull, R. J. McCracken, C. I. Rich, J. W. Turpin, J. M. King, January 13, 1960.
Described by: G. H. Robinson.

Horizon and Lincoln Lab. Number	
O2	1/2 to 0 inches. Very dark grayish brown (10YR 3/2) decomposed leaves and twigs mixed with some mineral soil material; fresh leaves are on the surface.
A1 14569	0 to 1-1/2 inches. Yellowish brown (10YR 5/4) loam; weak fine granular structure (almost crumb); very friable; few fine pores; occasional fine mica flakes; numerous fine and medium roots; clear smooth boundary.
A2 14570	1-1/2 to 4-1/2 inches. Strong brown (7.5YR 5/6) loam; weak fine subangular blocky which breaks readily to a medium granular structure; very friable; few fine pores; occasional small gravel; fine and medium roots common; clear smooth boundary.
B1 14571	4-1/2 to 10 inches. Yellowish red (5YR 5/6) heavy loam to sandy clay loam; weak fine subangular blocky structure; very friable; thin patchy clay films; few gravel fragments of schist rock and some quartz; few fine pores; fine and medium roots common; clear wavy boundary.
B21 14572	10 to 15 inches. Red (2.5YR 4/8) clay loam; moderate medium subangular blocky structure (almost weak); friable; thin discontinuous clay films which are larger and thicker than those in the above horizon; few gravel fragments mostly quartz; very few pores; medium and fine roots common; clear wavy boundary.
B22 14573	15 to 24 inches. Red (2.5YR 4/8) (crushed 2.5YR 4/6) clay loam; moderate medium subangular blocky structure; occasional fine gravel; friable; thin continuous clay films on most ped surfaces; few fine roots; clear wavy boundary.
B3/C1 14574	24 to 29 inches. Red (2.5YR 4/8) with spots of red (10R 4/6) light clay loam or loam; angular blocky structure which appears to be rock controlled; very friable; evidence of clay movements in the form of patchy films in places; other places in horizon the finer textured material may have formed in situ; 25 to 35 percent weathered rock fragments; fine and medium pores are common; few fine roots; clear wavy boundary. This may be a C1 horizon.
C 14575	29 to 41 inches. Red and weak red (2.5YR 4/6 and 5/6 and 10R 4/4) weathered mica gneiss that is relatively low in mica content; contains some spots of relatively hard rock; red (2.5YR 5/6) clay coatings penetrate into rock fractures; some streaks and spots of dark material consisting of organic matter and/or manganese occur in this horizon.

SCS-421
10-64

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Ona fine sand SOIL Nos. HF1 LOCATION Jones County, North Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55131 - 55134

Depth (In.)	Horizon	1B1b Size class and particle diameter (mm) 3A1													Coarse fragments		
		Total			Sand					Silt							
		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)	0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			> 2	2 – 19	19 – 76
		Pct. of < 2 mm														Pct.	Pct. of < 76mm	
0-7	A1		8.9	1.5	4.1	4.9	5.0	66.3	9.3[a]		4.9	54.1						
7-9½	A2		11.3	1.7	0.6	3.9	4.2	68.0	10.3		6.9	50.3						
9½-14½	Bh		18.6	4.8	0.9	2.8	3.5	60.4	9.0		14.3	46.0						
14½-27	B2		15.0	7.8	1.1	3.0	3.3	60.9	8.9		10.5	46.1						

Depth (In.)	6A1a Organic carbon	6H1a Nitrogen	C/N		Carbonate as $CaCO_3$		Bulk density			Water content					pH	
																8C1a (1:1) H_2O
	Pct.	Pct.			Pct.		g/cc	g/cc	g/cc	Pct.	Pct.	Pct.				
0-7	5.2	0.117	44													3.4
7-9½	0.91	0.019	48													4.0
9½-14½	1.28	0.030	43													4.0
14½-27	0.19															4.6

Depth (In.)	Extractable bases 5B1a				6H2a	CEC								Base saturation	
	6N2d Ca	6Q2b Mg	6P2a Na	6Q2a K	Ext. acidity	5A3a Sum cations								5C3 Sum cations	
	meq/100 g													Pct.	Pct.
0-7	0.3	0.4	0.1	0.2	23.0	24.0								4	
7-9½	0.1	Tr.	Tr.	Tr.	5.1	5.2								2	
9½-14½	0.1	0.6	Tr.	Tr.	12.4	13.1								5	
14½-27	0.1	0.1	Tr.	Tr.	4.8	5.0								4	

Depth (In.)

a Undecomposed organic matter in sand fractions.

Soil Type: Ona fine sand.
Soil No.: HF1
Location: Jones County, North Carolina. Within a clearing in a forest known locally as Hofmann Forest. The plot lies along the western edge of Whitecak Pocosin and about three miles east of Comfort, N. C. (Ref. Trent River quad. 1:62,500).
Vegetation and land use: Consists of a few longleaf and swamp pine with an underbrush of some sweetgum, blackgum, gallberries, blueberries, bay, and a few unidentified shrubs, herbs, and grasses.
Parent Material: Developed from unconsolidated beds of sand and loamy sands.
Physiographic position: Penholoway Terrace.
Sampled by: L. T. Alexander, Joe Kubota and R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55131	0 to 7 inches. Black (N 2/) with salt and pepper effect as soil dried. Fine sand. Friable, very weak crumb to single grain. Zone of many roots. Boundary abrupt to horizon below.
A2 55132	7 to 9-1/2 inches. Gray (10YR 5/1); loose, mainly single grained fine sand. Moist soil forms firm cast when pressed. Few roots, numbering about 1 percent of the number present in horizon above. Lower boundary clear.
Bh 55133	9-1/2 to 14-1/2 inches. Very dark brown (10YR 2/2) fine sand. Material fairly firm in place but when removed breaks or crumbles readily except for a few more strongly cemented pieces. In place, soil is massive with no readily visible structure; crumbled soil mass friable, forms firm cast when pressed. Zone of very few roots; less than 1 percent of A1 horizon.
B2 55134	14-1/2 to 27 inches. Grayish brown (10YR 5/2) loamy fine sand. Mottles common, medium, faint to distinct; colorwise, yellowish brown (10YR 5/6) most common. Moderately firm coarse sub-angular blocky structure. The material of this and the horizons above is considered the parent material of the present soil.

SCS-421
10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Ona fine sand SOIL Nos. HF2 LOCATION Jones County, North Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55135 - 55141

Depth (In.)	Horizon	1B1b Total: Sand (2-0 05)	Silt (0.05-0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 — Sand: Very coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-0.1)	Very fine (0.1-0.05)	Silt: 0.05-0 02	Int. III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)	Coarse fragments: > 2 Pct.	2 - 19	19 - 76 (Pct. of < 76mm)
		Pct. of < 2 mm														
0-7	A1		9.8	1.2	4.2	3.7	4.0	66.6	10.5[a]		5.4	53.6				
7-10½	A2		14.5	2.3	0.7	2.7	3.5	66.6	9.7		9.9	46.3				
10½-16	Bh		14.3	5.0	1.0	2.8	3.3	63.6	10.0		10.1	48.6				
16-29	B2		14.4	8.8	1.0	2.3	3.1	61.0	9.4		10.2	45.1				
29-40	A1b		11.2	7.2	0.8	2.4	3.3	65.1	10.0		8.1	46.0				
40-52	B1bg		6.1	12.4	0.9	2.3	3.1	65.8	9.4		4.2	46.2				
52-63	B2bg		3.1	18.0	1.2	2.0	2.7	62.7	10.3		2.2	50.4				

Depth (In.)	6A1a Organic carbon Pct.	6B1a Nitrogen Pct.	C/N	Carbonate as $CaCO_3$ Pct.	Bulk density g/cc	g/cc	g/cc	Water content Pct	Pct.	Pct.	pH 8C1a (1:1) H_2O
0-7	5.0	0.137	36								3.4
7-10½	0.53	0.014	38								4.0
10½-16	1.46	0.041	36								4.2
16-29	0.14										4.4
29-40	0.05										4.6
40-52	0.09										4.4
52-63	0.07										4.2

Depth (In.)	Extractable bases 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	5B1a 6H2a Ext. acidity	CEC 5A3a Sum cations	Base saturation 5C3 Sum cations Pct.	Pct.
	meq/100 g							
0-7	0.1	0.6	0.1	0.2	29.0	30.0	3	
7-10½	0.2	0.1	Tr.	Tr.	4.4	4.7	6	
10½-16	0.1	0.1	Tr.	Tr.	12.4	12.6	2	
16-29	0.1	0.1	Tr.	Tr.	3.8	4.0	2	
29-40	0.1	0.1	Tr.	Tr.	3.3	3.5	6	
40-52	0.1	Tr.	Tr.	Tr.	5.1	5.2	2	
52-63	0.1	0.1	Tr.	Tr.	6.4	6.6	3	

Depth (In.)

a Undecomposed organic matter in sand fractions.

Soil Type: Ona fine sand.
Soil No.: HF2
Location: Jones County, North Carolina. Within a clearing in a forest known locally as Hofmann Forest. The plot lies along the western edge of Whitecak Pocosin and about three miles east of Comfort, N. C. (Ref. Trent River quad. 1:62,500).
Vegetation and land use: Consists of a few longleaf and swamp pine with an underbrush of some sweetgum, blackgum, gallberries, blueberries, bay, and a few unidentified shrubs, herbs, and grasses.
Parent Material: Developed from unconsolidated beds of sand and loamy sands.
Physiographic position: Penholoway Terrace.
Sampled by: L. T. Alexander, Joe Kubota, R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55135	0 to 7 inches. Black (N 2/) with salt and pepper effect as soil dried. Fine sand. Friable, very weak crumb to single grain. Zone of many roots. Boundary abrupt to horizon below.
A2 55136	7 to 10-1/2 inches. Gray (10YR 5/1); loose, mainly single grained fine sand. Moist soil forms firm cast when pressed. Few roots, numbering about 1 percent of the number present in horizon above. Lower boundary clear.
Bh 55137	10-1/2 to 16 inches. Very dark brown (10YR 2/2) fine sand. Material fairly firm in place but when removed breaks or crumbles readily except for a few more strongly cemented pieces. In place, soil is massive with no readily visible structure; crumbled soil mass friable, forms firm cast when pressed. Zone of very few roots; less than 1 percent of A1 horizon.
B2 55138	16 to 29 inches. Grayish brown (10YR 5/2) loamy fine sand. Mottles common, medium, faint to distinct; colorwise, yellowish brown (10YR 5/6) most common. Moderately firm coarse subangular blocky structure. The material of this and the horizons above is considered the parent material of the present soil.
A1b 55139	29 to 40 inches. Brown (7.5YR 5/2) loamy fine sand with many small pockets of white sand distributed through brown matrix. Few, medium to fine strong brown (7.5YR 5/6) mottles. This horizon is considered to be a buried A1 horizon of an older poorly drained soil.
B1bg 55140	40 to 52 inches. Brown (7.5YR 5/2) variegated with streaks of grayish brown (10YR 5/2), white sand, and strong brown (7.5YR 5/6). Slightly sticky. Moderately firm, coarse subangular blocky structure. Clay content greater in this layer than in horizon above.
B2bg 55141	52 to 63 inches. Pale brown (10YR 6/3). Faintly mottled with streaks of strong brown (10YR 5/6) and dark brown (7.5YR 4/2). Slightly sticky. Some gravel present.
D Not Sampled	63 inches plus. Soil material with larger amounts of gravel than horizon above.

SCS-421
10-64

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Ona fine sand SOIL Nos. HF3 LOCATION Jones County, North Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55142 - 55145

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments: > 2 Pct.	Coarse fragments: 2–19 Pct of < 76mm	Coarse fragments: 19–76 Pct of < 76mm
		Pct. of < 2 mm																
0-7	A1		10.6	1.9	2.3	4.0	4.1	66.1	11.0[a]		6.4	55.1						
7-10	A2		12.2	2.9	1.2	3.3	4.1	67.3	9.0		8.4	44.3						
10-20	Bh		12.5	4.9	1.0	3.0	3.7	65.4	9.5		8.7	45.6						
20-30	B2		14.3	7.1	1.3	2.7	3.6	61.8	9.2		10.1	43.8						

Depth (In.)	6A1a Organic carbon Pct.	6H1a Nitrogen Pct	C/N		Carbonate as $CaCO_3$ Pct.		Bulk density g/cc	Bulk density g/cc	Bulk density g/cc		Water content Pct	Water content Pct	Water content Pct			pH	pH	8C1a (1:1) H_2O
0-7	5.0	0.131	38															3.4
7-10	0.91	0.026	35															3.8
10-20	1.04	0.033	32															4.5
20-30	0.22																	4.8

Depth (In.)	Extractable bases 6N2d Ca	6O2b Mg	6P2a Na	5B1a 6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations								Base saturation 5C3 Sum cations Pct	Base saturation Pct.
	meq/100 g														
0-7	0.5	0.4	0.2	0.4	21.2	22.7								7	
7-10	Tr.	0.1	Tr.	Tr.	7.2	7.3								1	
10-20	0.1	0.1	Tr.	Tr.	9.0	9.2								2	
20-30	0.1	0.1	Tr.	Tr.	4.4	4.6								4	

Depth (In.)

a Undecomposed organic matter in sand fractions

Soil Type: Ona fine sand.
Soil No.: HF3
Location: Jones County, North Carolina. Within a clearing in a forest known locally as Hofmann Forest. The plot lies along the western edge of Whiteoak Pocosin and about three miles east of Comfort, N. C. (Ref. Trent River quad. 1:62,500).
Vegetation and land use: Consists of a few longleaf and swamp pine with an underbrush of some sweetgum, blackgum, gallberries, blueberries, bay, and a few unidentified shrubs, herbs, and grasses.
Parent Material: Developed from unconsolidated beds of sand and loamy sands.
Physiographic position: Penholoway Terrace.
Sampled by: L. T. Alexander, Joe Kubota, R. F. Dever.

Horizon and
Beltsville
Lab. No.

A1
55142 — 0 to 7 inches. Black (N 2/) with salt and pepper effect as soil dried. Fine sand. Friable, very weak crumb to single grain. Zone of many roots. Boundary abrupt to horizon below.

A2
55143 — 7 to 10 inches. Gray (10YR 5/1); loose, mainly single grained fine sand; disturbed by numerous protrusions of A1 material from above that follow root channels. Moist soil forms firm cast when pressed. Few roots, numbering about 1 percent of the number present in horizon above. Lower boundary clear.

Bh
55144 — 10 to 20 inches. Very dark brown (10YR 2/2) fine sand, somewhat disturbed by old root channels now occupied by A1 material. Material fairly firm in place but when removed breaks or crumbles readily except for a few more strongly cemented pieces. In place, soil is massive with no readily visible structure; crumbled soil mass friable, forms firm cast when pressed. Zone of very few roots; less than 1 percent of A1 horizon.

B2
55145 — 20 to 30 inches. Grayish brown (10YR 5/2) loamy fine sand. Mottles common, medium, faint to distinct; colorwise, yellowish brown (10YR 5/6) most common. Moderately firm coarse subangular blocky structure. The material of this and the horizons above is considered the parent material of the present soil.

Note: A1b horizon, 30 inches plus, not sampled, more difficult to dig than that above. Excavated soil material breaks into subangular blocky structure.

SCS-421
10-64

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Ona fine sand SOIL Nos. HF4 LOCATION Jones County, North Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55146 - 55149

Depth (In.)	Horizon	1B1b Total Sand (2-0.05)	Total Silt (0.05-0.002)	Total Clay (<0.002)	Sand: Very coarse (2-1)	Sand: Coarse (1-0.5)	Sand: Medium (0.5-0.25)	Sand: Fine (0.25-0.1)	Sand: Very fine (0.1-0.05)	Silt: (0.05-0.02)	Silt: Int. III (0.02-0.002)	3A1 Int. II (0.2-0.02)	(2-0.1)			Coarse fragments: >2 Pct.	Coarse fragments: 2-19 Pct. of <76mm	Coarse fragments: 19-76 Pct. of <76mm
		Pct. of <2 mm																
0-7	A1		9.7	1.4	1.2	4.0	4.3	67.6	11.8[a]		5.2	54.7						
7-10	A2		10.4	0.9	1.2	3.4	3.8	68.8	11.5		5.9	49.0						
10-16½	Bh		15.1	7.0	2.0	3.0	3.1	60.0	9.8		10.7	44.2						
16½-26½	B2		16.2	7.1	1.1	2.6	3.2	60.5	9.3		12.0	43.2						

Depth (In.)	6A1a Organic carbon Pct	6B1a Nitrogen Pct	C/N	Carbonate as $CaCO_3$ Pct.	Bulk density g/cc	Bulk density g/cc	Bulk density g/cc	Water content Pct.	Water content Pct.	Water content Pet.	pH 8C1a (1:1) H_2O
0-7	4.6	0.129	36								3.4
7-10	0.44	0.012	37								4.4
10-16½	0.79	0.131	6								4.4
16½-26½	0.22										4.6

Depth (In.)	Extractable bases 6N2d Ca	6O2b Mg	6P2a Na	5B1a 6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations	Base saturation 5C3 Sum cations Pct.	Pct.
	meq/100 g							
0-7	Tr.	Tr.	0.2	0.2	21.8	22.2	2	
7-10	0.1	0.1	Tr.	Tr.	2.1	2.3	9	
10-16½	0.1	0.1	0.1	Tr.	9.5	9.7	2	
16½-26½	0.1	0.1	Tr.	Tr.	3.6	3.8	5	

Depth (In.)

a Undecomposed organic matter in sand fractions.

Soil Type: Ona fine sand.
Soil No.: HF4
Location: Jones County, North Carolina. Within a clearing in a forest known locally as Hofmann Forest. The plot lies along the western edge of Whiteoak Pocosin and about three miles east of Comfort, N. C. (Ref. Trent River quad. 1:62,500).
Vegetation and land use: Consists of a few longleaf and swamp pine with an underbrush of some sweetgum, blackgum, gallberries, blueberries, bay, and a few unidentified shrubs, herbs, and grasses.
Parent Material: Developed from unconsolidated beds of sand and loamy sands.
Physiographic position: Penholoway Terrace.
Sampled by: L. T. Alexander, Joe Kubota, R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55146	0 to 7 inches. Black (N 2/) with salt and pepper effect as soil dried. Fine sand. Friable, very weak crumb to single grain. Zone of many roots. Boundary abrupt to horizon below.
A2 55147	7 to 10 inches. Gray (10YR 5/1); loose, mainly single grained fine sand. Moist soil forms firm cast when pressed. Few roots, numbering about 1 percent of the number present in horizon above. Lower boundary clear.
Bh 55148	10 to 16-1/2 inches. Very dark brown (10YR 2/2) fine sand. Organic pan development weak. Material fairly firm in place but when removed breaks or crumbles readily except for a few more strongly cemented pieces. In place, soil is massive with no readily visible structure; crumbled soil mass friable, forms firm cast when pressed. Zone of very few roots; less than 1 percent of A1 horizon.
B2 55149	16-1/2 to 26-1/2 inches. Grayish brown (10YR 5/2) loamy fine sand. Mottles common, medium, faint to distinct; colorwise, yellowish brown (10YR 5/6) most common. Moderately firm coarse subangular blocky structure. The material of this and the horizons above is considered the parent material of the present soil.

Note: Alb horizon, 26-1/2 inches plus, not sampled.

SCS-421
10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Portsmouth fine sandy loam SOIL Nos. CF1 LOCATION Craven County, North Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55150 - 55155

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: (0.05–0.02)	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments: ≥ 2 Pct.	2 – 19 Pct. of < 76mm	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-6	A11		20.1	13.3	1.3	9.6	26.4	24.8	4.5		13.2	17.4						
6-12½	A12		16.1	17.3	0.2	8.3	27.4	25.9	4.8		11.4	15.8						
12½-22	B1		16.9	25.0	0.4	7.8	23.9	21.5	4.5		12.0	15.0						
22-32	B2g		16.4	26.7	0.4	7.4	24.0	21.1	4.0		11.6	13.9						
32-40	CD		12.1	15.1	0.3	9.7	31.2	27.0	4.6		8.5	14.5						
40-50	D		8.5	6.6	0.3	8.4	35.8	34.4	6.0		5.2	16.8						

Depth (In.)	6A1a Organic carbon Pct.	6H1a Nitrogen Pct	C/N		Carbonate as $CaCO_3$ Pct.		Bulk density g/cc	g/cc	g/cc		Water content Pct	Pct.	Pct.			pH		8C1a (1:1) H_2O
0-6	5.3	0.199	27															3.9
6-12½	1.61	0.062	26															4.4
12½-22	0.42	0.051	8															4.2
22-32	0.30																	4.2
32-40	0.61																	4.3
40-50	0.05																	4.6

Depth (In.)	Extractable bases 5B1a 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations										Base saturation 5C3 Sum cations Pct.	Pct.
	meq/100 g																
0-6	0.4	0.4	0.2	0.3	24.9	26.2										5	
6-12½	0.1	0.1	Tr.	Tr.	14.8	15.0										1	
12½-22	0.1	0.1	Tr.	0.1	11.4	11.7										3	
22-32	Tr.	Tr.	Tr.	0.1	12.0	12.1										1	
32-40	0.1	Tr.	Tr.	0.1	8.8	9.0										2	
40-50	Tr.	Tr.	Tr.	Tr.	2.6	2.6										Tr.	

Depth (In.)					

Soil Type: Portsmouth fine sandy loam
Soil No.: CF1
Location: Craven County, North Carolina. This plot is located in Craven County, N. C., in the Croatan National Forest, just east of the Jones County line. It lies south of Trent River and is about six miles SW of New Bern and about eight miles east of Pollocksville (Ref. New Bern quad. 1:24,000).
Vegetation and land use: Vegetation consists of scattered trees, principally longleaf and swamp pine, blackgum, sweetgum, and bay, with a heavy undergrowth of brush, vine, and grass.
Drainage: Poorly drained.
Parent Material: Thick acid clay and heavy, sandy clay deposits.
Physiographic position: The area occurs on the Talbot terrace.
Sampled by: L. T. Alexander, Joe Kubota and R. F. Dever.

Horizon and Beltsville Lab. No.	
A11 55150	0 to 6 inches. Very friable, fine sandy loam; salt and pepper like mixture with black (10YR 2/1) the dominant color; crumb structure; horizon of many large, medium, and fine roots growing parallel to ground surface.
A12 55151	6 to 12-1/2 inches. Black (10YR 2/1) fine sandy loam; friable; crumb structure; horizon of many fine roots; lower boundary wavy; tongues extend through root channels to horizon below.
B1 55152	12-1/2 to 22 inches. Grayish brown (10YR 5/2) to dark grayish brown (10YR 4/2) clay; coarse subangular blocky structure which breaks into many fine subangular to angular peds. Very sticky and plastic when wet.
B2g 55153	22 to 32 inches. Gray (10YR 5/1) clay with many distinct brownish yellow (10YR 6/8) mottles; coarse prismatic structure that breaks into many fine angular to subangular peds. Both horizontal and vertical ped faces coated with clay flows; vertical flows more prominent. Horizon permeated by a number of old, large root channels filled with black A1 material from above. Roots common. Very sticky and plastic when wet.
CD 55154	32 to 40 inches. Very dark grayish brown (10YR 3/2); firm, granular. Horizon mixture of material from horizon above and below; presumably formed when clay was deposited over the underlying sand deposits.
D 55155	40 to 50 inches. Light grayish brown (10YR 6/2) to grayish brown (10YR 5/2) with small lenses of white sand. Readily forms firm cast when moist.

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10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Rains fine sandy loam SOIL Nos. CF2 LOCATION Craven County, North Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55156 - 55159

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt (0.05–0.02)	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments: ≥ 2 Pct	Coarse fragments: 2–19 Pct. of < 2 mm	Coarse fragments: 19–76 Pct. of < 76mm
		Pct. of < 2 mm										3A1						
0-7	A1		14.8	5.0	1.0	12.7	32.2	29.8	4.5		9.6	17.0						
7-12	B1		16.6	21.9	0.7	9.4	25.3	22.0	4.1		11.9	14.2						
12-32	B2g		11.8	32.2	0.5	9.3	24.7	19.1	2.4		9.1	9.7						
32-48	D		5.1	10.2	0.3	8.6	34.5	36.2	5.1		3.2	15.3						

Depth (In.)	6A1a Organic carbon Pct.	6H1a Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.		Bulk density g/cc	g/cc	g/cc		Water content Pct	Pct.	Pct.			pH		8C1a (1:1) H_2O
0-7	3.28	0.124	26															3.8
7-12	0.78	0.052	15															4.2
12-32	0.32	0.056	6															4.2
32-48																		4.4

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	6H2a Ext. Acidity	CEC 5A3a Sum cations										Base saturation 5C3 Sum cations Pct.	Pct.
	meq/100 g																
0-7	0.7	0.3	Tr.	Tr.	18.2	19.2										5	
7-12	Tr.	0.3	Tr.	0.1	10.8	11.2										4	
12-32	Tr.	0.3	Tr.	0.2	14.4	14.9										3	
32-48	0.1	0.2	Tr.	Tr.	4.9	5.2										6	

Depth (In.)

Soil Type: Rains fine sandy loam
Soil No.: CF2
Location: Craven County, North Carolina. This plot is located in Craven County, N. C., in the Croatan National Forest, just east of the Jones County line. It lies south of Trent River and is about six miles SW of New Bern and about eight miles east of Pollocksville (Ref. New Bern quad. 1:24,000).
Vegetation and land use: Vegetation consists of scattered trees, principally longleaf and swamp pine, blackgum and sweetgum, and bay, with a heavy undergrowth of brush, vine, and grass.
Drainage: Poorly drained.
Parent Material: Thick acid clay and heavy, sandy clay deposits.
Physiographic position: The area occurs on the Talbot terrace.
Sampled by: L. T. Alexander, Joe Kubota and R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55156	0 to 7 inches. Black (10YR 2/1) fine sandy loam; friable; crumb structure; horizon of many fine roots; lower boundary wavy; tongues extend through root channels to horizon below.
B1 55157	7 to 12 inches. Grayish brown (10YR 5/2) to dark grayish brown (10YR 4/2) clay; coarse subangular blocky structure which breaks into many fine subangular to angular peds. Very sticky and plastic when wet. Continuity of horizon interrupted by numerous fingers of A1 material that follow abandoned root channels.
B2g 55158	12 to 32 inches. Gray (10YR 5/1) clay with many distinct brownish yellow (10YR 6/8) mottles; coarse prismatic structure that breaks into many fine angular to subangular peds. Both horizontal and vertical ped faces coated with clay flows; vertical flows more prominent. Horizon permeated by a number of old, large root channels filled with black A1 material from above. Roots common. Very sticky and plastic when wet. Horizon continuity interrupted by numerous fingers of A1 material. Some as large as 3 inches in diameter follow abandoned root channels; this portion not included in sample.
D 55159	32 to 48 inches plus. Light grayish brown (10YR 6/2) to grayish brown (10YR 5/2) with small lenses of white sand. Readily forms firm cast when moist.

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Raine fine sandy loam SOIL Nos. CF3 LOCATION Craven County, North Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55160 - 55163

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)	Coarse fragments: ≥ 2 Pct.	Coarse fragments: 2–19 Pct of < 76mm	Coarse fragments: 19–76 Pct of < 76mm
		Pct of < 2 mm														
0-9	A1		36.6	6.4	0.9	11.7	21.8	18.6	4.0		14.6	30.8				
9-17	B1		18.4	22.9	1.2	11.6	22.0	19.0	4.9		12.5	15.7				
17-30	B21g		20.5	28.9	1.8	13.1	18.7	12.4	4.6		13.1	15.6				
30-45	B22g		33.6	53.2	-	1.5	2.6	2.4	6.7		19.9	21.2				

Depth (In.)	6A1a Organic carbon Pct	6B1a Nitrogen Pct	C/N	Carbonate as $CaCO_3$ Pct.	Bulk density g/cc	Bulk density g/cc	Bulk density g/cc	Water content Pct.	Water content Pct	Water content Pct.	pH 8C1a (1:1) H_2O
0-9	4.1	0.121	34								3.7
9-17	0.57	0.048	12								4.1
17-30	0.28	0.045	6								4.2
30-45	0.46										4.4

Depth (In.)	Extractable bases 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	6H2a Ext. Acidity	CEC 5A3a Sum cations	Base saturation 5C3 Sum cations Pct	Pct
	meq/100 g							
0-9	2.3	Tr.	0.2	0.1	23.9	26.5	10	
9-17	0.1	Tr.	0.1	Tr.	10.3	10.5	2	
17-30	Tr.	0.2	0.1	0.2	11.9	12.4	4	
30-45	Tr.	0.3	0.1	0.3	20.3	21.0	3	

Depth (In.)

Soil Type: Rains fine sandy loam
Soil No.: CF3
Location: Craven County, North Carolina. This plot is located in Craven County, N. C., in the Croatan National Forest, just east of the Jones County line. It lies south of Trent River and is about six miles SW of New Bern and about eight miles east of Pollocksville (Ref. New Bern quad. 1:24,000).
Vegetation and land use: Vegetation consists of scattered trees, principally longleaf and swamp pine, blackgum, sweetgum, and bay, with a heavy undergrowth of brush, vine, and grass.
Drainage: Poorly drained.
Parent Material: Thick acid clay and heavy, sandy clay deposits.
Physiographic position: The area occurs on the Talbot terrace.
Sampled by: L. T. Alexander, Joe Kubota and R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55160	0 to 9 inches. Black (10YR 2/1) fine sandy loam; friable; crumb structure; horizon of many roots; lower boundary wavy; tongues extend through root channels to horizon below.
B1 55161	9 to 17 inches. Grayish brown (10YR 5/2) to dark grayish brown (10YR 4/2) clay; coarse subangular blocky structure which breaks into many fine subangular to angular peds. Very sticky and plastic when wet.
B21g 55162	17 to 30 inches. Gray (10YR 5/1) clay with many distinct brownish yellow (10YR 6/8) mottles; mottles are common; coarse prismatic structure that breaks into many fine angular to subangular peds. Both horizontal and vertical ped faces coated with clay flows; vertical flows more prominent. Horizon permeated by a number of old, large root channels filled with black A1 material from above. Roots common. Very sticky and plastic when wet.
B22g 55163	30 to 45 inches. Gray (10YR 5/1) clay with many distinct brownish yellow (10YR 6/8) mottles; mottles are more abundant; coarse prismatic structure that breaks into many fine angular to subangular peds. Both horizontal and vertical ped faces coated with clay flows; vertical flows more prominent. Horizon permeated by a number of old, large root channels filled with black A1 material from above. Roots common. Very sticky and plastic when wet.
D 55164	45 inches plus. Sand.

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10-64

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Rains fine sandy loam SOIL Nos. CF4 LOCATION Craven County, North Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55164 - 55167

Depth (In.)	Horizon	1B1b Total Sand (2–0 05)	Total Silt (0 05–0 002)	Total Clay (< 0 002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0 05–0.02	Silt: Int III (0 02–0.002)	Silt: Int II (0.2–0.02)	(2–0 1)			Coarse fragments: > 2 Pct.	Coarse fragments: 2 - 19 Pct. of < 76mm	Coarse fragments: 19 - 76 Pct. of < 76mm
		Size class and particle diameter (mm) 3A1																
		Pct. of < 2 mm																
0-9	A1		22.9	6.4	1.1	16.3	27.9	20.1	5.3		15.1	18.4						
9-13½	B1		20.7	23.6	1.0	13.1	22.0	14.9	4.7		14.2	15.0						
13½-26	B21g		19.7	32.7	1.5	14.2	18.6	10.0	3.3		14.2	11.7						
26-43	B22g		14.5	27.4	0.8	17.2	26.2	10.5	3.4		9.6	10.6						

Depth (In.)	6A1a Organic carbon Pct	6B1a Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.		Bulk density g/cc	g/cc	g/cc		Water content Pct	Pct.	Pct.			pH 8C1a (1 1) H_2O		
0-9	3.63	0.102	36													4.5		
9-13½	0.59	0.077	8													4.6		
13½-26	0.28	0.049	6													4.4		
26-43	0.13															4.5		

Depth (In.)	Extractable bases 6N2d Ca	6O2b Mg	6P2a Na	6Q2a K	5B1a 6H2a Ext. acidity	CEC 5A3a Sum cations								Base saturation 5C3 Sum cations Pct	Pct.
	meq/100 g														
0-9	3.6	0.3	0.1	0.1	14.4	18.5								22	
9-13½	0.4	0.2	0.1	0.1	9.6	10.4								8	
13½-26	Tr.	0.2	0.1	0.1	12.3	12.7								3	
26-43	0.1	0.3	0.1	0.1	10.6	11.2								5	

Depth (In.)

Soil Type: Rains fine sandy loam
Soil No.: CF4
Location: Craven County, North Carolina. This plot is located in Craven County, N. C., in the Croatan National Forest, just east of the Jones County line. It lies south of Trent River and is about six miles SW of New Bern and about eight miles east of Pollocksville (Ref. New Bern quad. 1:24,000).
Vegetation and land use: Vegetation consists of scattered trees, principally longleaf and swamp pine, blackgum, sweetgum, and bay, with a heavy undergrowth of brush, vine and grass.
Drainage: Poorly drained.
Parent Material: Thick acid clay and heavy, sandy clay deposits.
Physiographic position: The area occurs on the Talbot terrace.
Sampled by: L. T. Alexander, Joe Kubota, R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55165	0 to 9 inches. Black (10YR 2/1) fine sandy loam; friable; crumb structure; horizon of many fine roots; lower boundary wavy; tongues extend through root channels to horizon below.
B1 55166	9 to 13-1/2 inches. Grayish brown (10YR 5/2) to dark grayish brown (10YR 4/2) clay; coarse subangular blocky structure which breaks into many fine subangular to angular peds. Very sticky and plastic when wet.
B21g 55167	13-1/2 to 26 inches. Gray (10YR 5/1) clay with many distinct brownish yellow (10YR 6/8) mottles; mottles are common; coarse prismatic structure that breaks into many fine angular to subangular peds. Both horizontal and vertical ped faces coated with clay flows; vertical flows more prominent. Horizon permeated by a number of old, large root channels filled with black A1 material from above. Roots common. Very sticky and plastic when wet.
B22g 55168	26 to 43 inches. Gray (10YR 5/1) clay with many distinct brownish yellow (10YR 6/8) mottles; mottles are more abundant; coarse prismatic structure that breaks into many fine angular to subangular peds. Both horizontal and vertical ped faces coated with clay flows; vertical flows more prominent. Horizon permeated by a number of old, large root channels filled with black A1 material from above. Roots common. Very sticky and plastic when wet.
D 55169	43 inches plus. Sand.

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10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Coxville loam SOIL Nos. BB 1 LOCATION Berkeley County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55199 - 55202

Depth (In.)	Horizon	1B1b Total Sand (2–0 05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0 1)			Coarse fragments: >= 2 Pct.	Coarse fragments: 2 - 19 Pct of < 76mm	Coarse fragments: 19 - 76 Pct of < 76mm
		Pct. of < 2 mm																
0-6	A1		43.0	19.1	0.5	4.2	5.2	14.3	13.7		26.4	39.3						
6-11	A2		39.7	21.7	1.5	6.6	5.0	12.3	13.2		23.5	37.2						
11-20	B21tg		32.8	39.1	1.1	4.7	3.8	8.7	9.8		20.6	27.6						
20-31	B22tg		31.9	39.8	0.6	4.3	3.9	9.2	10.3		19.5	28.5						

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$		Bulk density				Water content					pH		8C1a (1 1) H_2O
	Pct	Pct.			Pct.		g/cc	g/cc	g/cc		Pct.	Pct.	Pct.					
0-6	3.22	0.135	23.8															4.2
6-11	0.56	0.037	15.1															4.6
11-20	0.52	0.034	15.3															4.8
20-31	0.31																	4.8

Depth (In.)	Extractable bases 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	5B1a 6H2a Ext. acidity	CEC 5A3a Sum cations										Base saturation 5C3 Sum cations Pct.	Pct.
	meq/100 g																
0-6	0.5	0.3	Tr.	0.1	13.4	14.3										6	
6-11	0.2	0.1	Tr.	Tr.	6.2	6.5										5	
11-20	0.5	0.2	Tr.	Tr.	8.4	9.1										8	
20-31	0.7	0.5	Tr.	Tr.	8.7	9.9										12	

Depth (In.)

Soil Type: Coxville loam
Soil No.: BB 1
Location: Berkeley County, South Carolina. This plot is located in the Francis Marion National Forest, and it is off Hoodstown Road about 1.7 miles northeast of Macedonia Church (on Highway 17A). Road leading from Hoodstown Road to the plot is known as Brunsons Motorway. Santee River lies to the north of the plot; to the west, Lake Moultrie (Ref. Bonneau quad. 1:62,500).
Vegetation and land use: Young loblolly and longleaf pine, with a well established undergrowth of black-gum, sweetgum, gallberry and other unidentified grasses and shrubs.
Parent Material: Thick acid clay and heavy, sandy clay deposits.
Physiographic position: Geologically, the area occurs on the Penholoway terrace.
Sampled by: L. T. Alexander, Joe Kubota and R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55199	0 to 6 inches. Black (10YR 2/1) loam; very friable; weak fine granular structure; many fine and coarse roots; extremely acid; clear smooth boundary.
A2 55200	6 to 11 inches. Dark yellowish brown (10YR 4/4) clay loam; firm; weak, coarse to medium subangular blocky structure breaking to firm fine granular structure; few fine faint mottles; very strongly acid; clear smooth boundary.
B21tg 55201	11 to 20 inches. Gray (10YR 5/1) clay with many coarse to fine, distinct strong brown mottles; very coarse medium subangular blocky structure breaking to fine angular to subangular blocky peds; firm, sticky; very strongly acid; gradual wavy boundary.
B22tg 55202	20 to 31 inches. Standing water at depth of 27 inches. Gray (10YR 5/1) clay; many fine to coarse, distinct to prominent mottles of yellow (10YR 7/6-7/8), yellowish brown (10YR 5/6-5/8) and red (2.5YR 4/6); firm, sticky; very coarse, moderate, subangular blocky structure breaking to fine; moderate; angular to subangular; clay films on vertical ped faces; red along many horizontal faces; very strongly acid; gradual wavy boundary.

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Coxville loam SOIL Nos. BB 2 LOCATION Berkeley County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55203 - 55206

Depth (In.)	Horizon	1B1b Total: Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments: ≥ 2 Pct.	2 – 19 Pct. of < 76mm	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-5	A1		37.1	24.5	0.6	5.7	5.8	14.7	11.6		24.1	33.8						
5-9	B1t		35.1	27.9	1.8	7.7	4.9	11.9	10.7		21.5	31.9						
9-20	B21tg		27.5	43.1	1.8	7.2	4.1	8.3	8.0		17.9	23.1						
20-31	B22tg		30.2	42.7	1.0	5.6	3.9	8.3	8.3		19.4	24.5						

Depth (In.)	6A1a Organic carbon Pct	6B2a Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.		Bulk density: g/cc	g/cc	g/cc		Water content: Pct.	Pct.	Pct.			pH:		8C1a (1:1) H_2O
0-5	3.59	0.143	25.1															4.4
5-9	1.02	0.055	18.5															4.6
9-20	0.47	0.037	12.7															4.6
20-31	0.25																	4.6

Depth (In.)	Extractable bases: 6N2d Ca	6O2b Mg	6P2d Na	5B1a 6Q2a K	6H2a Ext. acidity	CEC: 5A3a Sum cations										Base saturation: 5C3 Sum cations Pct.	Pct.
	meq/100 g																
0-5	0.4	0.2	0.1	0.1	15.6	16.4										5	
5-9	0.3	0.2	Tr.	Tr.	8.8	9.3										5	
9-20	0.8	0.2	Tr.	Tr.	9.1	10.1										10	
20-31	0.8	0.7	Tr.	Tr.	9.3	10.8										14	

Depth (In.)

Soil Type: Coxville loam
Soil No.: BB 2
Location: Berkeley County, South Carolina. This plot is located in the Francis Marion National Forest, and it is off Hoodstown Road about 1.7 miles northeast of Macedonia Church (on Highway 17A). Road leading from Hoodstown Road to the plot is known as Brunsons Motorway. Santee River lies to the north of the plot; to the west, Lake Moultrie (Ref. Bonneau quad. 1:62,500).
Vegetation and land use: Young loblolly and longleaf pine, with a well established undergrowth of blackgum, sweetgum, gallberry and other unidentified grasses and shrubs.
Parent Material: Thick acid clay and heavy, sandy clay deposits.
Physiographic position: Geologically, the area occurs on the Penholoway terrace.
Sampled by: L. T. Alexander, Joe Kubota and R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55203	0 to 5 inches. Black (10YR 2/1) loam; very friable; weak fine granular structure; many fine and coarse roots; extremely acid; clear smooth boundary.
B1t 55204	5 to 9 inches. Dark yellowish brown (10YR 4/4) clay loam; firm; weak, coarse to medium subangular blocky structure breaking to firm fine granular structure; few fine faint mottles; very strongly acid; clear smooth boundary.
B21tg 55205	9 to 20 inches. Gray (10YR 5/1) clay with many coarse to fine, distinct strong brown mottles; very coarse medium subangular blocky structure breaking to fine angular to subangular blocky peds; firm, sticky; very strongly acid; gradual wavy boundary.
B22tg 55206	20 to 31 inches. Standing water at depth of 31 inches. Gray (10YR 5/1) clay; many fine to coarse, distinct to prominent mottles of yellow (10YR 7/6-7/8), yellowish brown (10YR 5/6-5/8) and red (2.5YR 4/6); firm, sticky; very coarse, moderate, subangular blocky structure breaking to fine; moderate; angular to subangular; clay films on vertical ped faces; red along many horizontal faces; very strongly acid; gradual wavy boundary.

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Coxville loam SOIL Nos. RB 3 LOCATION Berkeley County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55207 55211

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments: > 2 Pct.	Coarse fragments: 2–19 Pct. of < 76mm	Coarse fragments: 19–76 Pct. of < 76mm
		Pct. of < 2 mm																
0-5	A1		36.6	24.0	0.8	5.9	4.5	14.1	14.1		21.2	39.1						
5-9	B1t		33.5	33.4	1.2	5.3	3.6	11.2	11.8		20.0	33.0						
9-19	B21tg		30.3	42.9	1.2	4.4	3.3	8.5	9.4		19.4	26.0						
19-31	B22tg		30.8	45.4	0.5	3.7	2.8	8.0	8.8		19.3	25.6						
31-42	B3tg		31.5	42.3	0.6	3.4	3.2	9.1	9.9		19.9	27.8						

Depth (In.)	6A1a Organic carbon Pct	6B2a Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.		Bulk density g/cc	g/cc	g/cc		Water content Pct.	Pct.	Pct.			pH	8C1a (1:1) H_2O
0-5	3.34	0.096	34.8														4.4
5-9	1.31	0.052	25.2														4.5
9-19	0.40	0.029	13.8														4.5
19-31	0.25																4.8
31-42	0.18																4.9

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	6H2a Ext. acidity	CEC: 5A3a Sum cations									Base saturation: 5C3 Sum cations Pct	Pct.
	meq/100 g															
0-5	0.4	0.4	0.2	0.1	14.4	15.5									7	
5-9	0.2	0.2	Tr.	Tr.	9.5	9.9									4	
9-19	0.3	0.4	Tr.	Tr.	10.0	10.7									6	
19-31	0.6	0.4	Tr.	Tr.	10.3	11.3									9	
31-42	0.6	0.2	Tr.	Tr.	10.3	11.1									7	

Depth (In.)

Soil Type: Coxville loam
Soil No.: BB 3
Location: Berkeley County, South Carolina. This plot is located in the Francis Marion National Forest, and it is off Hoodstown Road about 1.7 miles northeast of Macedonia Church (on Highway 17A). Road leading from Hoodstown Road to the plot is known as Brunsons Motorway. Santee River lies to the north of the plot; to the west, Lake Moultrie (Ref. Bonneau quad. 1:62,500).
Vegetation and land use: Young loblolly and longleaf pine, with a well established undergrowth of blackgum, sweetgum, gallberry and other unidentified grasses and shrubs.
Parent Material: Thick acid clay and heavy, sandy clay deposits.
Physiographic position: Geologically, the area occurs on the Penholoway terrace.
Sampled by: L. T. Alexander, Joe Kubota and R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55207	0 to 5 inches. Black (10YR 2/1) loam; very friable; weak fine granular structure; many fine and coarse roots; extremely acid; clear smooth boundary.
B1t 55208	5 to 9 inches. Dark yellowish brown (10YR 4/4) clay loam; firm; weak, coarse to medium subangular blocky structure breaking to firm fine granular structure; few fine faint mottles; very strongly acid; clear smooth boundary.
B21tg 55209	9 to 19 inches. Gray (10YR 5/1) clay with many coarse to fine, distinct strong brown mottles; very coarse medium subangular blocky structure breaking to fine angular to subangular blocky peds; firm, sticky; very strongly acid; gradual wavy boundary.
B22tg 55210	19 to 31 inches. Gray (10YR 5/1) clay; many fine to coarse, distinct to prominent mottles of yellow (10YR 7/6-7/8), yellowish brown (10YR 5/6-5/8) and red (2.5YR 4/6); firm, sticky; very coarse, moderate, subangular blocky structure breaking to fine; moderate; angular to subangular; clay films on vertical ped faces; red along many horizontal faces; very strongly acid; gradual wavy boundary.
B3tg 55211	31 to 42 inches. Gray (10YR 5/1) clay with many fine and medium mottles of grayish brown, brown and red; firm, sticky; moderate, fine to medium subangular blocky structure; very strongly acid.

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U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Coxville loam SOIL Nos. BB 4 LOCATION Berkeley County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55212 - 55215

Depth (In)	Horizon	1B1b Total Sand (2–0 05)	Total Silt (0 05–0 002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0 5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0 1–0 05)	Silt: 0.05–0.02	Silt: Int III (0 02–0.002)	Silt: Int II (0.2–0.02)	Sand: (2–0.1)			Coarse fragments: >= 2 Pct.	Coarse fragments: 2 – 19 Pct of < 76mm	Coarse fragments: 19 – 76 Pct of < 76mm
		Pct of < 2 mm																
0-5	A1		41.6	21.4	1.4	4.9	3.6	13.1	14.0		24.3	40.2						
5-12	B1t		37.1	26.1	3.9	6.0	3.1	11.1	12.7		20.8	36.7						
12-20	B21tg		33.3	37.9	3.2	4.8	2.6	8.2	10.0		19.6	29.2						
20-34	B22tg		33.1	38.8	2.5	4.6	2.5	8.4	10.1		19.7	29.3						

Depth (In)	6A1a Organic carbon Pct.	6B2a Nitrogen Pct.	C/N	Carbonate as $CaCO_3$ Pct	Bulk density g/cc	Bulk density g/cc	Bulk density g/cc	Water content Pct.	Water content Pct.	Water content Pct.	pH 8C1a (1:1) H_2O
0-5	4.71	0.173	34.8								4.4
5-12	0.83	0.037	22.4								4.6
12-20	0.53	0.043	12.3								4.6
20-34	0.28										4.8

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6Q2b Mg	6P2d Na	6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations	Base saturation 5C3 Sum cations Pct.	Pct.
	meq/100 g							
0-5	0.4	0.5	0.2	0.2	12.9	14.2	9	
5-12	0.1	0.3	Tr.	Tr.	7.4	7.8	5	
12-20	0.3	0.5	Tr.	Tr.	9.5	10.3	8	
20-34	0.5	0.5	Tr.	Tr.	9.8	10.8	9	

Depth (In.)

Soil Type: Coxville loam
Soil No.: BB 4
Location: Berkeley County, South Carolina. This plot is located in the Francis Marion National Forest, and it is off Hoodstown Road about 1.7 miles northeast of Macedonia Church (on Highway 17A). Road leading from Hoodstown Road to the plot is known as Brunsons Motorway. Santee River lies to the north of the plot; to the west, Lake Moultrie (Ref. Bonneau quad. 1:62,500).
Vegetation and land use: Young loblolly and longleaf pine, with a well established undergrowth of blackgum, sweetgum, gallberry and other unidentified grasses and shrubs.
Parent Material: Thick acid clay and heavy, sandy clay deposits.
Physiographic position: Geologically, the area occurs on the Penholoway terrace.
Sampled by: L. T. Alexander, Joe Kubota and R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55212	0 to 5 inches. Black (10YR 2/1) loam; very friable; weak fine granular structure; many fine and coarse roots; extremely acid; clear smooth boundary.
B1t 55213	5 to 12 inches. This horizon is a few inches thicker than comparable horizons in the other 3 pits. Dark yellowish brown (10YR 4/4) clay loam; firm; weak, coarse to medium subangular blocky structure breaking to firm fine granular structure; few fine faint mottles; very strongly acid; clear smooth boundary.
B21tg 55214	12 to 20 inches. Gray (10YR 5/1) clay with many coarse to fine, distinct strong brown mottles; very coarse medium subangular blocky structure breaking to fine angular to subangular blocky peds; firm, sticky; very strongly acid; gradual wavy boundary.
B22tg 55215	20 to 34 inches. Gray (10YR 5/1) clay; many fine to coarse, distinct to prominent mottles of yellow (10YR 7/6-7/8), yellowish brown (10YR 5/6-5/8) and red (2.5YR 4/6); firm, sticky; very coarse, moderate, subangular blocky structure breaking to fine; moderate; angular to subangular; clay films on vertical ped faces; red along many horizontal faces; very strongly acid; gradual wavy boundary. Red color was more widely distributed through this horizon than in comparable horizons in the other 3 pits. Many medium-sized red colored peds coated on the surface by gray; these peds suggested that the parent material might be red in color.

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Coxville silt loam SOIL Nos. SF 1 LOCATION Georgetown County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB Nos. 551167 - 551171

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments: > 2 Pct.	Coarse fragments: 2–19 Pct of < 76mm	Coarse fragments: 19–76 Pct of < 76mm
		Pct of < 2 mm																
0-4	A11		39.3	32.9	1.0	1.9	2.0	9.1	13.8[a]		23.2	36.5						
4-11	A12		38.3	36.7	0.2	1.0	0.9	6.8	16.1		21.2	39.0						
11-16	B1t		37.7	38.3	0.2	0.9	0.9	6.1	15.9		21.3	37.4						
16-20	B21tg		34.9	44.6	0.2	0.7	0.7	5.4	13.5		19.2	33.8						
20+	B22tg		35.7	42.8	0.1	0.8	0.8	5.6	14.2		19.9	34.7						

Depth (In.)	6A1a Organic carbon Pct	6B2a Nitrogen Pct	C/N		Carbonate as $CaCO_3$ Pct		Bulk density g/cc	g/cc	g/cc		Water content Pct	Pct.	Pct			pH 8C1a (1:1) H_2O
0-4	7.7	0.349	22.1													4.3
4-11	2.52	0.135	18.7													4.5
11-16	0.65	0.055	11.8													4.5
16-20	0.49															4.6
20+	0.49															4.6

Depth (In.)	Extractable bases 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	5B1a 6H2a Ext. acidity	CEC 5A3a Sum cations									Base saturation 5C3 Sum cations Pct.	Pct.
	meq/100 g															
0-4	0.1	Tr.	0.1	0.3	34.3	34.8									1	
4-11	0.1	Tr.	0.1	0.1	19.2	19.5									2	
11-16	Tr.	Tr.	0.1	0.1	11.6	11.8									2	
16-20	Tr.	Tr.	Tr.	0.1	12.5	12.5									Tr.	
20+	0.1	0.2	0.1	0.1	14.9	15.3									3	

Depth (In.)

a Undecomposed organic matter in sand fractions.

Soil Type: Coxville silt loam
Soil No.: SF 1
Location: Georgetown County, South Carolina. About 3.2 miles east of Oceda. The plot is located in a wooded area a short distance in from US Highway 17A (Sampit Road). Canaan Bay lies about 1/2 mile north of the plot. (Ref. Cedar Creek quad. 1:31,680).
Vegetation and land use: Longleaf pine and loblolly pine comprise the overstory and blackgum, bay, and saplings, the understory. Blackberry, gallberry, and grasses comprise the ground cover.
Slope and land form: Level.
Drainage: Poorly drained.
Parent Material: Thick beds of heavy fine sandy clays and clays.
Physiographic position: The plot occurs on the Talbot terrace.
Sampled by: L. T. Alexander, Joe Kubota, R. F. Dever.

Horizon and Beltsville Lab. No.	
A11 551167	0 to 3-1/2 inches. Black (10YR 2/1)--very dark brown (10YR 2/2) friable silt loam; very high in organic matter. Structure weak, medium granular breaking to fine granular. Many roots. Boundary to horizon below wavy.
A12 551168	3-1/2 to 10 inches. Very dark brown (10YR 2/2) silt loam. Structure weak, fine granular. Faint mottles along root channels. Organic matter content less than in horizon above. In face of pit, krotovina-like protrusion of A12 material was about 6 inches wide and extended 17 inches into B21tg horizon.
B1t 551169	10 to 16 inches. Dark gray (10YR 4/1) to gray (10YR 5/1) heavy silt loam; friable. Faint mottles along root channels; yellowish brown mottles dominant. Many fine tubular extensions into horizon below.
B21tg 551170	16 to 20 inches. Brown (10YR 5/3) color crushed soil material. Light silty clay loam; slightly plastic and sticky. Weak, medium subangular blocky structure. Color of uncrushed soil mass grayish brown (10YR 5/2) to brown (10YR 5/3) faintly to distinctly mottled with yellowish brown and some brown. Clay coats present but not prominent.
B22tg 551171	20 inches. Gray (10YR 5/1) clay loam with common medium prominent dark red (2.5YR 3/6) and common medium distinct mottles of yellowish brown (10YR 5/8); moderate coarse and medium subangular blocky structure; sticky and very plastic; clay films thick along gray colored faces of peds; few dark red (2.5YR 3/6) concretions slightly hard and 1/8 to 1/4 inch in diameter; standing water at depth of 22 inches. Mottles commonly absent on ped faces, but prominent in ped interior; fractures common along ped faces; some fractures are continuous and breaks along them produce medium subangular blocky structure; very strongly acid (pH 4.5).

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Coxville silt loam SOIL Nos. SF 2 LOCATION Georgetown County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 551172 - 551176

Depth (In.)	Horizon	1B1b Size class and particle diameter (mm) 3A1 — Total: Sand (2–0.05)	Total: Silt (0.05–0.002)	Total: Clay (<0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int III (0.02–0.002)	Int II (0.2–0.02)	(2–0.1)			Coarse fragments: ≥2 Pct	Coarse fragments: 2–19 Pct. of <76mm	Coarse fragments: 19–76 Pct. of <76mm
		Pct of <2 mm																
0-3	A11		38.0	23.2	0.3	2.8	3.4	14.9	17.4[a]		20.0	46.7						
3-6	A12		38.8	24.4	0.4	2.8	3.0	13.2	17.4		20.9	45.4						
6-11	A2g		38.6	23.0	0.7	3.3	3.0	13.6	17.8		19.4	47.6						
11-15	B21tg		36.5	27.4	0.9	2.9	2.7	12.4	17.2		19.6	43.9						
15+	B22tg		33.2	35.8	0.6	2.3	2.4	10.6	15.1		17.3	39.3						

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$		Bulk density				Water content					pH		8C1a (1:1) H_2O
	Pct.	Pct.			Pct		g/cc	g/cc	g/cc		Pct.	Pct.	Pct.					
0-3	4.8	0.240	20.0															4.4
3-6	3.11	0.139	22.4															4.3
6-11	0.90	0.081	11.1															4.3
11-15	0.43																	4.6
15+	0.31																	4.6

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations										Base saturation 5C3 Sum cations	
	meq/100 g															Pct	Pct
0-3	0.2	0.2	0.1	0.2	13.6	14.3										5	
3-6	0.1	0.1	Tr.	0.2	18.5	18.9										2	
6-11	Tr.	0.1	Tr.	0.1	13.0	13.3										2	
11-15	0.1	0.1	Tr.	Tr.	8.4	8.6										2	
15+	Tr.	0.2	Tr.	Tr.	12.5	12.7										2	

Depth (In.)

a Undecomposed organic matter in sand fractions.

Soil Type: Coxville silt loam
Soil No.: SF 2
Location: Georgetown County, South Carolina. About 3.2 miles east of Oceda. The plot is located in a wooded area a short distance in from US Highway 17A (Sampit Road). Canaan Bay lies about 1/2 mile north of the plot. (Ref. Cedar Creek quad. 1:31,680).
Vegetation and land use: Longleaf pine and loblolly pine comprise the overstory and blackgum, bay, and saplings, the understory. Blackberry, gallberry, and grasses comprise the ground cover.
Slope and land form: Level.
Drainage: Poorly drained.
Parent Material: Thick beds of heavy fine sandy clays and clays.
Physiographic position: The plot occurs on the Talbot terrace.
Sampled by: L. T. Alexander, Joe Kubota, R. F. Dever.

Horizon and Beltsville Lab. No.	
A11 551172	0 to 3 inches. Black (10YR 2/1)--very dark brown (10YR 2/2) friable silt loam; very high in organic matter. Structure weak, medium granular breaking to fine granular. Many roots. Boundary to horizon below wavy.
A12 551173	3 to 6 inches. Very dark brown (10YR 2/2) silt loam. Structure weak, fine granular. Faint mottles along root channels. Organic matter content less than in horizon above.
A2g 551174	6 to 11 inches. Dark gray (10YR 4/1) to gray (10YR 5/1) heavy silt loam; friable. Faint mottles along root channels; yellowish brown mottles dominant. Many fine tubular extensions into horizon below.
B21tg 551175	11 to 15 inches. Brown (10YR 5/3) color crushed soil material. Light silty clay loam; slightly plastic and sticky. Weak, medium subangular blocky structure. Color of uncrushed soil mass grayish brown (10YR 5/2) to brown (10YR 5/3) faintly to distinctly mottled with yellowish brown and some brown. Clay coats present but not prominent.
B22tg 551176	15 inches plus. Gray (10YR 5/1) clay loam with common medium prominent dark red (2.5YR 3/6) and common medium distinct mottles of yellowish brown (10YR 5/8); moderate coarse and medium subangular blocky structure; sticky and very plastic; clay films thick along gray colored faces of peds; few dark red (2.5YR 3/6) concretions slightly hard and 1/8 to 1/4 inch in diameter; standing water at depth of 22 inches. Mottles commonly absent on ped faces, but prominent in ped interior; fractures common along ped faces; some fractures are continuous and breaks along them produce medium subangular blocky structure; very strongly acid (pH 4.5).

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U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Coxville silt loam SOIL Nos SF 3 LOCATION Georgetown County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 551177 - 551180

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments: ≥ 2 Pct	Coarse fragments: 2–19 Pct. of < 76mm	Coarse fragments: 19–76 Pct. of < 76mm
		Pct. of < 2 mm																
0-4	A11		38.4	26.4	0.4	2.6	3.2	13.0	16.0[a]		21.6	42.4						
4-7	A12		38.0	26.4	0.6	3.2	3.2	11.9	16.7		19.7	44.0						
7-12	B1tg		38.4	26.2	1.6	3.8	2.9	10.9	16.2		20.3	42.5						
12+	B2tg		34.7	38.6	0.7	2.4	2.1	8.4	13.1		18.6	35.5						

Depth (In.)	6A1a Organic carbon Pct	6B2a Nitrogen Pct.	C/N	Carbonate as $CaCO_3$ Pct.	Bulk density g/cc	Bulk density g/cc	Bulk density g/cc	Water content Pct.	Water content Pct	Water content Pct.	pH	pH	8C1a (1:1) H_2O
0-4	5.0	0.300	16.6										4.3
4-7	2.10	0.115	18.3										4.4
7-12	0.63	0.065	9.6										4.4
12+	0.28												4.5

Depth (In.)	Extractable bases 6N2d Ca	6O2b Mg	6P2d Na	5B1a 6Q2a K	6H1a Ext. acidity	CEC 5A3a Sum cations	Base saturation 5C3 Sum cations Pct.	Pct
	meq/100 g							
0-4	0.1	0.2	Tr.	0.2	24.1	24.6	2	
4-7	0.1	0.1	Tr.	0.1	17.0	17.3	2	
7-12	Tr.	0.1	0.1	0.1	8.8	9.1	3	
12+	Tr.	0.1	Tr.	Tr.	12.5	12.6	Tr.	

Depth (In.)

a Undecomposed organic matter in sand fractions.

Soil Type: Coxville silt loam
Soil No: SF 3
Location: Georgetown County, South Carolina. About 3.2 miles east of Oceda. The plot is located in a wooded area a short distance in from US Highway 17A (Sampit Road). Canaan Bay lies about 1/2 mile north of the plot. (Ref. Cedar Creek quad. 1:31,680).
Vegetation and land use: Longleaf pine and loblolly pine comprise the overstory and blackgum, bay, and saplings, the understory. Blackberry, gallberry, and grasses comprise the ground cover.
Slope and land form: Level.
Drainage: Poorly drained.
Parent Material: Thick beds of heavy fine sandy clays and clays.
Physiographic position: The plot occurs on the Talbot terrace.
Sampled by: L. T. Alexander, Joe Kubota, R. F. Dever.

Horizon and Beltsville Lab. No.	
A11 551177	0 to 3 inches. Black (10YR 2/1) to very dark brown (10YR 2/2) loam; weak medium granular structure breaking to fine granular structure; friable consistence; many roots; high in organic matter; extremely acid (pH 4.3); clear wavy boundary.
A12 551178	3 to 7 inches. Dark grayish brown (10YR 4/2) loam; with fine faint mottles of yellowish brown along the root channels; weak medium subangular blocky structure, breaking to fine peds; slightly sticky consistence; extremely acid (pH 4.4); clear wavy boundary.
A2 551179	7 to 12 inches. Brown (10YR 5/3) and grayish brown (10YR 5/2) loam mottled with common medium faint and distinct yellowish brown and brown mottles; weak medium subangular blocky structure slightly plastic and sticky; crushed soil color dark brown (10YR 3/3); extremely acid (pH 4.4); gradual wavy boundary.
B21tg 551180	12 to 15 inches. Gray (10YR 5/1) clay loam with common medium prominent dark red (2.5YR 3/6) and common medium distinct mottles of yellowish brown (10YR 5/8); moderate coarse and medium subangular blocky structure; sticky and very plastic; clay films thick along gray colored faces of peds; few dark red (2.5YR 3/6) concretions slightly hard and 1/8 to 1/4 inch in diameter; standing water at depth of 22 inches. Mottles commonly absent on ped faces, but prominent in ped interior; fractures common along ped faces; some fractures are continuous and breaks along them produce medium subangular blocky structure; very strongly acid (pH 4.5).

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10-64

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Coxville silt loam SOIL Nos. SF 4 LOCATION Georgetown County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos 551181 - 551184

Depth (In.)	Horizon	1B1b Total Sand (2–0 05)	Total Silt (0 05–0 002)	Total Clay (< 0 002)	Sand Very coarse (2–1)	Sand Coarse (1–0 5)	Sand Medium (0 5–0 25)	Sand Fine (0.25–0.1)	Sand Very fine (0 1–0.05)	Silt (0 05–0.02)	Silt Int. III (0.02–0.002)	3A1 Int. II (0.2–0.02)	(2–0.1)			Coarse fragments > 2 Pct	Coarse fragments 2 – 19 Pct of < 75mm	Coarse fragments 19 – 76 Pct of < 75mm
		Pct of < 2 mm																
0-4	A1		45.9	25.0	0.4	1.0	1.8	7.4	18.5[a]		24.7	44.8						
4-7	B1tg		46.8	28.0	-	0.6	0.9	4.9	18.8		23.8	45.4						
7-11	B21tg		42.3	35.0	0.1	0.6	0.8	3.6	17.6		23.2	39.5						
11+	B22tg		41.5	38.1	0.4	0.4	0.6	3.3	15.7		21.9	38.1						

Depth (In.)	6A1a Organic carbon Pct	6B2a Nitrogen Pct	C/N		Carbonate as $CaCO_3$ Pct		Bulk density g/cc	Bulk density g/cc	Bulk density g/cc		Water content Pct	Water content Pct.	Water content Pct.			pH	pH 8C1a (1:1) H_2O
0-4	4.8	0.295	16.3														4.3
4-7	2.44	0.135	18.1														4.3
7-11	0.53	0.054	9.8														4.5
11+	0.30																4.6

Depth (In.)	Extractable bases 6N2d Ca	6O2b Mg	6P2d Na	5B1a 6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations								Base saturation 5C3 Sum cations Pct	Base saturation Pct.
	meq/100 g														
0-4	0.2	0.2	Tr.	0.2	25.6	26.2								2	
4-7	Tr.	0.2	Tr.	0.1	23.9	24.2								1	
7-11	Tr.	0.2	Tr.	0.1	12.8	13.1								2	
11+	Tr.	0.2	Tr.	Tr.	14.3	14.5								1	

Depth (In.)

a Undecomposed organic matter in sand fractions.

Soil Type: Coxville silt loam
Soil No.: SF 4
Location: Georgetown County, South Carolina. About 3.2 miles east of Oceda. The plot is located in a wooded area a short distance in from US Highway 17A (Sampit Road). Canaan Bay lies about 1/2 mile north of the plot. (Ref. Cedar Creek quad. 1:31,680).
Vegetation and land use: Longleaf pine and loblolly pine comprise the overstory and blackgum, bay, and saplings, the understory. Blackberry, gallberry, and grasses comprise the ground cover.
Slope and land form: Level.
Drainage: Poorly drained.
Parent Material: Thick beds of heavy fine sandy clays and clays.
Physiographic position: The plot occurs on the Talbot terrace.
Sampled by: L. T. Alexander, Joe Kubota, R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 551181	0 to 4 inches. Black (10YR 2/1) to very dark brown (10YR 2/2) loam; weak medium granular structure breaking to fine granular structure; friable consistence; many roots; high in organic matter; extremely acid (pH 4.3); clear wavy boundary.
B1tg 551182	4 to 7 inches. Dark grayish brown (10YR 4/2) loam; with fine faint mottles of yellowish brown along the root channels; weak medium subangular blocky structure, breaking to fine peds; slightly sticky consistence; extremely acid (pH 4.4); clear wavy boundary.
B21tg 551183	**7 to 11 inches. Brown (10YR 5/3) and grayish brown (10YR 5/2) loam mottled with common medium faint and distinct yellowish brown mottles; weak medium subangular blocky structure slightly plastic and sticky; crushed soil color dark brown (10YR 3/3); extremely acid (pH 4.4); gradual wavy boundary. This horizon is discontinuous.**
B22tg 551184	11 inches plus. Gray (10YR 5/1) clay loam with common medium prominent dark red (2.5YR 3/6) and common medium distinct mottles of yellowish brown (10YR 5/8); moderate coarse and medium subangular blocky structure; sticky and very plastic; clay films thick along gray colored faces of peds; few dark red (2.5YR 3/6) concretions slightly hard and 1/8 to 1/4 inch in diameter; standing water at depth of 22 inches. Mottles commonly absent on ped faces, but prominent in ped interior; fractures common along ped faces; some fractures are continuous and breaks along them produce medium subangular blocky structure; very strongly acid (pH 4.5).

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10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Hayesville loam SOIL Nos. S60SC-37-1 LOCATION Oconee County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 14544 - 14552

Depth (In)	Horizon	1B1b Size class and particle diameter (mm) 3A1 Total: Sand (2–0 05)	Total: Silt (0 05–0 002)	Total: Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0 5–0 25)	Sand: Fine (0 25–0.1)	Sand: Very fine (0 1–0 05)	Silt: 0.05–0.02	Silt: Int. III (0 02–0 002)	Int II (0.2–0 02)	(2–0 1)			Coarse fragments: ≥ 2 Pct	Coarse fragments: 2 – 19 Pct. of < 76mm	Coarse fragments: 19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-1½	A1		13.2	9.0	1.2	6.6	11.7	39.8	18.5		7.4	46.1						
1½-8	A2		15.2	9.7	1.3	7.0	11.7	36.5	18.6		9.6	44.3						
8-14	B1t		14.1	22.2	0.8	5.2	9.6	31.7	16.4		9.0	39.0						
14-22	B21t		11.6	38.0	1.1	4.9	8.4	24.2	11.8		7.8	28.6						
22-32	B22t		12.6	35.9	0.5	4.5	8.8	25.9	11.8		9.2	29.2						
32-37	B3t		15.3	26.3	1.8	6.3	9.0	27.2[a]	14.1[a]		10.9	33.8						
37-55	C1		12.0	18.8	1.2	6.2	9.4	35.4[a]	17.0[a]		7.0	41.1						
55-65	C2		12.6	9.8	1.1	7.8	10.6	37.9[a]	20.2[a]		6.2	47.7						
65-104+	C3		13.2	3.2	0.7	5.3	9.5	43.3[a]	24.8[a]		5.2	58.4						

Depth (In)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$		Bulk density: 4A1e 1/3 bar	Bulk density: 4A1h Oven dry		Water content: 4B1c 1/3 bar	Water content: 4B2 15 bar		pH (1 1)
	Pct.	Pct			Pct		g/cc	g/cc	g/cc	Pct	Pct.	Pct	
0-1½	4.38	0.124	35					1.22	1.25[b]		16.1	5.8	
1½-8	0.73	0.053	14					1.34[c]	1.35		16.7	3.7	
8-14	0.28							1.60	1.62		13.6	8.2	
14-22	0.29							1.54	1.58[b]		17.9	15.0	
22-32	0.15							1.54	1.58		21.9	15.6	
32-37	0.06							1.53	1.56		20.8	13.0	
37-55	0.06								1.58			9.4	
55-65	0.08								1.60[d]			6.2	
65-104+	0.06											2.6	

Depth (In)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations	Base saturation: Pct	Base saturation: Pct.
	meq/100 g							
0-1½	Tr.	Tr.	0.1	0.2	11.3	11.6		
1½-8	Tr.	Tr.	Tr.	0.1	4.4	4.5		
8-14	Tr.	Tr.	Tr.	0.1	4.4	4.5		
14-22	Tr.	Tr.	Tr.	0.1	5.9	6.0		
22-32	Tr.	Tr.	Tr.	0.1	4.7	4.8		
32-37	Tr.	Tr.	Tr.	0.1	5.4	5.5		
37-55	Tr.	Tr.	Tr.	0.1	4.2	4.3		
55-65	Tr.	Tr.	Tr.	0.1	3.0	3.1		
65-104+	Tr.	0.2	Tr.	0.1	2.1	2.4		

Depth (In.)

a Few mica flakes.

b Deviation between duplicates greater than 0.10. Deviation can probably be explained by observed differences (cut clods) in (1) porosity and organic matter content in the A1 and (2) differences in porosity and/or root channels in the B2.

c One clod.

d Unequilibrated clods.

Soil Type: Hayesville loam
Soil No.: S60SC-37-1
Location: Oconee County, South Carolina. Land owned by H. M. Raines. About 4 miles north of Long Creek Post Office. Pit was 1/2 mile north of High S.C. 196 on dirt road approximately 60 feet southeast of triangulation station and about 20 feet east of the road.
Vegetation and land use: Second growth timber including black oak, hickory, and a few short leaf pines.
Slope and land form: Gently sloping 4 percent toward the south.
Drainage: Well drained, with medium surface runoff and medium internal drainage.
Permeability: Moderate.
Parent Material: Residuum from mica gneiss that is relatively low in mica.
Sampled by and date: E. J. Pedersen, J. Fleming, C. I. Rich, W. B. Boykin, T. C. Peele, H. S. Byrd, and E. N. Miller, January 12, 1960.
Described by: R. J. McCracken and G. H. Robinson.

Horizon and Beltsville Lab. No.	
O1 Not sampled	Predominantly hardwood leaves and litter.
O2 Not sampled	1/2 to 0 inches. Partly decayed hardwood leaves.
A1 14544	0 to 1-1/2 inches. Brown (10YR 5/3) (10YR 5/2 dry) with coatings of (10YR 3/1) in upper part and of pale brown (10YR 6/3) in lower part; loam to fine sandy loam; compound structure of very weak subangular blocky and weak granular; very friable; fine roots common; clear abrupt boundary.
A2 14545	1-1/2 to 8 inches. Yellowish brown (10YR 5/6) (7.5YR 7/6 dry) loam to fine sandy loam; weak fine and medium subangular blocky structure; very friable; fine and medium roots common; clear smooth boundary.
B1t 14546	8 to 14 inches. Red (2.5YR 4/8) (5YR 6/6 dry) clay loam to sandy clay loam; weak medium and fine subangular blocky structure; friable; few thin discontinuous clay films; fine and medium roots common; a few quartz fragments in the upper part of this horizon suggest a weak or slight stone line development and presence of translocated material in the upper part of this profile above the stone fragments; gradual wavy boundary.
B21t 14547	14 to 22 inches. Red (2.5YR 4/8) (2.5YR 5/8 dry) clay loam; moderate medium subangular blocky structure; friable; thin discontinuous clay films common; a few fine mica flakes; a few fine and large roots; gradual wavy boundary.
B22t 14548	22 to 32 inches. Red (2.5YR 4/6) (2.5YR 5/8 dry) clay loam to sandy clay loam; weak coarse and medium subangular blocky structure; friable; thin discontinuous clay films common but most often on vertical faces; few fine and medium mica flakes; occasional large roots; gradual wavy boundary.
B3t 14549	32 to 37 inches. Red (2.5YR 5/8) loam; very weak coarse platy structure which is parallel to rock bedding (rock controlled); very friable; a few discontinuous clay films on vertical faces of aggregates; fine and medium mica flakes common; clear irregular boundary.
C1 14550	37 to 55 inches. Red (2.5YR 4/6) loam; very weak coarse platy structure; very friable; medium sized mica flakes common to numerous; dark spots and coatings of organic and/or manganese material common; a few chalky feldspar crystals; irregular discontinuous boundary.
C2 14551	55 to 65 inches. Gray, light gray, with some red coatings, soft weathered mica gneiss with common chalky feldspar crystals; very friable; gradual irregular boundary.
C3 14552	65 to 104 inches plus. Gray and light gray soft weathered mica gneiss or saprolite.

Notes: It is believed that the C3 horizon extends to approximately 115 inches. Chips of partially consolidated rock were collected at 115 inches for preparation of thin sections, and it is thought that this represents the top of the R horizon.

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10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Hayesville fine sandy loam SOIL Nos. S60SC-37-2 LOCATION Oconee County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 14553 - 14560

Depth (In.)	Horizon	1B1b Total Sand (2-0 05)	Total Silt (0 05-0 002)	Total Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2-1)	Sand: Coarse (1-0 5)	Sand: Medium (0.5-0.25)	Sand: Fine (0.25-0.1)	Sand: Very fine (0 1-0.05)	Silt: 0 05-0.02	Silt: Int. III (0 02-0 002)	Int. II (0.2-0.02)	(2-0 1)	Coarse fragments: >= 2 Pct.	Coarse fragments: 2 - 19 Pct. of < 76mm	Coarse fragments: 19 - 76 Pct. of < 76mm
		Pct. of < 2 mm														
0-3	A1		23.7	15.9	1.0	2.1	4.0	26.6	26.7		11.5	56.2				
3-9	A2		24.1	24.6	0.7	1.7	3.5	22.8	22.6		13.4	48.0				
9-14	B1t		22.4	29.4	1.0	2.5	3.8	21.5	19.4[a]		13.0	42.2				
14-21	B2t		19.4	32.0	1.2	2.7	3.9	21.2	19.6[a]		11.5	40.8				
21-28	B31t		20.4	26.4	1.4	3.0	4.5	23.5[a]	20.8[a]		11.4	44.2				
28-35	B32		19.4	21.7	3.0	5.2	5.6	23.8[a]	21.3[a]		11.3	44.4				
35-47	C1		23.3	11.0	1.6	3.0	3.8	27.1[a]	30.2[a]		13.0	58.7				
47-58+	C2		20.6	7.0	0.8	2.1	4.6	33.6[a]	31.3[a]		9.9	64.4				

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N	Carbonate as $CaCO_3$	Bulk density: 4A1e 1/3 bar	Bulk density: 4A1h Oven dry	Water content: 4B1c 1/3 bar	Water content: 4B2 15 bar	pH (1:1)
	Pct.	Pct.		Pct.	g/cc	g/cc	Pct.	Pct.	
0-3	2.18	0.094	23		1.22	1.26[b]	23.0	8.6	
3-9	1.02	0.060	17		1.36	1.40	19.6	10.6	
9-14	0.44	0.053	8		1.32	1.36	19.8	11.9	
14-21	0.19				1.41	1.43	22.1	13.7	
21-28	0.11				1.43	1.44	18.8	11.8	
28-35	0.08				1.36	1.36	17.1	9.8	
35-47	0.06					1.32		6.2	
47-58+	0.06					1.37[b/c]		4.1	

Depth (In.)	Extractable bases: 6N2d Ca	6O2b Mg	6P2d Na	5B1a 6Q2a K	6H2a Ext. acidity	CEC: 5A3a Sum cations	Base saturation Pct.	Base saturation Pct.
	meq/100 g							
0-3	Tr.	0.2	Tr.	0.2	11.5	11.9		
3-9	Tr.	0.2	Tr.	0.1	7.8	8.1		
9-14	Tr.	Tr.	Tr.	0.1	7.0	7.1		
14-21	Tr.	0.2	Tr.	0.1	5.9	6.2		
21-28	Tr.	0.1	Tr.	0.1	4.5	4.7		
28-35	Tr.	Tr.	Tr.	0.1	4.0	4.1		
35-47	Tr.	Tr.	Tr.	0.1	2.8	2.9		
47-58+	Tr.	Tr.	Tr.	0.1	2.1	2.2		

Depth (In.)

a Few mica flakes.

b Deviation between duplicates greater than 0.10. Deviation can probably be explained by observed differences (cut clods) in (1) porosity/or root channels and stone content in the A1 and (2) a different degree of weathering of the parent rock in the C2.

c Unequilibrated clods.

Soil Type: Hayesville fine sandy loam
Soil No.: S60SC-37-2
Location: Oconee County, South Carolina. About 10 miles south of Cashiers, North Carolina on South Carolina 107. Sample taken from pit located 1-1/2 miles north of Moody Springs and about 60 feet west of high shoulder on roadbank.
Vegetation and land use: Second growth timber including black oak, hickory, laurel, a few short leaf pines, huckleberry bushes, and ferns.
Slope and land form: Sloping 9 percent toward the south. Profile is located on the flank of a convex narrow ridge top.
Drainage: Well drained, with medium surface runoff and medium internal drainage.
Permeability: Moderate.
Parent Material: Residuum from a fine grain granite gneiss low in mica content.
Sampled by and date: E. J. Pedersen, J. Fleming, C. I. Rich, W. B. Boykin, T. C. Peele, H. S. Byrd and E. N. Miller, January 12, 1960.
Described by: R. J. McCracken and G. H. Robinson.

Horizon and Beltsville Lab. No.	
O1 Not sampled	2-1/2 to 1-1/2 inches. Predominantly hardwood leaves and litter.
O2 Not sampled	1-1/2 to 0 inches. Partly decayed and moldy hardwood leaves.
A1 14553	0 to 3 inches. Dark grayish brown (10YR 4/2) fine sandy loam; very weak subangular blocky structure breaking to weak medium granular; very friable; fine and medium roots common; clear wavy boundary.
A2 14554	3 to 9 inches. Strong brown (7.5YR 5/6) heavy loam; weak fine and medium subangular blocky structure breaking to weak fine granular; very friable; fine and medium pores common (almost vesicular); fine roots common; clear wavy boundary.
B1t 14555	9 to 14 inches. Yellowish red (5YR 5/6) light clay loam; weak fine subangular blocky structure; friable; a few thin and discontinuous clay films; a few fine and medium roots; gradual smooth boundary.
B2t 14556	14 to 21 inches. Red (2.5YR 4/8) clay loam; weak medium subangular blocky structure; friable; a few thin and discontinuous clay films; a few fine biotite mica flakes; fine and medium pores common; a few medium and large roots; gradual irregular boundary.
B31t 14557	21 to 28 inches. Red (2.5YR 4/8) loam; weak medium subangular blocky structure with a tendency toward very weak platy structure parallel to rock bedding; very friable; a few thin discontinuous clay films; fine pores common; a few light yellow and gray soft rock fragments; a few fine mica flakes; gradual irregular boundary.
B32 14558	28 to 35 inches. Yellowish red (5YR 5/6) light loam; very weak angular blocky structure, rock controlled; very friable; a few light yellow and gray soft rock fragments; a few fine mica flakes and a few chalky feldspar fragments; gradual irregular boundary.
C1 14559	35 to 47 inches. Gray and light gray soft rock fragments; red streaks and spots common; fine sandy loam; very friable; a few fine mica flakes; dark spots and streaks which may be organic matter and/or manganese are common; gradual discontinuous boundary.
C2 14560	47 to 58 inches plus. Light gray and gray fine grained granite gneiss of low mica content. This horizon extends to at least 90 inches. Soft rock fragments were collected for thin section preparation at 90 inches.

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U. S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Lakeland sand SOIL Nos. 8558C-40-1 LOCATION Richland County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 551540 - 551547

Depth (In)	Horizon	1B1b Size class and particle diameter (mm) Total Sand (2-0 05)	Silt (0 05-0.002)	Clay (< 0 002)	Sand: Very coarse (2-1)	Coarse (1-0.5)	Medium (0 5-0.25)	Fine (0.25-0 1)	Very fine (0 1-0.05)	Silt: 0 05-0.02	Int III (0 02-0 002)	3A1 Int. II (0 2-0.02)	(2-0.1)			Coarse fragments: ≥ 2 Pct.	2-19 Pct. of < 76mm	19-76 Pct. of < 76mm
		Pct of < 2 mm																
0-3	A11		8.5	2.2	5.4	34.8	21.3	21.5	6.3		5.0	19.8						
3-11	A12		8.6	3.0	5.9	30.4	19.9	23.9	8.3		5.6	23.1						
11-18	A2		7.8	3.1	5.3	32.2	21.0	23.4	7.2		5.2	20.8						
18-28	B21		7.9	5.0	5.8	30.9	20.0	23.3	7.1		5.5	20.6						
28-39	B22		7.2	4.0	5.9	31.4	20.7	23.7	7.1		4.6	20.7						
39-52	B3		5.2	3.2	5.2	29.4	21.5	27.6	7.9		2.9	23.2						
52-62	B3		4.9	3.6	7.7	30.5	20.8	25.7	6.8		2.9	20.8						
62-70	C		4.4	3.1	9.1	32.1	20.5	24.4	6.4		2.6	19.5						

Depth (In)	6A1a Organic carbon Pct	Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct		Bulk density g/cc	g/cc	g/cc		Water content Pct.	Pct.	Pct.			pH		8C1a (1 1) H_2O
0-3	1.47																	4.9
3-11	0.51																	5.3
11-18	0.17																	5.4
18-28	0.10																	5.6
28-39	0.05																	5.9
39-52	0.03																	5.5
52-62	0.09																	5.7
62-70	0.03																	5.3

Depth (In)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations									Base saturation 5C3 Sum cations Pct	Pct.
	meq/100 g															
0-3	0.3	Tr.	Tr.	Tr.	3.6	3.9									8	
3-11	Tr.	Tr.	Tr.	Tr.	1.7	1.7									Tr.	
11-18	0.1	Tr.	Tr.	Tr.	1.0	1.1									9	
18-28	0.3	Tr.	Tr.	Tr.	1.0	1.3									23	
28-39	0.2	0.1	Tr.	Tr.	0.8	1.1									27	
39-52	Tr.	0.1	Tr.	Tr.	0.6	0.7									14	
52-62	Tr.	0.2	Tr.	Tr.	0.8	1.0									20	
62-70	Tr.	0.2	Tr.	Tr.	0.8	1.0									20	

Depth (In)					

Soil Type: Lakeland sand
Soil No.: S55SC-40-1
Location: Richland County, South Carolina. Southeastern corner of South Carolina. Sand Hill Experiment Station Farm; forested area.
Sampled by: F. E. Allison, L. T. Alexander and P. H. Montgomery

Horizon and Beltsville Lab. No.	
A11 551540	0 to 3 inches. Gray (10YR 5/1) very friable sand with very weakly developed fine crumb structure. This layer contains some organic matter and numerous fine roots. The boundary is clear and smooth.
A12 551541	3 to 11 inches. Light olive brown (2.5Y 5/4) very friable sand with very weakly developed fine crumb structure. This layer contains many fine roots and the boundary is gradual and smooth.
A2 551542	11 to 18 inches. Very pale brown (10YR 7/4), mottled with a few medium faint yellow mottles (10YR 7/6), very friable sand with very weakly developed fine crumb structure. This layer contains many fine roots and a few large roots. The boundary is gradual and smooth.
B21 551543	18 to 28 inches. Brownish yellow (10YR 6/6) very friable sand with very weakly developed medium subangular blocky structure. This layer contains a few large tree roots and the boundary is gradual and smooth.
B22 551544	28 to 39 inches. Brownish yellow (10YR 6/6) very friable sand with very weakly developed medium subangular blocky structure. This layer contains a few large tree roots and the boundary is gradual and wavy.
B3 551545	39 to 52 inches. Yellow (10YR 7/6), mottled with a few fine faint very pale brown (10YR 7/4) mottles, very friable sand with very weakly developed fine crumb structure. The boundary is gradual and smooth. Divided for sampling purposes.
B3 551546	52 to 62 inches. Yellow (10YR 7/6), mottled with a few fine faint very pale brown (10YR 7/4) mottles, very friable sand with very weakly developed fine crumb structure. The boundary is gradual and wavy.
C 551547	62 to 70 inches. Very pale brown (10YR 7/4), mottled with common medium faint yellow (10YR 7/6) mottles, sand with very weakly developed fine crumb structure. This layer contains a few large yellowish brown mottles (10YR 5/4) which appear to be very soft concretions or accumulations of iron or clay.

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Ona fine sand SOIL Nos. FC 1 LOCATION Georgetown County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55184 - 55189

Depth (In.)	Horizon	1B1b Size class and particle diameter (mm) 3A1														Coarse fragments		
		Total			Sand					Silt								
		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)	(0.05–0.02)	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			> 2	2 – 19	19–76
		Pct of < 2 mm														Pct.	Pct. of < 76mm	
0-10	A		5.3	1.3	0.3	6.0	13.7	71.3	2.1		4.2	34.1						
10-17	Bh		7.0	4.6	0.4	5.8	13.0	67.0	2.2		5.4	31.7						
17-28	C1		5.3	2.4	0.3	5.7	13.5	70.7	2.1		4.0	31.9						
28-41	A'2		4.8	9.4	0.5	6.8	13.8	63.1	1.6		4.1	26.0						
41-46	B'1h		4.5	1.7	0.2	5.3	13.2	72.9	2.2		3.4	30.2						
46-96	B'2h		1.7	1.3	0.1	4.3	12.7	78.3	1.6		1.5	36.8						

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$		Bulk density				Water content					pH		
																		8C1a (1:1) H_2O
	Pct.	Pct			Pct.		g/cc	g/cc	g/cc		Pct.	Pct.	Pct					
0-10	1.21	0.033	36.6															4.6
10-17	2.78	0.102	27.2															5.1
17-28	0.13	0.009																5.6
28-41	0.22																	5.2
41-46	0.46																	5.6
46-96	0.60																	5.6

Depth (In.)	Extractable bases 5B1a				6H2a	CEC									Base saturation	
	6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	Ext. acidity	5A3a Sum cations									5C3 Sum cations	
	meq/100 g														Pct.	Pct.
0-10	0.4	0.5	Tr.	0.1	7.1	8.1									12	
10-17	0.1	0.1	Tr.	0.1	23.6	23.8									Tr.	
17-28	0.1	0.2	Tr.	Tr.	1.8	2.1									14	
28-41	0.1	0.2	Tr.	Tr.	3.0	3.3									9	
41-46	0.1	0.2	Tr.	Tr.	5.2	5.5									5	
46-96	0.1	0.2	Tr.	Tr.	11.6	11.9									2	

Depth (In.)

Soil Type: Ona fine sand
Soil No.: FC 1
Location: Georgetown County, South Carolina. Lies between the Sampit River to the north and Wadmacon River to the south. It is about 1-1/2 miles west of the swamps known as Little Kilsock Bay and just north of a church known as Friendship Church (Ref. Kilsock Bay quad. 1:31,680).
Vegetation and land use: Thin stand of longleaf pine and a few hardwoods such as blackjack and postoak with relatively thin underbrush of blackgum, sweetgum, and some grasses, herbs, and shrubs.
Drainage: Poor to moderately well.
Parent Material: Unconsolidated beds of sand and loamy sand.
Physiographic position: Talbot terrace.
Sampled by: L. T. Alexander, Joe Kubota, R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55184	0 to 10 inches. Very dark gray (N3/) fine sand mixed with numerous white sand grains; weak granular structure; loose very friable; maximum concentration of roots that grow parallel to the ground surface; very strongly acid (pH 4.6); abrupt smooth boundary.
Bh 55185	10 to 17 inches. Dark reddish brown (5YR 2/2) fine sand grading to dark reddish brown (5YR 3/3 to 3/4); slightly cemented; roots present but much less in number than horizon above; strongly acid (pH 5.1); clear, wavy boundary.
C1 55186	17 to 28 inches. Pale yellow (2.5Y 7/4) fine sand; weak coarse granular structure; loose consistence; no roots; medium acid (pH 5.6); gradual smooth boundary.
A'2 55187	28 to 41 inches. Yellowish brown (10YR 5/6) fine sand, with few medium faint mottles of strong brown (7.5YR 5/6); moderate coarse subangular blocky structure; slightly sticky consistence; a few hard nutlike concretions 1/2 inch in diameter embedded; strongly acid (pH 5.2); clear wavy boundary.
B'1h 55188	41 to 46 inches. Dark reddish brown (5YR 3/3) to black (5YR 2/1) fine sand; weak coarse subangular blocky structure; firm consistence; few roots 1/2 inch diameter or less; medium acid (pH 5.6); abrupt clear boundary .
B'2h 55189	46 to 96 inches plus. Dark reddish brown (5YR 2/2) fine sand; slightly cemented; firm and somewhat brittle in place; some live roots of present day root system; medium acid (pH 5.6).

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Ona fine sand SOIL Nos. FC 2 LOCATION Georgetown County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55190 - 55192

Depth (In.)	Horizon	1B1b Total Sand (2–0 05)	Silt (0 05–0 002)	Clay (< 0.002)	Sand: Very coarse (2–1)	Coarse (1–0 5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0 1–0 05)	Silt: 0 05–0 02	Int. III (0.02–0.002)	Int II (0.2–0 02)	(2–0 1)			Coarse fragments ≥ 2 Pct.	2 – 19 Pct. of < 76mm	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0-10	A		4.4	1.1	0.4	7.1	15.5	69.7	1.8		3.4	26.3						
10-17	Bh		6.6	4.6	0.6	7.0	14.6	64.8	1.8		5.0	28.5						
17-28	C		5.0	1.8	0.4	6.8	13.6	70.4	2.0		3.7	30.9						

Depth (In.)	Horizon	6A1a Organic carbon Pct.	6B2a Nitrogen Pct.	C/N	Carbonate as $CaCO_3$ Pct.	Bulk density g/cc	g/cc	g/cc	Water content Pct	Pct.	Pct.	pH 8C1a (1.1) H_2O
0-10		1.25	0.032	39.1								4.7
10-17		3.06	0.099	30.9								5.0
17-28		0.10	0.007									5.6

Depth (In.)	Horizon	Extractable bases 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	5B1a 6H2a Ext. acidity	CEC 5A3a Sum cations	Base saturation 5C3 Sum cations Pct	Pct
		meq/100 g							
0-10		0.2	0.2	Tr.	Tr.	4.1	4.5	9	
10-17		0.1	0.2	Tr.	Tr.	28.5	28.8	1	
17-28		0.1	0.4	Tr.	Tr.	1.3	1.8	28	

Depth (In.)

Soil Type: Ona fine sand
Soil No.: FC 2
Location: Georgetown County, South Carolina. Lies between the Sampit River to the north and Wadmacon River to the south. It is about 1-1/2 miles west of the swamps known as Little Kilsock Bay and just north of a church known as Friendship Church (Ref. Kilsock Bay quad. 1:31,680).
Vegetation and land use: Thin stand of longleaf pine and a few hardwoods such as blackjack and postoak with relatively thin underbrush of blackgum, sweetgum, and some grasses, herbs, and shrubs.
Drainage: Poor to moderately well.
Parent Material: Unconsolidated beds of sand and loamy sand.
Physiographic position: Talbot terrace.
Sampled by: L. T. Alexander, Joe Kubota, R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55190	0 to 10 inches. Very dark gray (N3/) fine sand mixed with numerous white sand grains; weak granular structure; loose very friable; maximum concentration of roots that grow parallel to the ground surface; very strongly acid (pH 4.6); abrupt smooth boundary.
Bh 55191	10 to 17 inches. Dark reddish brown (5YR 2/2) fine sand grading to dark reddish brown (5YR 3/3 to 3/4); slightly cemented; roots present but much less in number than horizon above; strongly acid (pH 5.1); clear, wavy boundary.
C 55192	17 to 28 inches. Pale yellow (2.5Y 7/4) fine sand; weak coarse granular structure; loose consistence; no roots; medium acid (pH 5.6); gradual smooth boundary.

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U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Ona fine sand SOIL Nos. FC 3 LOCATION Georgetown County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55193 - 55195

Depth (In.)	Horizon	1B1b Total Sand (2–0.05)	Total Silt (0.05–0.002)	Total Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments ≥ 2 Pct.	Coarse fragments 2–19 Pct. of < 76mm	Coarse fragments 19–76 Pct. of < 76mm
		Pct. of < 2 mm																
0-5½	A		5.3	1.5	0.3	5.5	13.4	72.0	2.0		4.4	29.4						
5½-13	Bh		6.0	2.5	0.4	5.8	12.7	70.5	2.1		4.6	32.7						
13-20	C		6.2	3.3	0.2	5.4	12.1	70.6	2.2		4.5	35.2						

Depth (In.)	6A1a Organic carbon Pct.	6B2a Nitrogen Pct	C/N		Carbonate as $CaCO_3$ Pct		Bulk density g/cc	g/cc	g/cc		Water content Pct.	Pct.	Pct.			pH		8C1a (1.1) H_2O
0-5½	1.54	0.043	35.8															4.4
5½-13	1.86	0.070	26.6															5.2
13-20	0.32	0.014	22.8															5.2

Depth (In.)	Extractable bases 6N2d Ca	6O2b Mg	6P2d Na	5B1a 6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations										Base saturation 5C3 Sum cations Pct.	Pct.
	meq/100 g																
0-5½	0.2	0.1	Tr.	0.1	7.4	7.8										5	
5½-13	0.1	0.1	Tr.	0.1	12.6	12.9										2	
13-20	Tr.	Tr.	Tr.	Tr.	1.6	1.6										Tr.	

Depth (In.)

Soil Type: Ona fine sand
Soil No.: FC 3
Location: Georgetown County, South Carolina. Lies between the Sampit River to the north and Wadmacon River to the south. It is about 1-1/2 miles west of the swamps known as Little Kilsock Bay and just north of a church known as Friendship Church (Ref. Kilsock Bay quad. 1:31,680).
Vegetation and land use: Thin stand of longleaf pine and a few hardwoods such as blackjack and postoak with relatively thin underbrush of blackgum, sweetgum, and some grasses, herbs, and shrubs.
Drainage: Poor to moderately well.
Parent Material: Unconsolidated beds of sand and loamy sand.
Physiographic position: Talbot terrace.
Sampled by: L. T. Alexander, Joe Kubota, R. F. Dever.

Horizon and Beltsville Lab. No.	
A 55193	0 to 5-1/2 inches. Very dark gray (N3/) fine sand mixed with numerous white sand grains; weak granular structure; loose very friable; maximum concentration of roots that grow parallel to the ground surface; very strongly acid (pH 4.6); abrupt smooth boundary.
Bh 55194	5-1/2 to 13 inches. Dark reddish brown (5YR 2/2) fine sand grading to dark reddish brown (5YR 3/3 to 3/4); slightly cemented; roots present but much less in number than horizon above; strongly acid (pH 5.1); clear, wavy boundary.
C 55195	13 to 20 inches. Pale yellow (2.5Y 7/4) fine sand; weak coarse granular structure; loose consistence; no roots; medium acid (pH 5.6); gradual smooth boundary.

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Ona fine sand SOIL Nos. FC 4 LOCATION Georgetown County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos 55196 - 55198

Depth (In)	Horizon	1B1b Total: Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)	Coarse fragments: ≥ 2 Pct	2 – 19 Pct of < 76mm	19–76 Pct of < 76mm
		Pct of < 2 mm														
0-6	A		6.6	2.1	0.3	5.8	12.9	70.0	2.3		5.2	33.8				
6-14	Bh		6.8	4.1	0.2	5.0	12.9	68.7	2.3		5.2	32.6				
14-21	C		7.1	3.6	0.5	6.9	13.8	66.9	1.2		5.1	32.8				

Depth (In)	6A1a Organic carbon Pct.	6B2a Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct		Bulk density g/cc	g/cc	g/cc		Water content Pct.	Pct.	Pct.			pH 8C1a (1:1) H_2O
0-6	2.24	0.073	30.7													4.0
6-14	2.14	0.100	21.4													4.7
14-21	0.20	0.015														5.0

Depth (In)	Extractable bases 7N2d Ca	6O2b Mg	6P2d Na	5B1a 6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations								Base saturation 5C3 Sum cations Pct.	Pct.
	meq/100 g														
0-6	0.2	0.2	Tr.	0.1	9.5	10.0								5	
6-14	Tr.	0.3	Tr.	0.1	16.7	17.1								2	
14-21	Tr.	0.4	Tr.	Tr.	1.9	2.3								17	

Depth (In.)					

Soil Type: Ona fine sand
Soil No.: FC 4
Location: Georgetown County, South Carolina. Lies between the Sampit River to the north and Wadmacon River to the south. It is about 1-1/2 miles west of the swamps known as Little Kilsock Bay and just north of a church known as Friendship Church (Ref. Kilsock Bay quad. 1:31,680).
Vegetation and land use: Thin stand of longleaf pine and a few hardwoods such as blackjack and postoak with relatively thin underbrush of blackgum, sweetgum, and some grasses, herbs, and shrubs.
Drainage: Poor to moderately well.
Parent Material: Unconsolidated beds of sand and loamy sand.
Physiographic position: Talbot terrace.
Sampled by: L. T. Alexander, Joe Kubota, R. F. Dever.

Horizon and Belteville Lab. No.	
A 55196	0 to 6 inches. Very dark gray (N3/) fine sand mixed with numerous white sand grains; weak granular structure; loose very friable; maximum concentration of roots that grow parallel to the ground surface; very strongly acid (pH 4.6); abrupt smooth boundary.
Bh 55197	6 to 14 inches. Weakly indurated organic pan, softer than that in Pits 1 and 2. Dark reddish brown (5YR 2/2) fine sand grading to dark reddish brown (5YR 3/3 to 3/4); slightly cemented; roots present but much less in number than horizon above; strongly acid (pH 5.1); clear, wavy boundary.
C 55198	14 to 21 inches. Pale yellow (2.5Y 7/4) fine sand; weak coarse granular structure; loose consistence; no roots; medium acid (pH 5.6); gradual smooth boundary.

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Rains fine sandy loam SOIL Nos. OR 1 LOCATION Williamsburg County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55168 - 55171

Depth (In.)	Horizon	1B1b Size class and particle diameter (mm) Total: Sand (2–0.05)	Total: Silt (0.05–0.002)	Total: Clay (< 0.002)	Sand: Very coarse (2–1)	Sand: Coarse (1–0.5)	Sand: Medium (0.5–0.25)	Sand: Fine (0.25–0.1)	Sand: Very fine (0.1–0.05)	Silt: 0.05–0.02	Silt: Int. III (0.02–0.002)	3A1 Int. II (0.2–0.02)	(2–0.1)			Coarse fragments: ≥ 2 Pct.	2–19 Pct. of < 76mm	19–76 Pct. of < 76mm
		Pct. of < 2 mm																
0-6½	A1		34.8	11.0	0.3	1.7	2.4	35.4	14.4		22.2	55.8						
6½-13	A2		24.0	14.6	0.3	3.0	4.4	38.9	14.8		14.2	55.6						
13-24	B1tg		22.3	22.2	0.5	7.5	6.3	29.3	11.9		13.8	43.6						
24-32+	B2tg		20.9	33.2	0.6	7.7	5.4	22.6	9.6		13.7	35.4						

Depth (In.)	6A1a Organic carbon Pct	6B2a Nitrogen Pct	C/N		Carbonate as $CaCO_3$ Pct		Bulk density g/cc	g/cc	g/cc		Water content Pct.	Pct.	Pct			pH		8C1a (1:1) H_2O
0-6½	2.94	0.133	22.1															4.6
6½-13	0.63	0.043	14.7															4.6
13-24	0.50	0.048	10.4															4.6
24-32+	0.36																	4.6

Depth (In.)	Extractable bases: 6N2d Ca	6O2b Mg	6P2d Na	5B1a 6Q2a K	6H2a Ext. acidity	CEC: 5A3a Sum cations										Base saturation: 5C3 Sum cations Pct	Pct.
	meq/100 g																
0-6½	0.4	0.3	0.1	0.2	13.3	14.3										7	
6½-13	0.1	0.2	tr.	tr.	6.2	6.5										5	
13-24	0.2	0.3	tr.	0.1	8.0	8.6										7	
24-32+	0.3	tr.	tr.	0.1	9.0	9.4										4	

Depth (In.)					

Soil Type: Rains fine sandy loam
Soil No.: OR 1
Location: Williamsburg County, South Carolina, about 6.5 miles SE of Trio. It lies between two broad areas of swamps known as Cedar Creek Bay to the west and Oak Ridge Bay to the east. (Ref. Trio quad. 1:31,680).
Vegetation and land use: Loblolly pines and an undergrowth of blackgum, sweetgum, bay and magnolia. Ground cover was sparse.
Slope and land form: Level
Drainage: Poor
Parent Material: Thick beds of sandy clay loam and sandy loam coastal plain deposits.
Physiographic position: Geologically, this area occurs on the Penholoway terrace.
Sampled by: L. T. Alexander, Joe Kubota and R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55168	0 to 6-1/2 inches. Very dark gray (10YR 3/1) fine sandy loam, weak fine granular; friable. Lower horizon smooth and clear.
A2 55169	6-1/2 to 13 inches. Grayish brown (10YR 5/2 - 2.5Y 5/2) fine sandy loam; friable, weak granular, when moist; firm when dry. Faintly mottled with yellow. Lower horizon smooth and clear.
B1tg 55170	13 to 24 inches. Sandy clay loam. Grayish brown (10YR 5/2) faintly mottled, principally with strong brown (7.5YR 5/6); some yellow (10YR 7/8). Coarse prismatic breaking to medium, weak subangular blocky structure.
B2tg 55171	24 to 32 inches. Light gray (10YR 7/1) fine sandy clay or clay; mottles distinct and common with yellowish brown (10YR 5/8) and dark gray (10YR 4/1) dominant. Moderately firm coarse subangular blocky structure breaking to medium peds.

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Rains fine sandy loam SOIL Nos. OR 2 LOCATION Williamsburg County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55172 - 55175

Depth (In.)	Horizon	1B1b Total: Sand (2-0.05)	Silt (0.05-0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-0.1)	Very fine (0.1-0.05)	Silt: 0.05-0.02	Int. III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)	Coarse fragments: ≥ 2 (Pct)	2-19 (Pct. of < 76mm)	19-76 (Pct. of < 76mm)
		Pct. of < 2 mm														
0-7	A1		26.8	10.7	0.3	2.2	3.4	40.7	15.9		15.3	59.9				
7-13	A2		26.4	9.3	0.3	3.2	4.6	40.3	15.9		15.5	58.7				
13-22	B1g		23.7	17.7	0.7	8.0	6.5	30.9	12.5		14.1	46.9				
22-29+	B2tg		23.4	22.6	1.4	9.7	6.1	26.2	10.6		14.6	40.7				

Depth (In.)	6A1a Organic carbon (Pct.)	6B2a Nitrogen (Pct.)	C/N	Carbonate as $CaCO_3$ (Pct)	Bulk density (g/cc)			Water content (Pct.)			pH 8C1a (1:1) H_2O
0-7	2.90	0.135	21.5								4.8
7-13	0.29	0.029	10.0								4.8
13-22	0.29	0.032	9.1								4.9
22-29+	0.36										4.7

Depth (In.)	Extractable bases (meq/100 g) 6N2d Ca	6O2b Mg	6P2d Na	5B1a 6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations	Base saturation 5C3 Sum cations (Pct.)	Pct
0-7	0.5	0.3	tr.	0.2	13.4	14.4	7	
7-13	0.1	0.2	tr.	0.2	4.1	4.6	11	
13-22	0.2	0.4	tr.	0.1	5.9	6.6	11	
22-29+	0.2	0.4	0.1	0.1	6.9	7.7	10	

Depth (In.)					

Soil Type: Rains fine sandy loam
Soil No.: CR 2
Location: Williamsburg County, South Carolina, about 6.5 miles SE of Trio. It lies between two broad areas of swamps known as Cedar Creek Bay to the west and Oak Ridge Bay to the east. (Ref. Trio quad. 1:31,680).
Vegetation and land use: Loblolly pines and an undergrowth of blackgum, sweetgum, bay and magnolia. Ground cover was sparse.
Slope and land form: Level
Drainage: Poor
Parent Material: Thick beds of sandy clay loam and sandy loam coastal plain deposits.
Physiographic position: Geologically, this area occurs on the Penholoway terrace.
Sampled by: L. T. Alexander, Joe Kubota and R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55172	0 to 7 inches. Very dark gray (10YR 3/1) fine sandy loam, weak fine granular; friable. Lower horizon smooth and clear.
A2 55173	7 to 13 inches. Grayish brown (10YR 5/2 - 2.5Y 5/2) fine sandy loam; friable, weak granular, when moist; firm when dry. Faintly mottled with yellow. Lower horizon smooth and clear.
B1g 55174	13 to 22 inches. Sandy clay loam. Grayish brown (10YR 5/2) faintly mottled, principally with strong brown (7.5YR 5/6); some yellow (10YR 7/8). Coarse prismatic breaking to medium, weak subangular blocky structure.
B2tg 55175	22 to 29 inches plus. Light gray (10YR 7/1) fine sandy clay or clay; mottles distinct and common with yellowish brown (10YR 5/8) and dark gray (10YR 4/1) dominant. Moderately firm coarse subangular blocky structure breaking to medium peds.

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Rains fine sandy loam SOIL Nos. OR 3 LOCATION Williamsburg County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55176 - 55179

Depth (In.)	Horizon	1B1b Total: Sand (2–0.05)	Silt (0.05–0.002)	Clay (< 0.002)	Size class and particle diameter (mm) 3A1 Sand: Very coarse (2–1)	Coarse (1–0.5)	Medium (0.5–0.25)	Fine (0.25–0.1)	Very fine (0.1–0.05)	Silt: 0.05–0.02	Int. III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			Coarse fragments: > 2 Pct.	2 – 19 Pct. of < 76mm	19 – 76 Pct. of < 76mm
		Pct. of < 2 mm																
0–6½	A1		28.2	12.9	0.3	3.1	3.9	37.9	13.7		17.8	55.3						
6½–15	A2		25.3	16.1	1.0	6.9	5.3	32.4	13.0		15.2	49.1						
15–24	B1g		24.3	18.5	1.1	7.5	5.5	30.9	12.2		14.4	47.2						
24–28+	B2tg		22.9	27.4	0.8	7.2	4.9	26.2	10.6		15.2	39.4						

Depth (In.)	6A1a Organic carbon Pct	6B2a Nitrogen Pct.	C/N		Carbonate as $CaCO_3$ Pct.		Bulk density g/cc	g/cc	g/cc		Water content Pct.	Pct.	Pct.			pH	8C1a (1:1) H_2O
0–6½	2.08	0.126	16.5														4.6
6½–15	0.50	0.037	13.5														5.0
15–24	0.48	0.041	11.7														4.9
24–28+	0.24																4.7

Depth (In.)	Extractable bases 5B1a: 6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	6H2a Ext. acidity	CEC 5A3a Sum cations									Base saturation 5C3 Sum cations Pct	Pct.
	meq/100 g															
0–6½	0.2	0.4	0.2	0.2	12.0	13.0									8	
6½–15	0.1	0.2	0.2	tr.	7.5	8.0									6	
15–24	0.1	0.4	0.2	0.1	6.2	7.0									11	
24–28+	0.3	0.4	0.2	0.1	7.0	8.0									12	

Depth (In.)

Soil Type: Rains fine sandy loam
Soil No.: CR 3
Location: Williamsburg County, South Carolina, about 6.5 miles SE of Trio. It lies between two broad areas of swamps known as Cedar Creek Bay to the west and Oak Ridge Bay to the east. (Ref. Trio quad. 1:31,680).
Vegetation and land use: Loblolly pines and an undergrowth of blackgum, sweetgum, bay and magnolia. Ground cover was sparse.
Slope and land form: Level
Drainage: Poor
Parent Material: Thick beds of sandy clay loam and sandy loam coastal plain deposits.
Physiographic position: Geologically, this area occurs on the Penholoway terrace.
Sampled by: L. T. Alexander, Joe Kubota and R. F. Dever.

Horizon and Beltsville Lab No.	
A1 55176	0 to 6-1/2 inches. Very dark gray (10YR 3/1) fine sandy loam, weak fine granular; friable. Lower horizon smooth and clear.
A2 55177	6-1/2 to 15 inches. Grayish brown (10YR 5/2 - 2.5Y 5/2) fine sandy loam; friable, weak granular, when moist; firm when dry. Faintly mottled with yellow. Lower horizon smooth and clear.
B1g 55178	15 to 24 inches. Sandy clay loam. Grayish brown (10YR 5/2) faintly mottled, principally with strong brown (7.5YR 5/6); some yellow (10YR 7/8). Coarse prismatic breaking to medium, weak subangular blocky structure.
B2tg 55179	24 to 28 inches plus. Light gray (10YR 7/1) fine sandy clay or clay; mottles distinct and common with yellowish brown (10YR 5/8) and dark gray (10YR 4/1) dominant. Moderately firm coarse subangular blocky structure breaking to medium peds.

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL Rains fine sandy loam SOIL Nos. OR 4 LOCATION Williamsburg County, South Carolina

SOIL SURVEY LABORATORY Beltsville, Maryland LAB. Nos. 55180 - 55183

Depth (In.)	Horizon	1B1b Size class and particle diameter (mm) 3A1													Coarse fragments		
		Total			Sand					Silt							
		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)	0.05–0.02	Int III (0.02–0.002)	Int. II (0.2–0.02)	(2–0.1)			≥ 2	2 – 19	19 – 76
		Pct. of < 2 mm														Pct.	Pct. of < 76mm	
0-4/6	A1		27.0	12.0	0.5	1.9	2.7	39.6	16.3		16.5	58.9						
4/6-13	A2		24.0	20.8	0.4	5.0	4.5	32.2	13.0		15.4	47.9						
13-24	B1tg		23.7	24.4	0.6	5.4	5.0	29.1	11.8		15.2	44.1						
24-34	B2tg		22.9	24.6	0.6	7.8	6.0	26.9	11.2		14.9	41.2						

Depth (In.)	6A1a Organic carbon	6B2a Nitrogen	C/N		Carbonate as $CaCO_3$		Bulk density				Water content					pH
																8C1a (1:1) H_2O
	Pct.	Pct			Pct		g/cc	g/cc	g/cc		Pct.	Pct.	Pct.			
0-4/6	5.6	0.178	31.5													4.6
4/6-13	0.28	0.034	8.2													4.8
13-24	0.23	0.038	6.8													4.9
24-34	0.25															4.9

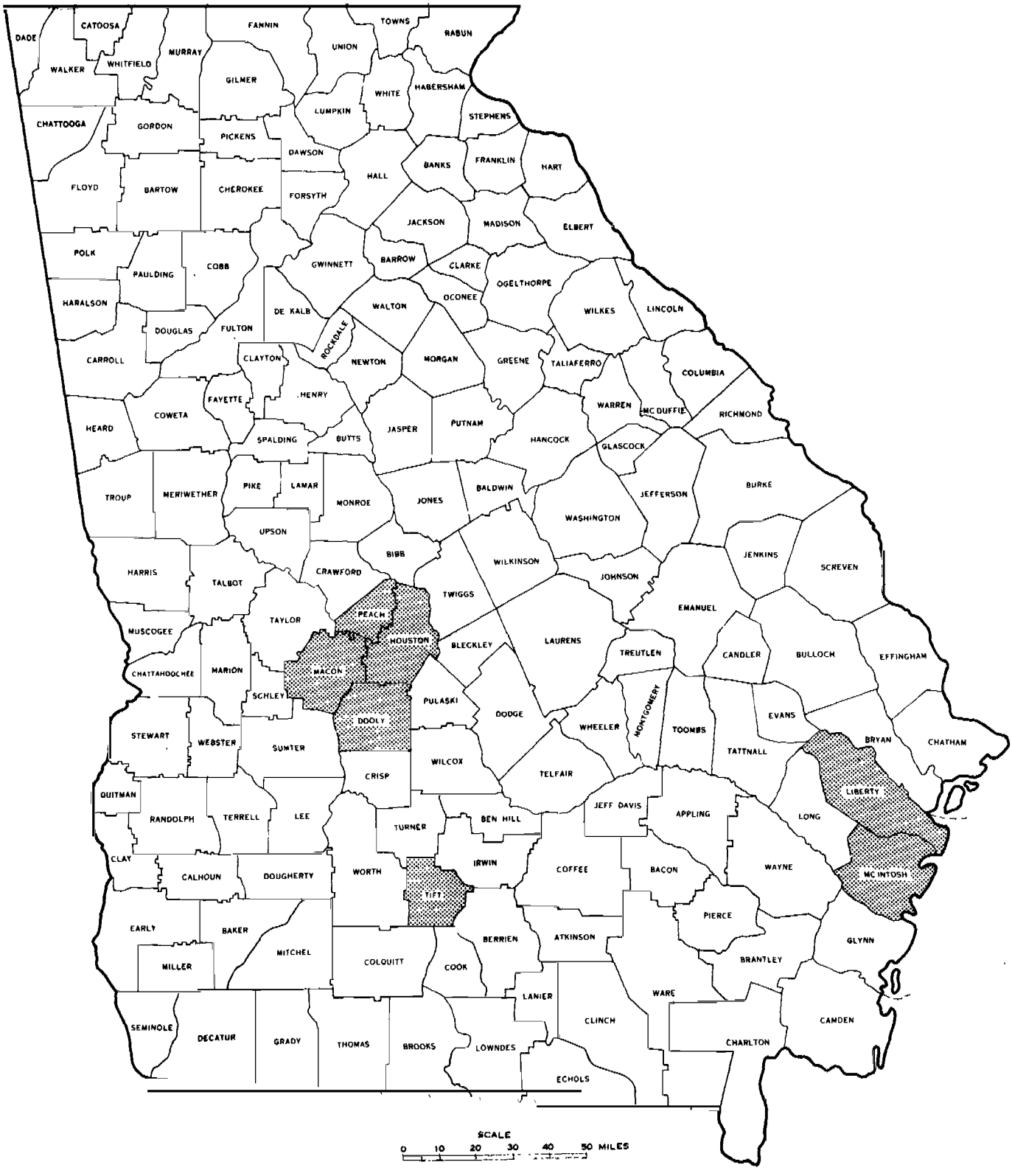
Depth (In.)	Extractable bases 5B1a				6H2a	CEC									Base saturation	
	6N2d Ca	6O2b Mg	6P2d Na	6Q2a K	Ext. acidity	5A3a Sum cations									5C3 Sum cations	
	meq/100 g														Pct	Pct.
0-4/6	0.8	0.7	0.2	0.3	24.2	26.2									8	
4/6-13	0.2	0.4	tr.	0.1	6.7	7.4									9	
13-24	0.2	0.3	0.2	0.1	7.4	8.1									9	
24-34	0.3	0.3	tr.	0.1	7.7	8.4									8	

Depth (In.)

Soil Type: Rains fine sandy loam
Soil No.: OR 4
Location: Williamsburg County, South Carolina, about 6.5 miles SE of Trio. It lies between two broad areas of swamps known as Cedar Creek Bay to the west and Oak Ridge Bay to the east. (Ref. Trio quad. 1:31,680).
Vegetation and land use: Loblolly pines and an undergrowth of blackgum, sweetgum, bay and magnolia. Ground cover was sparse.
Slope and land form: Level
Drainage: Poor
Parent Material: Thick beds of sandy clay loam and sandy loam coastal plain deposits.
Physiographic position: Geologically, this area occurs on the Penholoway terrace.
Sampled by: L. T. Alexander, Joe Kubota and R. F. Dever.

Horizon and Beltsville Lab. No.	
A1 55180	0 to 4/6 inches. Very dark gray (10YR 3/1) fine sandy loam, weak fine granular; friable. Lower horizon smooth and clear.
A2 55181	4/6 to 13 inches. Grayish brown (10YR 5/2 - 2.5Y 5/2) fine sandy loam; friable, weak granular, when moist; firm when dry. Faintly mottled with yellow. Lower horizon smooth and clear.
B1tg 55182	13 to 24 inches. Sandy clay loam. Grayish brown (10YR 5/2) faintly mottled, principally with strong brown (7.5YR 5/6); some yellow (10YR 7/8). Coarse prismatic breaking to medium, weak subangular blocky structure.
B2tg 55183	24 to 34 inches plus. Standing water at about 24 inches. Light gray (10YR 7/1) fine sandy clay or clay; mottles distinct and common with yellowish brown (10YR 5/8) and dark gray (10YR 4/1) dominant. Moderately firm coarse subangular blocky structure breaking to medium peds.

GEORGIA



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