USDA United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with the Louisiana Agricultural Experiment Station and the Louisiana Soil and Water Conservation Committee

Soil Survey of Beauregard Parish, Louisiana

How to Use This Soil Survey

General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

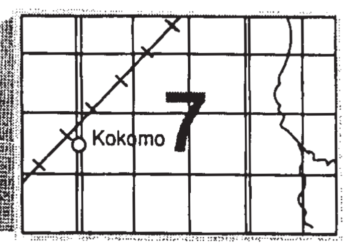
Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

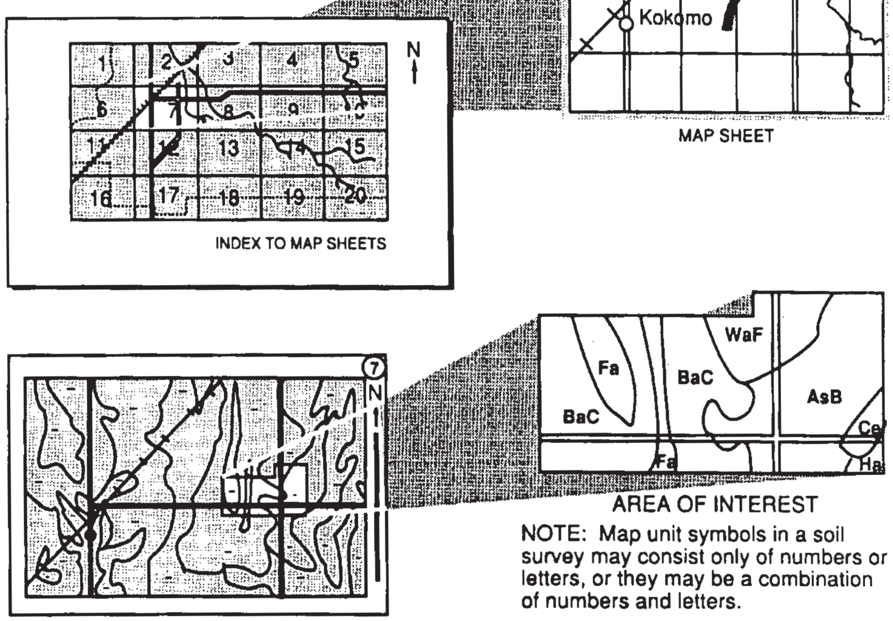
To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



MAP SHEET



AREA OF INTEREST

NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

MAP SHEET

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1991. Soil names and descriptions were approved in 1992. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1991. This survey was made cooperatively by the Natural Resources Conservation Service, the Louisiana Agricultural Experiment Station, and the Louisiana Soil and Water Conservation Committee. It is part of the technical assistance furnished to the Calcasieu Soil and Water Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Ave., SW, Washington, D.C. 20250 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Cover: Timber production is an important industry in Beauregard Parish. The mixed stand of pine and hardwood trees in the foreground is in an area of Hainesville loamy fine sand, 0 to 2 percent slopes. Hardwood trees in the background are in an area of Urbo and Mantachie soils, frequently flooded.

Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service home page on the World Wide Web. The address is http://www.nrcs.usda.gov (click on "Technical Resources").

Contents

Issued 2002

Foreword

This soil survey contains information that affects land use planning in Beauregard Parish, Louisiana. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations that affect various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Donald W. Gohmert

Donald W. Gohmert
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Beauregard Parish, Louisiana

By Clay T. Midkiff, Natural Resources Conservation Service

Fieldwork by Clay T. Midkiff, Bill Boyd, Marc Bordelon, Wilton Stephens, Gerald Trahan, Cecil Myers, Burnell Muse, Natural Resources Conservation Service, and Rick Nolde, Louisiana Soil and Water Conservation Committee

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with
the Louisiana Agricultural Experiment Station and the Louisiana Soil and Water Conservation Committee

Beauregard Parish is in the southwestern part of Louisiana (fig. 1). It has a total area of 746,000 acres, 5,600 acres of which consists of lakes and rivers. Beauregard Parish is bordered on the north by Vernon Parish and on the south by Calcasieu Parish; to the east is Allen Parish, and to the west is Newton County, Texas. According to the 1990 census, the population of the parish was 30,083. About 68 percent of the population lives in rural areas. Land use is primarily woodland (fig. 2).

The parish consists of two Major Land Resource Areas (MLRAs). The Western Coastal Plain and Western Gulf Coast Flatwoods MLRAs are used mainly as woodland; minor uses are for pasture and cropland, and for homesites. The Western Coastal Plain MLRA consists mainly of very gently sloping to moderately steep, moderately well drained to somewhat excessively drained loamy and sandy soils. The Western Gulf Coast Flatwoods MLRA consists mostly of level to gently sloping, poorly drained to moderately well drained loamy soils.

Descriptions and names of soils in this survey do not fully agree with those on the soil maps for adjacent parishes. Differences are the result of better information on soils, modifications in series concepts, and variation in the intensity of mapping or the extent of soils within the survey area.

The first soil survey of Beauregard Parish was published in 1928 (USDA, 1928). This survey updates the earlier survey and provides additional information.

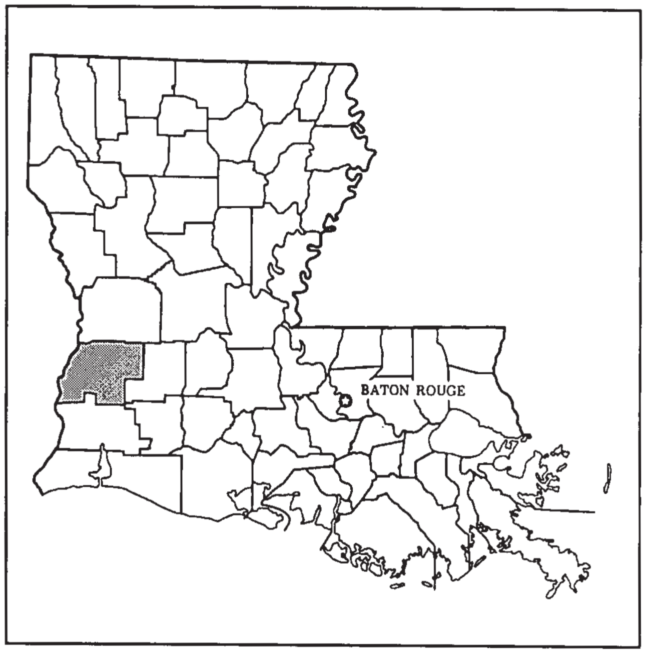


Figure 1.—Location of Beauregard Parish in Louisiana.

General Nature of the Survey Area

This section discusses climate, history, and water resources in the survey area.

Figure 2.—This slash pine plantation is in an area of Merryville-Bearhead complex. About 80 percent of Beauregard Parish is woodland.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at De Quincy in Beauregard Parish in the period 1949 to 1990. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season

In the winter months the average temperature is 51 degrees F, and the average daily minimum temperature is 39 degrees F. The lowest temperature on record is 6 degrees F. In the summer months the average temperature is 81 degrees F, and the average daily maximum temperature is 92 degrees F. The highest recorded temperature is 105 degrees F.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 58.8 inches. Of this, 30 inches, or 51 percent, usually falls from April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall from April through September is less than 13 inches.

History

Beauregard Parish is located in what was originally the northwest corner of Opelousas County, created in 1806 as a division of the Territory of Orleans. The boundaries of Opelousas County encompassed the entire southwestern section of the state. With the inception of the parish form of government in 1807, the area of Opelousas County was called St. Landry Parish. The boundaries of St. Landry Parish were not altered until around 1840, when the western part of that parish was designated as Calcasieu Parish.

The recorded history of the region begins in the latter part of the eighteenth century when the land between the Rio Honda (Calcasieu) and Sabine Rivers, called the "Neutral Strip," was under Spanish jurisdiction. After the first land grant in 1797, the territory became a notorious refuge for desperadoes for many years before it was inhabited by permanent settlers. White settlers entered the region around 1815 and formed settlements along the Calcasieu River.

Prior to the arrival of white settlers, the area was inhabited by a few tribes of Attakapas Indians. These tribes consisted of a large number of small bands along the gulf coastal region from Vermilion Bay to Galveston Bay, and along the Mermentau, Rio Honda (Calcasieu), lower Sabine, and Neches Rivers.

The "Neutral Strip" was a disputed territory claimed by both Louisiana and Texas. Border troubles persisted for many years, and in 1830 a fort was erected at Niblett's Bluff, near the present town of Vinton, Louisiana, then a thriving settlement on the Old Spanish Trail. Cattle drivers stopped at this place to rest on their trek to the New Orleans markets with their great herds of longhorn cattle from Texas. Another fort of crude logs was built on the bank of Charles Lake and was given the name "Cantonment Atkinson."

The first permanent settlement in the parish was the Sugartown Community, founded about 1825. The second community was that of Dry Creek, founded by Thomas W. Williams. Other early settlers were Bill Bundicks, after whom Bundicks Creek was named, and Joe Beckwith, after whom Beckwith Creek was named. In 1840 the present five parishes of Allen, Calcasieu, Cameron, Jefferson Davis, and Beauregard were severed from St. Landry and named Calcasieu. The name was taken from the Calcasieu River, which runs through the area. Between the years of 1848 and 1851, there came to this Sabine River area a large colony of people from Handcock County in Mississippi; a number of them settled in what is now Beauregard Parish.

During the Civil War, when it became necessary to furnish General Taylor's retreating army with provisions and ammunition, a military road was established from Niblett's Bluff to Alexandria. A stretch of this road was cut by residents of present Beauregard Parish and, for many years, this military road was the only road in the parish. It entered the parish near the southwest corner and ran diagonally, entering what is now known as Allen Parish less than a mile from the northeast corner of the Beauregard Parish line.

Beauregard Parish was established as a political unit in January, 1913. The parish was named for General Pierre Gustave Toutant Beauregard. The same day that Beauregard Parish was created, the parishes of Allen and Jefferson Davis also were created. These 3 were the last parishes established of the present 64 in Louisiana. DeRidder, the parish seat, was incorporated in April, 1903. The nucleus of this little town was established in 1897. At that time the site was known as Callie Shirley's farm. The town was first called "Scovell" in honor of a railroad official. Later it was named "DeKidder" and then "DeRidder"; these names were presumably variations of the name of one of the stockholders of the railroad, who resided in Holland.

Water Resources

Darwin Knochenmus, Hydrologist, U.S. Geological Survey, Water Resources Division, Baton Rouge, Louisiana, prepared this section.

Beauregard Parish is endowed with a large quantity of good quality water. The quality of water is a concern in a few places in the parish. Because of its accessibility and widespread distribution, ground water is the predominant source of supply.

Although Beauregard Parish is a minor user of water for this area, southwestern Louisiana uses more water than any other area of the state. In 1990, ground water provided 82 percent of the water withdrawn for all uses in the parish. Twenty-six million gallons per day (MGD) was pumped from 3 ground-water sources: 11 MGD from the Chicot aquifer system, 2 MGD from the Evangeline aquifer, and 13 MGD from the Jasper aquifer system. Of this quantity, 72 percent was used for industry, 14 percent for public supply, 10 percent for irrigation, and 4 percent for rural uses. Ground water was the sole source of water for public and rural supplies in 1990.

In 1990, surface water provided 18 percent of the water used in the parish. The major use was industrial, primarily sand and gravel operations.

Ground Water

Some of the deepest fresh water in the state occurs in Beauregard Parish. Fresh water extends over 3,000 feet below the land surface (Smoot, 1988).

There are two major aquifer systems and an aquifer that contain fresh water in Beauregard Parish (Jones, et al., 1956; Smoot, 1987). From top to bottom, they are the Chicot aquifer system, the Evangeline aquifer, and the Jasper aquifer system. The Chicot aquifer system is divided into upper and lower aquifers. The Evangeline aquifer is separated from the Jasper aquifer system by a thick confining unit called Castor Creek. The Jasper aquifer system is divided into the Williamson Creek and Carnahan Bayou aquifers. The Chicot and Jasper aquifer systems yield large quantities of water that generally are of good quality. Ninety-two percent of the ground water used in the parish is withdrawn in about equal amounts from the Chicot and Jasper aquifer systems.

The Chicot aquifer system averages 150 feet in thickness and is comprised of coarse sand and gravel; in most localities, a properly designed well can produce 1,500 gallons per minute. The Jasper aquifer system averages 2,000 feet in thickness and is comprised of massive sand with clay interbeds; in most localities, a properly designed well can produce 800 gallons per minute (Smoot, 1987). The Evangeline aquifer is also capable of producing large quantities of water. Few wells have been developed in the Evangeline; thus little water is withdrawn. The aquifer and aquifer systems are a stacked sequence with fresh water in the upper aquifers extending farther to the south.

There are about 400 large producing wells and observation wells in the parish and many more domestic wells. The major industrial wells are drilled into the Jasper system, whereas irrigation and municipal wells are opened to the Chicot system.

Water in the Chicot aquifer system is recharged from rainfall on Beauregard and Vernon Parishes; however, water percolating upward from the Evangeline and Jasper will recharge the Chicot aquifer system. This leakage from one aquifer to another provides a significant quantity of water; over 50 percent of the water available to wells comes from interaquifer leakage. Recharge to the Evangeline and Jasper occurs in parts of Vernon Parish.

Throughout the parish, water levels in the Chicot aquifer system range from 150 to 30 feet above sea level. Large withdrawals of ground water for industry have caused a cone-of-depression in the Jasper in the northern part of the parish. Water in all three ground-water sources generally flows from north to south; however, in the upper aquifer of the Jasper, the direction of flow is influenced by the cone-of-depression in the northern part of the parish.

Fluctuations in water levels average 5 to 10 feet per year, except in the cone-of-depression in the Jasper. The depth to water in wells open to the Jasper aquifer system is generally less than 60 feet, depending upon the elevation of the land surface.

Surface Water

Surface water in the parish is limited and underdeveloped because much of the parish is in the headwaters of the Calcasieu River and small basins draining to the Sabine River. Headwaters and small basins produce small flows with little potential for development of large surface-water sources. The surface water that is utilized is used mainly for industry; a small amount is used for irrigation. Surface runoff from the parish averages 0.8 million gallons per day per square mile per year.

Water Quality

The quality of ground water in Beauregard Parish depends upon which aquifer is used. Water from the Chicot aquifer system generally is moderately hard and has an equivalent calcium carbonate concentration of 60 to 120 milligrams per liter (Tomaszewski, 1991). It is high in iron concentration (1.0 to 5.0 milligrams per liter), moderately mineralized (325 to 500 milligrams per liter of dissolved solids), and low in sodium (50 milligrams per liter) and nitrate (1 to 10 milligrams per liter).

In both the Evangeline aquifer and the Jasper aquifer system, the water is soft (20 to 60 milligrams per liter) and low in iron concentration (0.2 to 0.5 milligrams per liter). Sodium is high (80 to 170 milligrams per liter), and nitrate is low (1 to 10 milligrams per liter). Because of the level of sodium and iron concentrations, the Chicot is better suited for irrigation while the Evangeline and Jasper are better for municipal supplies. The potential for organic chemical contamination of ground water in the parish is not known at this time.

Salt water occurs in the Jasper aquifer system in the southern part of the parish. The Evangeline and Chicot contain fresh water throughout the parish.

Surface water is of good quality, but it is highly colored. It is low in mineralization, is very soft, and has high iron concentrations.

Hydrologic Concerns

There are no major hydrologic concerns in the parish. Minor problems are associated with flooding along the Sabine River and small streams draining into the Calcasieu River. Another minor concern is the decline of water levels in the upper part of the Jasper aquifer system, Williamson Creek, near DeRidder. This is due to the withdrawal of large amounts of ground water. As of 1991, the development of the cone-of-depression has caused no degradation of water quality, and the water resources in general are underdeveloped.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

General Soil Map Units

The general soil map at the back of this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

The soils in the survey area vary widely in their suitability for major land uses. Soil suitability ratings are based on the practices commonly used in the survey area to overcome limitations. These ratings reflect the ease of overcoming the limitations. They also reflect the problems that will persist even if such practices are used.

Each map unit is rated for *cultivated crops, pasture, woodland, wildlife habitat, urban uses*, and *recreation areas*. Cultivated crops are those grown extensively in the survey area. Pasture refers to pastures of native and improved grasses for livestock. Woodland refers to areas of native or introduced trees. Because wildlife of the parish are dependent upon habitat provided by cropland, pastureland, and woodland, the map unit is also rated for its capability to support different types of wildlife—openland, wetland, and woodland. Urban uses include residential, commercial, and industrial developments. Intensive recreation areas are campsites, picnic areas, ball fields, and other areas that are subject to heavy foot traffic. Extensive recreation areas are those used for nature study and as wilderness.

The boundaries of the general soil map units in Beauregard Parish were matched, where possible, with those of Allen and Calcasieu Parishes. In a few places, however, the names of the map units differ. This difference resulted mainly from changes in soil series concepts, differences in map unit design, and changes in soil patterns near survey area boundaries.

Soils on Terraces and Uplands

This group of map units consists of level to moderately steep loamy and clayey soils of the Western Coastal Plain and the Western Gulf Coast Flatwoods Major Land Resource Areas. Most of the acreage is in woodland. Rice, soybeans, wheat, and corn are the main crops grown in cultivated areas. The eight map units of this group make up about 79 percent of Beauregard Parish.

1. Caddo-Beauregard-Messer

Setting

Landforms: Terraces and uplands
Position on landforms: The Caddo soil is on broad flats; the Beauregard soil is on broad, slightly concave ridgetops and on side slopes; the Messer soil is on small convex mounds.
Distinctive landform features: Areas are on broad flats with many small circular mounds, on broad ridgetops, and on narrow side slopes along small drainageways.
Slope: 0 to 5 percent

Typical Profiles

Caddo soil:

Surface layer: Grayish brown silt loam
Subsoil layer: Light brownish gray and light gray variegated silty clay loam

Beauregard soil:

Surface layer: Dark grayish brown silt loam
Subsoil layer: Brownish and yellowish variegated silt loam with nodules of plinthite

Messer soil:

Surface layer: Dark grayish brown silt loam
Subsoil layer: Brownish and yellowish variegated silt loam and silty clay loam

Soil Properties and Qualities

Caddo soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 2 feet
Flooding: Does not flood
Permeability class: Slowly permeable
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Level to nearly level

Beauregard soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 1.5 to 3 feet
Flooding: Does not flood
Permeability class: Slowly permeable
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Gently sloping to moderately sloping

Messer soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 2 to 4 feet
Flooding: Does not flood
Permeability class: Slowly permeable
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Gently sloping

Composition

Percentage of the survey area: 18 percent
Caddo soils: 34 percent
Beauregard soils: 31 percent
Messer soils: 19 percent
Minor soils: 16 percent
• Blevins, Ruston, and Sugartown soils are on convex ridgetops and side slopes; Kolin soils are on concave side slopes; Guyton soils are in swales and depressional areas and on flood plains.

Land Use

Dominant use: Woodland
Other uses: Pasture or cropland

Cropland

Suitability: Moderately well suited
Management concerns: Wetness; low fertility; short, irregular slopes; hazard of erosion; and potentially toxic levels of aluminum in the rooting zone

Pasture and hayland

Suitability: Moderately well suited to well suited
Management concerns: Wetness, hazard of erosion, and low fertility

Woodland

Suitability: Moderately well suited to well suited
Management concerns: Plant competition, equipment limitations, and seedling mortality for the Caddo and Beauregard soils; equipment limitations and plant competition for the Messer soil

Wildlife habitat

Suitability for wetland wildlife: Good for the Caddo soil; poor for the Beauregard and Messer soils
Suitability for woodland wildlife: Good

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Caddo, Beauregard, and Messer soils
Limitations: Wetness and percs slowly for the Caddo, Beauregard, and Messer soils

Dwellings without basements

Limitation ratings: Severe for the Caddo soil; moderate for the Beauregard and Messer soils
Limitations: Wetness for the Caddo, Beauregard, and Messer soils

Local roads and streets

Limitation ratings: Severe for the Caddo soil; moderate for the Beauregard and Messer soils
Limitations: Wetness for the Caddo soil; low strength and wetness for the Beauregard and Messer soils

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Caddo soil; moderate for the Beauregard soil; slight for the Messer soil

Limitations: Wetness for the Caddo and Beauregard soils; no significant limitations for the Messer soil

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Caddo soil; moderate for the Beauregard and Messer soils
Limitations: Wetness for the Caddo soil; wetness and percs slowly for the Beauregard and Messer soils

Playgrounds

Limitation ratings: Severe for the Caddo soil and moderate for the Beauregard and Messer soils
Limitations: Wetness for the Caddo soil; slope and wetness for the Beauregard soil; slope, wetness, and percs slowly for the Messer soil

2. Beauregard-Blevins

Setting

Landform: Uplands
Position on landform: The Beauregard soil is on broad, slightly concave ridgetops and on side slopes; the Blevins soil is on convex ridgetops and side slopes.
Distinctive landform features: Areas consist of low hills, ridges, and side slopes that are crossed by numerous small drainageways.
Slope: 1 to 8 percent

Typical Profiles

Beauregard soil:

Surface layer: Dark grayish brown silt loam
Subsoil layer: Yellowish and brownish silt loam with nodules of plinthite

Blevins soil:

Surface layer: Dark grayish brown very fine sandy loam
Subsoil layer: Brownish and yellowish loam and clay loam

Soil Properties and Qualities

Beauregard soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 1.5 to 3 feet
Flooding: Does not flood
Permeability class: Moderately permeable
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Gently sloping to moderately sloping

Blevins soil:

Depth class: Very deep
Drainage class: Well drained
Water table: More than 6 feet below the surface
Flooding: Does not flood
Permeability class: Moderately permeable
Available water capacity: Moderate to very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Gently sloping to sloping

Composition

Percentage of the survey area: 19 percent
Beauregard soils: 43 percent
Blevins soils: 39 percent
Minor soils: 18 percent
• Blevins, Malbis, Ruston, and Sugartown soils are on convex ridgetops and side slopes; the Caddo and Guyton soils are in broad level or depressional areas; the Kolin soils are on concave side slopes. The Guyton soils also are on narrow flood plains.

Land Use

Dominant use: Woodland
Other uses: Pasture or cropland

Cropland

Suitability: Moderately well suited
Management concerns: Wetness, low fertility, hazard of erosion, and potentially toxic levels of aluminum in the rooting zone

Pasture and hayland

Suitability: Well suited
Management concerns: Wetness, low fertility, and hazard of erosion during establishment of pasture plants

Woodland

Suitability: Moderately well suited to well suited
Management concerns: Equipment limitations, seedling mortality, and plant competition for the Beauregard soil; plant competition for the Blevins soil

Wildlife habitat

Suitability for wetland wildlife: Very poor to poor
Suitability for woodland wildlife: Good

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Beauregard soil; moderate for the Blevins soil
Limitations: Wetness and percs slowly for the Beauregard soil; percs slowly for the Blevins soil

Dwellings without basements

Limitation ratings: Moderate for the Beauregard soil; slight for the Blevins soil
Limitations: Wetness for the Beauregard soil; no significant limitations for the Blevins soil

Local roads and streets

Limitation ratings: Moderate for the Beauregard and Blevins soils
Limitations: Low strength and wetness for the Beauregard soil; low strength for the Blevins soil

Lawns, landscaping, and golf fairways

Limitation ratings: Moderate for the Beauregard soil; slight for the Blevins soil
Limitations: Wetness for the Beauregard soil; no significant limitations for the Blevins soil

Recreational Use

Camp and picnic areas

Limitation ratings: Moderate for the Beauregard soil; slight for the Blevins soil
Limitations: Wetness and percs slowly for the Beauregard soil; no significant limitations for the Blevins soil

Playgrounds

Limitation ratings: Moderate for the Beauregard soil; moderate to severe for the Blevins soil
Limitations: Slope and wetness for the Beauregard soil; slope for the Blevins soil

3. Glenmora-Caddo-Messer

Setting

Landform: Terraces
Position on landform: The Glenmora soil is on ridgetops and side slopes along small drainageways; the Caddo soil is on broad flats; the Messer soil is on small convex mounds.
Distinctive landform features: Areas are on broad flats with small mounds and ridgetops, and on side slopes along small drainageways.
Slope: 0 to 3 percent

Typical Profiles

Glenmora soil:

Surface layer: Dark grayish brown silt loam surface layer
Subsoil layer: Silt loam and silty clay loam that is brownish in the upper part of the subsoil and grayish in the lower part of the subsoil

Caddo soil:

Surface layer: Grayish brown silt loam
Subsoil layer: Light brownish gray and light gray variegated silty clay loam

Messer soil:

Surface layer: Dark grayish brown silt loam
Subsoil layer: Brownish and yellowish variegated silt loam and silty clay loam

Soil Properties and Qualities

Glenmora soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 2 to 3 feet
Flooding: Does not flood
Permeability class: Slowly permeable
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Moderate
Slope: Gently sloping

Caddo soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 2 feet
Flooding: Does not flood
Permeability class: Slowly permeable
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Level to nearly level

Messer soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 2 to 4 feet
Flooding: Does not flood
Permeability class: Slowly permeable

Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Gently sloping

Composition

Percentage of the survey area: 18 percent
Glenmora soils: 43 percent
Caddo soils: 28 percent
Messer soils: 15 percent
Minor soils: 14 percent
• Acadia and Kolin soils are on concave side slopes; the Blevins soils are on convex ridgetops and side slopes; the Gore soils are on side slopes and escarpments; the Guyton soils are in narrow depressional and intermound areas, and on flood plains.

Land Use

Dominant use: Woodland
Other uses: Pasture or cropland

Cropland

Suitability: Moderately well suited
Management concerns: Wetness; low fertility; short, irregular slopes; hazard of erosion; poor tilth; and potentially toxic levels of aluminum in the rooting zone

Pasture and hayland

Suitability: Moderately well suited to well suited
Management concerns: Low fertility, wetness, and hazard of erosion during establishment of pasture grasses

Woodland

Suitability: Moderately well suited to well suited
Management concerns: Plant competition for the Glenmora soil; plant competition, equipment limitations, and seedling mortality for the Caddo soil; equipment limitations and plant competition for the Messer soil

Wildlife habitat

Suitability for wetland wildlife: Good for the Caddo soil; poor for the Glenmora and Messer soils
Suitability for woodland wildlife: Good

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Glenmora, Caddo, and Messer soils
Limitations: Wetness and percs slowly for the Glenmora, Caddo, and Messer soils

Dwellings without basements

Limitation ratings: Moderate for the Glenmora and Messer soils; severe for the Caddo soil
Limitations: Wetness for the Glenmora, Caddo, and Messer soils

Local roads and streets

Limitation ratings: Severe for the Glenmora and Caddo soils; moderate for the Messer soil
Limitations: Low strength for the Glenmora soil; wetness for the Caddo soil; low strength and wetness for the Messer soil

Lawns, landscaping, and golf fairways

Limitation ratings: Slight for the Glenmora and Messer soils; severe for the Caddo soil
Limitations: No significant limitations for the Glenmora and Messer soils; wetness for the Caddo soil

Recreational Use

Camp and picnic areas

Limitation ratings: Moderate for the Glenmora and Messer soils; severe for the Caddo soil
Limitations: Wetness and percs slowly for the Glenmora and Messer soils; wetness for the Caddo soil

Playgrounds

Limitation ratings: Moderate for the Glenmora and Messer soils; severe for the Caddo soil
Limitations: Slope, wetness, and percs slowly for the Glenmora and Messer soils; wetness for the Caddo soil

4. Brimstone-Caddo-Messer

Setting

Landform: Terraces
Position on landform: The Brimstone soil is on broad flats; the Caddo soil is on broad flats between mounds; the Messer soil is on small convex mounds.
Distinctive landform features: Areas consist of broad flats with poorly defined drainageways and many small mounds.
Slope: 0 to 3 percent

Typical Profiles

Brimstone soil:

Surface layer: Grayish brown silt loam
Subsoil layer: Brownish and grayish variegated

silt loam and silty clay loam with a high level of sodium

Caddo soil:

Surface layer: Grayish brown silt loam
Subsoil layer: Light brownish gray and light gray variegated silty clay loam

Messer soil:

Surface layer: Dark grayish brown silt loam
Subsoil layer: Brownish and yellowish variegated silt loam and silty clay loam

Soil Properties and Qualities

Brimstone soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Perched at the surface to a depth of 1.5 feet
Flooding: Rarely flooded
Permeability class: Slowly permeable
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Moderate
Slope: Level to nearly level

Caddo soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 2 feet
Flooding: Does not flood
Permeability class: Slowly permeable
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Level to nearly level

Messer soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 2 to 4 feet
Flooding: Does not flood
Permeability class: Slowly permeable
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Gently sloping

Composition

Percentage of the survey area: 1 percent
Brimstone soils: 60 percent
Caddo soils: 26 percent
Messer soils: 12 percent
Minor soils: 2 percent
• Acadia soils are on concave side slopes; Glenmora soils are on ridgetops and side slopes; Guyton soils are in narrow depressional areas and on flood plains.

Land Use

Dominant use: Woodland
Other uses: Pasture or cropland

Cropland

Suitability: Moderately well suited
Management concerns: Wetness; low fertility; short, irregular slopes; poor tilth; excess sodium in the subsoil; and potentially toxic levels of aluminum in the rooting zone

Pasture and hayland

Suitability: Moderately well suited
Management concerns: Wetness and low fertility

Woodland

Suitability: Moderately well suited
Management concerns: Equipment limitations, seedling mortality, and plant competition for the Brimstone and Caddo soils; equipment limitations and plant competition for the Messer soil

Wildlife habitat

Suitability for wetland wildlife: Good for the Caddo and Brimstone soils; poor for the Messer soil
Suitability for woodland wildlife: Good for the Caddo and Messer soils; fair for the Brimstone soil

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Brimstone, Caddo, and Messer soils
Limitations: Wetness and percs slowly for the Brimstone, Caddo, and Messer soils

Dwellings without basements

Limitation ratings: Severe for the Brimstone and Caddo soils; moderate for the Messer soil
Limitations: Flooding and wetness for the Brimstone soil; wetness for the Caddo and Messer soils

Local roads and streets

Limitation ratings: Severe for the Brimstone and Caddo soils; moderate for the Messer soil

Limitations: Wetness and low strength for the Brimstone and Messer soils; wetness for the Caddo soil

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Brimstone and Caddo soils; slight for the Messer soil
Limitations: Wetness and excess sodium for the Brimstone soil; wetness for the Caddo soil; no significant limitations for the Messer soil

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Brimstone and Caddo soils; moderate for the Messer soil
Limitations: Flooding, wetness, and excess sodium for the Brimstone soil; wetness for the Caddo soil; wetness and percs slowly for the Messer soil

Playgrounds

Limitation ratings: Severe for the Brimstone and Caddo soils; moderate for the Messer soil
Limitations: Wetness and excess sodium for the Brimstone soil; wetness for the Caddo soil; slope, wetness, and percs slowly for the Messer soil

5. Malbis-Ruston

Setting

Landform: Uplands
Position on landform: The Malbis soil is on convex ridgetops and side slopes; the Ruston soil also is on convex ridgetops and side slopes.
Distinctive landform features: Areas consist of small hills, ridges, and side slopes that are crossed by many small drainageways.
Slope: 1 to 8 percent

Typical Profiles

Malbis soil:

Surface layer: Grayish brown, very dark grayish brown, or dark grayish brown fine sandy loam
Subsoil layer: Brownish loam, fine sandy loam, clay loam, and sandy clay loam

Ruston soil:

Surface layer: Dark grayish brown fine sandy loam
Subsoil layer: Yellowish red and red clay loam and fine sandy loam

Soil Properties and Qualities

Malbis soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 2.5 to 4 feet
Flooding: Does not flood
Permeability class: Moderately permeable
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Gently sloping to sloping

Ruston soil:

Depth class: Very deep
Drainage class: Well drained
Water table: More than 6 feet below the surface
Flooding: Does not flood
Permeability class: Moderately permeable
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Gently sloping to sloping

Composition

Percentage of the survey area: 10 percent
Malbis soils: 70 percent
Ruston soils: 19 percent
Minor soils: 11 percent
• Beauregard and Kolin soils are on concave ridgetops and side slopes; Betis, Blevins, Boykin, and Doucette soils are on convex ridgetops and side slopes; Guyton soils are on flood plains; Osier soils are in seepy areas on toe slopes.

Land Use

Dominant use: Woodland
Other uses: Pasture and cropland

Cropland

Suitability: Moderately well suited
Management concerns: Hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone

Pasture and hayland

Suitability: Well suited
Management concerns: Low fertility and hazard of erosion during establishment of pasture plants

Woodland

Suitability: Well suited

Management concerns: Plant competition for the Malbis soil; no significant limitations for the Ruston soil

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Malbis soil; moderate for the Ruston soil
Limitations: Wetness and percs slowly for the Malbis soil; percs slowly for the Ruston soil

Dwellings without basements

Limitation ratings: Slight for the Malbis and Ruston soils
Limitations: No significant limitations for the Malbis and Ruston soils

Local roads and streets

Limitation ratings: Slight for the Malbis and Ruston soils
Limitations: No significant limitations for the Malbis and Ruston soils

Lawns, landscaping, and golf fairways

Limitation ratings: Slight for the Malbis and Ruston soils
Limitations: No significant limitations for the Malbis and Ruston soils

Recreational Use

Camp and picnic areas

Limitation ratings: Slight for the Malbis and Ruston soils
Limitations: No significant limitations for the Malbis and Ruston soils

Playgrounds

Limitation ratings: Moderate to severe for the Malbis and Ruston soils
Limitations: Slope for the Malbis soil; slope and small stones for the Ruston soil

6. Sugartown-Gore

Setting

Landform: Terraces
Position on landform: The Sugartown soil is on convex ridgetops and side slopes; the Gore soil is on side slopes and escarpments along drainageways.
Distinctive landform features: Areas are rolling with broad or narrow ridgetops and side slopes. Drainage is well developed, and streams cross most areas.
Slope: 1 to 20 percent

Typical Profiles

Sugartown soil:

Surface layer: Dark grayish brown very fine sandy loam
Subsoil layer: Silty clay loam, silty clay, and clay loam that is brownish and yellowish in the upper part of the subsoil and grayish in the lower part of the subsoil

Gore soil:

Surface layer: Dark grayish brown or brown very fine sandy loam
Subsoil layer: Brown silty clay loam in the upper part of the subsoil; reddish, grayish, and brown clay in the middle and lower parts of the subsoil

Soil Properties and Qualities

Sugartown soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 3 to 5 feet
Flooding: Does not flood
Permeability class: Very slowly permeable
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: High
Slope: Gently sloping to sloping

Gore soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: More than 6 feet below the surface
Flooding: Does not flood
Permeability class: Very slowly permeable
Available water capacity: Low to moderate
Natural soil fertility: Low
Shrink-swell potential: High
Slope: Very gently sloping to moderately steep

Composition

Percentage of the survey area: 6 percent
Sugartown soils: 65 percent
Gore soils: 23 percent

Minor soils: 12 percent
• Acadia, Beauregard, and Kolin soils are on concave ridgetops and side slopes; Blevins, Malbis, and Ruston soils are on convex ridgetops and side slopes; Guyton soils are on flood plains of streams and drainageways.

Land Use

Dominant use: Woodland
Other uses: Pasture or cropland

Cropland

Suitability: Moderately well suited to not suited
Management concerns: Hazard of erosion, slope, low fertility, droughtiness, and potentially toxic levels of aluminum in the rooting zone

Pasture and hayland

Suitability: Poorly suited to well suited
Management concerns: Low fertility, seasonal wetness and droughtiness, and hazard of erosion

Woodland

Suitability: Moderately well suited to well suited
Management concerns: Plant competition and equipment limitations for the Sugartown soil; hazard of erosion, equipment limitations, seedling mortality, and plant competition for the Gore soil

Wildlife habitat

Suitability for wetland wildlife: Very poor to poor
Suitability for woodland wildlife: Good for the Sugartown soil; fair for the Gore soil

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Sugartown and Gore soils
Limitations: Wetness and percs slowly for the Sugartown soil; percs slowly and slope for the Gore soil

Dwellings without basements

Limitation ratings: Severe for the Sugartown and Gore soils
Limitations: Shrink-swell for the Sugartown soil; shrink-swell and slope for the Gore soil

Local roads and streets

Limitation ratings: Severe for the Sugartown and Gore soils
Limitations: Shrink-swell and low strength for the Sugartown soil; low strength, slope, and shrink-swell for the Gore soil

Lawns, landscaping, and golf fairways

Limitation ratings: Slight for the Sugartown soil; moderate to severe for the Gore soil
Limitations: No significant limitations for the Sugartown soil; slope and droughtiness for the Gore soil

Recreational Use

Camp and picnic areas

Limitation ratings: Moderate for the Sugartown soil; severe for the Gore soil
Limitations: Percs slowly for the Sugartown soil; slope and percs slowly for the Gore soil

Playgrounds

Limitation ratings: Moderate to severe for the Sugartown soil; severe for the Gore soil
Limitations: Slope and percs slowly for the Sugartown and Gore soils

7. Kolin-Sugartown

Setting

Landform: Terraces
Position on landform: The Kolin soil is on concave side slopes; the Sugartown soil is on convex ridgetops and side slopes
Distinctive landform features: Areas consist of small hills, ridges, and side slopes that are dissected by many small drainageways.
Slope: 1 to 8 percent

Typical Profiles

Kolin soil:

Surface layer: Dark grayish brown silt loam
Subsoil layer: Yellowish brown variegated silt loam and silty clay loam in the upper part of the subsoil; and light brownish gray variegated silty clay and clay in the lower part of the subsoil

Sugartown soil:

Surface layer: Dark grayish brown very fine sandy loam
Subsoil layer: Silty clay loam, silty clay, and clay loam that is brownish and yellowish in the upper part of

the subsoil and grayish in the lower part of the subsoil

Soil Properties and Qualities

Kolin soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 1.5 to 3 feet
Flooding: Does not flood
Permeability class: Slowly permeable
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: High
Slope: Gently sloping to moderately sloping

Sugartown soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 3 to 5 feet
Flooding: Does not flood
Permeability class: Slowly permeable
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: High
Slope: Gently sloping to sloping

Composition

Percentage of the survey area: 4 percent
Kolin soils: 76 percent
Sugartown soils: 16 percent
Minor soils: 8 percent
• Acadia and Beauregard soils are on concave ridgetops and side slopes; Blevins, Gore, and Malbis soils are on convex ridgetops, side slopes, and escarpments; Caddo and Guyton soils are on level intermound areas, in depressional areas, and in drainageways or on flood plains.

Land Use

Dominant use: Woodland
Other uses: Pasture or cropland

Cropland

Suitability: Moderately well suited to poorly suited
Management concerns: Wetness, hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone

Pasture and hayland

Suitability: Well suited to moderately well suited
Management concerns: Low fertility, seasonal wetness, and hazard of erosion during establishment of pasture plants

Woodland

Suitability: Well suited to moderately well suited
Management concerns: Plant competition for the Kolin soil; plant competition and equipment limitations for the Sugartown soil

Wildlife habitat

Suitability for wetland wildlife: Poor to very poor
Suitability for woodland wildlife: Good

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Kolin and Sugartown soils
Limitations: Wetness and percs slowly for the Kolin and Sugartown soils

Dwellings without basements

Limitation ratings: Severe for the Kolin and Sugartown soils
Limitations: Shrink-swell for the Kolin and Sugartown soils

Local roads and streets

Limitation ratings: Severe for the Kolin and Sugartown soils
Limitations: Low strength and shrink-swell for the Kolin and Sugartown soils

Lawns, landscaping, and golf fairways

Limitation ratings: Moderate for the Kolin soil; slight for the Sugartown soil
Limitations: Wetness for the Kolin soil; no significant limitations for the Sugartown soil

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Kolin soil; moderate for the Sugartown soil
Limitations: Percs slowly for the Kolin and Sugartown soils

Playgrounds

Limitation ratings: Severe for the Kolin soil; moderate to severe for the Sugartown soil
Limitations: Percs slowly for the Kolin soil; slope and percs slowly for the Sugartown soil

8. Acadia-Gore

Setting

Landform: Terraces
Position on landform: The Acadia soil is on concave side slopes; the Gore soil is on side slopes and escarpments.
Distinctive landform features: Areas consist of side slopes and escarpments along drainageways.
Slope: 1 to 20 percent

Typical Profiles

Acadia soil:

Surface layer: Brown or dark grayish brown silt loam
Subsoil layer: Silty clay loam and silty clay that is yellowish brown in the upper part of the subsoil and light brownish gray in the lower part of the subsoil

Gore soil:

Surface layer: Dark grayish brown or brown very fine sandy loam
Subsoil layer: Brown silty clay loam in the upper part of the subsoil; reddish, grayish, and brown clay in the middle and lower parts of the subsoil

Soil Properties and Qualities

Acadia soil:

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 1.5 feet
Flooding: Does not flood
Permeability class: Very slowly permeable
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: High
Slope: Gently sloping to moderately sloping

Gore soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: More than 6 feet below the surface
Flooding: Does not flood
Permeability class: Very slowly permeable
Available water capacity: Low to moderate
Natural soil fertility: Low
Shrink-swell potential: High
Slope: Very gently sloping to moderately steep

Composition

Percentage of the survey area: 3 percent
Acadia soils: 59 percent
Gore soils: 21 percent
Minor soils: 20 percent
• Blevins, Glenmora, Kolin, and Sugartown soils are on ridgetops and side slopes; Caddo soils are in level intermound areas; Guyton soils are in depressional areas, on terraces, and on low flat areas on flood plains.

Land Use

Dominant use: Woodland
Other uses: Cropland or pasture

Cropland

Suitability: Moderately well suited to not suited
Management concerns: Wetness, slope, droughtiness, hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone

Pasture and hayland

Suitability: Well suited to poorly suited
Management concerns: Wetness, low fertility, droughtiness, slope, and hazard of erosion

Woodland

Suitability: Moderately well suited
Management concerns: Plant competition and equipment limitations for the Acadia soil; hazard of erosion, equipment limitations, seedling mortality, and plant competition for the Gore soil

Wildlife habitat

Suitability for wetland wildlife: Fair to poor for the Acadia soil; poor to very poor for the Gore soil
Suitability for woodland wildlife: Good for the Acadia soil; fair for the Gore soil

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Acadia and Gore soils
Limitations: Wetness and percs slowly for the Acadia soil; percs slowly and slope for the Gore soil

Dwellings without basements

Limitation ratings: Severe for the Acadia and Gore soils
Limitations: Wetness and shrink-swell for the Acadia

soil; shrink-swell and slope for the Gore soil

Local roads and streets

Limitation ratings: Severe for the Acadia and Gore soils
Limitations: Low strength, wetness, and shrink-swell for the Acadia soil; low strength, slope, and shrink-swell for the Gore soil

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Acadia soil; moderate to severe for the Gore soil
Limitations: Wetness for the Acadia soil; slope and droughtiness for the Gore soil

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Acadia and Gore soils
Limitations: Wetness and percs slowly for the Acadia soil; slope and percs slowly for the Gore soil

Playgrounds

Limitation ratings: Severe for the Acadia and Gore soils
Limitations: Wetness and percs slowly for the Acadia soil; slope and percs slowly for the Gore soil

Soils on Stream Terraces

This group of map units consists of level to moderately sloping sandy and loamy soils on terraces. Most of the acreage is in woodland. Rice, soybeans, wheat, and corn are the main crops grown in cultivated areas. The two map units of this group make up about 6 percent of Beauregard Parish.

9. Merryville-Bearhead-Dubach

Setting

Landform: Terraces
Position on landform: The Merryville soil is in swales and intermound areas; the Bearhead soil is on small mounds and low ridges; the Dubach soil is on ridges, lower side slopes, and intermound areas.
Distinctive landform features: Areas consist of parallel ridges and swales, or of small convex mounds.
Slope: 0 to 5 percent

Typical Profiles

Merryville soil:

Surface layer: Light brownish gray or dark grayish brown silt loam
Subsoil layer: Silt loam, loam, very fine sandy loam, very fine sand, and loamy fine sand that is brownish in the upper part of the subsoil and grayish in the lower part of the subsoil

Bearhead soil:

Surface layer: Pale brown, brown, or dark grayish brown very fine sandy loam
Subsoil layer: Very fine sandy loam, loam, and very fine sand that is yellowish and brownish in the upper part of the subsoil and grayish in the lower part of the subsoil

Dubach soil:

Surface layer: Brown or dark grayish brown fine sandy loam
Subsoil layer: Brownish fine sandy loam and clay loam

Soil Properties and Qualities

Merryville soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 1.5 feet
Flooding: Rarely flooded
Permeability class: Slowly permeable
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Level to nearly level

Bearhead soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 4 to 6 feet
Flooding: Does not flood
Permeability class: Moderately permeable
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Gently sloping to moderately sloping

Dubach soil:

Depth class: Very deep
Drainage class: Well drained
Water table: Perched at a depth of 3.5 to 5 feet

Flooding: Does not flood
Permeability class: Moderately slowly permeable
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Gently sloping

Composition

Percentage of the survey area: 3 percent
Merryville soils: 37 percent
Bearhead soils: 36 percent
Dubach soils: 23 percent
Minor soils: 4 percent
• Bienville and Cahaba soils are on ridges; Guyton soils are in narrow depressional areas and in drainageways; Spurger soils are on side slopes.

Land Use

Dominant use: Woodland
Other use: Pasture

Cropland

Suitability: Moderately well suited
Management concerns: Low fertility; short, irregular slopes; erosion; and potentially toxic levels of aluminum in the rooting zone. In addition, wetness is a limitation in areas of the Merryville soil, and the hazard of erosion is a limitation in steeper areas of the Bearhead soil.

Pasture and hayland

Suitability: Moderately well suited to well suited
Management concerns: Wetness, low fertility, and hazard of erosion

Woodland

Suitability: Moderately well suited to well suited
Management concerns: Equipment limitations, plant competition, and seedling mortality for the Merryville soil; no significant limitations for the Bearhead and Dubach soils

Wildlife habitat

Suitability for wetland wildlife: Good for the Merryville soil; very poor for the Bearhead and Dubach soils
Suitability for woodland wildlife: Fair for the Merryville soil; good for the Bearhead and Dubach soils

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Merryville and Dubach soils; moderate for the Bearhead soil
Limitations: Wetness and percs slowly for the Merryville and Bearhead soils; wetness for the Dubach soil

Dwellings without basements

Limitation ratings: Severe for the Merryville soil; slight for the Bearhead and Dubach soils
Limitations: Flooding and wetness for the Merryville soil; no significant limitations for the Bearhead and Dubach soils

Local roads and streets

Limitation ratings: Severe for the Merryville soil; slight for the Bearhead and Dubach soils
Limitations: Wetness for the Merryville soil; no significant limitations for the Bearhead and Dubach soils

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Merryville soil; slight for the Bearhead and Dubach soils
Limitations: Wetness for the Merryville soil; no significant limitations for the Bearhead and Dubach soils

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Merryville soil; slight for the Bearhead and Dubach soils
Limitations: Flooding and wetness for the Merryville soil; no significant limitations for the Bearhead and Dubach soils

Playgrounds

Limitation ratings: Severe for the Merryville soil; moderate for the Bearhead and Dubach soils
Limitations: Wetness for the Merryville soil; slope for the Bearhead and Dubach soils

10. Bienville-Cahaba-Guyton

Setting

Landform: Terraces
Position on landform: The Bienville and Cahaba soils are on ridges; the Guyton soil is in swales.
Distinctive landform features: Areas consist of ridges and swales.
Slope: 0 to 5 percent

Typical Profiles

Bienville soil:

Surface layer: Brown loamy fine sand
Subsurface layer: Strong brown and yellowish red loamy fine sand

Cahaba soil:

Surface layer: Dark grayish brown fine sandy loam
Subsoil layer: Red and yellowish red sandy clay loam

Guyton soil:

Surface layer: Grayish brown silt loam
Subsoil layer: Grayish brown and light brownish gray variegated silt loam and silty clay loam

Soil Properties and Qualities

Bienville soil:

Depth class: Very deep
Drainage class: Somewhat excessively drained
Water table: Apparent at a depth of 4 to 6 feet
Flooding: Rarely flooded
Permeability class: Moderately rapidly permeable
Available water capacity: Low to moderate
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Gently sloping to moderately sloping

Cahaba soil:

Depth class: Very deep
Drainage class: Well drained
Water table: More than 6 feet below the surface
Flooding: Does not flood
Permeability class: Moderately permeable
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Gently sloping

Guyton soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Perched at the surface to a depth of 1.5 feet
Flooding: Occasionally flooded
Permeability class: Slowly permeable
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Level to nearly level

Composition

Percentage of the survey area: 3 percent
Bienville soils: 56 percent
Cahaba soils: 22 percent
Guyton soils: 16 percent
Minor soils: 6 percent
• Bearhead soils are on low ridges and mounds; Dubach soils are on ridges, lower side slopes, and intermound areas; Merryville soils are in swales and on flat intermound areas; Spurger soils are on side slopes.

Land Use

Dominant use: Woodland
Other uses: Cropland and pasture

Cropland

Suitability: Moderately well suited
Management concerns: Wetness, flooding, low fertility, and potentially toxic levels of aluminum for the Guyton soil. Droughtiness; short, irregular slopes; hazard of erosion; low fertility; and potentially toxic levels of aluminum for the Bienville and Cahaba soils.

Pasture and hayland

Suitability: Moderately well suited to well suited
Management concerns: Wetness and low fertility in areas of the Guyton soil; droughtiness, hazard of erosion, and low fertility in areas of the Bienville and Cahaba soils

Woodland

Suitability: Moderately well suited to well suited
Management concerns: Equipment limitations and seedling mortality for the Bienville soil; plant competition, equipment limitations, and seedling mortality for the Guyton soil; plant competition for the Cahaba soil

Wildlife habitat

Suitability for wetland wildlife: Very poor for the Bienville and Cahaba soils; good for the Guyton soil
Suitability for woodland wildlife: Fair for the Bienville and Guyton soils; good for the Cahaba soil

Urban Use

Septic tank absorption fields

Limitation ratings: Moderate for the Bienville soil;

slight for the Cahaba soil; severe for the Guyton soil

Limitations: Flooding and wetness for the Bienville soil; no significant limitations for the Cahaba soil; flooding, wetness, and percs slowly for the Guyton soil

Dwellings without basements

Limitation ratings: Severe for the Bienville and Guyton soils; slight for the Cahaba soil

Limitations: Flooding for the Bienville soil; no significant limitations for the Cahaba soil; flooding and wetness for the Guyton soil

Local roads and streets

Limitation ratings: Moderate for the Bienville soil; slight for the Cahaba soil; severe for the Guyton soil

Limitations: Flooding for the Bienville soil; no significant limitations for the Cahaba soil; low strength, flooding, and wetness for the Guyton soil

Lawns, landscaping, and golf fairways

Limitation ratings: Moderate for the Bienville soil; slight for the Cahaba soil; severe for the Guyton soil

Limitations: Droughty for the Bienville soil; no significant limitations for the Cahaba soil; wetness for the Guyton soil

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Bienville and Guyton soils; slight for the Cahaba soil

Limitations: Flooding for the Bienville soil; no significant limitations for the Cahaba soil; flooding and wetness for the Guyton soil

Playgrounds

Limitation ratings: Moderate for the Bienville and Cahaba soils; severe for the Guyton soil

Limitations: Slope and too sandy for the Bienville soil; slope for the Cahaba soil; wetness for the Guyton soil

Soils on Flood Plains

This group of map units consists of level to nearly level loamy and clayey soils on terraces. Most of the acreage is in woodland. The four map units of this group make up about 15 percent of Beauregard Parish.

11. Urbo-Mantachie

Setting

Landform: Flood plains

Position on landform: The Urbo soil is on low flats; the Mantachie soil is on convex ridges or natural levees

Distinctive landform features: Areas consist of long and smooth slopes between many channel scars and sandy ridges.

Slope: 0 to 1 percent

Typical Profiles

Urbo soil:

Surface layer: Dark grayish brown silty clay

Subsoil layer: Grayish brown variegated silty clay

Mantachie soil:

Surface layer: Dark grayish brown fine sandy loam

Subsoil layer: Brownish and grayish variegated loam, clay loam, and sandy clay loam

Soil Properties and Qualities

Urbo soil:

Depth class: Very deep

Drainage class: Somewhat poorly drained

Water table: Apparent at a depth of 1 to 2 feet

Flooding: Frequently flooded

Permeability class: Moderately permeable

Available water capacity: High

Natural soil fertility: Low

Shrink-swell potential: Moderate

Slope: Level to nearly level

Mantachie soil:

Depth class: Very deep

Drainage class: Somewhat poorly drained

Water table: Apparent at a depth of 1 to 1.5 feet

Flooding: Frequently flooded

Permeability class: Moderately permeable

Available water capacity: Moderate to high

Natural soil fertility: Low

Shrink-swell potential: Low

Slope: Level to nearly level

Composition

Percentage of the survey area: 3 percent

Urbo soils: 60 percent

Mantachie soils: 25 percent

Minor soils: 15 percent

• Cypress soils are in oxbows or old channel scars; Hainesville soils are on ridges or hummocks.

Land Use

Dominant use: Woodland
Other uses: None

Cropland

Suitability: Not suited
Management concerns: Flooding

Pasture and hayland

Suitability: Poorly suited
Management concerns: Flooding, wetness, and low fertility

Woodland

Suitability: Moderately well suited
Management concerns: Equipment limitations and seedling mortality for the Urbo soil; equipment limitations, seedling mortality, and plant competition for the Mantachie soil

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for woodland wildlife: Fair for the Urbo soil; good for the Mantachie soil

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Urbo and Mantachie soils
Limitations: Flooding, wetness, and percs slowly for the Urbo soil; flooding and wetness for the Mantachie soil

Dwellings without basements

Limitation ratings: Severe for the Urbo and Mantachie soils
Limitations: Flooding and wetness for the Urbo and Mantachie soils

Local roads and streets

Limitation ratings: Severe for the Urbo and Mantachie soils
Limitations: Low strength and flooding for the Urbo soil; flooding for the Mantachie soil

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Urbo and Mantachie soils
Limitations: Flooding and too clayey for the Urbo soil; flooding for the Mantachie soil

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Urbo and Mantachie soils
Limitations: Flooding, wetness, and percs slowly for the Urbo soil; flooding and wetness for the Mantachie soil

Playgrounds

Limitation ratings: Severe for the Urbo and Mantachie soils
Limitations: Too clayey, wetness, and flooding for the Urbo soil; wetness and flooding for the Mantachie soil

12. Guyton-Ouachita

Setting

Landform: Flood plains
Position on landform: The Guyton soil is on flats; the Ouachita soil is on ridges.
Distinctive landform features: Areas consist of long, smooth slopes and narrow ridges.
Slope: 0 to 1 percent

Typical Profiles

Guyton soil:

Surface layer: Dark grayish brown silt loam
Subsoil layer: Grayish brown variegated loam and olive variegated silty clay loam

Ouachita soil:

Surface layer: Dark brown silt loam
Subsoil layer: Brownish silt loam and silty clay loam

Soil Properties and Qualities

Guyton soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Perched at the surface to a depth of 1.5 feet
Flooding: Frequently flooded
Permeability class: Moderately slowly permeable
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Level to nearly level

Ouachita soil:

Depth class: Very deep
Drainage class: Well drained
Water table: More than 6 feet below the surface
Flooding: Frequently flooded
Permeability class: Moderately slowly permeable
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Level to nearly level

Composition

Percentage of the survey area: 8 percent
Guyton soils: 65 percent
Ouachita soils: 23 percent
Minor soils: 12 percent
- Iuka soils are on convex natural levees.

Land Use

Dominant use: Woodland
Other uses: None

Cropland

Suitability: Not suited
Management concerns: Flooding and wetness

Pasture and hayland

Suitability: Poorly suited
Management concerns: Flooding, wetness, and low fertility

Woodland

Suitability: Moderately well suited
Management concerns: Equipment limitations, seedling mortality, and plant competition for the Guyton soil; plant competition and seedling mortality for the Ouachita soil

Wildlife habitat

Suitability for wetland wildlife: Good for the Guyton soil; fair for the Ouachita soil
Suitability for woodland wildlife: Fair for the Guyton soil; good for the Ouachita soil

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Guyton and Ouachita soils
Limitations: Flooding, wetness, and percs slowly for the Guyton soil; flooding and percs slowly for the Ouachita soil

Dwellings without basements

Limitation ratings: Severe for the Guyton and Ouachita soils
Limitations: Flooding and wetness for the Guyton soil; flooding for the Ouachita soil

Local roads and streets

Limitation ratings: Severe for the Guyton and Ouachita soils
Limitations: Low strength, flooding, and wetness for the Guyton soil; flooding for the Ouachita soil

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Guyton and Ouachita soils
Limitations: Wetness and flooding for the Guyton soil; flooding for the Ouachita soil

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Guyton and Ouachita soils
Limitations: Flooding and wetness for the Guyton soil; flooding for the Ouachita soil

Playgrounds

Limitation ratings: Severe for the Guyton and Ouachita soils
Limitations: Wetness and flooding for the Guyton soil; flooding for the Ouachita soil

13. Guyton-Iuka

Setting

Landform: Flood plains
Position on landform: The Guyton soil is on flats; the Iuka soil is on low convex natural levees.
Distinctive landform features: Areas consist of long and smooth slopes and convex natural levees adjacent to small drainageways.
Slope: 0 to 1 percent

Typical Profiles

Guyton soil:

Surface layer: Grayish brown silt loam
Subsoil layer: Brownish and grayish variegated silty clay loam and silt loam

Iuka soil:

Surface layer: Dark yellowish brown fine sandy loam
Substratum layer: Brownish fine sandy loam and sandy loam

Soil Properties and Qualities

Guyton soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Perched at the surface to a depth of 1.5 feet
Flooding: Frequently flooded
Permeability class: Moderately permeable
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Level to nearly level

Iuka soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 1 to 3 feet
Flooding: Frequently flooded
Permeability class: Moderately permeable
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Level to nearly level

Composition

Percentage of the survey area: 3 percent
Guyton soils: 60 percent
Iuka soils: 25 percent
Minor soils: 15 percent
• Bearhead, Brimstone, Caddo, Glenmora, Merryville, and Messer soils are on stream terraces; Ouachita and Mantachie soils are on similar positions.

Land Use

Dominant use: Woodland
Other uses: None

Cropland

Suitability: Not suited
Management concerns: Flooding and wetness

Pasture and hayland

Suitability: Poorly suited
Management concerns: Flooding, wetness, and low fertility

Woodland

Suitability: Moderately well suited
Management concerns: Equipment limitations, seedling mortality, and plant competition

Wildlife habitat

Suitability for wetland wildlife: Good for the Guyton soil; poor for the Iuka soil
Suitability for woodland wildlife: Fair for the Guyton soil; good for the Iuka soil

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Guyton and Iuka soils
Limitations: Flooding, wetness, and percs slowly for the Guyton soil; flooding and wetness for the Iuka soil

Dwellings without basements

Limitation ratings: Severe for the Guyton and Iuka soils
Limitations: Flooding and wetness for the Guyton and Iuka soils

Local roads and streets

Limitation ratings: Severe for the Guyton and Iuka soils
Limitations: Low strength, wetness, and flooding for the Guyton soil; flooding for the Iuka soil

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Guyton and Iuka soils
Limitations: Wetness and flooding for the Guyton soil; flooding for the Iuka soil

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Guyton and Iuka soils
Limitations: Flooding and wetness for the Guyton and Iuka soils

Playgrounds

Limitation ratings: Severe for the Guyton and Iuka soils
Limitations: Wetness and flooding for the Guyton and Iuka soils

14. Iuka-Mantachie

Setting

Landform: Flood plains
Position on landform: The Iuka soil is on low, convex natural levees; the Mantachie soil is on low, nearly level areas.
Distinctive landform features: Areas consist of long and smooth slopes and convex natural levees.
Slope: 0 to 1 percent

Typical Profiles

Iuka soil:

Surface layer: Brown fine sandy loam
Substratum layer: Brownish and grayish variegated fine sandy loam, loam, silt loam, and sandy loam

Mantachie soil:

Surface layer: Dark grayish brown clay loam
Subsoil layer: Brownish and grayish variegated sandy clay loam and loam

Soil Properties and Qualities

Iuka soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 1 to 3 feet
Flooding: Frequently flooded
Permeability class: Moderately permeable
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Level to nearly level

Mantachie soil:

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Apparent at a depth of 1 to 1.5 feet
Flooding: Frequently flooded
Permeability class: Moderately permeable
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Level to nearly level

Composition

Percentage of the survey area: 1 percent
Iuka soils: 50 percent
Mantachie soils: 35 percent
Minor soils: 15 percent
• Cypress soils are in oxbows and channel scars; Guyton and Urbo soils are in low flat areas; Hainesville soils are on ridges and hummocks within the flood plain.

Land Use

Dominant use: Woodland
Other uses: None

Cropland

Suitability: Not suited
Management concerns: Flooding and wetness

Pasture and hayland

Suitability: Poorly suited
Management concerns: Flooding, wetness, and low fertility

Woodland

Suitability: Well suited
Management concerns: Plant competition, equipment limitations, and seedling mortality

Wildlife habitat

Suitability for wetland wildlife: Poor for the Iuka soil; fair for the Mantachie soil
Suitability for woodland wildlife: Good

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Iuka and Mantachie soils
Limitations: Flooding and wetness for the Iuka and Mantachie soils

Dwellings without basements

Limitation ratings: Severe for the Iuka and Mantachie soils
Limitations: Flooding and wetness for the Iuka and Mantachie soils

Local roads and streets

Limitation ratings: Severe for the Iuka and Mantachie soils
Limitations: Flooding for the Iuka and Mantachie soils

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Iuka and Mantachie

soils
Limitations: Flooding for the Iuka and Mantachie soils

Recreational Use

Camp and Picnic Areas

Limitation ratings: Severe for the Iuka and Mantachie soils
Limitations: Flooding and wetness for the Iuka and Mantachie soils

Playgrounds

Limitation ratings: Severe for the Iuka and Mantachie soils
Limitations: Wetness and flooding for the Iuka and Mantachie soils

Detailed Soil Map Units

The map units delineated on the detailed maps at the back of this survey represent the soils and miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is given under the heading "Use and Management of the Soils."

A map unit delineation on a map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils or miscellaneous areas. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils and miscellaneous areas are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some "included" areas that belong to other taxonomic classes.

Most included soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, inclusions. They may or may not be mentioned in the map unit description. Other included soils and miscellaneous areas, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, inclusions. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The included areas of contrasting soils or miscellaneous areas are mentioned in the map unit descriptions. A few included areas may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of included areas in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series.* Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases.* Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Guyton silt loam, occasionally flooded, is a phase of the Guyton series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Bienville-Guyton complex, gently undulating, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Urbo and Mantachie soils, frequently flooded, is an undifferentiated group in this survey area.

Most map units include small scattered areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils. Such differences could significantly affect use and management of the soils in the map unit. The included soils are identified in each map unit description. Some small areas of strongly contrasting soils are identified by a special symbol on the soil maps.

This survey includes *miscellaneous areas.* Such areas have little or no soil material and support little or no vegetation. Riverwash is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

AcB—Acadia silt loam, 1 to 3 percent slopes

Setting

Landform: Low terraces
Position on landform: On concave side slopes immediately adjacent to drainageways
Distinctive landform features: A few small areas have mounded surfaces.
Shape of areas: Irregular
Size of areas: 40 to 350 acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 4 inches—brown silt loam

Subsurface layer:
4 to 6 inches—light yellowish brown silt loam

Subsoil layer:
6 to 11 inches—yellowish brown silty clay loam
11 to 20 inches—yellowish brown silty clay
20 to 64 inches—light brownish gray silty clay

Substratum layer:
64 to 82 inches—red clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at at a depth of 0.5 to 1.5 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: High

Composition

Acadia soil and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Beauregard, Caddo, Glenmora, Gore, Guyton, and Kolin soils
• Beauregard, Glenmora, and Kolin soils are in positions similar to those of the Acadia soil. Beauregard and Glenmora soils are loamy throughout. The upper part of the subsoil of the Kolin soils has no grayish iron depletions. The Caddo and Guyton soils are in level areas and are gray and loamy throughout. The Gore soils are on convex side slopes and escarpments and have a reddish subsoil.

Land Use

Dominant use: Woodland
Other uses: Cropland or pasture

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited
Adapted crops: Soybeans and rice
Management concerns: Wetness, moderate hazard of erosion, and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil is friable and easy to keep in good tilth. Shallow ditches can help to remove excess surface water more quickly. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage and seeding fall grain or winter pasture crops early can

help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and to lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, and hybrid bermudagrass. Annual cool season grasses, such as ryegrass and wheat, are suitable for winter forage.
Management concerns: Wetness, low fertility, and a slight hazard of erosion during establishment of pasture grasses
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9W
Site index and ordinating species: 86 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, slash pine, longleaf pine, southern red oak, white oak, sweetgum, water oak, and hickory
Suitability: Moderately well suited
Management concerns: Severe plant competition and moderate equipment limitations
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Logging roads require suitable surfacing for year-round use.

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is needed to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness, shrink-swell
Corrective measures: Backfilling with suitable soil materials and using a reinforced foundation design can help to reduce the hazard of foundation cracking due to shrink-swell. Surface and subsurface drainage is needed around the foundations of buildings.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, wetness, shrink-swell
Corrective measures: Backfilling with suitable soil materials and special roadbase design generally are necessary to prevent damage to roads and streets due to low strength and shrink-swell in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitation: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness, percs slowly

Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

Playgrounds

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled.

AcC—Acadia silt loam, 3 to 5 percent slopes

Setting

Landform: Low terraces
Position on landform: On concave side slopes immediately adjacent to drainageways
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 40 to 350 acres
Slope: Moderately sloping

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown silt loam

Subsurface layer:
4 to 13 inches—yellowish brown silt loam

Subsoil layer:
13 to 62 inches—yellowish brown silty clay loam in the upper part of the subsoil; grayish brown silty clay in the middle part of the subsoil; and light brownish gray silty clay in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 foot to 1.5 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: High

Composition

Acadia soil and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Beauregard, Caddo, Glenmora, Gore, Guyton, and Kolin soils
• Beauregard, Glenmora, and Kolin soils are in positions similar to those of the Acadia soil. Beauregard and Glenmora soils are loamy throughout. Kolin soils are loamy to depths of 20 to 40 inches. The Caddo and Guyton soils are in level areas, are poorly drained, and are gray and loamy throughout. The Gore soils have convex slopes and a reddish subsoil.

Land Use

Dominant use: Woodland
Other uses: Cropland or pasture

Cropland

Land capability subclass: IVe
Suitability: Poorly suited
Adapted crops: Soybeans, corn, sorghum, wheat, and locally adapted truck and garden crops
Management concerns: Wetness, severe hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil is friable and easy to keep in good tilth. Shallow ditches can help to remove excess surface water more quickly. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Common bermudagrass, improved bermudagrass, and bahiagrass. Annual cool season grasses such as ryegrass and wheat are suitable for winter forage.
Management concerns: Wetness, low fertility, and a severe hazard of erosion during establishment of pasture grasses
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to

reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9W
Site index and ordinating species: 86 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, longleaf pine, southern red oak, hickory, sweetgum, water oak, and white oak
Suitability: Moderately well suited
Management concerns: Severe plant competition and moderate equipment limitations
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Logging roads require suitable surfacing for year-round use.

Wildlife habitat

Suitability for wetland wildlife: Poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness, shrink-swell
Corrective measures: Backfilling with suitable soil materials and using a reinforced foundation design can help to reduce the hazard of foundation cracking due to shrink-swell. Surface and subsurface drainage is necessary around the foundations of buildings.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, wetness, shrink-swell
Corrective measures: Backfilling with suitable soil materials and special roadbase design generally are necessary to prevent damage to roads and streets due to low strength and shrink-swell in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitation: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

Playgrounds

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled.

BaB—Bearhead-Merryville complex, gently undulating

Setting

Landform: Terraces

Position on landform: The Bearhead soil is on low ridges 3 to 6 feet high, 50 to 200 feet wide, and as long as several hundred feet; the Merryville soil is on swales, 40 to 150 feet across.
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 50 to 1,500 acres
Slope: The Bearhead soils are undulating; the Merryville soils are level to nearly level.

Typical Profiles

Bearhead soil:

Surface layer:
0 to 8 inches—brown very fine sandy loam

Subsurface layer:
8 to 15 inches—very pale brown very fine sandy loam

Subsoil layer:
15 to 21 inches—brownish yellow very fine sandy loam with very pale brown very fine sandy loam pockets
21 to 35 inches—strong brown very fine sandy loam
35 to 46 inches—brownish yellow very fine sandy loam
46 to 59 inches—very pale brown very fine sandy loam
59 to 75 inches—grayish brown loam
75 to 89 inches—light olive brown loam
89 to 98 inches—light gray very fine sandy loam
98 to 108 inches—light gray very fine sand

Merryville soil:

Surface layer:
0 to 4 inches—light brownish gray silt loam

Subsurface layer:
4 to 9 inches—grayish brown silt loam

Subsoil layer:
9 to 26 inches—grayish brown silt loam with pockets of light brownish gray very fine sandy loam
26 to 35 inches—grayish brown silt loam with pockets of light brownish gray silt loam
35 to 48 inches—grayish brown loam
48 to 55 inches—light brownish gray very fine sandy loam
55 to 72 inches—light gray very fine sand
72 to 85 inches—light gray loamy fine sand

Soil Properties and Qualities

Bearhead soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 4 to 6 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Slow
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Merryville soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 1.5 feet
Flooding: Rarely flooded
Runoff: Very slow
Permeability class: Slow
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Bearhead soil and similar soils: 47 to 63 percent
Merryville soil and similar soils: 27 to 43 percent
Dissimilar Soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Bienville, Cahaba, Dubach, Guyton, and Spurger soils
• Bienville and Cahaba soils are at higher elevations than the Bearhead and Merryville soils. Bienville soils are sandy throughout. Cahaba soils have a red subsoil. Dubach soils are at slightly lower elevations than the Bearhead soil and are on slightly higher positions than the Merryville soil; they have a yellowish brown and light yellowish brown subsoil. Guyton soils are wetter than the Bearhead soil, and are more clayey in the subsoil than the Merryville soil. Spurger soils are on side slopes along drainageways and on terrace escarpments; they have a red clayey subsoil.

Land Use

Dominant Use: Woodland
Other Uses: Pasture or residential

Cropland

Land capability subclass: IIe for the Bearhead soil; IIIw for the Merryville soil
Suitability: Moderately well suited
Adapted crops: Truck crops
Management concerns: Wetness; low fertility; potentially toxic levels of aluminum in the rooting zone; short, irregular slopes; and a hazard of erosion in the more sloping areas
Management measures: This soil is friable and easy to keep in good tilth. Shallow ditches can help to remove excess surface water more quickly. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Short, irregular slopes may hinder tillage operations. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, white clover, and ryegrass
Management concerns: Low fertility, wetness, and a slight hazard of erosion during establishment of pasture grasses on the more sloping areas
Management measures: Seedbed preparation should be on the contour where practical. A drainage system of shallow ditches can help to remove excess water more quickly from areas of the Merryville soil. Cross fencing and rotating stock to avoid overgrazing and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10A for the Bearhead soil; 12W for the Merryville soil
Site index and ordinating species: 93 for the Bearhead soil; 109 for the Merryville soil for loblolly pine
Adapted trees: Longleaf pine, loblolly pine, slash pine, sweetgum, and southern red oak on the Bearhead soil; loblolly pine, slash pine, sweetgum, southern red oak, water oak, and willow oak on the Merryville soil
Suitability: Moderately well suited
Management concerns: No significant limitations for the Bearhead soil; severe plant competition and equipment limitations and moderate seedling mortality for the Merryville soil
Management measures: Standard planting and harvesting equipment and techniques generally is adequate on areas of the Bearhead soil. On areas of the Merryville soil, using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Very poor for the Bearhead soil; good for the Merryville soil
Suitability for woodland wildlife: Good for the Bearhead soil; fair for the Merryville soil
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife. Shallow ponds can be constructed in areas of the Merryville soil to provide a water supply for both game and nongame animals and birds.

Urban Use

Septic tank absorption fields

Limitation ratings: Moderate for the Bearhead soil; severe for the Merryville soil
Limitations: Wetness, percs slowly for the Bearhead and Merryville soils

Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation ratings: Slight for the Bearhead soil; severe for the Merryville soil
Limitations: No significant limitations for the Bearhead soil; flooding, wetness for the Merryville soil
Corrective measures: Standard construction and landscaping techniques generally is adequate.

Local roads and streets

Limitation ratings: Slight for the Bearhead soil; severe for the Merryville soil
Limitations: No significant limitations for the Bearhead soil; wetness for the Merryville soil
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation ratings: Slight for the Bearhead soil; severe for the Merryville soil
Limitations: No significant limitations for the Bearhead soil; wetness for the Merryville soil
Corrective measures: A wide variety of lawn and landscaping plants can generally be used. Standard techniques for establishing and maintaining lawns are generally adequate.

Recreational Use

Camp and picnic areas

Limitation ratings: Slight for the Bearhead soil; severe for the Merryville soil
Limitations: No significant limitations for the Bearhead soil; flooding and wetness for the Merryville soil
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation ratings: Moderate for the Bearhead soil; severe for the Merryville soil
Limitations: Slope for the Bearhead soil; wetness for the Merryville soil
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

BdB—Beauregard silt loam, 1 to 3 percent slopes

Setting

Landform: Uplands
Position on landform: On broad, slightly concave ridgetops
Distinctive landform features: Slopes are long and smooth.
Shape of areas: Irregular
Size of areas: 20 to 100 acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown silt loam

Subsurface layer:
5 to 9 inches—light yellowish brown silt loam

Subsoil layer:
9 to 16 inches—light yellowish brown silt loam
16 to 49 inches—brownish yellow silt loam with light brownish gray interfingerings and tongues
49 to 62 inches—yellowish brown silt loam with grayish brown interfingerings and tongues
62 to 75 inches—brownish yellow silt loam
75 to 90 inches—light gray silt loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 1.5 to 3 feet
Flooding: Does not flood
Runoff: Slow to medium
Permeability class: Slow
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Beauregard soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Blevins, Caddo, Guyton, Kolin, and Malbis soils
• Blevins and Malbis soils are on convex ridgetops and side slopes, and have yellowish brown and strong brown subsoils. The Caddo and Guyton soils are in

level areas and are poorly drained and gray throughout. Guyton soils also are in drainageways and on narrow flood plains of small streams. Kolin soils are in positions similar to those of the Beauregard soil. The subsoil of the Kolin soils is loamy in the upper part and clayey in the lower part. Also included is a soil in which the surface layer is very fine sandy loam.

Land Use

Dominant use: Woodland
Other uses: Pasture or residential

Cropland

Land capability subclass: IIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, sorghum, wheat, oats, rice, and locally adapted truck and garden crops
Management concerns: Wetness, low fertility, hazard of erosion, and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil is friable and easy to keep in good tilth. Shallow ditches can help to remove excess surface water more quickly. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, white clover, winter peas, and vetch
Management concerns: Wetness, hazard of erosion during establishment of pasture plants, and low fertility
Management measures: Seedbed preparation should be on the contour where practical. A drainage system of shallow ditches is needed to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10W
Site index and ordinating species: 92 for loblolly pine
Adapted trees: Loblolly pine, slash pine, longleaf pine, southern red oak, hickory, white oak, and sweetgum
Suitability: Moderately well suited
Management concerns: Moderate equipment limitations, seedling mortality, and plant competition
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Moderate

Limitation: Wetness
Corrective measures: Drainage may be needed around the foundations of buildings.

Local roads and streets

Limitation rating: Moderate
Limitations: Low strength, wetness
Corrective measures: Special roadbase design and construction techniques that compensate for low strength in the subsoil may be necessary. Roadside ditches generally are needed to remove excess water more quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitation: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of occasional wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitations: Wetness, percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary.

Playgrounds

Limitation rating: Moderate
Limitations: Slope, wetness
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Surface drains and landscaping are needed to remove excess water quickly.

BdC—Beauregard silt loam, 3 to 5 percent slopes

Setting

Landform: Uplands
Position on landform: On slightly concave side slopes
Distinctive landform features: Slopes are short and smooth.
Shape of areas: Long and narrow
Size of areas: 20 to 85 acres
Slope: Moderately sloping

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown silt loam

Subsurface layer:
6 to 10 inches—light yellowish brown silt loam

Subsoil layer:
10 to 60 inches—yellowish brown silt loam in the upper part of the subsoil; light gray silt loam in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 1.5 to 3 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Slow
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Beauregard soil and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Blevins, Guyton, Kolin, and Malbis soils
• Blevins and Malbis soils are on convex ridgetops and side slopes, and have yellowish brown and strong brown subsoils. Guyton soils are in drainageways and on narrow flood plains, are poorly drained, and are gray throughout. Kolin soils are in positions similar to those of the Beauregard soil and have a subsoil that is clayey in the lower part. Also included is a soil in which the surface layer is very fine sandy loam.

Land Use

Dominant use: Woodland
Other uses: Pasture or residential

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, cotton, and grain sorghum
Management concerns: Wetness, low fertility, severe hazard of erosion, and potentially toxic levels of aluminum in the rooting zone

Management measures: This soil is friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common and improved bermudagrass, bahiagrass, crimson clover, ball clover, and ryegrass
Management concerns: Wetness, hazard of erosion during establishment of pasture plants, and low fertility
Management measures: Seedbed preparation should be on the contour where practical. A drainage system of shallow ditches is necessary to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10W
Site index and ordinating species: 92 for loblolly pine
Adapted trees: Loblolly pine and shortleaf pine
Suitability: Well suited
Management concerns: Moderate equipment limitations, seedling mortality, and plant competition
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Moderate
Limitation: Wetness
Corrective measures: Drainage may be needed around the foundations of buildings.

Local roads and streets

Limitation rating: Moderate
Limitations: Low strength, wetness
Corrective measures: Special roadbase design and construction techniques that compensate for low strength in the subsoil may be necessary. Roadside ditches generally are needed to remove excess water more quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitation: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of occasional wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitations: Wetness, percs slowly

Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary.

Playgrounds

Limitation rating: Moderate
Limitations: Slope, wetness
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Surface drains and landscaping are necessary to remove excess water quickly.

BkC—Betis fine sand, 1 to 5 percent slopes

Setting

Landform: Uplands
Position on landform: On convex ridgetops and nose slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 5 to 100 acres
Slope: Gently sloping to moderately sloping

Typical Profile

Surface layer:
0 to 5 inches—brown loamy fine sand

Subsurface layer:
5 to 34 inches—light yellowish brown loamy fine sand

Subsoil layer:
34 to 100 inches—light yellowish brown loamy fine sand in the upper part of the subsoil; pale brown and strong brown loamy fine sand in the middle part of the subsoil; and strong brown loamy fine sand in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat excessively drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Very slow
Permeability class: Rapid
Available water capacity: Low to moderate
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Betis soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Boykin, Doucette, Malbis, Osier, and Ruston soils
• Boykin, Doucette, Malbis, and Ruston soils are in positions similar to those of the Betis soil and have loamy subsoils. Osier soils are on toe slopes adjacent to drainageways, are poorly drained, and are grayish throughout. Also included is a soil that has slopes of more than 5 percent.

Land Use

Dominant use: Woodland
Other use: Wildlife habitat

Cropland

Land capability subclass: IIIs
Suitability: Moderately well suited
Adapted crops: Truck crops and watermelons
Management concerns: Low fertility, droughtiness, and poor trafficability
Management measures: This soil has low available water capacity that somewhat limits crop production. Irrigation is necessary for most crops. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Planting a close-growing cover crop and using field windstrips can help to reduce soil blowing. Cultivating while the soil is moist can help to reduce trafficability problems. Liming and fertilizing according to soil tests can help to improve fertility.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Improved bermudagrass, bahiagrass, and crimson clover
Management concerns: Droughtiness and low fertility
Management measures: Pasture planting or renovation should be done in the early spring months. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during droughty periods can help to prevent damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 8S

Figure 3.—Betis fine sand, 1 to 5 percent slopes, is moderately well suited to production of longleaf pine, but in dry periods it is poorly suited for use as a roadway because of the loose, sandy surface layer.

Site index and ordinating species: 83 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, longleaf pine, white oak, southern red oak, post oak, sweetgum, hickory, and blackjack oak
Suitability: Moderately well suited
Management concerns: Severe equipment limitations; moderate seedling mortality and plant competition
Management measures: The sandy surface layer restricts use of wheeled equipment, especially when the soil is dry (fig. 3). The moderate available water capacity generally reduces seedling survival rates in areas where understory plants are numerous. In some areas seedlings are damaged by the Texas leaf-cutting ant, which is especially well-adapted to this soil. Careful site preparation and spraying can help to reduce plant competition. Organic matter is conserved on this soil by restricting burning and leaving slash well distributed. Planting in early spring, using larger seedlings, and mulching around seedlings can help to reduce seedling mortality caused by droughtiness.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Fair
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitation: Poor filter
Corrective measures: An oversize drain field design can help to prevent groundwater pollution from seepage.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitation: Droughtiness
Corrective measures: Lawn and landscaping plants that are drought-tolerant should be used. A sprinkler system can be installed to help to reduce stress to lawn grasses during droughty periods.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitation: Too sandy
Corrective measures: Loamy topsoil should be added to the loose, sandy surface, and a ground cover that is tolerant of heavy foot traffic should be established to create a firmer surface.

Playgrounds

Limitation rating: Severe
Limitation: Too sandy
Corrective measures: Loamy topsoil should be added to the loose, sandy surface to create a firmer playing surface.

BkD—Betis fine sand, 5 to 8 percent slopes

Setting

Landform: Uplands
Position on landform: On convex ridgetops and side slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 5 to 100 acres
Slope: Sloping

Typical Profile

Surface layer:
0 to 9 inches—dark grayish brown fine sand

Subsurface layer:
9 to 16 inches—light yellowish brown loamy fine sand
16 to 26 inches—light yellowish brown loamy fine sand with small bodies of brownish yellow fine sandy loam

Subsoil layer:
26 to 36 inches—yellowish brown loamy fine sand with interfingerings of pale brown loamy sand
36 to 50 inches—strong brown loamy fine sand
50 to 60 inches—brownish yellow loamy fine sand
60 to 73 inches—brownish yellow loamy fine sand with striping of light yellowish brown loamy sand
73 to 85 inches—reddish yellow loamy fine sand
85 to 109 inches—strong brown loamy fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat excessively drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Rapid
Available water capacity: Low to moderate
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Betis soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Boykin, Doucette, Malbis, Osier, and Ruston soils
• Boykin, Doucette, Malbis, and Ruston soils are in positions similar to those of the Betis soil and have loamy subsoils. Osier soils are on toe slopes adjacent to drainageways, are poorly drained, and are gray throughout. Also included is a soil that has slopes of more than 8 percent.

Land Use

Dominant use: Woodland
Other use: Wildlife habitat or residential

Cropland

Land capability subclass: IIIs
Suitability: Moderately well suited
Adapted crops: Watermelons and truck crops
Management concerns: Low fertility, droughtiness, poor trafficability, slope, and a slight hazard of erosion
Management measures: This soil has low available water capacity that somewhat limits crop production. Irrigation is necessary for most crops. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Planting a close-growing cover crop and using field windstrips can help to reduce soil blowing. Cultivating while the soil is moist can help to reduce trafficability problems. Liming and fertilizing according to soil tests can help to improve fertility.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Improved bermudagrass, bahiagrass, and crimson clover
Management concerns: Droughtiness and low fertility
Management measures: Pasture planting or renovation should be done in the early spring months. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during droughty periods can help to prevent damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 8S
Site index and ordinating species: 83 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, longleaf pine, white oak, southern red oak, post oak, sweetgum, hickory, and blackjack oak
Suitability: Moderately well suited
Management concerns: Severe equipment limitations; moderate seedling mortality and plant competition
Management measures: The sandy surface layer restricts use of wheeled equipment, especially when the soil is dry. The low or moderate available water capacity generally reduces seedling survival rates in areas where understory plants are numerous. In some areas seedlings are damaged by the Texas leaf-cutting ant, which is especially well-adapted to this soil. Careful site preparation and spraying can help to reduce plant competition. Organic matter is conserved on this soil by restricting burning and leaving slash well distributed. Planting in early spring, using larger seedlings, and mulching around seedlings can help to reduce seedling mortality caused by droughtiness.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Fair
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitation: Poor filter
Corrective measures: An oversize drain field design can help to prevent groundwater pollution from seepage.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitation: Droughtiness

Corrective measures: Lawn and landscaping plants that are drought-tolerant should be used. A sprinkler system can be installed to help reduce stress to lawn grasses during droughty periods.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitation: Too sandy
Corrective measures: Loamy topsoil should be added to the loose, sandy surface, and a ground cover that is tolerant of heavy foot traffic should be established to create a firmer surface.

Playgrounds

Limitation rating: Severe
Limitations: Slope, too sandy
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Loamy topsoil should be added to the loose, sandy surface to create a firmer playing surface.

BmC—Bienville loamy fine sand, 1 to 5 percent slopes

Setting

Landform: Stream terraces
Position on landform: On ridges
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 15 to 80 acres
Slope: Gently sloping to moderately sloping

Typical Profile

Surface layer:
0 to 10 inches—brown loamy fine sand

Subsurface layer:
10 to 36 inches—yellowish brown loamy fine sand

Subsoil layer:
36 to 50 inches—strong brown loamy fine sand with yellowish brown spots and streaks of uncoated sand
50 to 56 inches—strong brown loamy fine sand
56 to 74 inches—yellowish red loamy fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat excessively drained
Water table: Apparent at a depth of 4 to 6 feet
Flooding: Rarely flooded
Runoff: Slow
Permeability class: Moderately rapid
Available water capacity: Low to moderate
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Bienville soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Bearhead, Cahaba, Dubach, Guyton, Merryville, and Spurger soils
• None of these soils are sandy throughout. The Bearhead and Dubach soils are in slightly lower positions than the Bienville soil. The Cahaba and Spurger soils are in positions similar to those of the Bienville soil. Guyton and Merryville soils are in lower positions and are poorly drained.

Land Use

Dominant use: Woodland
Other uses: Pasture, cropland, or residential

Cropland

Land capability subclass: IIIs
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, and locally adapted truck and garden crops (fig. 4)
Management concerns: Droughtiness, low fertility, and hazard of erosion
Management measures: This soil is friable and easy to keep in good tilth; however, it has low available water capacity that somewhat limits crop production. Irrigation may be needed for some crops. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Planting a close-growing cover crop and using field windstrips can help to reduce soil blowing. Liming and fertilizing according to soil tests can help to improve fertility.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, weeping lovegrass, crimson clover, bahiagrass, and ryegrass
Management concerns: Droughtiness and low fertility
Management measures: Pasture planting or renovation should be done in the early spring

Figure 4.—Areas of Bienville loamy fine sand, 1 to 5 percent slopes, are commonly used to produce truck crops such as these watermelons.

months. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during droughty periods can help to prevent damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10S
Site index and ordinating species: 96 for loblolly pine
Adapted trees: Loblolly pine, slash pine, shortleaf pine, and longleaf pine
Suitability: Moderately well suited
Management concerns: Severe equipment limitations and moderate seedling mortality
Management measures: The sandy surface layer restricts use of wheeled equipment, especially when the soil is dry. The low or moderate available water capacity generally reduces seedling survival rates in areas where understory plants are numerous. In some areas seedlings are damaged by the Texas leaf-cutting ant, which is especially well-adapted to this soil. Organic matter is conserved on this soil by restricting burning and leaving slash well distributed. Planting in early spring, using larger seedlings, and mulching around seedlings can help to reduce seedling mortality caused by droughtiness.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Fair
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and

promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Moderate
Limitations: Flooding, wetness
Corrective measures: These soils generally are not suited to this use unless they are drained and protected from flooding. An onsite sewage treatment plant or a sewage lagoon is necessary.

Dwellings without basements

Limitation rating: Severe
Limitation: Flooding
Corrective measures: Flood control structures are necessary; if such structures are not used, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation rating: Moderate
Limitation: Flooding
Corrective measures: Filling with suitable soil materials to build an elevated roadbase above the level of flooding, and installing culverts of adequate size and spacing are necessary measures to prevent roads from being inundated and damaged during flood episodes.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitation: Droughtiness
Corrective measures: Lawn and landscaping plants that are drought-tolerant should be used. A sprinkler system can be installed to help reduce stress to lawn grasses during droughty periods.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitation: Flooding
Corrective measures: Campsites cannot be used during episodes of flooding, and campground facilities and structures should be constructed to withstand brief periods of inundation.

Playgrounds

Limitation rating: Moderate
Limitations: Slope, too sandy
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Loamy topsoil should be added to the loose, sandy surface to create a firmer playing surface.

BnB—Bienville-Guyton complex, gently undulating

Setting

Landform: Stream terraces
Position on landform: The Bienville soil is on low ridges; the Guyton soil is on swales
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 40 to 1,500 acres
Slope: The Bienville soils are undulating; the Guyton soils are level to nearly level

Typical Profiles

Bienville soil:

Surface layer:
0 to 7 inches—brown loamy fine sand

Subsurface layer:
7 to 25 inches—light yellowish brown loamy fine sand

Subsoil layer:
25 to 66 inches—yellowish brown and light yellowish brown loamy fine sand and fine sandy loam in the upper part and yellowish brown fine sandy loam in the lower part.

Guyton soil:

Surface layer:
0 to 4 inches—grayish brown silt loam

Subsurface layer:
4 to 26 inches—grayish brown silt loam

Subsoil layer:
26 to 62 inches—grayish brown silty clay loam and light brownish gray silt loam in the upper part;

and grayish brown silty clay loam in the lower part.

Soil Properties and Qualities

Bienville soil:

Depth class: Very deep
Drainage class: Somewhat excessively drained
Water table: Apparent at a depth of 4 to 6 feet
Flooding: Rarely flooded
Runoff: Slow
Permeability Class: Moderately rapid
Available water capacity: Low to moderate
Natural soil fertility: Low
Shrink-swell potential: Low

Guyton soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Perched at the surface to a depth of 1.5 feet
Flooding: Occasionally flooded
Runoff: Slow
Permeability class: Slow
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Bienville soil and similar soils: 47 to 63 percent
Guyton soil and similar soils: 27 to 43 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:

Bearhead, Cahaba, Dubach, Merryville, and Spurger soils.

• Bearhead, Cahaba, and Dubach soils are on positions similar to those of the Guyton soil and have loamy subsoil layers. Merryville soils are on positions similar to those of the Guyton soil and have less clay in the subsoil layer. Spurger soils are on slightly lower positions than the Bienville soil and have a clayey and loamy subsoil.

Land Use

Dominant use: Woodland
Other uses: Pasture or cropland

Cropland

Landcapability subclass: IIIs for the Bienville soil; and IVw for the Guyton soil
Suitability: Moderately well suited
Adapted crops: Truck crops
Management concerns: Wetness, flooding, low fertility, and potentially toxic levels of aluminum in the rooting zone in the Guyton soil; droughtiness; short, irregular slopes; and low fertility in the Bienville soil.
Management measures: A drainage system of shallow ditches is needed to remove excess surface water more quickly from areas of the Guyton soil. In some years flooding may damage crops on the areas of Guyton soils unless flood control structures are installed. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and maintain soil moisture, tilth and organic matter content. Irregular slopes may hinder tillage operations. Seeding fall grain or winter pasture crops early and installing field windstrips can help to reduce soil blowing. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, crimson clover, and ryegrass.
Management concerns: Wetness and low fertility in areas of the Guyton soil; droughtiness and low fertility in areas of the Bienville soil.
Management measures: A drainage system of shallow ditches can help to remove excess water more quickly from areas of the Guyton soil. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet or droughty periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10S for the Bienville soil; 8W for the Guyton soil.
Site index and ordinating species: 96 for the Bienville soil; 85 for the Guyton soil for loblolly pine
Adapted trees: Longleaf pine, loblolly pine, and slash pine on the Bienville soil; loblolly pine, slash pine, sweetgum, cherrybark oak, water oak, green ash, and willow oak on the Guyton soil

Suitability: Moderately well suited
Management concerns: Severe equipment limitations and moderate seedling mortality for the Bienville soil; severe plant competition and equipment limitations, and moderate seedling mortality for the Guyton soil
Management measures: On the Bienville soil, the sandy surface layer restricts use of wheeled equipment, especially when the soil is dry. The low or moderate available water capacity generally reduces seedling survival rates in areas where understory plants are numerous. In some areas, seedlings are damaged by the Texas leaf-cutting ant, which is especially well adapted to this soil. Organic matter is conserved on this soil by restricting burning and leaving slash well distributed. Planting in early spring, using larger seedlings, and mulching around seedlings can help to reduce seedling mortality caused by droughtiness. On areas of Guyton soils, using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Very poor for the Bienville soil; good for the Guyton soil
Suitability for woodland wildlife: Fair
Management measures: Habitat for woodland wildlife can be improved by encouraging the growth of oaks and other mast-producing trees, by planting or promoting desirable understory plants, and by planting feed plots in small woodland openings. Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and furbearers.

Urban Use

Septic tank absorption fields

Limitation rating: Moderate for the Bienville soil; severe for the Guyton soil
Limitations: Flooding and wetness for the Bienville soil; flooding, wetness, and percs slowly for the Guyton soil
Corrective measures: These soils generally are not suited to this use unless they are drained and protected from flooding. An on-site sewage treatment plant or a sewage lagoon is needed.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding for the Bienville soil; flooding and wetness for the Guyton soil
Corrective measures: Flood control structures are necessary; if such structures are not built, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation rating: Moderate for the Bienville soil; severe for the Guyton soil
Limitations: Flooding for the Bienville soil; low strength, flooding, and wetness for the Guyton soil
Corrective measures: Filling with suitable soil materials to build an elevated roadbase above the level of flooding, and installing culverts of adequate size and spacing are necessary measures to keep roads from being inundated and damaged during flood episodes.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate for the Bienville soil; severe for the Guyton soil
Limitations: Droughty for the Bienville soil; wetness for the Guyton soil
Corrective measures: Lawn and landscaping plants that are tolerant of droughtiness should be used. A sprinkler system can be installed to help reduce stress to lawn grasses during droughty periods.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding for the Bienville soil; flooding and wetness for the Guyton soil
Corrective measures: Campsites cannot be used during episodes of flooding, and campground facilities and structures should be constructed to withstand brief periods of inundation.

Playgrounds

Limitation Rating: Moderate for the Bienville soil; severe for the Guyton soil
Limitations: Slope, too sandy for the Bienville soil; wetness for the Guyton soil
Corrective measures: Playgrounds should be constructed on the more level parts of the

areas. Loamy topsoil should be added to the loose, sandy surface to create a firmer playing surface.

BpB—Blevins very fine sandy loam, 1 to 3 percent slopes

Setting

Landform: Uplands
Position on landform: On convex ridgetops
Distinctive landform features: Slopes generally are long and smooth. A few small areas have mounded surfaces.
Shape of areas: Irregular
Size of areas: 20 to 300 acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown very fine sandy loam

Subsurface layer:
5 to 10 inches—dark grayish brown very fine sandy loam

Subsoil layer:
10 to 24 inches—strong brown loam
24 to 50 inches—yellowish brown loam
50 to 59 inches—yellowish brown clay loam with skeletans on vertical faces of peds
59 to 72 inches—yellowish brown clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Slow to medium
Permeability class: Moderate
Available water capacity: Moderate to very high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Blevins soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Beauregard, Caddo, Glenmora, Guyton, Kolin, Malbis, and Messer soils
- All of these soils are in lower positions or at lower elevations than the Blevins soil. Beauregard and Glenmora soils have gray iron depletions at depths of less than 30 inches. Beauregard and Malbis soils have more than 5 percent plinthite. Caddo and Guyton soils are poorly drained and are gray throughout. Kolin soils have a subsoil that is clayey in the lower part. Messer soils contain less clay in the subsoil than the Blevins soil. Also included is a soil in which the surface layer is silt loam.

Land Use

Dominant use: Woodland
Other uses: Pasture, cropland, and residential

Cropland

Land capability subclass: IIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, wheat, grain sorghum, and truck and garden crops
Management concerns: Slight hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil is friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, ryegrass, crimson clover, and ball clover
Management concerns: Low fertility and hazard of erosion during establishment of pasture grasses
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9A
Site index and ordinating species: 90 for loblolly pine

Adapted trees: Loblolly pine, slash pine, shortleaf pine, longleaf pine, white oak, southern red oak, and sweetgum
Suitability: Well suited
Management concerns: Moderate plant competition
Management measures: Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Moderate
Limitation: Percs slowly
Corrective measures: An oversize drain field should be installed to prevent the system from malfunctioning during rainy periods.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Moderate
Limitation: Low strength
Corrective measures: Special roadbase design and construction techniques that compensate for low strength in the subsoil may be necessary.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally is adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation rating: Moderate
Limitation: Slope
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

BpC—Blevins very fine sandy loam, 3 to 5 percent slopes

Setting

Landform: Uplands
Position on landform: On convex ridgetops and side slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 20 to 300 acres
Slope: Moderately sloping

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown very fine sandy loam

Subsurface layer:
6 to 12 inches—light yellowish brown very fine sandy loam

Subsoil layer:
12 to 95 inches—strong brown clay loam in the upper part of the subsoil; yellowish brown and brownish yellow clay loam in the middle part of the subsoil; and brownish yellow and yellowish brown clay loam in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Moderate

Figure 5.—This area of Blevins very fine sandy loam, 3 to 5 percent slopes, was converted from cropland to slash pine production because of excess erosion of the topsoil.

Available water capacity: Moderate to very high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Blevins soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Beauregard, Caddo, Glenmora, Guyton, Kolin, Malbis, and Messer soils
• All of these soils are in lower positions or at lower elevations than the Blevins soil. Beauregard and Glenmora soils have gray iron depletions at less than 30 inches from the surface. Beauregard and Malbis soils have more than 5 percent plinthite. Caddo and Guyton soils are poorly drained and are gray throughout. Kolin soils have a subsoil that is clayey in the lower part. Messer soils have less clay in the subsoil than the Blevins soil. Also included is a soil in which the surface layer is silt loam.

Land Use

Dominant use: Woodland (fig. 5)
Other uses: Pasture, cropland, and residential

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, wheat, grain sorghum, and truck and garden crops
Management concerns: Moderate hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil is friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly

adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, ryegrass, crimson clover, and ball clover
Management concerns: Low fertility and hazard of erosion during establishment of pasture grasses
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9A
Site index and ordinating species: 90 for loblolly pine
Adapted trees: Loblolly pine, slash pine, shortleaf pine, longleaf pine, white oak, southern red oak, and sweetgum
Suitability: Well suited
Management concerns: Moderate plant competition
Management measures: Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting
and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Moderate
Limitation: Percs slowly
Corrective measures: An oversize drain field should be installed to prevent the system from malfunctioning during rainy periods.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Moderate
Limitation: Low strength
Corrective measures: Special roadbase design and construction techniques that compensate for low strength in the subsoil may be necessary.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation rating: Moderate
Limitation: Slope
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

BpD—Blevins very fine sandy loam, 5 to 8 percent slopes

Setting

Landform: Uplands
Position on landform: On convex side slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 20 to 300 acres
Slope: Sloping

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown very fine sandy loam

Subsurface layer:
5 to 11 inches—yellowish brown very fine sandy loam

Subsoil layer:
11 to 85 inches—strong brown and yellowish brown clay loam in the upper part of the subsoil; yellowish brown silty clay loam in the middle part of the subsoil; and light brown silty clay loam in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Moderate
Available water capacity: Moderate to very high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Blevins soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Beauregard, Gore, Guyton, Kolin, Malbis, and Sugartown soils
• Beauregard, Gore, Guyton, Kolin, and Malbis soils are in lower positions or at lower elevations than the Blevins soil. Beauregard soils have gray iron depletions at less than 30 inches from the surface. Beauregard and Malbis soils have more than 5 percent plinthite. Gore soils have a red clayey subsoil. Guyton soils are poorly drained and are gray throughout. Kolin soils have a subsoil that is clayey in the lower part. Sugartown soils are in positions similar to those of the Blevins soil and have a clayey and loamy subsoil. Also included is a soil in which the surface layer is silt loam.

Land Use

Dominant use: Woodland
Other uses: Pasture and residential

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, wheat, grain sorghum, and truck and garden crops
Management concerns: Severe hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil is friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, ryegrass, crimson clover, and ball clover
Management concerns: Low fertility and hazard of erosion during establishment of pasture grasses
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9A

Site index and ordinating species: 90 for loblolly pine
Adapted trees: Loblolly pine, slash pine, shortleaf pine, longleaf pine, white oak, southern red oak, and sweetgum
Suitability: Well suited
Management concerns: Moderate plant competition
Management measures: Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Moderate
Limitation: Percs slowly
Corrective measures: An oversize drain field should be installed to prevent the system from malfunctioning during rainy periods.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Moderate
Limitation: Low strength
Corrective measures: Special roadbase design and construction techniques that compensate for low strength in the subsoil may be necessary.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation rating: Severe
Limitation: Slope
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

ByC—Boykin loamy fine sand, 1 to 5 percent slopes

Setting

Landform: Uplands
Position on landform: On ridgetops and side slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 5 to 100 acres
Slope: Gently sloping to moderately sloping

Typical Profile

Surface layer:
0 to 7 inches—dark brown loamy fine sand

Subsurface layer:
7 to 24 inches—light yellowish brown loamy fine sand

Subsoil layer:
24 to 70 inches—yellowish red sandy clay loam in the upper part of the subsoil and yellowish red fine sandy loam in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Moderate
Available water capacity: Low to moderate
Natural soil fertility: Low

Shrink-swell potential: Low

Composition

Boykin soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Betis, Doucette, Malbis, Osier, and Ruston soils
• Betis, Doucette, Malbis, and Ruston soils are in positions similar to those of the Boykin soil. Betis soils are sandy throughout. Doucette soils have a yellowish brown subsoil. Doucette and Malbis soils contain more than 5 percent plinthite. Osier soils are in lower positions than the Boykin soil and are gray and sandy throughout. Ruston soils are loamy throughout. Also included is a soil that has slopes of more than 5 percent.

Land Use

Dominant use: Woodland
Other uses: Wildlife habitat and residential

Cropland

Land capability subclass: IIIs
Suitability: Moderately well suited
Adapted crops: Truck crops and watermelons
Management concerns: Low fertility, droughtiness, and poor trafficability
Management measures: This soil has low available water capacity that somewhat limits crop production. Irrigation is necessary for most crops. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion and soil blowing. Cultivating while the soil is moist can help to reduce trafficability problems. Liming and fertilizing according to soil tests can help to improve fertility.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Improved bermudagrass, common bermudagrass, bahiagrass, and crimson clover
Management concerns: Droughtiness and low fertility
Management measures: Pasture planting or renovation should be done in the early spring months. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during droughty periods can help to prevent damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10S
Site index and ordinating species: 92 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, longleaf pine, white oak, southern red oak, post oak, sweetgum, hickory, and blackjack oak
Suitability: Moderately well suited
Management concerns: Moderate seedling mortality and plant competition
Management measures: The moderate available water capacity generally reduces seedling survival rates in areas where understory plants are numerous. In some areas seedlings are damaged by the Texas leaf-cutting ant, which is especially well-adapted to this soil. Careful site preparation and spraying can help to reduce plant competition. Organic matter is conserved on this soil by restricting burning and leaving slash well distributed. Planting in early spring, using larger seedlings, and mulching around seedlings can help to reduce seedling mortality caused by droughtiness.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A standard septic tank and drain field design generally is adequate to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Slight

Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitation: Too sandy
Corrective measures: Loamy topsoil should be added to the loose, sandy surface, and a ground cover that is tolerant of heavy foot traffic established to create a firmer surface.

Playgrounds

Limitation rating: Moderate
Limitations: Slope, too sandy
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Loamy topsoil should be added to the loose, sandy surface to create a firmer playing surface.

ByD—Boykin loamy fine sand, 5 to 8 percent slopes

Setting

Landform: Uplands
Position on landform: On narrow convex ridgetops and side slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 5 to 100 acres
Slope: Sloping

Typical Profile

Surface layer:
0 to 9 inches—grayish brown loamy fine sand

Subsurface layer:
9 to 21 inches—light yellowish brown loamy fine sand

Subsoil layer:
21 to 70 inches—strong brown fine sandy loam
70 to 76 inches—strong brown fine sandy loam with stripes of loamy fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Moderate
Available water capacity: Low to moderate
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Boykin soil and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Betis, Doucette, Malbis, Osier, and Ruston soils
• Betis, Doucette, Malbis, and Ruston soils are in positions similar to those of the Boykin soil. Betis soils are sandy throughout. The Doucette and Malbis soils have yellowish brown subsoils that have more than 5 percent plinthite. Osier soils are in lower positions on toe slopes, are poorly drained, and are gray and sandy throughout. The Ruston soils are loamy throughout.

Land Use

Dominant use: Woodland
Other uses: Wildlife habitat and residential

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited
Adapted crops: Truck crops and watermelons
Management concerns: Low fertility, droughtiness, poor trafficability, and hazard of erosion
Management measures: This soil has low available

water capacity that somewhat limits crop production. Irrigation is necessary for most crops. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion and soil blowing. Cultivating while the soil is moist can help to reduce trafficability problems. Liming and fertilizing according to soil tests can help to improve fertility.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Improved bermudagrass, common bermudagrass, bahiagrass, and crimson clover
Management concerns: Droughtiness, low soil fertility, and hazard of erosion during establishment of pasture grasses
Management measures: Seedbed preparation should be on the contour where practical. Pasture planting or renovation should be done in the early spring months. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during droughty periods can help to prevent damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10S
Site index and ordinating species: 92 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, longleaf pine, white oak, southern red oak, post oak, sweetgum, hickory, and blackjack oak
Suitability: Moderately well suited
Management concerns: Moderate seedling mortality and plant competition
Management measures: The moderate available water capacity generally reduces seedling survival rates in areas where understory plants are numerous. In some areas seedlings are damaged by the Texas leaf-cutting ant, which is especially well-adapted to this soil. Careful site preparation and spraying can help to reduce plant competition. Organic matter is conserved on this soil by restricting burning and leaving slash well distributed. Planting in early spring, using larger seedlings, and mulching around seedlings can help to reduce seedling mortality caused by droughtiness.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A standard septic tank and drain field design generally is adequate to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitation: Too sandy
Corrective measures: Loamy topsoil should be added to the loose, sandy surface, and a ground cover that is tolerant of heavy foot traffic established to create a firmer surface.

Playgrounds

Limitation rating: Severe
Limitation: Slope
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

BzA—Brimstone silt loam

Setting

Landform: Terraces
Position on landform: On broad flats
Distinctive landform features: Water stands in low places for short periods after heavy rains.
Shape of areas: Irregular
Size of areas: 10 to 1,500 acres
Slope: Level to nearly level

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown silt loam

Subsurface layer:
6 to 16 inches—grayish brown silt loam
16 to 26 inches—light brownish gray silt loam with grayish brown silty clay loam pockets

Subsoil layer:
26 to 45 inches—grayish brown silty clay loam with light brownish gray silt loam pockets
45 to 79 inches—light brownish gray silty clay loam
79 to 90 inches—grayish brown silty clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Water table: Perched at the surface to a depth of 1.5 feet
Flooding: Rarely flooded
Runoff: Slow
Permeability class: Slow
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Moderate

Composition

Brimstone soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Caddo, Glenmora, Guyton, and Messer soils

- All of the dissimilar soils contain less sodium salts in the subsoil than the Brimstone soil. The Caddo soils are on slightly higher positions than the Brimstone soil. The Glenmora soils are on higher positions or on side slopes. The Guyton soils are on lower positions. The Messer soils are on low mounds. Also included are a few small areas of a soil similar to Messer soils that has an alkaline subsoil and an exchangeable sodium percentage slightly less than 15.

Land Use

Dominant use: Woodland
Other uses: Cropland, pasture, and residential

Cropland

Land capability subclass: IIIs
Suitability: Moderately well suited
Adapted crops: Rice and soybeans
Management concerns: Wetness, low fertility, poor tilth, and excess sodium in the subsoil
Management measures: Shallow ditches can help to remove excess surface water more quickly. Land grading and smoothing can help to improve surface drainage and allow more uniform application of irrigation water. Careful management of irrigated cropping rotations is necessary to prevent accumulation of high levels of sodium salts in the surface layer. Tillage when wet can result in the formation of a tillage pan that may restrict roots and water movement. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Liming and fertilizing according to soil tests can help to improve fertility.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Common bermudagrass, ryegrass, white clover, winter peas, and vetch
Management concerns: Wetness and low fertility
Management measures: A drainage system of shallow ditches can help to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 11T
Site index and ordinating species: 80 for loblolly pine
Adapted trees: Slash pine and loblolly pine
Suitability: Moderately well suited
Management concerns: Severe equipment limitations; moderate seedling mortality and plant competition
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for woodland wildlife: Fair
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, wetness
Corrective measures: Flood control structures are necessary; if such structures are not used, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation rating: Severe
Limitations: Wetness, low strength
Corrective measures: Special roadbase design and construction techniques generally are necessary to compensate for low strength in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness, excess sodium
Corrective measures: Lawn and landscaping plants that are tolerant of wetness and soil salinity should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, wetness, excess sodium
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled. Campsites cannot be used during periods of flooding.

Playgrounds

Limitation rating: Severe
Limitations: Wetness, excess sodium
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled.

CdA—Caddo-Messer silt loams

Setting

Landform: Terraces
Position on landform: The Caddo soil is on broad flats; the Messer soil is on small, convex mounds.
Distinctive landform features: The mounds generally are circular in shape and range from 30 to 150 feet across and from 1 to 6 feet in height. The mounds have been smoothed for cultivation in some areas.
Shape of areas: Irregular
Size of areas: 30 to 1,500 acres

Slope: The Caddo soils are level to nearly level; the Messer soils are gently sloping.

Typical Profiles

Caddo soil:

Surface layer:
0 to 6 inches—grayish brown silt loam

Subsurface layer:
6 to 30 inches—light brownish gray silt loam

Subsoil layer:
30 to 60 inches—light brownish gray silty clay loam with tongues of silt loam
60 to 87 inches—light gray silty clay loam

Messer soil:

Surface layer:
0 to 5 inches—dark grayish brown silt loam

Subsurface layer:
5 to 8 inches—light brownish gray silt loam

Subsoil layer:
8 to 17 inches—light yellowish brown silt loam
17 to 22 inches—brownish yellow silt loam with interfingerings of pale brown silt loam
22 to 28 inches—brownish yellow silty clay loam with interfingerings of light yellowish brown silt loam
28 to 46 inches—brownish yellow silty clay loam
46 to 62 inches—yellowish brown silty clay loam
62 to 78 inches—light yellowish brown silty clay loam
78 to 95 inches—brownish yellow silty clay
95 to 113 inches—light brownish gray silty clay

Soil Properties and Qualities

Caddo soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 2 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Slow
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low

Messer soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 2 to 4 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Slow
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Caddo soil and similar soils: 52 to 68 percent
Messer soil and similar soils: 22 to 38 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Beauregard, Brimstone, Glenmora, and Guyton soils
• Beauregard soils are on higher positions than the Caddo soil and on lower positions than the Messer soil. Beauregard soils have plinthite in the subsoil. The Brimstone and Guyton soils are on slightly lower positions than the Caddo soil. Brimstone soils have a high level of sodium. The Guyton soils are similar to the Caddo soil, except that they do not have red mottles. The Glenmora soils are on higher positions than the Caddo soil. The subsoil of the Glenmora soils is yellowish brown in the upper part. Also included are a few large areas of soils, mainly west and south of DeRidder, that are similar to the Messer soil, except that they have slopes of less than 1 percent. Another included soil has a subsoil that is silt loam throughout; in some areas near streams, this soil is subject to occasional flooding for brief periods.

Land Use

Dominant use: Woodland
Other uses: Pasture, cropland, and residential

Cropland

Land capability subclass:
IIIw for the Caddo soil;
IIe for the Messer soil
Suitability: Moderately well suited
Adapted crops: Soybeans and rice
Management concerns: Wetness; low fertility; short, irregular slopes; and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil is friable and easy to keep in good tilth. Shallow ditches can help to remove excess surface water more quickly. Using minimum tillage and returning all crop residue to

Figure 6.—This crop of soybeans is growing on an area of Caddo-Messer silt loams. The wetness and low fertility limitations of these soils have been overcome in this field.

the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Land grading and smoothing can help to improve surface drainage and permit more efficient use of farm equipment. Liming and fertilizing according to soil tests can help to improve fertility (fig. 6).

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Common bermudagrass, bahiagrass, white clover, winter peas, and ryegrass
Management concerns: Wetness and low fertility
Management measures: A drainage system of shallow ditches can help to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10W for the Caddo soil; 10W for the Messer soil
Site index and ordinating species: 98 for the Caddo soil and 95 for the Messer soil for loblolly pine
Adapted trees: Loblolly pine, slash pine, longleaf pine, sweetgum, and water oak
Suitability: Moderately well suited
Management concerns: Severe plant competition and equipment limitations, and moderate seedling mortality for the Caddo soil; moderate equipment limitations and plant competition for the Messer soil
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use

problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Good for the Caddo soil; poor for the Messer soil
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Caddo and Messer soils
Limitations: Wetness, percs slowly for the Caddo and Messer soils
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation ratings: Severe for the Caddo soil; moderate for the Messer soil
Limitations: Wetness for the Caddo and Messer soils
Corrective measures: Surface and subsurface drainage is necessary around the foundations of buildings.

Local roads and streets

Limitation ratings: Severe for the Caddo soil; moderate for the Messer soil
Limitations: Wetness for the Caddo soil; low strength, wetness for the Messer soil
Corrective measures: Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Caddo soil; slight for the Messer soil
Limitations: Wetness for the Caddo soil; no significant limitations for the Messer soil
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Caddo soil; moderate for the Messer soil
Limitations: Wetness for the Caddo soil; wetness, percs slowly for the Messer soil
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled.

Playgrounds

Limitation ratings: Severe for the Caddo soil; moderate for the Messer soil
Limitations: Wetness for the Caddo soil; slope, wetness, percs slowly for the Messer soil
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled.

ChB—Cahaba fine sandy loam, 1 to 3 percent slopes

Setting

Landform: Stream terraces
Position on landform: On ridges
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 20 to 100 acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 7 inches—dark grayish brown fine sandy loam

Subsurface layer:
7 to 15 inches—light yellowish brown loam

Subsoil layer:
15 to 18 inches—light yellowish brown loam with red clay loam pockets
18 to 40 inches—red sandy clay loam
40 to 58 inches—yellowish red sandy clay loam
58 to 77 inches—yellowish red sandy loam

Substratum layer:
77 to 89 inches—strong brown sandy loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Cahaba soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Bearhead, Bienville, Dubach, Merryville, and Spurger soils
• Bearhead, Bienville, and Dubach soils are in positions similar to those of the Cahaba soil. The Bearhead and Dubach soils have brownish subsoils. The Bienville soils are sandy throughout. The Merryville and Spurger soils are in lower positions than the Cahaba soil. The Merryville soils are poorly drained and are gray throughout. The Spurger soils have a clayey and loamy subsoil.

Land Use

Dominant use: Woodland
Other uses: Pasture and cropland

Cropland

Land capability subclass: IIe
Suitability: Moderately well suited
Adapted crops: Corn, soybeans, and truck and garden crops
Management concerns: Hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil is friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, and bahiagrass. Annual cool season grasses such as ryegrass, wheat, and oats are suitable for winter forage.
Management concerns: Low fertility and slight hazard of erosion during establishment of pasture grasses
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9A
Site index and ordinating species: 87 for loblolly pine
Adapted trees: Loblolly pine, slash pine, longleaf pine, sweetgum, southern red oak, and water oak
Suitability: Well suited
Management concerns: Moderate plant competition
Management measures: Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting

and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A standard septic tank and drain field design generally is adequate to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation rating: Moderate
Limitation: Slope
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

CYA—Cypress silty clay loam, frequently flooded

Setting

Landform: Flood plains
Position on landform: In low backswamps, oxbows, stream channels, and submerged areas
Distinctive landform features: Areas are ponded for long periods during most years.
Shape of areas: Elongated
Size of areas: 10 to several hundred acres
Slope: Level to nearly level

Typical Profile

Surface layer:
0 to 2 inches—grayish brown silty clay loam

Substratum layer:
2 to 60 inches—gray silty clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Water table: From 4 feet above the surface to 1 foot below the surface
Flooding: Frequently flooded
Runoff: Slow
Permeability class: Very slow
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Moderate

Composition

Cypress soil and similar soils: 79 to 91 percent (Areas of included soils generally are larger in this unit than in most other map units, but they were considered similar due to flooding and ponding limitations.)
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Iuka, Mantachie, and Urbo soils

- Iuka, Mantachie, and Urbo soils are on higher positions on the flood plain than the Cypress soil. Iuka and Mantachie soils have loamy subsoil layers. Urbo soils are inundated for shorter periods of time than the Cypress soil.

Land Use

Dominant uses: Woodland and wetland wildlife habitat
Other uses: None

Cropland

Land capability subclass: VIIIw
Suitability: Not suited
Adapted crops: None recommended
Management concerns: Ponding and flooding
Management measures: None recommended

Figure 7.—These cypress and water tupelo trees are well suited to growing on wet soils such as this Cypress silty clay loam, frequently flooded.

Pasture and hayland

Suitability: Not suited
Adapted plants: None recommended
Management concerns: Ponding and flooding
Management measures: None recommended

Woodland

Woodland ordination symbol: 3W
Site index and ordinating species: 78 for baldcypress
Adapted trees: Baldcypress and water tupelo
Suitability: Poorly suited
Management concerns: Severe equipment limitations, seedling mortality, and plant competition
Management measures: Nearly continuous ponding and frequent flooding generally make logging operations impractical. The native trees generally grow only on stumps or rotted logs. Regeneration of these trees is slow, and competing wetland vegetation is difficult to control if areas are clearcut (fig. 7).

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for woodland wildlife: Very poor
Management measures: Habitat for wetland wildlife can be improved by providing open areas of water for waterfowl, and by promoting the natural establishment and growth of desirable plants.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Flooding, ponding, percs slowly
Corrective measures: These soils generally are not suited to this use. Flood control structures, drainage, and the addition of large amounts of fill material would be required.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, ponding
Corrective measures: Areas of these soils generally are not suited to this use. Flood control and drainage structures, and the addition of large amounts of fill material would be required.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, ponding, flooding
Corrective measures: Roads generally should be constructed on elevated pilings above the level of flooding and ponding.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Ponding, flooding
Corrective measures: Areas of these soils generally are not suited to this use. Flood control and drainage structures, and the addition of large amounts of fill material would be required.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, ponding, percs slowly
Corrective measures: These soils generally are not suited for this use.

Playgrounds

Limitation rating: Severe
Limitation: Ponding
Corrective measures: These soils are not suited for this use.

DoC—Doucette loamy fine sand, 1 to 5 percent slopes

Setting

Landform: Uplands
Position on landform: On ridgetops and side slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 5 to 100 acres
Slope: Gently sloping to moderately sloping

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown loamy fine sand

Subsurface layer:
4 to 26 inches—brown and yellowish brown loamy fine sand

Subsoil layer:
26 to 67 inches—yellowish brown sandy clay loam in the upper part of the subsoil; yellowish brown sandy clay loam in the middle and lower parts of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Moderate
Available water capacity: Moderate
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Doucette soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Betis, Boykin, Malbis, Osier, and Ruston soils
• Betis, Boykin, Malbis, and Ruston soils are in positions similar to those of the Doucette soil. Betis soils are sandy throughout. Boykin soils have a red subsoil that contains less than 5 percent plinthite. Malbis and Ruston soils are loamy throughout. Osier soils are in lower positions than the Doucette soils, on toe slopes adjacent to drainageways; and they are sandy throughout. Also included is a soil in which the surface and subsurface layers are fine sandy loam.

Land Use

Dominant use: Woodland
Other uses: Pasture and residential

Cropland

Land capability subclass: IIIs
Suitability: Moderately well suited
Adapted crops: Truck crops and watermelons
Management concerns: Low fertility, droughtiness, potentially toxic levels of aluminum in the rooting zone, and poor trafficability
Management measures: This soil has low available water capacity that somewhat limits crop production. Irrigation is necessary for most crops. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Seeding fall grain or winter pasture crops early and installing field windstrips can help to reduce soil blowing. Cultivating while the soil is moist can help to reduce trafficability problems. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Improved bermudagrass, common bermudagrass, bahiagrass, and crimson clover
Management concerns: Droughtiness and low soil fertility
Management measures: Pasture planting or renovation should be done in the early spring months. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during droughty periods can help to prevent damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9S
Site index and ordinating species: 90 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, longleaf pine, white oak, Southern red oak, post oak, sweetgum, hickory, and blackjack oak
Suitability: Moderately well suited
Management concerns: Moderate seedling mortality, plant competition, and equipment limitations
Management measures: The moderate available water capacity generally reduces seedling survival rates in areas where understory plants are numerous. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Planting in early spring, using larger seedlings, and mulching around seedlings can help to reduce seedling mortality caused by droughtiness. The sandy surface layer restricts the use of wheeled equipment when the soil is dry.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A standard septic tank and drain field design generally is adequate to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitation: Too sandy
Corrective measures: Loamy topsoil should be added

to the loose, sandy surface, and a ground cover that is tolerant of heavy foot traffic established to create a firmer surface.

Playgrounds

Limitation rating: Moderate
Limitations: Slope, too sandy
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Loamy topsoil should be added to the loose, sandy surface to create a firmer playing surface.

DoD—Doucette loamy fine sand, 5 to 8 percent slopes

Setting

Landform: Uplands
Position on landform: On convex side slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 10 to 100 acres
Slope: Sloping

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown loamy fine sand
4 to 10 inches—brown loamy fine sand

Subsurface layer:
10 to 30 inches—light yellowish brown loamy fine sand

Subsoil layer:
30 to 80 inches—yellowish brown sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Moderate
Available water capacity: Moderate
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Doucette soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Betis, Boykin, Malbis, Osier, and Ruston soils
• Betis, Boykin, Malbis, and Ruston soils are in positions similar to those of the Doucette soil. Betis soils are sandy throughout. Boykin soils have a red subsoil that contains less than 5 percent plinthite. Malbis and Ruston soils are loamy throughout. Osier soils are on lower, toe slope positions adjacent to drainageways, and are sandy throughout. Also included is a soil in which the surface and subsurface layers are fine sandy loam.

Land Use

Dominant use: Woodland
Other use: Residential

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited
Adapted crops: Truck crops and watermelons
Management concerns: Low fertility, droughtiness, hazard of erosion, potentially toxic levels of aluminum in the rooting zone, and poor trafficability
Management measures: This soil has low available water capacity that somewhat limits crop production. Irrigation is necessary for most crops. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion and soil blowing. Cultivating while the soil is moist can help to reduce trafficability problems. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Improved bermudagrass, common bermudagrass, bahiagrass, and crimson clover
Management concerns: Droughtiness, low fertility, and hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. Pasture

planting or renovation should be done in the early spring months. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during droughty periods can help to prevent damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9S
Site index and ordinating species: 90 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, longleaf pine, white oak, Southern red oak, post oak, sweetgum, hickory, and blackjack oak
Suitability: Well suited
Management concerns: Moderate seedling mortality, plant competition, and equipment limitations
Management measures: The moderate available water capacity generally reduces seedling survival rates in areas where understory plants are numerous. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Planting in early spring, using larger seedlings, and mulching around seedlings can help to reduce seedling mortality caused by droughtiness. The sandy surface layer restricts the use of wheeled equipment when the soil is dry.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A standard septic tank and drain field design generally is adequate to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitation: Too sandy
Corrective measures: Loamy topsoil should be added to the loose, sandy surface, and a ground cover that is tolerant of heavy foot traffic established to create a firmer surface.

Playgrounds

Limitation rating: Severe
Limitation: Slope
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

DuC—Dubach fine sandy loam, 1 to 5 percent slopes

Setting

Landform: Stream terraces
Position on landform: On lower side slopes adjacent to major drainageways and on ridges
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 15 to 100 acres
Slope: Gently sloping to moderately sloping

Typical Profile

Surface layer:
0 to 6 inches—brown fine sandy loam

Subsurface layer:
6 to 10 inches—yellowish brown fine sandy loam

Subsoil layer:
10 to 70 inches—strong brown loam in the upper part of the subsoil; strong brown clay loam in the middle part of the subsoil; and strong brown loam in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: Perched at a depth of 3.5 to 5 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Moderately slow
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Dubach soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Bearhead, Beauregard, Caddo, Guyton, Malbis, and Osier soils
• Bearhead soils are on convex mounds and contain less clay in the subsoil than the Dubach soil. Beauregard and Malbis soils are on higher positions than the Dubach soil and have more than 5 percent plinthite in the subsoils. Caddo and Guyton soils are on broad level areas and are poorly drained and gray throughout. Guyton soils also are on flood plains. Osier soils are in seepy areas on side slopes, are poorly drained, and are sandy throughout.

Land Use

Dominant use: Woodland
Other uses: Pasture, cropland, or urban development

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, grain sorghum, wheat, and truck and garden crops
Management concerns: Low fertility, potentially toxic levels of aluminum in the rooting zone, and hazard of erosion
Management measures: This soil is friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, ryegrass, crimson clover, and ball clover
Management concerns: Low fertility and hazard of erosion during establishment of pasture grasses
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10A
Site index and ordinating species: 94 for loblolly pine
Adapted trees: Loblolly pine, slash pine, shortleaf pine, longleaf pine, white oak, Southern red oak, laurel oak, and sweetgum
Suitability: Well suited
Management concerns: No significant limitations
Management measures: Standard planting and harvesting equipment and techniques generally are adequate. Trees generally perform well on areas of this soil with normal management practices.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey.

Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitation: Wetness
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly treat wastewater.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation rating: Moderate
Limitation: Slope
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

DxB—Dubach-Bearhead fine sandy loams, gently undulating

Setting

Landform: Terraces
Position on landform: The Dubach soil is on intermound areas; the Bearhead soil is on circular mounds that are 1 to 3 feet high and 50 to 150 feet across.
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 30 to several hundred acres
Slope: The Dubach and Bearhead soils are undulating.

Typical Profiles

Dubach soil:

Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsoil layer:
6 to 11 inches—yellowish brown fine sandy loam
11 to 25 inches—yellowish brown clay loam
25 to 34 inches—light yellowish brown clay loam
34 to 72 inches—light yellowish brown clay loam with pockets and streaks of pale brown fine sand and sandy loam

Bearhead soil:

Surface layer:
0 to 4 inches—dark grayish brown fine sandy loam

Subsurface layer:
4 to 28 inches—brown fine sandy loam

Subsoil layer:
28 to 80 inches—brownish yellow loam in the upper part of the subsoil; strong brown loam with streaks and pockets of light gray loamy sand in the middle part of the subsoil; and strong brown loam with pockets and streaks of light gray sandy loam and loamy sand in the lower part of the subsoil

Soil Properties and Qualities

Dubach soil:

Depth class: Very deep
Drainage class: Well drained
Water table: Perched at a depth of 3.5 to 5 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Bearhead soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 4 to 6 feet

Flooding: Does not flood
Runoff: Slow
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Dubach soil and similar soils: 42 to 58 percent
Bearhead soil and similar soils: 27 to 43 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Betis, Bienville, Cahaba, Gutyon, Merryville, and Spurger soils
• Betis soils are on uplands and are sandy throughout. Bienville and Cahaba soils are on slightly higher positions than the Bearhead soil. Bienville soils are sandy throughout. Cahaba soils have a red subsoil. Guyton and Merryville soils are on lower positions than the Dubach soils, are poorly drained, and are gray throughout. Spurger soils are on side slopes along drainageways and have a loamy and clayey subsoil.

Land Use

Dominant use: Woodland
Other uses: Pasture and residential

Cropland

Land capability subclass: IIIe for the Dubach soil; IIe for the Bearhead soil
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, grain sorghum, and wheat
Management concerns: Hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: These soils are friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, crimson clover, and vetch
Management concerns: Low fertility, seasonal wetness, and hazard of erosion during establishment of pasture grasses
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10A for the Dubach soil; 10A for the Bearhead soil
Site index and ordinating species: 94 for the Dubach soil and 93 for the Bearhead soil for loblolly pine
Adapted trees: Loblolly pine, longleaf pine, slash pine, shortleaf pine, sweetgum, white oak, and Southern red oak
Suitability: Well suited
Management concerns: No significant limitations
Management measures: Standard planting and harvesting equipment and techniques generally are adequate. Trees generally perform well on areas of this soil with normal management practices.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Dubach soil; moderate for the Bearhead soil
Limitations: Wetness for the Dubach soil; wetness,

percs slowly for the Bearhead soil
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly treat wastewater.

Dwellings without basements

Limitation ratings: Slight for the Dubach and Bearhead soils
Limitations: No significant limitations for the Dubach and Bearhead soils
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation ratings: Slight for the Dubach and Bearhead soils
Limitations: No significant limitations for the Dubach and Bearhead soils
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation ratings: Slight for the Dubach and Bearhead soils
Limitations: No significant limitations for the Dubach and Bearhead soils
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation ratings: Slight for the Dubach and Bearhead soils
Limitations: No significant limitations for the Dubach and Bearhead soils
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation ratings: Moderate for the Dubach and Bearhead soils
Limitations: Slope for the Dubach and Bearhead soils
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

GnB—Glenmora silt loam, 1 to 3 percent slopes

Setting

Landform: Terraces
Position on landform: On ridgetops and side slopes along small drainageways
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 10 to 800 acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown silt loam

Subsurface layer:
5 to 8 inches—pale brown silt loam

Subsoil layer:
8 to 13 inches—yellowish brown silt loam
13 to 26 inches—yellowish brown silty clay loam
26 to 33 inches—yellowish brown silty clay loam with pockets of gray silt loam
33 to 54 inches—gray silty clay loam
54 to 80 inches—light brownish gray silty clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 2 to 3 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Slow
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Moderate

Composition

Glenmora soil and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Brimstone, Caddo, Guyton, and Messer soils
• Brimstone, Caddo, and Guyton soils are on broad, level areas, are poorly drained, and are gray throughout. Messer soils are on low, circular mounds and have a subsoil that contains less clay than the Glenmora soil.

Land Use

Dominant use: Woodland
Other uses: Pasture, cropland, or residential

Cropland

Land capability subclass: IIe
Suitability: Moderately well suited

Adapted crops: Rice, soybeans, corn, grain sorghum, and wheat
Management concerns: Hazard of erosion, low fertility, poor tilth, and potentially toxic levels of aluminum in the rooting zone
Management measures: Excessive cultivation can result in the formation of a tillage pan. This pan can be broken by subsoiling when the soil is dry. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, improved bermudagrass, common bermudagrass, ryegrass, and white clover
Management concerns: Low fertility, seasonal wetness, and hazard of erosion during establishment of pasture grasses
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10A
Site index and ordinating species: 93 for loblolly pine
Adapted trees: Loblolly pine, slash pine, longleaf pine, sweetgum, water oak, and cherrybark oak
Suitability: Well suited
Management concerns: Moderate plant competition
Management measures: Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Moderate
Limitation: Wetness
Corrective measures: Drainage may be needed around the foundations of buildings.

Local roads and streets

Limitation rating: Severe
Limitation: Low strength
Corrective measures: Special roadbase design and construction techniques generally are necessary to compensate for low strength in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitations: Wetness, percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary.

Playgrounds

Limitation rating: Moderate
Limitations: Slope, wetness, percs slowly
Corrective measures: Playgrounds should be

constructed on the more level parts of the areas. Topsoil should be added to reduce the number of small stones in the surface layer. Surface drains and landscaping are needed to remove excess water quickly.

GrC—Gore very fine sandy loam, 1 to 5 percent slopes

Setting

Landform: Terraces
Position on landform: On side slopes along drainageways
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 40 to 250 acres
Slope: Gently sloping to moderately sloping

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown very fine sandy loam

Subsurface layer:
2 to 3 inches—brown very fine sandy loam

Subsoil layer:
3 to 4 inches—brown silty clay loam
4 to 12 inches—dark red clay
12 to 18 inches—yellowish red clay
18 to 40 inches—light brownish gray clay
40 to 46 inches—yellowish red clay
46 to 58 inches—brown clay

Substratum layer:
58 to 68 inches—brown clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Very slow
Available water capacity: Low to moderate
Natural soil fertility: Low
Shrink-swell potential: High

Composition

Gore soil and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Acadia, Beauregard, Blevins, Kolin, Malbis, and Sugartown soils
• Acadia, Beauregard, Blevins, Kolin, Malbis, and Sugartown soils are at slightly higher elevations than the Gore soil. The Acadia, Kolin, and Sugartown soils have subsoils that are brownish and loamy in the upper part, and brownish or grayish and clayey in the lower part. Beauregard, Blevins, and Malbis soils are loamy throughout. Also included, in a few areas in the northwestern part of the survey area, is a soil that has a strong brown, alkaline subsoil.

Land Use

Dominant use: Woodland
Other use: Pasture

Cropland

Land capability subclass: IVe
Suitability: Poorly suited
Adapted crops: Small grains and grain sorghum
Management concerns: Low fertility, droughtiness, severe hazard of erosion, and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil has low to moderate available water capacity and the rooting depth is restricted by the clayey subsoil when dry. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Bahiagrass, improved bermudagrass, common bermudagrass, crimson clover, and vetch
Management concerns: Low fertility, droughtiness, and hazard of erosion during establishment of pasture grasses
Management measures: Seedbed preparation should be on the contour where practical. Pasture planting or renovation should be done in the early

spring months. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during droughty periods can help to prevent damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 7C
Site index and ordinating species: 76 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, and slash pine
Suitability: Moderately well suited
Management concerns: Moderate equipment limitations, seedling mortality, and plant competition
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. The low to moderate available water capacity and somewhat restricted rooting in the clayey subsoil generally reduces seedling survival rates in areas where understory plants are numerous. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Planting in early spring, using larger seedlings and mulching around seedlings can help to reduce seedling mortality.

Wildlife habitat

Suitability for wetland wildlife: Poor
Suitability for woodland wildlife: Fair
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitation: Percs slowly
Corrective measures: An oversize drain field design or an onsite sewage treatment plant or sewage lagoon generally is necessary to prevent the system from malfunctioning during rainy periods.

Dwellings without basements

Limitation rating: Severe
Limitation: Shrink-swell
Corrective measures: Backfilling with suitable soil materials and using a reinforced foundation design are necessary measures to reduce the hazard of foundation cracking due to shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, shrink-swell
Corrective measures: Backfilling with suitable soil materials and using special roadbase design and construction techniques generally are necessary to prevent damage to roads and streets due to low strength and shrink-swell in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitation: Droughtiness
Corrective measures: Lawn and landscaping plants that are drought-tolerant should be used. A sprinkler system can be installed to help reduce stress to lawn grasses during droughty periods.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitation: Percs slowly
Corrective measures: Surface drains and landscaping are needed to remove rainwater quickly.

Playgrounds

Limitation rating: Severe
Limitation: Percs slowly

Corrective measures: Surface drains and landscaping are needed to remove rainwater quickly.

GRE—Gore very fine sandy loam, 5 to 12 percent slopes

Setting

Landform: Terraces
Position on landform: On side slopes along drainageways
Distinctive landform features: Slopes are short and complex.
Shape of areas: Irregular
Size of areas: 10 to 110 acres
Slope: Sloping to strongly sloping

Typical Profile

Surface layer:
0 to 3 inches—brown very fine sandy loam

Subsurface layer:
3 to 5 inches—pale brown very fine sandy loam

Subsoil layer:
5 to 50 inches—red clay in the upper part of the subsoil; dark red clay in the middle part of the subsoil; and dark yellowish brown clay in the lower part of the subsoil

Substratum layer:
50 to 60 inches—red clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Rapid
Permeability class: Very slow
Available water capacity: Low to moderate
Natural soil fertility: Low
Shrink-swell potential: High

Composition

Gore soil and similar soils: 85 to 95 percent (areas of included soils generally are larger in this unit than in most other map units, but they were considered similar because of slope limitations.)
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Guyton, Kolin, and Sugartown soils

- Guyton soils are along drainageways or narrow flood plains, are poorly drained, and are loamy throughout. Kolin and Sugartown soils are at slightly higher elevations than the Gore soils and have subsoils that are brownish and loamy in the upper part, and brownish or grayish and clayey in the lower part. Also included is a soil that has slopes of less than 5 percent or slopes of more than 12 percent.

Land Use

Dominant use: Woodland
Other use: Pasture

Cropland

Land capability subclass: VIe
Suitability: Very poorly suited
Adapted crops: Small grains and grain sorghum
Management concerns: Severe hazard of erosion, low fertility, droughtiness, and potentially toxic levels of aluminum in the rooting zone
Management measures: Cropping systems should be limited to close-growing cover crops on the more level parts of these areas. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. This soil has low to moderate available water capacity and the rooting depth is restricted by the clayey subsoil when dry. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Poorly suited
Adapted plants: Bahiagrass, common bermudagrass, ball clover, and crimson clover
Management concerns: Low fertility, droughtiness, and severe hazard of erosion
Management measures: Seedbed preparation should be on the contour where practical. Pasture planting or renovation should be done in the early spring months. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during droughty periods can help to prevent damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed

control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 7C
Site index and ordinating species: 76 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, and slash pine
Suitability: Moderately well suited
Management concerns: Moderate equipment limitations, seedling mortality, and plant competition
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. The low to moderate available water capacity and somewhat restricted rooting in the clayey subsoil generally reduce seedling survival rates in areas where understory plants are numerous. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Planting in early spring, using larger seedlings, and mulching around seedlings can help to reduce seedling mortality.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Fair
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitation: Percs slowly
Corrective measures: An oversize drain field design or an onsite sewage treatment plant or sewage lagoon generally is necessary to prevent the system from malfunctioning during rainy periods.

Dwellings without basements

Limitation rating: Severe
Limitation: Shrink-swell
Corrective measures: Backfilling with suitable soil materials and using a reinforced foundation design are necessary measures to reduce the hazard of foundation cracking due to shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, shrink-swell
Corrective measures: Backfilling with suitable soil materials and using special roadbase design and construction techniques generally are necessary measures to prevent damage to roads and streets due to low strength and shrink-swell in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitations: Slope, droughtiness
Corrective measures: Lawn and landscaping plants that are drought-tolerant should be used. A sprinkler system can be installed to help reduce stress to lawn grasses during droughty periods. Mulching to quickly establish a lawn, and fertilizing to maintain a thick turf can help to prevent topsoil loss due to erosion.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitation: Percs slowly
Corrective measures: Surface drains and landscaping are needed to remove rainwater quickly.

Playgrounds

Limitation rating: Severe
Limitations: Slope, percs slowly
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Surface drains and landscaping are needed to remove rainwater quickly.

GRF—Gore very fine sandy loam, 12 to 20 percent slopes

Setting

Landform: Terraces
Position on landform: On escarpments

Distinctive landform features: Slopes are short and complex. Well-defined drainageways cross the soil areas in most places.
Shape of areas: Irregular
Size of areas: 15 to several hundred acres
Slope: Moderately steep

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown very fine sandy loam

Subsoil layer:
6 to 43 inches—yellowish red clay in the upper part of the subsoil; strong brown clay in the lower part of the subsoil

Substratum layer:
43 to 96 inches—yellowish red and red silty clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Very rapid
Permeability class: Very slow
Available water capacity: Low to moderate
Natural soil fertility: Low
Shrink-swell potential: High

Composition

Gore soil and similar soils: 79 to 91 percent (Areas of included soils generally are larger in this unit than in most other map units, but they were considered similar due to slope limitations.)
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Guyton, Kolin, Mantachie, Sugartown, and Urbo soils
• Guyton, Mantachie, and Urbo soils are on flood plains. The Guyton and Mantachie soils are loamy throughout. Urbo soils are poorly drained and grayish throughout. Kolin and Sugartown soils are at slightly higher elevations than the Gore soil and have subsoils that are brownish and loamy in the upper part, and brownish or grayish and clayey in the lower part. Also included is a soil that has slopes of less than 12 percent.

Land Use

Dominant use: Woodland
Other use: Pasture

Cropland

Land capability subclass: VIe
Suitability: Not suited
Adapted crops: None recommended
Management concerns: Slope, severe hazard of erosion, droughtiness, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: None recommended

Pasture and hayland

Suitability: Poorly suited
Adapted plants: Common bermudagrass, bahiagrass, ryegrass, crimson clover, and ball clover
Management concerns: Low fertility, droughtiness, slope, and severe hazard of erosion
Management measures: Seedbed preparation should be on the contour where practical. The use of some equipment may be restricted by the slope. Pasture planting or renovation should be done in the early spring months. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during droughty periods can help to prevent damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 8C
Site index and ordinating species: 78 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, slash pine, Southern red oak, white oak, sweetgum, post oak, and hickory
Suitability: Moderately well suited
Management concerns: Moderate hazard of erosion, equipment limitations, seedling mortality, and plant competition
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. Steep slopes and gullies limit the use of equipment in some areas. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. Roads and trails should be constructed on the contour. Roads and landings should be protected from erosion

by constructing waterbars and by seeding cuts and fills. The low to moderate available water capacity and somewhat restricted rooting in the clayey subsoil generally reduce seedling survival rates in areas where understory plants are numerous. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Planting in early spring, using larger seedlings, and mulching around seedlings can help to reduce seedling mortality.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Fair
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Percs slowly, slope
Corrective measures: An oversize drain field installed on the contour or an onsite sewage treatment plant generally is necessary to prevent the system from malfunctioning during rainy periods.

Dwellings without basements

Limitation rating: Severe
Limitations: Shrink-swell, slope
Corrective measures: Backfilling with suitable soil materials and using a reinforced foundation design are necessary measures to reduce the hazard of foundation cracking due to shrink-swell. Preserving the existing plant cover during construction and proper landscaping can help to reduce soil erosion and runoff problems.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, slope, shrink-swell
Corrective measures: Backfilling with suitable soil materials and special roadbase design generally are necessary measures to prevent damage to roads and streets due to low strength and shrink-swell in the subsoil. Cutting and filling may be needed to compensate for slopes.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitation: Slope
Corrective measures: Sodding or hydroseeding to quickly establish a lawn, and fertilizing to maintain a healthy turf are necessary to prevent loss of the topsoil due to erosion.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Slope, percs slowly
Corrective measures: Campsites and picnic areas should be constructed on the more level parts of the areas. A ground cover that is tolerant of heavy foot traffic should be established and maintained to prevent erosion. Surface drains and landscaping are needed to remove excess rainwater quickly.

Playgrounds

Limitation rating: Severe
Limitations: Slope, percs slowly
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Surface drains and landscaping are needed to remove rainwater quickly.

GtA—Guyton silt loam, occasionally flooded

Setting

Landform: Low stream terraces
Position on landform: In narrow depressional areas and drainageways
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 40 to 1,000 acres
Slope: Level to nearly level

Typical Profile

Surface layer:
0 to 5 inches—grayish brown silt loam

Subsurface layer:
5 to 24 inches—grayish brown silt loam
24 to 30 inches—light brownish gray silt loam

Subsoil layer:
30 to 42 inches—grayish brown silty clay loam with tongues of light brownish gray silt loam
42 to 54 inches—grayish brown silty clay loam
54 to 74 inches—light brownish gray silty clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Water table: Perched at the surface to a depth of 1.5 feet
Flooding: Occasionally flooded
Runoff: Slow
Permeability class: Slow
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Guyton soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Acadia, Beauregard, Brimstone, Caddo, Glenmora, Kolin, and Messer soils
• Acadia, Beauregard, Glenmora, Kolin, and Messer soils are on higher positions or more sloping areas than the Guyton soil. Acadia and Kolin soils have loamy and clayey subsoils. Beauregard, Glenmora, and Messer soils are better drained than the Guyton soil and have reddish or brownish, loamy subsoils. Caddo soils have red iron accumulations in the subsoil. Brimstone soils are on slightly higher positions than the Guyton soil and have a high content of sodium in the subsoil.

Land Use

Dominant use: Woodland
Other use: Pasture

Cropland

Land capability subclass: IVw
Suitability: Poorly suited
Adapted crops: Late season rice and soybeans
Management concerns: Wetness, low fertility, flooding, and potentially toxic levels of aluminum in the rooting zone
Management measures: Cultivation while the soil is wet will result in equipment use problems and the formation of a tillage pan in the soil. Late seeded crops generally must be grown. A drainage system of shallow ditches is needed to remove excess surface water more quickly. Flooding may damage crops in some years unless flood control structures are installed. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, bahiagrass, and ryegrass
Management concerns: Wetness, low fertility, and flooding
Management measures: The use of equipment is limited by wetness, and pasture planting or renovation must be done during the late summer months. In some years grazing is limited by flooding. A drainage system of shallow ditches is needed to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 8W
Site index and ordinating species: 85 for loblolly pine
Adapted trees: Loblolly pine, slash pine, sweetgum, cherrybark oak, green ash, and water oak
Suitability: Moderately well suited
Management concerns: Severe plant competition and equipment limitations; moderate seedling mortality
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes deep soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. Careful site

preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for woodland wildlife: Fair
Management measures: Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and for furbearers such as muskrat, nutria, and otter. Wetland wildlife habitat can be further improved by establishing desirable plants in and around these open water areas. Habitat for rabbits, squirrels, woodcock, turkey, and deer can be improved by selective cutting so as to leave large den and mast-producing trees, and by planting or encouraging the growth of suitable understory plants. Habitat can be further improved by providing small, scattered openings about 1 to 2 acres in size throughout the area, and by establishing suitable wildlife plants such as honeysuckle and Shumard oak. Wildlife areas should be protected from fire and livestock grazing.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Flooding, wetness, percs slowly
Corrective measures: These soils generally are not suited to this use unless they are drained and protected from flooding. An onsite sewage treatment plant or a sewage lagoon is necessary.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, wetness
Corrective measures: Flood control structures are necessary; if such structures are not used, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, wetness, flooding
Corrective measures: Filling with suitable soil materials to build an elevated roadbase above the level of flooding, and installing culverts of adequate size and spacing are necessary measures to prevent roads from being inundated and damaged during flood episodes.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitation: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, wetness
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled. Campsites cannot be used during periods of flooding.

Playgrounds

Limitation rating: Severe
Limitation: Wetness
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled.

GwA—Guyton-Messer silt loams

Setting

Landform: Terraces
Position on landform: The Guyton soil is on intermound areas; the Messer soil is on mounds or smoothed mound areas.
Distinctive landform features: The landscape consists of broad, level areas that contain many small convex mounds. The mounds are circular and range from 50 to 150 feet across and from 1 to 4 feet in height. The mounds have been smoothed in areas.
Shape of areas: Irregular
Size of areas: 40 to 1,500 acres
Slope: The Guyton soils are level to nearly level; the Messer soils are gently sloping.

Typical Profiles

Guyton soil:

Surface layer:
0 to 6 inches—dark grayish brown silt loam

Subsurface layer:
6 to 36 inches—grayish brown silt loam in the upper part of the subsoil and light brownish gray silt loam in the lower part of the subsoil

Subsoil layer:
36 to 62 inches—grayish brown silty clay loam with tongues of light brownish gray silt loam in the upper part of the subsoil; grayish brown silty clay loam in the middle part of the subsoil; and light brownish gray silty clay loam in the lower part of the subsoil

Messer soil:

Surface layer:
0 to 7 inches—dark grayish brown silt loam

Subsurface layer:
7 to 11 inches—yellowish brown silt loam

Subsoil layer:
11 to 62 inches—brownish yellow silt loam in the upper part of the subsoil; brown and pale brown silt loam in the middle part of the subsoil; and brown silty clay loam in the lower part of the subsoil

Soil Properties and Qualities

Guyton soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Perched at the surface to a depth of 1.5 feet
Flooding: Rarely flooded
Runoff: Slow
Permeability class: Slow
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: Low

Messer soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 2 to 4 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Slow
Available water capacity: High or very high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Guyton soil and similar soils: 47 to 63 percent
Messer soil and similar soils: 27 to 43 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Brimstone and Caddo soils
• These soils are on slightly higher positions than the Guyton soil. The Brimstone soils contain a high concentration of sodium in the subsoil. The Caddo soils have red iron accumulations in the subsoil. In low areas, these soils are subject to occasional or frequent flooding.

Land Use

Dominant use: Woodland
Other uses: Pasture or cropland

Cropland

Land capability subclass: IIIw for the Guyton soil; IIe for the Messer soil.
Suitability: Moderately well suited
Adapted crops: Rice and soybeans
Management concerns: Hazard of erosion and short, complex slopes in areas of the Messer soil; wetness, low fertility, and potentially toxic levels of aluminum in the rooting zone in the Guyton and Messer soils
Management measures: Cultivation when wet can result in the formation of a tillage pan. A drainage system of shallow ditches is needed to remove excess surface water more quickly. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Irregular slopes may hinder tillage operations. Land grading and smoothing can help to improve surface drainage and permit more efficient use of farm equipment. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Moderately well suited

Adapted plants: Common bermudagrass, bahiagrass, white clover, winter peas, and ryegrass
Management concerns: Wetness and low fertility
Management measures: The use of equipment is limited by wetness, and pasture planting or renovation must be done during the late summer months. A drainage system of shallow ditches is needed to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 8W for the Guyton soil; 10W for the Messer soil.
Site index and ordinating species: 85 for the Guyton soil and 95 for the Messer soil for loblolly pine
Adapted trees: Loblolly pine, slash pine, sweetgum, green ash, cherrybark oak, and water oak
Suitability: Moderately well suited
Management concerns: Severe equipment limitations and plant competition, and moderate seedling mortality for the Guyton soil; moderate equipment limitations and plant competition for the Messer soil
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes deep soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. On areas of Guyton soils, bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Good for the Guyton soil; poor for the Messer soil.
Suitability for woodland wildlife: Fair for the Guyton soil; good for the Messer soil.
Management measures: Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and for furbearers such as muskrat, nutria, and otter. Wetland wildlife habitat can be further improved by establishing desirable plants in and around these open water areas. Habitat for rabbits, squirrels, woodcock, turkey, and deer can be improved by selective cutting so as to leave large den and mast-producing trees, and by planting or encouraging the growth of suitable understory plants. Habitat can be further improved by providing small, scattered openings about 1 to 2 acres in size throughout the unit, and by establishing suitable wildlife plants such as honeysuckle and Shumard oak. Wildlife areas should be protected from fire and livestock grazing.

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Guyton and Messer soils
Limitations: Wetness, percs slowly for the Guyton and Messer soils
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation ratings: Severe for the Guyton soil; moderate for the Messer soil
Limitations: Flooding, wetness for the Guyton soil; wetness for the Messer soil
Corrective measures: Flood control structures are necessary; if such structures are not used, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation ratings: Severe for the Guyton soil; moderate for the Messer soil
Limitations: Low strength, wetness for the Guyton and Messer soils
Corrective measures: Special roadbase design and construction techniques generally are necessary to compensate for low strength in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Guyton soil; slight for

the Messer soil
Limitations: Wetness for the Guyton soil; no significant limitations for the Messer soil
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Guyton soil; moderate for the Messer soil
Limitations: Flooding, wetness for the Guyton soil; wetness, percs slowly for the Messer soil
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled. Campsites cannot be used during periods of flooding.

Playgrounds

Limitation ratings: Severe for the Guyton soil; moderate for the Messer soil
Limitations: Wetness for the Guyton soil; slope, wetness, percs slowly for the Messer soil
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled.

GXA—Guyton-Iuka complex, frequently flooded

Setting

Landform: Flood plains
Position on landform: The Guyton soil is on low flats; the Iuka soil is on convex natural levees, mainly adjacent to stream channels.
Distinctive landform features: None
Shape of areas: Elongated
Size of areas: 10 to 500 acres
Slope: The Guyton and Iuka soils are level to nearly level.

Typical Profiles

Guyton soil:

Surface layer:
0 to 4 inches—grayish brown silt loam

Subsurface layer:
4 to 27 inches—light brownish gray silt loam

Subsoil layer:
27 to 60 inches—grayish brown silty clay loam with tongues of light brownish gray silt loam in the upper part of the subsoil; light brownish gray silty clay loam in the lower part of the subsoil

Iuka soil:

Surface layer:
0 to 8 inches—dark yellowish brown fine sandy loam
8 to 16 inches—yellowish brown fine sandy loam

Substratum layer:
16 to 60 inches—yellowish brown fine sandy loam in the upper part of the subsoil and pale brown sandy loam in the lower part of the subsoil

Soil Properties and Qualities

Guyton soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Perched at the surface to a depth of 1.5 feet
Flooding: Frequently flooded
Runoff: Slow
Permeability class: Moderate
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: Low

Iuka soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 1 to 3 feet
Flooding: Frequently flooded
Runoff: Slow
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Guyton soil and similar soils: 52 to 68 percent
Iuka soil and similar soils: 18 to 32 percent (Areas of included soils generally are larger in this unit than in most other map units, but they were considered similar due to flooding and wetness limitations.)
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Cypress, Hainesville, Mantachie, Ouachita, and Urbo soils

• Cypress and Urbo soils are on lower positions than the Guyton soil and have clayey subsoils or substrata. Hainesville soils are on isolated ridges and hummocks on higher positions than the Iuka soil, and they are sandy throughout. Mantachie soils are on slightly lower positions than the Iuka soil and have more clay in the upper layer of the subsoil. Ouachita soils are on slightly higher positions than the Iuka soil and contain less sand throughout. Also included is a soil in which the surface layer is very fine sandy loam.

Land Use

Dominant use: Woodland
Other use: Wildlife habitat

Cropland

Land capability subclass: Vw for the Guyton soil; Vw for the Iuka soil.
Suitability: Not suited
Adapted crops: None recommended
Management concerns: Flooding and wetness
Management measures: None recommended

Pasture and hayland

Suitability: Poorly suited
Adapted plants: Common bermudagrass, bahiagrass, white clover, and vetch
Management concerns: Flooding, wetness, and low fertility
Management measures: The use of equipment is limited by wetness, and pasture planting or renovation must be done during the late summer months. In some years grazing is limited by flooding. A drainage system of shallow ditches is needed to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 6W for the Guyton soil; 9W for the Iuka soil.
Site index and ordinating species: 95 for the Guyton soil and 100 for the Iuka soil for loblolly pine
Adapted trees: Loblolly pine, sugarberry, black willow, sweetgum, Nuttall oak, green ash, and eastern cottonwood
Suitability: Moderately well suited
Management concerns: Severe equipment limitations, seedling mortality, and plant competition for the Guyton soil; severe plant competition, and moderate equipment limitations and seedling mortality for the Iuka soil
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes deep soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. On areas of Guyton soils, bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Good for the Guyton soil; poor for the Iuka soil.
Suitability for woodland wildlife: Fair for the Guyton soil; good for the Iuka soil.
Management measures: Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and for furbearers such as muskrat, nutria, and otter. Wetland wildlife habitat can be further improved by establishing desirable plants in and around these open water areas. Habitat for rabbits, squirrels, woodcock, turkey, and deer can be improved by selective cutting so as to leave large den and mast-producing trees, and by planting or encouraging the growth of suitable understory plants. Habitat can be further improved by providing small, scattered openings about 1 to 2 acres in size throughout the unit, and by establishing suitable wildlife plants such as honeysuckle and Shumard oak. Wildlife areas should be protected from fire and livestock grazing.

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Guyton and Iuka soils

Limitations: Flooding, wetness, percs slowly for the Guyton soil; flooding, wetness for the Iuka soil
Corrective measures: These soils generally are not suited to this use unless they are drained and protected from flooding. An onsite sewage treatment plant or a sewage lagoon is necessary.

Dwellings without basements

Limitation ratings: Severe for the Guyton and Iuka soils
Limitations: Flooding, wetness for the Guyton and Iuka soils
Corrective measures: Flood control structures are necessary; if such structures are not used, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation ratings: Severe for the Guyton and Iuka soils
Limitations: Low strength, wetness, flooding for the Guyton soil; flooding for the Iuka soil
Corrective measures: Filling with suitable soil materials to build an elevated roadbase above the level of flooding, and installing culverts of adequate size and spacing are necessary to prevent roads from being inundated and damaged during flood episodes.

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Guyton and Iuka soils
Limitations: Wetness, flooding for the Guyton soil; flooding for the Iuka soil
Corrective measures: Lawn and landscaping plants that are tolerant of wetness and flooding should be used. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Guyton and Iuka soils
Limitations: Flooding, wetness for the Guyton and Iuka soils
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled. Campsites cannot be used during periods of flooding (fig. 8).

Playgrounds

Limitation ratings: Severe for the Guyton and Iuka soils
Limitations: Wetness, flooding for the Guyton and Iuka soils
Corrective measures: These soils generally are not suited for this use unless the areas are drained, filled, and protected from flooding.

GYA—Guyton-Ouachita silt loams, frequently flooded

Setting

Landform: Flood plains
Position on landform: The Guyton soil is on low flats; the Ouachita soil is on low ridges.
Distinctive landform features: None
Shape of areas: Elongated
Size of areas: Up to several thousand acres
Slope: The Guyton and Ouachita soils are level to nearly level.

Typical Profiles

Guyton soil:

Surface layer:
0 to 4 inches—dark grayish brown silt loam

Subsurface layer:
4 to 18 inches—grayish brown silt loam

Subsoil layer:
18 to 92 inches—grayish brown loam in the upper part of the subsoil; olive silty clay loam in the lower part of the subsoil

Ouachita soil:

Surface layer:
0 to 14 inches—dark brown silt loam

Subsoil layer:
14 to 20 inches—dark brown silt loam
20 to 30 inches—dark brown silty clay loam
30 to 38 inches—brown silty clay loam
38 to 60 inches—dark grayish brown silty clay loam
60 to 72 inches—brown silty clay loam

Soil Properties and Qualities

Guyton soil:

Depth class: Very deep
Drainage class: Poorly drained

Figure 8.—Campsites such as this one are common along major streams, but use is restricted because of the flooding hazard. The soil is Iuka, in an area of the Guyton-Iuka complex, frequently flooded.

Water table: Perched at the surface to a depth of 1.5 feet
Flooding: Frequently flooded
Runoff: Slow
Permeability class: Moderately slow
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: Low

Ouachita soil:

Depth class: Very deep
Drainage class: Well drained
Water table: Apparent at a depth of 6 feet
Flooding: Frequently flooded
Runoff: Slow
Permeability class: Moderately slow
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Guyton soil and similar soils: 52 to 68 percent
Ouachita soil and similar soils: 18 to 32 percent (Areas of included soils generally are larger in this unit than in most other map units, but they were considered similar due to flooding and wetness limitations.)
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Bearhead, Iuka, Mantachie, and Merryville soils

• Bearhead soils contain more sand throughout than the Guyton or Ouachita soils. The Merryville soils are similar to the Guyton soil, but they contain less clay in the subsoil. The Iuka and Mantachie soils are on slightly lower positions than the Ouachita soil and contain more sand throughout.

Land Use

Dominant use: Woodland
Other use: Pasture

Cropland

Land capability subclass: Vw for the Guyton soil; Vw for the Ouachita soil
Suitability: Not suited
Adapted crops: None recommended
Management concerns: Flooding and wetness
Management measures: None recommended

Pasture and hayland

Suitability: Poorly suited
Adapted plants: Common bermudagrass, bahiagrass, singletary pea, white clover, tall fescue, and vetch
Management concerns: Flooding, wetness, and low fertility
Management measures: The use of equipment is limited by wetness, and pasture planting or renovation must be done during the late summer months. In some years grazing is limited by flooding. A drainage system of shallow ditches is needed to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 6W for the Guyton soil; 11W for the Ouachita soil
Site index and ordinating species: 95 for the Guyton soil and 100 for the Ouachita soil for loblolly pine
Adapted trees: Loblolly pine, green ash, Nuttall oak, eastern cottonwood, black willow, sugarberry, and sweetgum on the Guyton soil; loblolly pine, sweetgum, eastern cottonwood, and cherrybark oak on the Ouachita soil
Suitability: Moderately well suited
Management concerns: Severe equipment limitations, seedling mortality, and plant competition for the Guyton soil; severe plant competition and moderate seedling mortality for the Ouachita soil
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes deep soil rutting and compaction on areas of the Guyton soil. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. On areas of Guyton soils, bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Good for the Guyton soil; fair for the Ouachita soil.
Suitability for woodland wildlife: Fair for the Guyton soil; good for the Ouachita soil.
Management measures: Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and for furbearers such as muskrat, nutria, and otter. Wetland wildlife habitat can be further improved by establishing desirable plants in and around these open water areas. Habitat for rabbits, squirrels, woodcock, turkey, and deer can be improved by selective cutting so as to leave large den and mast-producing trees, and by planting or encouraging the growth of suitable understory plants. Habitat can be further improved by providing small, scattered openings about 1 to 2 acres in size throughout the unit, and by establishing suitable wildlife plants such as honeysuckle and Shumard oak. Wildlife areas should be protected from fire and livestock grazing.

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Guyton and Ouachita soils
Limitations: Flooding, wetness, percs slowly for the Guyton soil; flooding, percs slowly for the Ouachita soil
Corrective measures: These soils generally are not suited to this use unless they are drained and

protected from flooding. An onsite sewage treatment plant or a sewage lagoon is necessary.

Dwellings without basements

Limitation ratings: Severe for the Guyton and Ouachita soils
Limitations: Flooding, wetness for the Guyton soil; flooding for the Ouachita soil
Corrective measures: Flood control structures are necessary; if such structures are not used, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation ratings: Severe for the Guyton and Ouachita soils
Limitations: Low strength, flooding, wetness for the Guyton soil; flooding for the Ouachita soil
Corrective measures: Filling with suitable soil materials to build an elevated roadbase above the level of flooding, and installing culverts of adequate size and spacing are necessary to prevent roads from being inundated and damaged during flood episodes.

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Guyton and Ouachita soils
Limitations: Wetness, flooding for the Guyton soil; flooding for the Ouachita soil
Corrective measures: Lawn and landscaping plants that are tolerant of wetness and flooding should be used. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Guyton and Ouachita soils
Limitations: Flooding, wetness for the Guyton soil; flooding for the Ouachita soil
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled. Campsites cannot be used during periods of flooding.

Playgrounds

Limitation ratings: Severe for the Guyton and Ouachita soils
Limitations: Wetness, flooding for the Guyton soil; flooding for the Ouachita soil
Corrective measures: These soils generally are not suited for this use unless the areas are drained, filled, and protected from flooding.

HaB—Hainesville loamy fine sand, 0 to 2 percent slopes

Setting

Landform: Low stream terrace remnants
Position on landform: On isolated ridges or hummocks
Distinctive landform features: Areas are terrace remnants surrounded by flood plains.
Shape of areas: Irregular
Siza of areas: 15 to 500 acres
Slope: Nearly level to very gently sloping

Typical Profile

Surface layer:
0 to 6 inches—brown loamy fine sand

Subsoil layer:
6 to 24 inches—brownish yellow loamy fine sand
24 to 72 inches—yellowish brown loamy fine sand with light yellowish brown spots and streaks of uncoated sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat excessively drained
Water table: None within a depth of 6 feet
Flooding: Rarely flooded
Runoff: Slow
Permeability class: Rapid
Available water capacity: Very low to low
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Hainesville soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Bienville, Cypress, Iuka, Mantachie, and Urbo soils
• Bienville soils are at higher elevations on stream terraces and have more clay in the subsoil than the Hainesville soil. Cypress, Iuka, Mantachie, and Urbo soils are on lower positions than the Hainesville soil.

Cypress and Urbo soils have clayey subsoils. Iuka and Mantachie soils are loamy throughout.

Land Use

Dominant use: Woodland
Other uses: Campsites and excavated sand pits

Cropland

Land capability subclass: IIIs
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, and locally adapted truck and garden crops
Management concerns: Droughtiness and low fertility
Management measures: This soil has very low or low available water capacity that somewhat limits crop production. Irrigation is necessary for some crops. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Liming and fertilizing according to soil tests can help to improve fertility. Accessibility to areas of this soil can be a problem when surrounding soils on the flood plain are inundated by flood waters.

Pasture and hayland

Suitability: moderately well suited
Adapted plants: Common bermudagrass, improved bermudagrass, weeping lovegrass, crimson clover, bahiagrass, and ryegrass
Management concerns: Droughtiness and low fertility
Management measures: Pasture planting or renovation should be done in the early spring months. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during droughty periods can help to prevent damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10S
Site index and ordinating species: 96 for loblolly pine
Adapted trees: Loblolly pine, slash pine, shortleaf pine, and longleaf pine
Suitability: Moderately well suited
Management concerns: Moderate equipment limitations and seedling mortality
Management measures: The sandy surface layer restricts use of wheeled equipment, especially when the soil is dry. The low or very low available water capacity generally reduces seedling survival rates in areas where understory plants are numerous. In some areas seedlings are damaged by the Texas leaf-cutting ant, which is especially well-adapted to this soil. Organic matter is conserved on this soil by restricting burning and leaving slash well distributed. Planting in early spring, using larger seedlings, and mulching around seedlings can help to reduce seedling mortality caused by droughtiness.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Fair
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitation: Poor filter
Corrective measures: An oversize drain field design can help to prevent groundwater pollution from seepage.

Dwellings without basements

Limitation rating: Severe
Limitation: Flooding
Corrective measures: Flood control structures are necessary; if such structures are not used, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitation: Droughtiness
Corrective measures: Lawn and landscaping plants that are drought-tolerant should be used. A

sprinkler system can be installed to help reduce stress to lawn grasses during droughty periods.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitation: Flooding
Corrective measures: Campsites cannot be used during episodes of flooding, and campground facilities and structures should be constructed to withstand brief periods of inundation.

Playgrounds

Limitation rating: Moderate
Limitation: Too sandy
Corrective measures: Loamy topsoil should be added to the loose, sandy surface to create a firmer playing surface.

IUA—Iuka-Mantachie complex, frequently flooded

Setting

Landform: Flood plains
Position on landform: The Iuka soil is on convex natural levees adjacent to stream channels; the Mantachie soil is on low, nearly level areas.
Distinctive landform features: Areas are adjacent to the Sabine River.
Shape of areas: Elongated
Size of areas: 100 to 1,000 acres
Slope: The Iuka and Mantachie soils are level to nearly level.

Typical Profiles

Iuka soil:

Surface layer:
0 to 5 inches—brown fine sandy loam

Substratum layer:
5 to 19 inches—light yellowish brown fine sandy loam
19 to 34 inches—light brownish gray loam
34 to 42 inches—gray silt loam
42 to 55 inches—gray loam
55 to 63 inches—gray sandy loam
63 to 74 inches—light brownish gray sandy loam

Mantachie soil:

Surface layer:
0 to 4 inches—dark grayish brown clay loam
4 to 14 inches—brown clay loam

Subsoil layer:
14 to 60 inches—grayish brown sandy clay loam in the upper part of the subsoil, and light brownish gray loam in the lower part of the subsoil

Soil Properties and Qualities

Iuka soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 1 foot to 3 feet
Flooding: Frequently flooded
Runoff: Slow
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Mantachie soil:

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Apparent at a depth of 1 foot to 1.5 feet
Flooding: Frequently flooded
Runoff: Slow
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Iuka soil and similar soils: 42 to 58 percent
Mantachie soil and similar soils: 27 to 43 percent (Areas of included soils generally are larger in this unit than in most other map units, but they were considered similar due to flooding and wetness limitations.)
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Cypress, Hainesville, and Urbo soils
• Cypress and Urbo soils are on lower positions than the Iuka and Mantachie soils and have clayey subsoils. The Hainesville soils are on higher positions on ridges or hummocks and are sandy throughout.

Land Use

Dominant use: Woodland
Other use: Wildlife habitat

Cropland

Land capability subclass: Vw for the Iuka soil; Vw for the Mantachie soil
Suitability: Not suited
Adapted crops: None recommended
Management concerns: Flooding and wetness
Management measures: None recommended

Pasture and hayland

Suitability: Poorly suited
Adapted plants: Common bermudagrass, bahiagrass, white clover, and vetch
Management concerns: Flooding, wetness, and low fertility
Management measures: The use of equipment is limited by wetness, and pasture planting or renovation must be done during the late summer months. In some years grazing is limited by flooding. A drainage system of shallow ditches is needed to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9W for the Iuka soil; 10W for the Mantachie soil
Site index and ordinating species: 100 for the Iuka soil and 98 for the Mantachie soil for loblolly pine
Adapted trees: Water oak, sweetgum, green ash, Eastern cottonwood, yellow poplar, willow oak, loblolly pine, and swamp chestnut oak
Suitability: Well suited
Management concerns: Severe plant competition and moderate equipment limitations and seedling mortality for the Iuka soil; severe equipment limitations, seedling mortality, and plant competition for the Mantachie soil
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Poor for the Iuka soil; fair for the Mantachie soil.
Suitability for woodland wildlife: Good
Management measures: Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and for furbearers such as muskrat, nutria, and otter. Wetland wildlife habitat can be further improved by establishing desirable plants in and around these open water areas. Habitat for rabbits, squirrels, woodcock, turkey, and deer can be improved by selective cutting so as to leave large den and mast-producing trees, and by planting or encouraging the growth of suitable understory plants. Habitat can be further improved by providing small, scattered openings about 1 to 2 acres in size throughout the unit, and by establishing suitable wildlife plants such as honeysuckle and Shumard oak. Wildlife areas should be protected from fire and livestock grazing.

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Iuka and Mantachie soils
Limitations: Flooding, wetness for the Iuka and Mantachie soils
Corrective measures: These soils generally are not suited to this use unless they are drained and protected from flooding. An onsite sewage treatment plant or a sewage lagoon is necessary.

Dwellings without basements

Limitation ratings: Severe for the Iuka and Mantachie soils
Limitations: Flooding, wetness for the Iuka and Mantachie soils
Corrective measures: Flood control structures are necessary; if such structures are not used, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation ratings: Severe for the Iuka and Mantachie soils
Limitations: Flooding for the Iuka and Mantachie soils
Corrective measures: Filling with suitable soil materials to build an elevated roadbase above the level of flooding, and installing culverts of adequate size and spacing are necessary to prevent roads from being inundated and damaged during flood episodes.

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Iuka and Mantachie soils
Limitations: Flooding for the Iuka and Mantachie soils
Corrective measures: Lawn and landscaping plants that are tolerant of flooding should be used. Traffic should be restricted during periods when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Iuka and Mantachie soils
Limitations: Flooding, wetness for the Iuka and Mantachie soils
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled. Campsites cannot be used during periods of flooding.

Playgrounds

Limitation ratings: Severe for the Iuka and Mantachie soils
Limitations: Wetness, flooding for the Iuka and Mantachie soils
Corrective measures: These soils generally are not suited for this use unless the areas are drained, filled, and protected from flooding.

KbB—Kirbyville-Niwana fine sandy loams, 1 to 3 percent slopes

Setting

Landform: Uplands
Position on landform: The Kirbyville soil is on broad, very gently sloping ridgetops and concave side slopes; the Niwana soil is on circular mounds that are 10 to 85 feet across.
Distinctive landform features: Some of the mounds have been smoothed.
Shape of areas: Irregular
Size of areas: 30 to 500 acres
Slope: The Kirbyville and Niwana soils are undulating.

Typical Profiles

Kirbyville soil:

Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsurface layer:
6 to 11 inches—brown fine sandy loam

Subsoil layer:
11 to 26 inches—yellowish brown sandy clay loam with tongues of pale brown fine sandy loam
26 to 85 inches—strong brown sandy clay loam with tongues of light brownish gray sandy loam

Niwana soil:

Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsurface layer:
6 to 22 inches—brown fine sandy loam

Subsoil layer:
22 to 31 inches—yellowish brown loam with tongues of brown fine sandy loam
31 to 48 inches—yellowish brown loam with tongues of pale brown fine sandy loam
48 to 63 inches—yellowish brown loam with tongues of light gray fine sandy loam
63 to 80 inches—yellowish brown sandy clay loam with tongues of light gray fine sandy loam

Soil Properties and Qualities

Kirbyville soil:

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 1.5 to 2.5 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Niwana soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 4 to 6 feet

Flooding: Does not flood
Runoff: slow
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Kirbyville soil and similar soils: 52 to 68 percent
Niwana soil and similar soils: 27 to 43 percent
Dissimilar soils: 1 to 9 percent

Minor Components

Dissimilar soils:
Beauregard, Blevins, Caddo, Guyton, Malbis, Messer, and Ruston soils
• Beauregard soils are on positions similar to those of the Kirbyville soil and are silty throughout. The Blevins, Malbis, and Ruston soils are on higher positions than the Kirbyville soil and do not have grayish iron depletions in the upper part of the subsoil. Caddo and Guyton soils are on level intermound areas, are poorly drained, and are grayish throughout. Guyton soils are also in narrow drainageways. Messer soils are on positions similar to those of the Niwana soil and are silty throughout. Also included is a soil in which the subsoil has less than 5 percent plinthite.

Land Use

Dominant use: Pasture
Other use: Woodland

Cropland

Land capability subclass: IIIw for the Kirbyville soil; IIw for the Niwana soil
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, and locally adapted truck and garden crops
Management concerns: Wetness; low fertility; short, irregular slopes; poor tilth; and hazard of erosion
Management measures: Cultivation when wet can result in the formation of a tillage pan. Shallow ditches can help to remove excess surface water more quickly. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Land grading and smoothing can help to improve surface drainage and permit more efficient use of farm equipment. Liming and fertilizing according to soil tests can help to improve fertility.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, white clover, winter peas, and vetch
Management concerns: Wetness, low fertility, and hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. A drainage system of shallow ditches can help to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 12W for the Kirbyville soil; 9A for the Niwana soil
Site index and ordinating species: 105 for the Kirbyville soil and 96 for the Niwana soil for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, longleaf pine, slash pine, and sweetgum
Suitability: Well suited
Management concerns: Severe plant competition and moderate equipment limitations for the Kirbyville soil; no significant limitations for the Niwana soil
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction on areas of the Kirbyville soil. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition on areas of the Kirbyville soil. Standard planting and harvesting equipment and techniques generally are adequate for areas of the Niwana soil.

Wildlife habitat

Suitability for wetland wildlife: Fair for the Kirbyville soil; very poor for the Niwana soil.
Suitability for woodland wildlife: Good
Management measures: Planting appropriate

vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Kirbyville soil; moderate for the Niwana soil
Limitations: Wetness for the Kirbyville soil; wetness, percs slowly for the Niwana soil
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly treat wastewater.

Dwellings without basements

Limitation ratings: Moderate for the Kirbyville soil; slight for the Niwana soil
Limitations: Wetness for the Kirbyville soil; no significant limitations for the Niwana soil
Corrective measures: Drainage may be needed around the foundations of buildings.

Local roads and streets

Limitation ratings: Moderate for the Kirbyville soil; slight for the Niwana soil
Limitations: Low strength, wetness for the Kirbyville soil; no significant limitations for the Niwana soil
Corrective measures: Special roadbase design and construction techniques that compensate for low strength in the subsoil may be necessary. Roadside ditches generally are needed to remove excess water more quickly.

Lawns, landscaping, and golf fairways

Limitation ratings: Moderate for the Kirbyville soil; slight for the Niwana soil
Limitations: Wetness for the Kirbyville soil; no significant limitations for the Niwana soil
Corrective measures: Lawn and landscaping plants that are tolerant of occasional wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly.

Recreational Use

Camp and picnic areas

Limitation ratings: Moderate for the Kirbyville soil; slight for the Niwana soil
Limitations: Wetness for the Kirbyville soil; no significant limitations for the Niwana soil
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary.

Playgrounds

Limitation ratings: Moderate for the Kirbyville and Niwana soils
Limitations: Slope, wetness for the Kirbyville soil; slope for the Niwana soil
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Surface drains and landscaping are needed to remove excess water quickly.

KoB—Kolin silt loam, 1 to 3 percent slopes

Setting

Landform: Stream terraces
Position on landform: On concave side slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 10 to several hundred acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown silt loam

Subsurface layer:
5 to 11 inches—yellowish brown silt loam

Subsoil layer:
11 to 20 inches—yellowish brown silty clay loam
20 to 30 inches—yellowish brown silty clay loam with pockets and seams of very pale brown silt loam
30 to 40 inches—yellowish brown silty clay loam with tongues and root channels of light brownish gray silt loam
40 to 72 inches—light brownish gray silty clay
72 to 82 inches—light brownish gray clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 1.5 to 3 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: High

Composition

Kolin soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Acadia, Beauregard, Blevins, and Gore soils
• Acadia and Beauregard soils are on positions similar to those of the Kolin soil. Acadia soils have a clayey subsoil within 20 inches of the soil surface. Beauregard soils are loamy throughout and have more than 5 percent plinthite. Blevins soils are on higher positions than the Kolin soil, are well drained, and are loamy throughout. Gore soils are on convex side slopes and escarpments, and they have a subsoil that is red and clayey in the upper part. Also included are a soil in which the surface layer is very fine sandy loam and a soil that has slopes of more than 3 percent.

Land Use

Dominant use: Woodland
Other uses: Pasture or residential

Cropland

Land capability subclass: IIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, grain sorghum, wheat, oats, rice, and locally adapted truck and garden crops
Management concerns: Wetness, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil is friable and easy to keep in good tilth. A drainage system of shallow ditches is needed to remove excess surface water more quickly. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, and ryegrass
Management concerns: Low fertility, seasonal wetness, and moderate hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 8A
Site index and ordinating species: 85 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, slash pine, longleaf pine, southern red oak, white oak, sweetgum, and hickory
Suitability: Well suited
Management concerns: Severe plant competition
Management measures: Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Severe
Limitation: Shrink-swell
Corrective measures: Backfilling with suitable soil materials and using a reinforced foundation design are necessary measures to reduce the hazard of foundation cracking due to shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, shrink-swell
Corrective measures: Backfilling with suitable soil materials and using special roadbase design and construction techniques generally are necessary measures to prevent damage to roads and streets due to low strength and shrink-swell in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitation: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of occasional wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitation: Percs slowly
Corrective measures: Surface drains and landscaping are needed to remove rainwater quickly.

Playgrounds

Limitation rating: Severe
Limitation: Percs slowly
Corrective measures: Surface drains and landscaping are needed to remove rainwater quickly.

KoC—Kolin silt loam, 3 to 5 percent slopes

Setting

Landform: Stream terraces
Position on landform: On concave side slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 10 to 200 acres
Slope: Moderately sloping

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown silt loam

Subsurface layer:
5 to 11 inches—brown silt loam

Subsoil layer:
11 to 41 inches—yellowish brown silty clay loam with tongues of light brownish gray silt loam.
41 to 85 inches—variegated light brownish gray and red clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 1.5 to 3 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: High

Composition

Kolin soil and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Beauregard, Blevins, Gore, Malbis, and Sugartown soils
- Beauregard soils are on positions similar to those of the Kolin soil, are loamy throughout, and contain more than 5 percent plinthite. Blevins, Malbis, and Sugartown soils are on higher positions than the Kolin soil. Blevins and Malbis soils are loamy throughout. Sugartown soils have a clayey subsoil that is within 20 inches of the soil surface. Gore soils are on side slopes that are lower and steeper than those of the Kolin soil, and they have a red, clayey subsoil. Also included is a soil in which the surface layer is very fine sandy loam.

Land Use

Dominant use: Woodland
Other use: Pasture

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited

Adapted crops: Corn, soybeans, grain sorghum, wheat, and locally adapted truck and garden crops
Management concerns: Wetness, hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil is friable and easy to keep in good tilth. A drainage system of shallow ditches is needed to remove excess surface water more quickly. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility, maintain soil moisture, tilth and organic matter content, and reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, and bahiagrass. Annual cool season grasses such as ryegrass and wheat are suitable for winter forage.
Management concerns: Low fertility, seasonal wetness, and hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 8A
Site index and ordinating species: 85 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, slash pine, longleaf pine, Southern red oak, hickory, sweetgum, and white oak
Suitability: Well suited
Management concerns: Severe plant competition
Management measures: Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Severe
Limitation: Shrink-swell
Corrective measures: Backfilling with suitable soil materials and using a reinforced foundation design are necessary measures to reduce the hazard of foundation cracking due to shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, shrink-swell
Corrective measures: Backfilling with suitable soil materials and using special roadbase design and construction techniques generally are necessary measures to prevent damage to roads and streets due to low strength and shrink-swell in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitation: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of occasional wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitation: Percs slowly
Corrective measures: Surface drains and landscaping are needed to remove rainwater quickly.

Playgrounds

Limitation rating: Severe

Limitation: Percs slowly
Corrective measures: Surface drains and landscaping are needed to remove rainwater quickly.

MbB—Malbis fine sandy loam, 1 to 3 percent slopes

Setting

Landform: Uplands
Position on landform: On broad convex ridgetops
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 20 to 300 acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 6 inches—grayish brown fine sandy loam

Subsurface layer:
6 to 10 inches—pale brown fine sandy loam

Subsoil layer:
10 to 16 inches—yellowish brown loam with tongues of pale brown fine sandy loam
16 to 24 inches—strong brown loam
24 to 49 inches—yellowish brown loam
49 to 62 inches—yellowish brown and yellowish red clay loam
62 to 76 inches—yellowish brown sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 2.5 to 4 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Moderately slow
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Malbis soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Betis, Blevins, Doucette, Guyton, Osier, and Ruston soils

• Betis soils are on convex nose slopes and are sandy throughout. The Blevins and Doucette soils are on positions similar to those of the Malbis soil. Blevins soils are silty throughout. Doucette soils have sandy surface and subsurface layers that have a combined thickness of more than 20 inches. Ruston soils are on higher and more convex positions than the Malbis soil and have a red subsoil. The Guyton soils are on flood plains and in drainageways, are poorly drained, and are silty throughout. Osier soils are on lower side slopes and in seepy areas, are poorly drained, and are sandy throughout. Also included is a soil in which the surface layer is very fine sandy loam.

Land Use

Dominant use: Woodland
Other uses: Pasture, cropland, or residential

Cropland

Land capability subclass: IIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, wheat, and truck and garden crops
Management concerns: Hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: These soils are friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, ryegrass, crimson clover, and ball clover
Management concerns: Low fertility and hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the

quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9A
Site index and ordinating species: 90 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, slash pine, longleaf pine, white oak, and Southern red oak
Suitability: Well suited
Management concerns: Moderate plant competition
Management measures: Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation rating: Moderate
Limitation: Slope
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

MbC—Malbis fine sandy loam, 3 to 5 percent slopes

Setting

Landform: Uplands
Position on landform: On broad convex ridgetops and side slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 20 to 300 acres
Slope: Moderately sloping

Typical Profile

Surface layer:
0 to 6 inches—very dark grayish brown fine sandy loam

Subsurface layer:
6 to 8 inches—brownish yellow fine sandy loam

Subsoil layer:
8 to 62 inches—brownish yellow clay loam in the upper part of the subsoil; yellowish brown clay loam in the middle part of the subsoil; and light yellowish brown clay loam in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 2.5 to 4 feet

Figure 9.—Malbis fine sandy loam, 3 to 5 percent slopes, is well suited to use as pasture and hayland.

Flooding: Does not flood
Runoff: Medium
Permeability class: Moderately slow
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Malbis soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Betis, Blevins, Boykin, Doucette, Guyton, Osier, and Ruston soils

- Betis soils are on nose slopes and are sandy throughout. Blevins, Boykin, and Doucette soils are in positions similar to those of the Malbis soil. Blevins soils are well drained and silty throughout. Boykin and Doucette soils have sandy surface and subsurface layers with a comibined thickness of more than 20 inches. Guyton and Osier soils are poorly drained. Guyton soils are on flood plains. Osier soils are in seepy areas on toe slopes. Ruston soils are on higher, more convex slopes and have a red subsoil. Also included is a soil in which the surface layer is very fine sandy loam.

Land Use

Dominant use: Woodland

Other uses: Pasture, cropland, or residential

Cropland

Land capability subclass: IIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, wheat, and truck and garden crops
Management concerns: Hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: These soils are friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, ryegrass, crimson clover, and ball clover
Management concerns: Low fertility and hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage (fig. 9).

Woodland

Woodland ordination symbol: 9A
Site index and ordinating species: 90 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, slash pine, longleaf pine, white oak, and Southern red oak
Suitability: Well suited
Management concerns: Moderate plant competition
Management measures: Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation rating: Moderate
Limitation: Slope
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

MbD—Malbis fine sandy loam, 5 to 8 percent slopes

Setting

Landform: Uplands
Position on landform: On narrow ridgetops and side slopes
Distinctive landform features: Slopes generally are short and uneven.
Shape of areas: Irregular
Size of areas: 20 to 200 acres
Slope: Sloping

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown fine sandy loam

Subsurface layer:
5 to 11 inches—yellowish brown fine sandy loam

Subsoil layer:
11 to 83 inches—strong brown clay loam in the upper part of the subsoil; yellowish brown clay loam and sandy clay loam in the middle part of the subsoil; and light yellowish brown sandy clay loam in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 2.5 to 4 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Moderately slow
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Malbis soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Betis, Boykin, Doucette, Guyton, Osier, and Ruston soils
• Betis soils are on nose slopes and are sandy throughout. Boykin and Doucette soils are on positions similar to those of the Malbis soil. They have sandy surface and subsurface layers with a combined thickness of more than 20 inches. Guyton soils are on flood plains and in drainageways, are poorly drained, and are gray throughout. The Osier soils are in seepy areas on toe slopes and are gray and sandy throughout. Ruston soils are on higher, more convex ridgetops than the Malbis soil, and they have a red subsoil.

Land Use

Dominant use: Woodland
Other uses: Pasture, cropland, or residential

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, wheat, and truck and garden crops
Management concerns: Hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: These soils are friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, ryegrass, crimson clover, and ball clover
Management concerns: Low fertility and hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9A
Site index and ordinating species: 90 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, slash pine, longleaf pine, white oak, and Southern red oak
Suitability: Well suited

Management concerns: Moderate plant competition
Management measures: Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation rating: Severe
Limitation: Slope
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

MuA—Merryville-Bearhead complex

Setting

Landform: Terraces
Position on landform: The Merryville soil is on broad flat intermound areas; the Bearhead soil is on circular or oval mounds that are 1 to 3 feet high and 50 to 200 feet wide.
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 30 to 500 acres
Slope: The Merryville soils are level to nearly level; the Bearhead soils are undulating to rolling.

Typical Profiles

Merryville soil:

Surface layer:
0 to 3 inches—dark grayish brown silt loam

Subsurface layer:
3 to 17 inches—light brownish gray very fine sandy loam

Subsoil layer:
17 to 85 inches—light brownish gray and grayish brown very fine sandy loam and loam in the upper and middle parts of the subsoil; light gray clay loam in the lower part of the subsoil

Bearhead soil:

Surface layer:
0 to 4 inches—brown very fine sandy loam

Subsurface layer:
4 to 18 inches—pale brown very fine sandy loam

Subsoil layer:
18 to 80 inches—light yellowish brown loam in the upper part of the subsoil; brownish yellow and light yellowish brown loam and very fine sandy loam in the middle part of the subsoil; and brown and yellowish brown loam in the lower part of the subsoil

Soil Properties and Qualities

Merryville soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 1.5 feet
Flooding: Rarely flooded
Runoff: Very slow
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Bearhead soil:

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 4 to 6 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Merryville soil and similar soils: 52 to 68 percent
Bearhead soil and similar soils: 18 to 32 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Bienville, Cahaba, Dubach, and Spurger soils
• Bienville and Cahaba soils are on slightly higher positions than the Bearhead soil. Bienville soils are sandy throughout. Cahaba soils have a red subsoil. Dubach soils are on slightly lower positions than the Bearhead soil and have a subsoil that contains more clay than the Bearhead soil. Spurger soils are on side slopes along drainageways and have a red, loamy and clayey subsoil.

Land Use

Dominant use: Woodland
Other uses: Pasture or residential

Cropland

Land capability subclass: IIIw for the Merryville soil; IIe for the Bearhead soil
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, grain sorghum, and wheat
Management concerns: Low fertility; short, irregular slopes; and potentially toxic levels of aluminum in the rooting zone. In addition, wetness is a limitation in areas of the Merryville soil, and the hazard of erosion is a limitation in steeper areas of the Bearhead soil.
Management measures: A drainage system of shallow ditches is needed to remove excess surface water more quickly from areas of the Merryville soil. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain soil moisture, tilth, and organic matter content. Irregular slopes may hinder tillage operations. Land grading and smoothing can help to improve surface drainage and permit more efficient use of farm equipment. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, white clover, and ryegrass
Management concerns: Wetness and low fertility on the Merryville soil; slight hazard of erosion and low fertility on the Bearhead soils
Management measures: Seedbed preparation should be on the contour where practical. A drainage system of shallow ditches can help to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 12W for the Merryville soil; 10A for the Bearhead soil
Site index and ordinating species: 109 for the Merryville soil and 93 for the Bearhead soil for loblolly pine
Adapted trees: Loblolly pine, sweetgum, and water oak on areas of the Merryville soil; loblolly pine,

shortleaf pine, sweetgum, and Southern red oak on areas of the Bearhead soil
Suitability: Moderately well suited
Management concerns: Severe equipment limitations and plant competition, and moderate seedling mortality for the Merryville soil; no significant limitations for the Bearhead soil.
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction on areas of the Merryville soil. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition on areas of the Merryville soil. Bedding and surface drains can help to reduce seedling mortality caused by wetness. Standard planting and harvesting equipment and techniques generally are adequate for areas of the Bearhead soil.

Wildlife habitat

Suitability for wetland wildlife: Good for the Merryville soil; very poor for the Bearhead soil
Suitability for woodland wildlife: Fair for the Merryville soil; good for the Bearhead soil
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Merryville soil; moderate for the Bearhead soil
Limitations: Wetness, percs slowly for the Merryville and Bearhead soils
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation ratings: Severe for the Merryville soil; slight for the Bearhead soil
Limitations: Flooding, wetness for the Merryville soil; no significant limitations for the Bearhead soil
Corrective measures: Flood control structures are necessary; if such structures are not used, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation ratings: Severe for the Merryville soil; slight for the Bearhead soil
Limitations: Wetness for the Merryville soil; no significant limitations for the Bearhead soil
Corrective measures: Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Merryville soil; slight for the Bearhead soil
Limitations: Wetness for the Merryville soil; no significant limitations for the Bearhead soil
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Merryville soil; slight for the Bearhead soil
Limitations: Flooding, wetness for the Merryville soil; no significant limitations for the Bearhead soil
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled. Campsites cannot be used during periods of flooding.

Playgrounds

Limitation ratings: Severe for the Merryville soil; moderate for the Bearhead soil

Figure 10.—This seepy area of Osier sand, 0 to 2 percent slopes, is supporting a stand of pitcher plants (foreground). This unique, funnel-shaped plant traps and digests insects.

Limitations: Wetness for the Merryville soil; slope for the Bearhead soil.
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled.

OsB—Osier sand, 0 to 2 percent slopes

Setting

Landform: Low stream terraces

Position on landform: In seepy areas on toe slopes adjacent to drainageways (fig. 10)
Distinctive landform features: None
Shape of areas: Elongated and narrow
Size of areas: 10 to 50 acres
Slope: Nearly level to very gently sloping

Typical Profile

Surface layer:
0 to 7 inches—dark gray sand

Substratum layer:
7 to 20 inches—gray loamy fine sand
20 to 60 inches—light gray fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 0.5 foot
Flooding: Does not flood
Runoff: Very slow
Permeability class: Rapid
Available water capacity: Very low to low
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Osier soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Betis, Boykin, Doucette, Guyton, and Malbis soils
• Betis, Boykin, Doucette, and Malbis soils are at higher elevations than the Osier soil and have distinct subsoils. The Guyton soils are on flood plains and are silty throughout.

Land Use

Dominant use: Woodland
Other use: Wildlife habitat

Cropland

Land capability subclass: Vw
Suitability: Not suited
Adapted crops: None recommended
Management concerns: Wetness and poor trafficability
Management measures: None recommended

Pasture and hayland

Suitability: Poorly suited
Adapted plants: Common bermudagrass. bahiagrass, and locally adapted native grasses
Management concerns: Wetness and poor trafficability
Management measures: The use of equipment is limited by wetness, and pasture planting or renovation must be done during the late summer months. In some years grazing is limited by flooding. A drainage system of shallow ditches is needed to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 11W
Site index and ordinating species: 85 for slash pine
Adapted trees: Slash pine, sweetgum, blackgum, swamp holly, bay and red maple
Suitability: Poorly suited
Management concerns: Severe equipment limitations, seedling mortality, and plant competition
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes deep soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing and should be ballasted for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for woodland wildlife: Fair
Management measures: Habitat for wildlife can be improved by planting appropriate vegetation, by maintaining existing plant cover, or by promoting the natural establishment of desirable plants. Prescribed burning, done every three years and rotated among several small tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Small ponds can provide open water areas for waterfowl and furbearers.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, poor filter
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly treat wastewater.

Dwellings without basements

Limitation rating: Severe
Limitation: Wetness
Corrective measures: Surface and subsurface drainage is necessary around the foundations of buildings.

Local roads and streets

Limitation rating: Severe
Limitation: Wetness
Corrective measures: Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness, droughtiness
Corrective measures: Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated. Lawn and landscaping plants that are tolerant of seasonal droughtiness should be used. A sprinkler system can be installed to help reduce stress to lawn grasses during droughty periods.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness, too sandy
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of fill material and the establishment of ground cover that is tolerant of heavy foot traffic are ways to create a firmer surface. Use of areas should be restricted during wet periods.

Playgrounds

Limitation rating: Severe
Limitations: Too sandy, wetness
Corrective measures: These soils generally are not suited for this use unless the areas are drained and filled to remove excess water and create a firmer playing surface.

Pg—Pits

Setting

Landform: Stream terraces
Position on landform: On broad ridgetops and side slopes
Distinctive landform features: Areas are open excavations from which soil and geologic materials have been removed for use, mainly for road construction.
Shape of areas: Angular
Size of areas: 2 to 850 acres
Slope: Gently sloping to moderately sloping

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: None
Runoff: Variable
Permeability class: Variable
Available water capacity: Variable
Natural soil fertility: Low
Shrink-swell potential: Variable

Composition

Pits and similar soils: 85 percent
Dissimilar soils: 15 percent

Minor Components

Dissimilar soils: Small areas of mixed loamy and clayey spoil material that have been piled or scattered near the edges of pits; small areas of shallow water

Land Use

Dominant uses: Wildlife or recreational

Cropland

Land capability subclass: VIIIs
Suitability: Not suited
Adapted crops: None
Management concerns: Low fertility
Management measures: None recommended

Pasture and hayland

Suitability: None suited

Adapted plants: None
Management concerns: Low fertility
Management measures: None recommended

Woodland

Woodland ordination symbol: None assigned
Site index and ordinating species: None assigned
Adapted trees: None
Suitability: Not suited
Management concerns: Severe seedling mortality
Management measures: None recommended

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Very poor
Management measures: Abandoned pits can produce habitat for rabbits and other small game animals when left undisturbed.

Urban Use

Septic tank absorption fields

Limitation rating: Variable
Limitations: Variable
Corrective measures: None recommended

Dwellings without basements

Limitation rating: Variable
Limitations: Variable
Corrective measures: None recommended

Local roads and streets

Limitation rating: Variable
Limitations: Variable
Corrective measures: None recommended

Lawns, landscaping, and golf fairways

Limitation rating: Variable
Limitations: Variable
Corrective measures: None recommended

Recreational Use

Camp and picnic areas

Limitation rating: Variable
Limitations: Variable
Corrective measures: None recommended

Playgrounds

Limitation rating: Variable
Limitations: Variable
Corrective measures: None recommended

Rh—Riverwash

Setting

Landform: Flood plains
Position on landform: On sandbars adjacent to the Sabine River
Distinctive landform features: Barren or nearly barren sandbar areas on the Sabine River that are covered by flood waters 5 to 10 feet deep.
Shape of areas: Elongated and narrow
Size of areas: 5 to 40 acres
Slope: Nearly level to very gently sloping

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Excessively drained
Water table: Apparent at a depth of 0.5 to 6 feet
Flooding: Frequently flooded
Runoff: Slow
Permeability class: Rapid
Available water capacity: Low
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Variable

Land Use

Dominant uses: Wildlife and recreational

Cropland

Land capability subclass: Vw
Suitability: Not suited
Adapted crops: None
Management concerns: Flooding, low fertility, and droughtiness
Management measures: None recommended

Pasture and hayland

Suitability: Not suited
Adapted plants: None
Management concerns: Flooding, low fertility, and droughtiness
Management measures: None recommended

Woodland

Woodland ordination symbol: None assigned
Site index and ordinating species: None assigned
Adapted trees: None
Suitability: Not suited

Management concerns: Severe seedling mortality
Management measures: None recommended

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Very poor
Management measures: None recommended

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Flooding, wetness, poor filter
Corrective measures: None recommended

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, wetness
Corrective measures: None recommended

Local roads and streets

Limitation rating: Severe
Limitations: Wetness, flooding
Corrective measures: None recommended

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness, droughtiness, flooding
Corrective measures: None recommended

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, wetness
Corrective measures: None recommended

Playgrounds

Limitation rating: Severe
Limitations: Flooding, wetness
Corrective measures: None recommended

RuB—Ruston fine sandy loam, 1 to 3 percent slopes

Setting

Landform: Uplands
Position on landform: On convex ridgetops
Distinctive landform features: Slopes generally are long and smooth
Shape of areas: Irregular
Size of areas: 20 to 300 acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown fine sandy loam

Subsurface layer:
5 to 13 inches—brown fine sandy loam

Subsoil layer:
13 to 82 inches—red sandy clay loam in the upper part of the subsoil; yellowish red and strong brown sandy clay loam and fine sandy loam in the middle part of the subsoil; and yellowish red sandy clay loam in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Ruston soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Beauregard, Blevins, Boykin, Doucette, Guyton, and Malbis soils
• Beauregard, Blevins, and Malbis soils are on lower positions and have less convex slopes than the Ruston soil. Beauregard and Malbis soils contain more than 5 percent plinthite in the subsoil. Blevins soils have a brownish subsoil that contains less sand than that of the Ruston soil. Boykin and Doucette soils are on positions similar to those of the Ruston soil. They have sandy surface and subsurface layers that have a combined thickness of more than 20 inches. The Guyton soils are on flood plains and in drainageways, are poorly drained, and are gray throughout. Also included are soils in which the surface texture is very fine sandy loam and soils, in a few large areas in the eastern part of the survey area, that contain more silt and less sand throughout than is typical for the Ruston soil.

Land Use

Dominant use: Woodland
Other uses: Pasture, cropland, or residential

Cropland

Land capability subclass: IIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, wheat, grain sorghum, and truck and garden crops
Management concerns: Hazard of erosion and low fertility
Management measures: These soils are friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, ryegrass, crimson clover, and ball clover
Management concerns: Low fertility and hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9A
Site index and ordinating species: 91 for loblolly pine
Adapted trees: Loblolly pine, slash pine, longleaf pine, sweetgum, white oak, hickory, and Southern red oak
Suitability: Well suited
Management concerns: No significant limitations
Management measures: Standard planting and harvesting equipment and techniques generally are adequate. Trees generally perform well on areas of this soil with normal management practices.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Moderate
Limitation: Percs slowly
Corrective measures: An oversize drain field should be installed to prevent the system from malfunctioning during rainy periods.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation rating: Moderate
Limitations: Slope, small stones
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Topsoil should be added to reduce the number of small stones in the surface layer.

RuC—Ruston fine sandy loam, 3 to 5 percent slopes

Setting

Landform: Uplands
Position on landform: On convex ridgetops and on side slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 20 to 300 acres
Slope: Moderately sloping

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown fine sandy loam

Subsurface layer:
4 to 11 inches—brown fine sandy loam

Subsoil layer:
11 to 19 inches—yellowish red clay loam
19 to 47 inches—red clay loam
47 to 61 inches—yellowish red clay loam with streaks and pockets of light yellowish brown fine sandy loam
61 to 92 inches—yellowish red clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Ruston soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Beauregard, Blevins, Boykin, Doucette, Guyton, and Malbis soils
• Beauregard, Blevins, and Malbis soils are on lower positions and have less convex slopes than the Ruston soil. Beauregard and Malbis soils have more than 5 percent plinthite in the subsoil. Blevins soils have a brownish subsoil. Boykin and Doucette soils are on positions similar to those of the Ruston soil. They have sandy surface and subsurface layers that have a combined thickness of more than 20 inches. Guyton soils are on flood plains and in drainageways, are poorly drained, and are gray throughout. Also included are soils in which the surface texture is very fine sandy loam, and, in a few large areas in the eastern part of the survey area, soils that have more silt and less sand throughout than is typical for the Ruston soil.

Land Use

Dominant use: Woodland
Other uses: Pasture, cropland, or residential

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, wheat, grain sorghum, and truck and garden crops
Management concerns: Hazard of erosion and low fertility
Management measures: These soils are friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, ryegrass, crimson clover, and ball clover
Management concerns: Low fertility and hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9A
Site index and ordinating species: 91 for loblolly pine
Adapted trees: Loblolly pine, slash pine, longleaf pine,

sweetgum, white oak, hickory, and Southern red oak
Suitability: Well suited
Management concerns: No significant limitations
Management measures: Standard planting and harvesting equipment and techniques generally are adequate. Trees generally perform well on areas of this soil with normal management practices.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Moderate
Limitation: Percs slowly
Corrective measures: An oversize drain field should be installed to prevent the system from malfunctioning during rainy periods.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation rating: Moderate
Limitations: Slope, small stones
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Topsoil should be added to reduce the number of small stones in the surface layer.

RuD—Ruston fine sandy loam, 5 to 8 percent slopes

Setting

Landform: Uplands
Position on landform: On convex side slopes
Distinctive landform features: Slopes generally are long and smooth.
Shape of areas: Irregular
Size of areas: 20 to 300 acres
Slope: Sloping

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsurface layer:
6 to 10 inches—pale brown fine sandy loam

Subsoil layer:
10 to 98 inches—red sandy clay loam in the upper part of the subsoil; red sandy clay loam with streaks and spots of yellowish brown fine sandy loam in the middle part of the subsoil; and red sandy clay loam in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Rapid
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Ruston soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Blevins, Boykin, Doucette, Gore, Guyton, and Malbis soils
- Blevins and Malbis soils are on lower positions and have less convex slopes than the Ruston soil. They have brownish subsoils. Boykin and Doucette soils are on positions similar to those of the Ruston soil. They have sandy surface and subsurface layers that have a combined thickness of more than 20 inches. Gore soils are on side slopes at lower elevations than the Ruston soil and have a clayey subsoil. The Guyton soils are on flood plains and in drainageways, are poorly drained, and are gray throughout.

Land Use

Dominant use: Woodland
Other uses: Pasture or residential

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, wheat, grain sorghum, and truck and garden crops
Management concerns: Hazard of erosion and low fertility
Management measures: These soils are friable and easy to keep in good tilth. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common bermudagrass, improved bermudagrass, ryegrass, crimson clover, and ball clover
Management concerns: Low fertility and hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 9A
Site index and ordinating species: 91 for loblolly pine
Adapted trees: Loblolly pine, slash pine, longleaf pine, sweetgum, white oak, hickory, and Southern red oak
Suitability: Well suited
Management concerns: No significant limitations
Management measures: Standard planting and harvesting equipment and techniques generally are adequate. Trees generally perform well on areas of this soil with normal management practices.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Moderate
Limitation: Percs slowly
Corrective measures: An oversize drain field should be installed to prevent the system from malfunctioning during rainy periods.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Slight
Limitations: No significant limitations

Corrective measures: Standard road building techniques generally are adequate.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation rating: Severe
Limitation: Slope
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

SpC—Spurger fine sandy loam, 1 to 5 percent slopes

Setting

Landform: Terraces
Position on landform: On side slopes
Distinctive landform features: Slopes generally are smooth and convex.
Shape of areas: Irregular
Size of areas: 10 to 50 acres
Slope: Gently sloping to moderately sloping

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsurface layer:
6 to 9 inches—brown fine sandy loam

Subsoil layer:
9 to 20 inches—red clay
20 to 36 inches—yellowish red clay loam
36 to 47 inches—yellowish red loam

Substratum layer:
47 to 77 inches—stratified yellowish red loam and light gray fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 5 to 6 feet
Flooding: Does not flood
Runoff: Slow
Permeability class: Slow
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Moderate

Composition

Spurger soil and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Bearhead, Bienville, Cahaba, Dubach, and Merryville soils
• Bearhead, Bienville, Cahaba, and Dubach soils are on slightly higher positions than the Spurger soil. The Bearhead, Cahaba, and Dubach soils are loamy throughout. Bienville soils are sandy throughout. Merryville soils are on slightly lower positions than the Spurger soil, are poorly drained, and are gray throughout. Also included are soils in which the surface texture is very fine sandy loam; soils, in many small areas, in which the subsoil is yellowish brown clay with gray mottles; and soils that have slopes of more than 5 percent.

Land Use

Dominant use: Woodland
Other uses: Pasture or residential

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited
Adapted crops: Soybeans, corn, wheat, grain sorghum, and truck and garden crops
Management concerns: Moderate hazard of erosion, wetness, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil is friable and easy to keep in good tilth; however, excessive cultivation can result in the formation of a tillage pan. Shallow ditches can help to remove excess surface water more quickly. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble

mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Improved bermudagrass, common bermudagrass, bahiagrass, crimson clover, arrowleaf clover, and vetch
Management concerns: Wetness, low fertility, and hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. A drainage system of shallow ditches can help to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 11W
Site index and ordinating species: 101 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, slash pine, Southern red oak, and sweetgum
Suitability: Moderately well suited
Management concerns: Moderate equipment limitations and plant competition
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Percs slowly, wetness
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Moderate
Limitation: Shrink-swell
Corrective measures: Backfilling with suitable soil materials and using a reinforced foundation design are necessary measures to help minimize the hazard of foundation cracking due to shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitation: Low strength
Corrective measures: Special roadbase design and construction techniques generally are necessary measures to compensate for low strength in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitation: Percs slowly
Corrective measures: Surface drains and landscaping are needed to remove rainwater quickly.

Playgrounds

Limitation rating: Moderate
Limitations: Percs slowly, slope

Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Surface drains and landscaping may be needed to remove rainwater quickly.

SuB—Sugartown very fine sandy loam, 1 to 3 percent slopes

Setting

Landform: Terraces
Position on landform: On convex ridgetops
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 10 to 350 acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 3 inches—dark grayish brown very fine sandy loam

Subsurface layer:
3 to 8 inches—yellowish brown very fine sandy loam

Subsoil layer:
8 to 15 inches—yellowish brown sandy clay loam
15 to 25 inches—yellowish brown silty clay
25 to 64 inches—light brownish gray silty clay

Substratum layer:
64 to 69 inches—light gray clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 3 to 5 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Slow
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: High

Composition

Sugartown soil and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Acadia, Beauregard, Blevins, Gore, Guyton, and Kolin soils

- Acadia, Beauregard, and Kolin soils are on concave side slopes. Acadia soils have a grayish subsoil. Beauregard soils are loamy throughout. Kolin soils are loamy to depths of 20 to 40 inches and are clayey below these depths. Blevins soils are on positions similar to those of the Sugartown soil and are loamy throughout. Gore soils are mainly on escarpments adjacent to flood plains and drainageways; the subsoil is reddish and clayey in the upper part. Guyton soils are on flood plains and drainageways. They are poorly drained and loamy throughout. Also included is a soil in which the loamy substratum is within a depth of about 50 inches.

Land Use

Dominant use: Woodland
Other uses: Pasture, cropland, or residential

Cropland

Land capability subclass: IIe
Suitability: Moderately well suited
Adapted crops: Corn, soybeans, and grain sorghum
Management concerns: Slight hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: This soil is friable and easy to keep in good tilth; however, excessive cultivation can result in the formation of a tillage pan. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, and bahiagrass. Annual cool season grasses such as ryegrass, wheat, and oats are suitable for winter forage.
Management concerns: Low fertility, seasonal wetness, and slight hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing can help to

reduce damage to pasture plants. Liming and fertilizing according to soil tests, and restricting grazing during wet periods can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 12W
Site index and ordinating species: 107 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, slash pine, longleaf pine, sweetgum, and Southern red oak
Suitability: Moderately well suited
Management concerns: Severe plant competition and moderate equipment limitations
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Severe
Limitation: Shrink-swell
Corrective measures: Backfilling with suitable soil materials and using a reinforced foundation design are necessary measures to reduce the hazard of foundation cracking due to shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength
Corrective measures: Backfilling with suitable soil materials and special roadbase design generally are necessary measures to prevent damage to roads and streets due to low strength and shrink-swell in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitation: Percs slowly
Corrective measures: Surface drains and landscaping are needed to remove rainwater quickly.

Playgrounds

Limitation rating: Moderate
Limitations: Slope, percs slowly
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Surface drains and landscaping may be needed to remove rainwater quickly.

SuC—Sugartown very fine sandy loam, 3 to 5 percent slopes

Setting

Landform: Terraces
Position on landform: On convex ridgetops and side slopes
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 10 to 350 acres
Slope: Moderately sloping

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown very fine sandy loam

Subsurface layer:
6 to 10 inches—yellowish brown very fine sandy loam

Subsoil layer:
10 to 80 inches—yellowish brown silty clay loam in the upper part of the subsoil; yellowish brown silty clay in the middle part of the subsoil; and light brownish gray silty clay in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 3 to 5 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Slow
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: High

Composition

Sugartown soil and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils:
Blevins, Gore, Guyton, Kolin, and Malbis soils
• Blevins and Malbis soils are on positions similar to those of the Sugartown soil. Blevins and Malbis soils are loamy throughout. Gore soils are on escarpments adjacent to flood plains and drainageways. They have a subsoil that is red and clayey in the upper part. Guyton soils are on flood plains and along drainageways. Guyton soils are poorly drained and loamy throughout. Kolin soils are on concave side slopes and are loamy to depths of 20 to 40 inches. Also included are soils in which the clay loam substratum is at a depth of about 50 inches and soils that are brownish or yellowish throughout.

Land Use

Dominant use: Woodland
Other uses: Pasture, cropland, or residential

Cropland

Land capability subclass: IIIe
Suitability: Moderately well suited
Adapted crops: Corn, soybeans, and grain sorghum
Management concerns: Moderate hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: These soils are friable and easy to keep in good tilth; however, excessive cultivation can result in the formation of a tillage pan. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, and bahiagrass. Annual cool season grasses such as ryegrass, wheat, and oats are suitable for winter forage.
Management concerns: Low fertility, seasonal wetness, and moderate hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 12W
Site index and ordinating species: 107 for loblolly pine
Adapted trees: Loblolly pine, shortleaf pine, slash pine, longleaf pine, sweetgum, and Southern red oak
Suitability: Moderately well suited
Management concerns: Severe plant competition and moderate equipment limitations
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good

Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Severe
Limitation: Shrink-swell
Corrective measures: Backfilling with suitable soil materials and using a reinforced foundation design are necessary measures to reduce the hazard of foundation cracking due to shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength
Corrective measures: Backfilling with suitable soil materials and special roadbase design generally are necessary measures to prevent damage to roads and streets due to low strength and shrink-swell in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitation: Percs slowly
Corrective measures: Surface drains and landscaping are needed to remove rainwater quickly.

Playgrounds

Limitation rating: Moderate
Limitations: Slope, percs slowly
Corrective measures: Playgrounds should be constructed on the more level parts of the areas. Surface drains and landscaping may be needed to remove rainwater quickly.

SuD—Sugartown very fine sandy loam, 5 to 8 percent slopes

Setting

Landform: Terraces
Position on landform: On convex side slopes
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 10 to 350 acres
Slope: Sloping

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown very fine sandy loam

Subsurface layer:
6 to 11 inches—brown very fine sandy loam

Subsoil layer:
11 to 62 inches—yellowish brown silty clay loam in the upper part of the subsoil; strong brown silty clay in the middle part of the subsoil; and light brownish gray silty clay in the lower part of the subsoil

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 3 to 5 feet
Flooding: Does not flood
Runoff: Medium
Permeability class: Slow
Available water capacity: High to very high
Natural soil fertility: Low
Shrink-swell potential: High

Composition

Sugartown soil and similar soils: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Blevins, Gore, Guyton, and Spurger soils

• Blevins soils are on positions similar to those of the Sugartown soil and are loamy throughout. Gore soils are on escarpments along drainageways and have a red clayey subsoil. Guyton soils are on flood plains and along drainageways. They are poorly drained and are loamy throughout. Spurger soils are on stream terraces and have a red, clayey and loamy subsoil. Also included is a soil that has a loamy substratum within a depth of about 50 inches.

Land Use

Dominant use: Woodland
Other uses: Pasture or residential

Cropland

Land capability subclass: IVe
Suitability: Poorly suited
Adapted crops: Corn, soybeans, and grain sorghum
Management concerns: Severe hazard of erosion, low fertility, and potentially toxic levels of aluminum in the rooting zone
Management measures: These soils are friable and easy to keep in good tilth; however, excessive cultivation can result in the formation of a tillage pan. Using minimum tillage and returning all crop residue to the soil or regularly adding organic matter can help to improve fertility and to maintain tilth and organic matter content. Stubble mulch tillage; farming on the contour; using terraces, diversion ditches, and grassed waterways; and seeding fall grain or winter pasture crops early can help to reduce topsoil loss due to erosion. Liming and fertilizing according to soil tests can help to improve fertility and lower the level of exchangeable aluminum.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Common bermudagrass, improved bermudagrass, and bahiagrass. Annual cool season grasses such as ryegrass, wheat, and oats are suitable for winter forage.
Management concerns: Low fertility, seasonal wetness, and severe hazard of erosion during establishment of pasture plants
Management measures: Seedbed preparation should be on the contour where practical. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 12W
Site index and ordinating species: 107 for loblolly pine
Adapted trees: Common bermudagrass, improved bermudagrass, and bahiagrass. Annual cool season grasses such as ryegrass, wheat, and oats are suitable for winter forage.
Suitability: Well suited
Management concerns: Severe plant competition and moderate equipment limitations
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for woodland wildlife: Good
Management measures: Planting appropriate vegetation, maintaining existing plant cover, and promoting the natural establishment of desirable plants can help to improve habitat for wildlife. Prescribed burning, done every three years and rotated among several tracts of land, can increase the amount of palatable deer browse and seed-producing plants for use by quail and turkey. Leaving mast-producing trees when harvesting and during site preparation can benefit many species of wildlife.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly
Corrective measures: An onsite sewage treatment plant or sewage lagoon generally is necessary to properly dispose of wastewater.

Dwellings without basements

Limitation rating: Severe
Limitation: Shrink-swell
Corrective measures: Backfilling with suitable soil materials and using a reinforced foundation design

are necessary measures to reduce the hazard of foundation cracking due to shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength
Corrective measures: Backfilling with suitable soil materials and special roadbase design generally are necessary measures to prevent damage to roads and streets due to low strength and shrink-swell in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitation: Percs slowly
Corrective measures: Surface drains and landscaping are needed to remove rainwater quickly.

Playgrounds

Limitation rating: Severe
Limitation: Slope
Corrective measures: Playgrounds should be constructed on the more level parts of the areas.

URA—Urbo and Mantachie soils, frequently flooded

Setting

Landform: Flood plains
Position on landform: The Urbo soil is on low, flat areas; the Mantachie soil is on convex ridges or natural levees adjacent to stream channels.
Distinctive landform features: Floodwaters typically are 2 to 8 feet deep. Flooding is generally by fast-flowing water and may last from a few days to several weeks.
Shape of areas: Irregular
Size of areas: 100 to several thousand acres
Slope: The Urbo soils and Mantachie soils are level to nearly level.

Typical Profiles

Urbo soil:

Surface layer:
0 to 5 inches—dark grayish brown silty clay

Subsoil layer:
5 to 90 inches—grayish brown silty clay

Substratum layer:
90 to 95 inches—light brownish gray fine sand

Mantachie soil:

Surface layer:
0 to 3 inches—dark grayish brown fine sandy loam

Subsoil layer:
3 to 5 inches—variegated grayish brown and yellowish brown loam
5 to 21 inches—grayish brown loam
21 to 31 inches—gray loam
31 to 41 inches—gray clay loam
41 to 60 inches—grayish brown sandy clay loam

Soil Properties and Qualities

Urbo soil:

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Apparent at a depth of 1 to 2 feet
Flooding: Frequently flooded
Runoff: Slow
Permeability class: Moderate
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: Moderate

Mantachie soil:

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Apparent at a depth of 1 to 1.5 feet
Flooding: Frequently flooded
Runoff: Slow
Permeability class: Moderate
Available water capacity: Moderate to high
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Urbo soil and similar soils: 52 to 68 percent
Mantachie soil and similar soils: 18 to 32 percent
(Areas of included soils generally are larger in this

unit than in most other map units, but they were considered similar due to flooding and wetness limitations.)
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils:
Cypress, Guyton, Hainesville, and Iuka soils
• Cypress soils are on lower positions than the Urbo soil and are ponded most of the year. The Guyton soils are on slightly higher positions than the Urbo soil and are loamy throughout. The Hainesville soils are on convex ridges and hummocks on the flood plain and are sandy throughout. Iuka soils are on slightly higher positions than the Mantachie soil and are loamy throughout.

Land Use

Dominant use: Woodland
Other use: Wildlife habitat

Cropland

Land capability subclass: Vw for the Urbo soil; Vw for the Mantachie soil.
Suitability: Not suited
Adapted crops: None recommended
Management concerns: Flooding
Management measures: None recommended

Pasture and hayland

Suitability: Poorly suited
Adapted plants: Common bermudagrass, bahiagrass, singletary pea, white clover, tall fescue, and vetch
Management concerns: Flooding, wetness, and low fertility
Management measures: The use of equipment is limited by wetness, and pasture planting or renovation must be done during the late summer months. In some years grazing is limited by flooding. A drainage system of shallow ditches is needed to remove excess water more quickly. Cross fencing and rotating stock to avoid overgrazing, and restricting grazing during wet periods can help to reduce damage to pasture plants. Liming and fertilizing according to soil tests can help to improve soil fertility. Management that includes brush and weed control can help to improve the quality and increase the quantity of desirable forage.

Woodland

Woodland ordination symbol: 10W for the Urbo soil; 10W for the Mantachie soil
Site index and ordinating species: 99 for the Urbo soil for cherrybark oak; 98 for the Mantachie soil for loblolly pine
Adapted trees: Cherrybark oak, sweetgum, Nuttall oak, green ash, and overcup oak on areas of the Urbo soil; loblolly pine, eastern cottonwood, swamp chestnut oak, green ash, sweetgum, and willow oak on areas of the Mantachie soil
Suitability: Moderately well suited
Management concerns: Severe equipment limitations and seedling mortality for the Urbo soil; severe equipment limitations, seedling mortality, and plant competition for the Mantachie soil
Management measures: Using standard wheeled or tracked equipment when the soil is wet causes deep soil rutting and compaction. Limiting harvesting operations to drier periods causes less damage to the soil and can help to reduce equipment use problems. When wet or moist, unsurfaced roads or skid trails are sticky and slippery; they may become impassable during rainy periods. Logging roads require suitable surfacing for year-round use. Careful site preparation, spraying, and controlled burning after the trees are established can help to reduce plant competition. Bedding and surface drains can help to reduce seedling mortality caused by wetness.

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for woodland wildlife: Fair for the Urbo soil; good for the Mantachie soil
Management measures: Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and for furbearers such as muskrat, nutria, and otter. Wetland wildlife habitat can be further improved by establishing desirable plants in and around these open water areas. Habitat for rabbits, squirrels, woodcock, turkey, and deer can be improved by selective cutting so as to leave large den and mast-producing trees, and by planting or encouraging the growth of suitable understory plants. Habitat can be further improved by providing small, scattered openings about 1 to 2 acres in size throughout the unit, and by establishing suitable wildlife plants such as honeysuckle and Shumard oak. Wildlife areas should be protected from fire and livestock grazing.

Urban Use

Septic tank absorption fields

Limitation ratings: Severe for the Urbo and Mantachie soils
Limitations: Flooding, wetness, percs slowly for the Urbo soil; flooding, wetness for the Mantachie soil
Corrective measures: These soils generally are not suited to this use unless they are drained and protected from flooding. An onsite sewage treatment plant or a sewage lagoon is necessary.

Dwellings without basements

Limitation ratings: Severe for the Urbo and Mantachie soils
Limitations: Flooding, wetness for the Urbo and Mantachie soils
Corrective measures: Flood control structures are necessary; if such structures are not used, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation ratings: Severe for the Urbo and Mantachie soils
Limitations: Low strength, flooding for the Urbo soil; flooding for the Mantachie soil
Corrective measures: Special roadbase design and construction techniques generally are necessary to compensate for low strength in the subsoil. Filling with suitable soil materials to build an elevated roadbase above the level of flooding, and installing culverts of adequate size and spacing are necessary measures to prevent roads from being inundated and damaged during flood episodes.

Lawns, landscaping, and golf fairways

Limitation ratings: Severe for the Urbo and Mantachie soils
Limitations: Flooding, too clayey for the Urbo soil; flooding for the Mantachie soil
Corrective measures: Lawn and landscaping plants that are tolerant of flooding should be used. Loamy topsoil can be added to the surface to improve tilth and water holding capacity in the rooting zone. Traffic should be restricted during periods when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation ratings: Severe for the Urbo and Mantachie soils
Limitations: Flooding, wetness, percs slowly for the Urbo soil; flooding, wetness for the Mantachie soil
Corrective measures: These soils generally are not suited for this use.

Playgrounds

Limitation ratings: Severe for the Urbo and Mantachie soils
Limitations: Too clayey, wetness, flooding for the Urbo soil; wetness, flooding for the Mantachie soil
Corrective measures: These soils generally are not suited for this use unless drained, filled, and protected from flooding.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forest land, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. The slope ranges mainly from 0 to 5 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 20. This list does not constitute a recommendation for a particular land use. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps at the back of this publication. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

Soils that have limitations, such as a high water table or flooding, may qualify as prime farmland if these limitations are overcome by such measures as drainage or flood control. Only those soils are listed, however, that have few limitations and need no additional improvements to qualify as prime farmland.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Crops and Pasture

Charles M. Guillory, conservation agronomist, Natural Resources Conservation Service, helped to prepare this section.

General management required for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Natural Resources Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

According to the U.S. Census of Agriculture, about 159,638 acres in Beauregard Parish was in farms in 1987. About 67,015 acres was used for crops, mainly soybeans, wheat, grain sorghum, rice, and annual forage and hay crops (fig. 11).

Differences in crop suitability and management needs result from differences in soil characteristics such as fertility levels, erodibility, organic matter content, availability of water for plants, drainage, and the hazard of flooding. Cropping systems and soil tillage also are an important part of management. Each farm has a unique soil pattern, therefore, each has unique management problems. Some principles of farm management apply to specific soils and certain crops. This section, however, presents the general principles of management that can be applied widely to the soils in the parish.

Pasture and Hayland

About 30,000 acres in Beauregard Parish was used for pasture in 1987. Perennial grasses, legumes, or mixtures of these are grown for pasture and hay. The mixtures generally consist of either a summer or a winter perennial grass and a suitable legume. Many farmers also seed small grain or ryegrass in fall for winter and spring forage. Excess forage that is produced in the growing season is harvested as hay for use in winter.

Common and improved bermudagrass and Pensacola bahiagrass are the most commonly grown summer perennials. These grasses produce good quality forage. Tall fescue is the most commonly grown

Figure 11.—Glenmora silt loam, 1 to 3 percent slopes, is the predominant soil that is used for rice production in Beauregard Parish.

winter perennial grass; it grows well only on soils that have a favorable moisture content. All of these grasses respond well to fertilizers, particularly to nitrogen.

On acid soils, white clover, crimson clover, vetch, and Austrian winterpeas respond well to applications of lime.

Proper grazing is essential for high quality forage, stand survival, and erosion control. Proper grazing includes withholding livestock until the plants have a good start in spring, controlling grazing height, rotation grazing, grazing at the best time, and periodic resting. Brush and weed control, fertilizer, lime, and renovation of the pasture also are important.

Grazing the understory native plants in woodland provides additional forage. About 500,000 acres of woodland is grazed in Beauregard Parish. Forage volume varies with the woodland site, the condition of native forage, and the density of the timber stand. Most woodland areas are managed mainly for timber. These areas, however, provide substantial volumes of forage under proper management. Careful management of stocking rates and grazing periods ensures the optimum forage production and maintains an adequate cover of understory plants to control erosion.

Fertilization and Liming

The soils of Beauregard Parish are highly leached and weathered. Calcium content is very low to low. Most of the soils contain substantial amounts of exchangeable aluminum and manganese, which can be toxic to some plants. Where the soils have a low pH status and low levels of calcium, applications of lime are needed to reduce the levels of aluminum and manganese. The soils of Beauregard Parish generally need both lime and a complete fertilizer for crops and pasture plants. The amount of fertilizer needed depends upon the kind of crop to be grown, past cropping history, the level of yield desired, and the kind of soil. Applications should be based on the results of soil tests. Information and instructions on collecting and testing soil samples can be obtained from the Cooperative Extension Service.

Organic Matter Content

Organic matter is an important source of nitrogen for crops. It also increases the rate of water intake, reduces surface crusting, reduces erosion of topsoil, and improves tilth. In most of the soils in the parish, organic matter content is low. The level of organic matter can be maintained by leaving plant residue on the soil surface, growing crops that produce an extensive root system and an abundance of foliage, adding barnyard manure, and growing perennial grasses and legumes in rotation with other crops.

Soil Tillage

Soils should be tilled only enough to prepare a seedbed and to control weeds. Excessive tillage destroys soil structure. Conservation tillage and no-till practices help to maintain soil tilth.

A compacted layer, generally called a traffic pan or plow pan, sometimes develops just below the plow layer in loamy soils. This can be avoided if the soil is not plowed when the soil is wet or if the depth of plowing is varied. Also, this layer can be broken up by subsoiling or chiseling. The use of tillage implements that stir the surface and leave crop residue in place protects the soil from beating rains. This protection of the soil surface helps to control erosion, reduce runoff and surface crusting, and increase infiltration (fig. 12).

Cropping System

A good cropping system includes a legume for nitrogen, a cultivated crop to control weeds, a deep-rooted crop to utilize subsoil fertility and maintain subsoil permeability, and a close-growing crop to help maintain the content of organic matter. A crop sequence that keeps the soil covered most of the time also helps to control erosion.

A suitable cropping system varies with the needs of the farmer and the characteristics of the soil. On livestock farms, for example, cropping systems are used that have higher percentages of pasture and annual forage than those used on cash crop farms. About 37,000 acres of cash crops are grown in Beauregard Parish. Grass and legume cover crops are grown during fall and winter.

Control of Erosion

Erosion is a major hazard on many soils, especially on uplands and terraces. Erosion generally is not a serious hazard on the mainly level to gently undulating soils on alluvial plains. If the gently sloping to strongly sloping soils, such as Gore, Acadia, and Beauregard, are left without plant cover for extended periods, erosion is a hazard. If the surface layer is lost through erosion, most of the available plant nutrients and most of the organic matter are also lost.

Sheet erosion is commonly a hazard in fallow-plowed fields. Gully erosion occurs mainly in areas of the more sloping soils. Sheet, rill, and gully erosion can be reduced by maintaining a plant cover on the soil, returning all crop residue to the soil, farming on the contour, stripcropping, and using conservation tillage. Also, seeding grass in drainage ditches immediately after construction helps to control erosion. Gully erosion-control structures are needed in some drainage ditches.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of each map unit also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the

Figure 12.—These soybeans were no-till planted in wheat stubble to prevent excess topsoil loss in this highly erodible Beauregard silt loam, 1 to 3 percent slopes.

irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland and for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, IIe. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w, s,* or *c* because the soils in class V are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, woodland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe-4 and IIIe-6.

Woodland Management and Productivity

J. Donald Lawrence, area forester, Natural Resources Conservation Service, helped to prepare this section.

This section provides information on the kind, amount, and condition of woodland resources in Beauregard Parish, as well as soil interpretations that can be used in planning.

Soils directly influence the growth, management, harvesting, and multiple use of forests. Soil is the medium in which a tree is anchored and from which it draws its nutrients and moisture. Soil characteristics, such as chemical composition, texture, structure, depth, and slope position affect tree growth, seedling survival, species adaptability and equipment use.

Woodland Resources

In Beauregard Parish about 594,000 acres, or about 80 percent of the total area, is commercial woodland. Commercial woodland is defined as land capable of producing crops of industrial wood and is not with-drawn from timber use.

Forests and the forest industry have played a major role in the economy of the parish. The parish is in the Western Coastal Plain and the Western Gulf Coast Flatwoods Major Land Resource Areas (MLRA).

In Beauregard Parish, about 45 percent of the forest land is owned by the forest industry, 17 percent by individuals, 23 percent by corporations, and 5 percent by private farmers.

Commercial woodland may be divided into forest types. The forest types in commercial forests are named for the dominant trees growing in the tree stand. Types are based on tree species, site quality, or age. The stands of trees are similar in character, composed of the same species, and grow under the same ecological and biological conditions.

The *loblolly-shortleaf* pine forest type makes up about 122,500 acres of the forest land in Beauregard Parish. Loblolly pine is dominant except on drier sites. Scattered hardwoods, such as sweetgum, blackgum, southern red oak, post oak, white oak, mockernut hickory, and pignut hickory, can be mixed with the pines. American beech and ash are associated with the forest type along the streams.

The *longleaf-slash pine* forest type make up about 268,300 acres of the forest land in the parish. This forest type is one in which 50 percent or more of the stand is longleaf or slash pine, singly or in combination. Common associates include other southern pines, upland oaks, and hickories.

The *oak-pine* forest type makes up about 40,800 acres of the forest land in the parish. The species that make up the oak-pine forest type are primarily the result of the influence of soil, slope, and aspect. On the higher, drier sites, the hardwood components tend to be the upland oaks, such as blackjack oak, southern red oak, and post oak. Blackgum, winged elm, red maple, and various hickories are associated with the oak-pine forest type on both dry and moist areas.

The *oak-hickory* forest type makes up about 58,300 acres of the forest land in the parish. Upland oaks or hickory, singly or in combination, make up a plurality of stocking. Common associates include elm and maple.

The *oak-gum-cypress* forest type makes up about 105,000 acres of the forest land in Beauregard Parish. This forest type is on the bottom lands of major streams. Dominant tree species are blackgum, sweetgum, bottomland oaks, and cypress. Associated trees are black willow, ash, hackberry, maple, and elm.

The marketable timber volume is about 74 percent pine and 26 percent hardwood. About 52 percent of the forest acreage is sawtimber, 26 percent is pole timber, and 19 percent is saplings and seedlings. About 3 percent is classified as non-stocked.

The productivity of forest land is measured by the amount of wood produced per acre per year, measured in cubic feet. About 46,700 acres of the forest land produces 165 cubic feet or more of wood per acre per year; 210,000 acres produces 120 to 165 cubic feet per acre per year; 192,500 acres produces 85 to 120 cubic feet per acre per year; 116,600 acres produces 50 to 85 cubic feet per acre per year; and 29,200 acres produces less than 50 cubic feet per acre per year.

Timber production is important to the economy of the parish. Forest industries own most of the upland pine sites. These upland pine forests are generally well managed. The small, privately-owned tracts are producing well below potential. Thinning out mature trees and undesirable species in stands will benefit most tracts. Protection from grazing, fire, insects, and diseases, and tree planting and timber stand improvement (TSI) will also improve stands.

The Natural Resources Conservation Service, Louisiana Office of Forestry, and the Louisiana Cooperative Extension Service can help determine specific forest management needs.

Environmental Impact

Woodlands also provide wildlife habitat, recreation, and natural beauty, and are vital to soil and water conservation efforts. The commercial forest land of Beauregard Parish provides food and shelter for wildlife and offers opportunities for sport and recreation to many users each year. Forest land provides watershed protection, helps to control erosion, reduces sedimentation, and enhances the quality and value of water resources.

Trees can be planted to screen distracting views of dumps and other unsightly areas, muffle sounds, reduce the velocity of winds, and lend beauty to the landscape. Trees also help filter out airborne impurities, help convert carbon dioxide into oxygen, and provide shade.

Production of Forage in Woodland

The kind and amount of understory vegetation are related to the soils, climate, and amount of tree overstory in a particular area. Many pine woodlands can be used for cattle grazing (fig. 13), but grazing of hardwood forests is not recommended. If proper management is applied, grasses, legumes, forbs, and many woody browse species are grazeable without damage to the wood crop. Grazing reduces the amount of litter accumulated on the soil surface and thus helps to prevent wildfires. It also suppresses undesirable woody plants.

The effectiveness of a combined woodland and livestock program depends primarily on the degree and time of grazing of the forage plants. Controlled grazing helps to maintain a protective cover for the soil and maintains or improves the quantity and quality of trees and forage vegetation.

Forage production varies with the type of woodland and the amount of sunlight that reaches the understory vegetation during the growing season. Groups of soils that have the same potential for producing trees will also have the same potential for producing about the same kinds and amounts of understory vegetation.

The vegetative community on these soils will reproduce itself as long as the environment does not change.

Proper grazing management that keeps the woodland forage in excellent or good condition will conserve water, improve yields, and protect the soils.

Production of Wood Crops

Table 6 can be used by woodland owners or forest managers in planning the use of soils for wood crops.

Figure 13.—This longleaf pine forest is used for cattle grazing as well as for timber production. The soil is Boykin loamy fine sand, 1 to 5 percent slopes.

Only those soils suitable for wood crops are listed. The table lists the ordination symbol for each soil. Soils assigned the same ordination symbol require the same general management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for an indicator tree species. The number indicates the volume, in cubic meters per hectare per year, which the indicator species can produce in a pure stand under natural conditions. The number 1 indicates low potential productivity; 2 or 3, moderate; 4 or 5, moderately high; 6 to 8, high; 9 to 11, very high; and 12 to 39, extremely high. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *R* indicates steep slopes; *X*, stoniness or rockiness; *W*, excess water in or on the soil; *T*, toxic substances in the soil; *D*, restricted rooting depth; *C*, clay in the upper part of the soil; *S*, sandy texture; *F*, a high content of rock fragments in the soil; and *L*, low strength. The letter *A* indicates that limitations or restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: R, X, W, T, D, C, S, F, and L.

In the table, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Erosion hazard is the probability that damage will occur as a result of site preparation and cutting where the soil is exposed along roads, skid trails, and fire lanes and in log-handling areas. Forests that have been burned or overgrazed are also subject to erosion. Ratings of the erosion hazard are based on the percent of the slope. A rating of *slight* indicates that no particular prevention measures are needed under ordinary conditions. A rating of *moderate* indicates that erosion-control measures are needed in certain silvicultural activities. A rating of *severe* indicates that special precautions are needed to control erosion in most silvicultural activities.

Equipment limitation reflects the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. The chief characteristics and conditions considered in the ratings are slope, rock outcrops, soil wetness, and texture of the surface layer. A rating of *slight* indicates that under normal conditions the kind of equipment and season of use are not significantly restricted by soil factors. Soil wetness can restrict equipment use, but the wet period does not exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If the soil is wet, the wetness restricts equipment use for a period of 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either as to the kind of equipment that can be used or the season of use. If the soil is wet, the wetness restricts equipment use for more than 3 months.

Seedling mortality refers to the death of naturally occurring or planted tree seedlings, as influenced by the kinds of soil, soil wetness, or topographic conditions. The factors used in rating the soils for seedling mortality are texture of the surface layer, depth to a seasonal high water table and the length of the period when the water table is high, rock fragments in the surface layer, effective rooting depth, and slope aspect. A rating of *slight* indicates that seedling mortality is not likely to be a problem under normal conditions. Expected mortality is less than 25 percent. A rating of *moderate* indicates that some problems from seedling mortality can be expected. Extra precautions are advisable. Expected mortality is 25 to 50 percent. A rating of *severe* indicates that seedling mortality is a serious problem. Extra precautions are important. Replanting may be necessary. Expected mortality is more than 50 percent.

Plant competition ratings indicate the degree to which undesirable species are expected to invade and grow when openings are made in the tree canopy. The main factors that affect plant competition are depth to the water table and the available water capacity. A rating of *slight* indicates that competition from undesirable plants is not likely to prevent natural regeneration or suppress the more desirable species. Planted seedlings can become established without undue competition. A rating of *moderate* indicates that competition may delay the establishment of desirable species. Competition may hamper stand development, but it will not prevent the eventual development of fully stocked stands. A rating of *severe* indicates that competition can be expected to prevent regeneration unless precautionary measures are applied.

The potential productivity of *common trees* on a soil is expressed as a *site index*. Common trees are listed in the order of their observed general occurrence. Generally, only two or three tree species dominate. The soils that are commonly used to produce timber have the yield predicted in cubic feet and board feet. The yield is predicted at the point where mean annual increment culminates. The productivity of the soils in this survey is mainly based on age 30 years for eastern cottonwood, 35 years for American sycamore, and 50 years for all other species.

The *site index* is determined by taking height measurements and determining the age of selected trees within stands of a given species. This index is the average height, in feet, that the trees attain in a specified number of years. This index applies to fully stocked, even-aged, unmanaged stands.

The *productivity* class represents an expected volume produced by the most important trees, expressed in cubic meters per hectare per year. Cubic meters per hectare can be converted to cubic feet per acre by multiplying by 14.3. It can be converted to board feet by multiplying by a factor of about 71. For example, a productivity class of 8 means the soil can be expected to produce 114 cubic feet per acre per year at the point where mean annual increment culminates, or about 568 board feet per acre per year.

Trees to plant are those that are used for reforestation or, if suitable conditions exist, natural regeneration. They are suited to the soils and will produce a commercial wood crop. Desired product, topographic position (such as a low, wet area), and personal preference are three factors of many that can influence the choice of trees to use for reforestation.

Recreation

The soils of the survey area are rated in table 7 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In the table, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or a combination of these measures.

The information in the table can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 10 and interpretations for dwellings without basements and for local roads and streets in table 9.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and trails for hiking and horseback riding should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Rick Simmering, state staff biologist, Natural Resources Conservation Service, helped to prepare this section.

Beauregard Parish is a rural environment rich in wildlife resources. The parish is composed of level to moderately steep uplands and terraces dissected by numerous streams. Terraces and uplands are dominated by pine and mixed pine/hardwood forest land with small inclusions of cropland and pasture. The flood plains of the Sabine River, Bundick Creek, the Whiskey Chitto River, and other streams support bottom-land hardwood forests.

Habitat for numerous wildlife species is provided by a mixture of land uses and diversity of vegetative types. The major game animals in Beauregard Parish are white-tailed deer and eastern wild turkey. Other important game species include bobwhite quail, American woodcock, fox and gray squirrels, and mourning doves. Cottontail and swamp rabbits also are plentiful and provide sport hunting. Wood ducks use the streams and wooded swamps for nesting and wintering habitat. Furbearers in the area include raccoon, gray and red fox, mink, nutria, and beaver. Coyotes also are numerous and inhabit all parts of the parish.

The American alligator, classified as a threatened species, resides in Bundick Lake and in perennial streams. The red-cockaded woodpecker, an endangered species, colonizes mature stands of longleaf and loblolly pines in the area; this species needs mature pine woodland with an open understory to survive.

There are moderate numbers of turkeys and white-tailed deer in the parish. Deer are at or above the carrying capacity of the available habitat. Turkey populations are static but have the potential to increase if proper habitat management is applied. Much of the land is owned by timber companies and is leased for hunting. Leasing of hunting rights constitutes a substantial source of income for many landowners.

The availability of food or cover for deer is limited on some lands in Beauregard Parish. Critical stress periods for deer are the late summer and winter months. Forestry management practices, such as selective thinning, prescribed burning, retention of mast-bearing shrubs and hardwoods, and planting food plots help to improve habitat for deer. Improving the habitat and controlling the harvest can improve the quality and quantity of deer in a given area. Turkeys require open, mature stands of woods, a daily supply of water, and access to open fields.

Bobwhite quail populations have declined since the 1950's. Populations can be increased by using prescribed burning to promote the growth of weeds and by planting seed-producing crops in food plots.

Squirrels are more concentrated along bottom lands where there are oaks and other mast-producing species. Landowners can manage for squirrels by retaining oaks, hickory, beech, and other hardwoods.

The Sabine River, Bundicks Creek, and Whiskey Chitto Creek all support viable fisheries populations. Bundicks Lake, a 1,750 acre man-made impoundment, is stocked and managed by the Louisiana Department of Wildlife and Fisheries. Common species include largemouth bass, bluegill, red ear sunfish, white and black crappie, channel, blue and flathead catfish, freshwater drum, and buffalo. The many private farm ponds in the parish can be stocked and managed for fisheries.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 8, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and grain sorghum.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, bahiagrass, bermudagrass, clover, and vetch.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, paspalum, uniola, and wooly croton.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, sugarberry, sweetgum, parsimmon, hawthorn, dogwood, hickory, blackberry, and huckleberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are autumn-olive and blueberry.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, cedar, and baldcypress.

Shrubs are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs are depth of the root zone, available water capacity, salinity, and soil moisture. Examples of shrubs are American beautyberry, waxmyrtle, sumac, and American elder.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, oxbow lakes, and greentree reservoirs.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and coyotes.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, nutria, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Table 9 shows the degree and kind of soil limitations that affect shallow excavations, dwellings without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock, a cemented pan, or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and depth to the water table.

Dwellings and *small commercial buildings* are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrinking and swelling, and organic layers can cause the movement of footings. A high water table, depth to bedrock or to a cemented pan, large stones, slope, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 or 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or stabilized soil material; and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock or to a cemented pan, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, and depth to a high water table affect the traffic-supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock or to a cemented pan, the available water capacity in the upper 40 inches, and the content of salts, sodium, and sulfidic materials affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 10 shows the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

The table also shows the suitability of the soils for use as daily cover for landfill. A rating of *good* indicates that soil properties and site features are favorable for the use and good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock or to a cemented pan, and flooding affect absorption of the effluent. Large stones and bedrock or a cemented pan interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to filter the effluent effectively. Many local ordinances require that this material be of a certain thickness.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

The table gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, depth to bedrock or to a cemented pan, flooding, large stones, and content of organic matter.

Excessive seepage resulting from rapid permeability in the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground-water pollution. Ease of excavation and revegetation should be considered.

The ratings in the table are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock or to a cemented pan, a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium affect trench landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness, coarse fragments, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to wind erosion.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

Construction Materials

Table 11 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a *probable* or *improbable* source of sand and gravel. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help to determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, a low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have a moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet and have a water table at a depth of less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable, loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel, stones, or soluble salts, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel, stones, or soluble salts, have slopes of more than 15 percent, or have a seasonal high water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 12 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; and embankments, dikes, and levees. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and the potential for frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

Engineering Index Properties

Table 13 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under the heading "Soil Series and Their Morphology."

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as about 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 1993) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 1986).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than

3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index generally are rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

Physical and Chemical Properties

Table 14 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$-bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on the basis of measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity.

The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; *high*, more than 6 percent; and *very high*, greater than 9 percent.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.02 to 0.64. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 14 the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Soil and Water Features

Table 15 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate Of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep and very deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep to very deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to two hydrologic groups in the table, the first letter is for drained areas and the second is for undrained areas.

Flooding, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Table 15 gives the frequency and duration of flooding and the time of year when flooding is most likely. Frequency, duration, and probable dates of occurrence are estimated. Frequency is expressed as none, rare, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of flooding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of flooding is more than 50 percent in any year). *Common* is used when the occasional and frequent classes are grouped for certain purposes. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 days to 1 month, and *very long* if more than 1 month. Probable dates are expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The estimates are based mainly on observations of the water table at selected sites and on the evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. Indicated in table 15 are the depth to the seasonal high water table; the kind of water table—that is, perched, apparent, or artesian; and the months of the year that the water table commonly is high. A water table that is seasonally high for less than 1 month is not indicated in the table.

An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Two numbers in the column showing depth to the water table indicate the normal range in depth to a saturated zone. Depth is given to the nearest half foot. The first numeral in the range indicates the highest water level. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. "More than 6.0" indicates that the water table is below a depth of 6 feet or that it is within a depth of 6 feet for less than a month.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low, moderate,* or *high.* It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Soil Fertility Levels

Dr. J.L. Kovar and Dr. W.H. Hudnall, Department of Agronomy, Louisiana Agricultural Experiment Station, Louisiana State University Agricultural Center, prepared this section.

This section contains information on both the environmental factors and the physical and chemical properties of the soils that affect their potential for crop production. It also lists the analytical methods that were used to determine the chemical properties of the sampled soils.

Factors Affecting Crop Production

Crop composition and yield are a function of many environmental, plant, and soil factors. These factors are interdependent. The magnitude of the factors and the interactions among them control crop response. The relative importance of each factor changes from soil to soil, crop to crop, and environment to environment. The soil factors are only part of the overall system, and are as follows.

Environmental factors: Light (intensity and duration), temperature (air and soil), precipitation (distribution and amount), and atmospheric carbon dioxide concentration are the main environmental factors.

Plant factors: These factors are species- and hybrid-specific. They include the rates of nutrient and water uptake and the rates of growth and related plant functions.

Soil factors: These factors include both physical and chemical properties of the soils.

Physical properties: These factors are particle-size distribution and texture, structure, surface area, bulk density, water retention and flow, and aeration.

Chemical properties (soil fertility factors): The effect that the chemical properties of soils have on crop growth can be better understood by discussing the quantity of a chemical element, its intensity, the relationship of quantity and intensity, and the rate of replenishment of the elements to the soils.

Quantity factor: This describes the concentration of a nutrient ion absorbed or held in exchangeable form on the solid phase of the soil. This form of nutrient ion also is available for plant intake.

Intensity factor: This describes the concentration of a nutrient ion in soil solution. Since plant roots absorb nutrients directly from soil solution, this factor quantifies the amount of a nutrient element immediately available for uptake.

Quantity/intensity relationship factor: This describes the relationship between the quantity and intensity factors and is sometimes called the buffer power. As the plant root absorbs nutrients from soil solution, the concentration in solution is replenished by ions from the solid phase. If two soils have identical intensity factors, the soil with the greater quantity factor will provide more nutrients during the growing season, since it will be able to maintain the intensity factor level for a longer period.

Replenishment factor: Rate of replenishment of the available supply of nutrients in the solid and solution phases by weathering reactions, fertilizer additions, and transport by mass flow and diffusion.

The goal of soil testing is to provide information for a soil and crop management program that establishes and maintains optimum levels and balance of the essential elements in soil for crop and animal nutrition, and that protects the environment against the buildup of potentially toxic levels of essential and nonessential elements. Current soil tests attempt to measure the available supply of one or more nutrients in the plow layer. The available supply consists of nutrients characterized by both the intensity and quantity factors. Where crop production is clearly limited by available supply of one or more nutrients, existing soil tests generally can diagnose the problem and reliable recommendations to correct the problem can be made. Soil management systems generally are based on physical and chemical alteration of the plow layer. Characteristics of this layer can vary from one location to another, depending upon management practices and soil use.

Subsurface horizons are less subject to change or change very slowly as a result of alteration of the plow layer. These horizons reflect the soil's inherent ability to supply nutrients to plant roots and to provide a favorable environment for root growth. If soil fertility recommendations based on current soil tests are followed, major fertility problems in the plow layer normally are corrected. Crop production is then limited by crop and environmental factors, physical properties of the plow layer, and physical and chemical properties of the subsoil.

Chemical Analysis Methods

Information on the available nutrient supply in the subsoil allows evaluation of the natural fertility levels of the soil. Soil profiles were sampled during the soil survey and analyzed for soil reaction; organic matter content; extractable phosphorus; exchangeable cations of calcium, magnesium, potassium, sodium, aluminum, and hydrogen; total acidity; and cation-exchange capacity. The results are summarized in Table 16. The methods used in obtaining the data are indicated in the list that follows. The codes in parentheses refer to published methods (USDA, 1984).

Organic carbon: acid-dichromate oxidation (6A1a)
pH: 1:1 soil/water solution (8C1a)
Extractable phosphorus: Bray 2 extractant (0.03 molar ammonium fluoride - 0.1 molar hydrochloric acid)
Exchangeable cations: pH 7, 1 molar ammonium acetate-calcium (6N2), magnesium (602), potassium (6Q2), sodium (6P2)
Exchangeable aluminum and hydrogen: 1 molar potassium chloride (6G2)
Total acidity: pH 8.2, barium chloride-triethanolamine (6H1a)
Sum cation-exchange capacity: sum of bases plus total acidity (5A3a)
Effective cation-exchange capacity: sum of bases plus exchangeable aluminum and hydrogen (5A3b)
Base saturation: sum of cations/sum cation-exchange capacity (5C3)
Exchangeable sodium percentage: exchangeable sodium/sum cation-exchange capacity
Aluminum saturation: exchangeable aluminum/ effective cation-exchange capacity

Characteristics of Soil Fertility

In general, four major types of nutrient distribution in soils of Louisiana can be identified. The first type includes soils that have relatively high levels of available nutrients throughout the profile. This type reflects the relatively high fertility status of the parent material from which soils developed at a relatively young age or a less intense degree of weathering of the soil profile. None of the soils in Beauregard Parish are in this group.

The second type includes soils that have relatively low levels of available nutrients in the surface layer, but generally have increasing levels with depth through the soil profile. These soils have relatively fertile parent material, but are older soils that have been subjected either to weathering over a longer period of time or to more intense weathering. If the levels of available nutrients in the surface layer are low, crops may exhibit deficiency symptoms early in the growing season. Deficiency symptoms often disappear if crop roots are able to penetrate to the more fertile subsoil as the growing season progresses. The majority of the soils in Beauregard Parish are in this group.

The third type includes soils that have adequate or relatively high levels of available nutrients in the surface layer but have relatively low levels in the subsoil. Such soils developed from low fertility parent material, or they are older soils that have been subjected to more intense weathering over a longer period of time. The higher nutrient levels in the surface layer generally are a result of fertilization in agricultural soils or biocycling in undisturbed soils. Soils such as the Cahaba soils are in this group.

The fourth type includes soils that have relatively low levels of available nutrients throughout the soil profile. These soils developed from low fertility parent material, or they are older soils that have been subjected to intense weathering over a long period of time. Neither fertilization nor biocycling has contributed to nutrient levels in the surface layer of these soils. Bienville, Hainesville, and Boykin soils are in this group.

Soil reaction and acidity, organic matter content, sodium content, and cation-exchange capacity also can provide evidence of the general nutrient distribution patterns in soils. Distribution patterns are the result of the interactions of parent material; weathering (climate); time; and, to a lesser extent, organisms and topography.

More than 90 percent of *nitrogen* in the surface layer is in the form of organic nitrogen. Most of the nitrogen in the subsoil is in the form of fixed ammonium nitrogen. These forms of nitrogen are unavailable for plant uptake, but they can be converted to readily available ammonium and nitrate species.

Nitrogen generally is the most limiting nutrient element in crop production, because of high plant demand. In most cases nitrogen fertilizer recommendations are based on the nitrogen requirement of the crop, rather than on the nitrogen soil test levels, because no reliable nitrogen soil tests have been developed for Louisiana soils.

Information on the nitrogen fertility status of a soil can be obtained by measuring several soil nitrogen parameters. These include the amount of readily available ammonium and nitrate nitrogen in the soil, the amount of organic nitrogen, the rate of mineralization of organic nitrogen to available forms of inorganic nitrogen, and the rate of conversion of fixed ammonium nitrogen to available forms of nitrogen. Unfortunately, since the amounts and rates of transformation of the various forms of nitrogen in the soils of Beauregard Parish have not been determined, no assessment of the nitrogen fertility status for these soils can be given; however, fertilizer nitrogen recommendations obtained from the Louisiana Cooperative Extension Service may be used to determine application rates.

Phosphorus exists in soils as inorganic phosphorus in soil solution; as discrete minerals, such as hydroxyapatite, variscite, and strengite; as occluded or coprecipitated phosphorus in other minerals; as phosphorus retained on the surfaces of minerals, such as carbonates, metal oxides, and layer silicates; and in organic compounds. Soil solution concentrations of phosphorus generally are low. Since plant roots obtain almost all phosphorus from the soil solution, phosphorous uptake depends on the ability of the soil solid phase phosphorus to maintain phosphorus concentration in soil solution. Soil test procedures generally attempt to measure soil solution phosphorus, plus the readily available solid phase phosphorus that buffers the solution phase concentration.

The Bray 2 (Bray and Kuntz, 1945) extractant tends to extract more phosphorus than the commonly used Bray 1, Mehlich 1 (Mehlich, 1953), and Olsen (Olsen et al., 1954) extractants. The Bray 2 extractant provides an estimate of both the readily available and the slowly available supply of phosphorus in soils. The Bray 2 extractable phosphorus content of most of the soils in Beauregard Parish is uniformly low throughout the soil profile except where addition of fertilizer phosphorus has raised the level of extractable phosphorus in the surface layer. Low levels of available phosphorus are a limiting factor in crop production. Continual addition of fertilizer phosphorus to such soils is needed to build up and maintain adequate levels of available phosphorus for sustained crop production.

Potassium exists in four major forms in soils. These are soil solution potassium, exchangeable potassium associated with negatively charged sites on clay mineral surfaces, nonexchangeable potassium trapped between clay mineral interlayers, and structural potassium within the crystal lattice of minerals. Exchangeable potassium in soils can be replaced by other cations and is generally readily available for plant uptake. To become available to plants, nonexchangeable potassium and structural potassium must be converted to exchangeable potassium through weathering reactions.

The exchangeable potassium content of the soils is an estimate of the supply available to plants. The available supply of potassium in most of the soils of Beauregard Parish is very low to low throughout the soil profile. Low exchangeable potassium levels indicate a general lack of micaceous minerals, which are a source of exchangeable potassium during weathering.

Crops respond to fertilizer potassium if exchangeable potassium levels are very low to low. Low levels can be built up gradually by adding fertilizer potassium to soils that contain a sufficient amount of clay to hold the potassium. Exchangeable potassium levels can be maintained by adding enough fertilizer potassium to account for crop removal, fixation of exchangeable potassium to nonexchangeable potassium, and leaching losses. The soils in Beauregard Parish that have a sandier texture, such as Bienville, Boykin, and Hainesville soils, do not have a sufficient amount of clay to hold the potassium; therefore, they do not have a sufficiently high cation-exchange capacity to maintain adequate quantities of available potassium for sustained crop production. More frequent additions of potassium are needed to balance losses of potassium by leaching in these soils.

Magnesium exists in soil solution as exchangeable magnesium associated with negatively charged sites on clay mineral surfaces and as structural magnesium in mineral crystal lattices. Solution and exchangeable magnesium generally are readily available for plant uptake, whereas structural magnesium must be converted to exchangeable magnesium during mineral weathering reactions.

According to soil test interpretation guidelines, the exchangeable magnesium content of the soils of Beauregard Parish is low, medium, or high, depending upon soil texture. Low exchangeable magnesium levels are found throughout most of the soil profile in soils such as the Bienville, Boykin, Doucette, and Hainesville soils. The Acadia, Brimstone, Glenmora, Gore, Kolin, and Sugartown soils have low levels in the upper part of the profile and medium to high levels in the lower part. Variable levels throughout the profile are evident in the Blevins soils. Higher levels of exchangeable magnesium in certain soil horizons generally are associated with higher clay content in those horizons.

The levels of exchangeable magnesium in most of the soils in Beauregard Parish are more than adequate for crop production, especially where the plant roots can exploit the high levels found in the subsoil. Because magnesium deficiencies in plants normally are rare, fertilizer sources of magnesium generally are not needed for crop production.

Calcium exists in soil solution, as exchangeable calcium associated with negatively charged sites on clay mineral surfaces, and as structural calcium in mineral crystal lattices. Exchangeable calcium generally is available for plant intake while structural calcium is not.

Calcium deficiencies in plants are extremely rare. Calcium normally is added to soils from liming materials used to correct problems associated with soil acidity.

Some soils in Beauregard Parish, such as Gore and Kolin, have low levels in the upper part of the profile and medium to high levels in the lower part. Still other soils, such as Blevins and Dubach, have variable levels throughout the soil profile. The higher levels of exchangeable calcium in the surface layer normally are associated with a higher soil reaction than in the subsoil and probably are the result of applications of lime to control soil acidity. Higher exchangeable calcium levels in the subsoil than in the surface layer generally are associated with a higher clay content in the subsoil.

Calcium normally is the most abundant exchangeable cation in soils; however, the exchangeable magnesium levels in the subsoils of the Acadia, Cahaba, Gore, Kolin, Malbis, Ruston, and Spurger soils are greater than the exchangeable calcium levels. In the other soils in the parish, exchangeable calcium levels are greater than, or about the same as, the exchangeable magnesium levels.

The *organic matter content* of a soil greatly influences other soil properties. High organic matter content in mineral soils is desirable, while low organic matter content can lead to many problems. Increasing the organic matter content can greatly improve the soil structure, drainage, and other physical properties. It can also increase the moisture-holding capacity, cation-exchange capacity, and nitrogen content.

Increasing the organic matter content is very difficult, because organic matter is continually subject to microbial degradation. This is especially true in Louisiana where higher soil temperatures and water content increase microbial activity. The rate of organic matter degradation in native plant communities is balanced by the rate of input of fresh material. Disruption of this natural process can lead to a decline in the organic matter content of the soil. Unsound management practices lead to a further decrease in organic matter content.

If no degradation of organic matter occurs, 10 tons of organic matter addition will raise the organic matter content in the upper 6 inches of soil by just 1 percent. Since breakdown of organic matter does occur in the soil, the addition of large amounts of organic matter to the soil are needed over a period of several decades to produce a small increase in the organic matter content. Conservation tillage and use of cover crops slowly increase the organic matter content over time, or at least prevent further declines.

The organic matter content of the soils of Beauregard Parish is low. It decreases sharply with depth because fresh inputs of organic matter are confined to the surface layer. These low levels reflect the high rate of organic matter degradation, erosion, and use of cultural practices that make maintenance of organic matter at higher levels difficult.

Sodium exists in soil solution as exchangeable sodium associated with negatively charged sites on clay mineral surfaces, and as structural sodium in mineral crystal lattices. Because sodium is readily soluble and generally is not strongly retained by soils, well drained soils subjected to moderate or high rainfall normally do not have significant amounts of sodium. Soils in low rainfall environments, soils that have restricted drainage in the subsoil, and soils of the coastal marsh may have significant amounts of sodium. High levels of exchangeable sodium in soils are associated with undesirable physical properties such as poor structure, slow permeability, and restricted drainage.

Levels of exchangeable sodium that make up more than 6 percent of the sum of the effective cation-exchange capacity in the rooting depth of summer annuals can create undesirable physical properties in soils. Some of the undesirable properties are crusting of the surface, dispersion of soil particles, low water infiltration rates, and low hydraulic conductivity. Soils such as Brimstone, Gore, Kolin, Merryville, and Sugartown have higher than normal levels of exchangeable sodium. Higher than normal levels of exchangeable sodium in the soils usually are associated with restricted drainage in the subsoil.

The *pH* of the soil solution in contact with the soil affects other soil properties. Soil pH is an intensity factor rather than a quantity factor. The lower the pH, the more acidic the soil. Soil pH controls the availability of essential and nonessential elements by controlling mineral solubility, ion exchange, and absorption-desorption reactions at the surfaces of the soil minerals and organic matter. The pH also affects microbial activity.

Aluminum exists in soils as exchangeable polymeric hydrolysis species, aluminum oxides, and aluminosilicate minerals. Exchangeable aluminum in soils is determined by extraction with neutral salts, such as potassium chloride or barium chloride. The exchangeable aluminum in soils is directly related to pH. If the pH is less than 5.5, the soils have significant amounts of exchangeable aluminum that has a charge of plus 3. This species of aluminum is toxic to plants. The toxic effects of aluminum on plant growth can be alleviated by adding lime to the soil to convert exchangeable aluminum to nonexchangeable polymeric hydrolysis species. High levels of organic matter also can alleviate aluminum toxicity.

Sources of *exchangeable hydrogen* in soils include hydrolysis of exchangeable and nonexchangeable aluminum and pH-dependent exchange sites on metal oxides, certain layer silicates, and organic matter. Exchangeable hydrogen, as determined by extraction with such neutral salts as potassium chloride, normally is not a major component of soil acidity. Exchangeable hydrogen is not readily replaced by other cations unless accompanied by a neutralization reaction. Most of the neutral salt exchangeable hydrogen in soils apparently comes from aluminum hydrolysis.

Acidity from hydrolysis of neutral salt exchangeable aluminum plus neutral salt exchangeable hydrogen from pH-dependent exchange sites makes up the *exchangeable acidity* in soils. Exchangeable acidity is determined by the pH of the soil. *Titratable acidity* is the amount of acidity neutralized to a selected pH, generally, pH 7 or 8.2, and constitutes the *total potential acidity* of a soil. All sources of soil acidity, including hydrolysis of monomeric and polymeric aluminum species and hydrogen from pH-dependent exchange sites on metal oxides, layer silicates, and organic matter, contribute to the total potential acidity. Total potential acidity in soils is determined by titration with base or incubation with lime; extraction with a buffered extractant followed by titration of the buffered extractant (pH 8.2, barium chloride-triethanolamine method); or equilibration with buffers followed by estimation of acidity from changes in buffer pH.

Most soils of Beauregard Parish have a low pH, contain significant quantities of exchangeable aluminum, and have high levels of total acidity in many of the soil horizons. Examples are Acadia, Blevins, Cahaba, Doucette, Dubach, Glenmora, Gore, Guyton, Kolin, Malbis, Messer, Ouachita, Ruston, and Spurger soils. The high levels of exchangeable aluminum are a major limiting factor in crop production. High levels of exchangeable aluminum in the surface layer of the soils can be reduced by adding lime. No economical methods are presently available to neutralize soil acidity at depth. Some reduction of exchangeable aluminum levels at depth can be achieved by applying gypsum so that the calcium leaches through the soil and replaces the exchangeable aluminum.

Cation-exchange capacity is a measure of the amount of nutrient and non-nutrient cations a soil can hold in an exchangeable form. The cation-exchange capacity depends on the number of negatively charged sites, both permanent and pH-dependent, present in the soil. Permanent charge cation-exchange sites occur because a net negative charge develops on a mineral surface from substitution of ions within the crystal lattice. A negative charge developed from ionization of surface hydroxyl groups on minerals and organic matter produces pH-dependent cation-exchange sites.

Methods for determining cation-exchange capacity are available and can be classified as one of two types. These include methods that use unbuffered salts to measure the cation-exchange capacity at the pH of the soil, and methods that use buffered salts to measure the cation-exchange capacity at a specified pH. These methods produce different results since buffered salt methods include only a part of the pH-dependent cation-exchange capacity up to the pH of the buffer, pH 7 and 8.2. Errors in the saturation, washing, and replacement steps also can cause different results.

The *effective cation-exchange capacity* is the sum of exchangeable bases, which includes calcium, magnesium, potassium, and sodium. Effective cation-exchange capacity is determined by extraction with 1 molar ammonium acetate at pH 7, plus the sum of neutral salt-exchangeable aluminum and hydrogen (exchangeable acidity). The sum cation-exchange capacity is the sum of exchangeable bases, plus the total acidity determined by extraction with pH 8.2, barium chloride-triethanolamine. The effective cation-exchange capacity generally is less than the sum cation-exchange capacity, and includes only that part of the pH-dependent cation-exchange capacity that is determined by exchange of hydrogen with a neutral salt. The sum cation-exchange capacity includes all of the pH-dependent cation-exchange capacity up to pH 8.2. If a soil contains no pH-dependent exchange sites, or if the pH of the soil is about 8.2, the effective and sum cation-exchange capacity will be about the same. The larger the cation-exchange capacity, the larger the capacity to store nutrient cations.

The *pH-dependent charge* is a significant source of the cation-exchange capacity in most soils of Beauregard Parish. Since the pH-dependent cation-exchange capacity increases with pH, the cation-exchange capacity of many of the soils can be increased by adding lime. This would result in greater storage capacity for nutrient cations, such as potassium, magnesium, and calcium.

Physical and Chemical Analyses of Selected Soils

The results of physical analysis of several typical pedons in the survey area are given in table 17 and the results of chemical analysis in table 18. The data are for soils sampled at carefully selected sites. Unless otherwise indicated, the pedons are typical of the series. They are described in the section "Soil Series and Their Morphology." Soil samples were analyzed by the National Soil Survey Laboratory and by the Soil Characterization Laboratory at the Louisiana Agricultural Experiment Station.

Most determinations, except those for grain-size analysis and bulk density, were made on soil material smaller than 2 millimeters in diameter. Measurements reported as percent or quantity of unit weight were calculated on an ovendry basis. The methods used in obtaining the data are indicated in the list that follows. The codes in parentheses refer to published methods (USDA, 1984).

Sand—(0.05-2.0 mm fraction) weight percentages of material less than 2 mm (3A1)
Silt—(0.002-0.05 mm fraction) pipette extraction, weight percentages of all material less than 2 mm (3A1)
Clay—(fraction less than 0.002 mm) pipette extraction, weight percentages of material less than 2 mm (3A1)
Water retained—pressure extraction, percentage of ovendry weight of less than 2 mm material; 1/3 or 1/10 bar (4B1), 15 bars (4B2)
Water-retention difference—between 1/3 bar and 15 bars for whole soil (4C1)
Moist bulk density—of less than 2 mm material, cores (4A3)
Linear extensibility—change in clod dimension based on whole soil (4D)
Organic carbon—dichromate, ferric sulfate titration (6A1c)
Extractable cations—ammonium acetate pH 7.0, uncorrected; calcium (6N2), magnesium (6O2), sodium (6P2), potassium (6Q2)
Extractable acidity—barium chloride-triethanolamine I (6H5a)
Cation-exchange capacity—ammonium acetate, pH 7.0, steam distillation (5A8b)
Base saturation—sum of cations, TEA, pH 8.2 (5C3)
Reaction (pH)—1:1 water dilution (8C1a)
Reaction (pH)—potassium chloride (8C1c)
Reaction (pH)—calcium chloride (8C1e)
Aluminum—potassium chloride extraction (6G)
Iron—dithionate-citrate extract(6C2b)
Extractable manganese—dithionite-citrate extraction (6D)

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (USDA, 1975). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 19 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol.* An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Fluvent (*Flu*, meaning water, plus *ent*, from Entisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Udifluvent (*Udi*, meaning moist, plus *fluvent*, the suborder of the Entisols that formed in river sediments).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Aquic* identifies the subgroup that has an aquic moisture regime. An example is Aquic Udifluvents.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size, mineral content, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is coarse-loamy, siliceous, acid, thermic Aquic Udifluvents.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (USDA, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (USDA, 1975) and in "Keys to Soil Taxonomy" (USDA, 1992). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed Soil Map Units."

Acadia Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slowly permeable
Landscape: Flatwoods
Landform: Low terraces
Parent material: Alluvium from mid Pleistocene-age loamy and clayey marine deposits

Slope range: 1 to 5 percent

Taxonomic Classification

Fine, montmorillonitic, thermic, Aeric Ochraqualfs *

Associated Soils

Beauregard, Caddo, Glenmora, Gore, Guyton, and Kolin soils.

Beauregard, Glenmora, and Kolin soils are in positions similar to those of the Acadia soils and are fine-silty. The Caddo and Guyton soils are in level areas, are fine-silty, and are poorly drained. Guyton soils are also on flood plains. The Gore soils have convex slopes and have a subsoil that is reddish in some parts.

Typical Pedon

Acadia silt loam in an area of Acadia silt loam, 1 to 3 percent slopes; in woodland; about 6 miles southwest of Longville, LA; 1,350 feet north and 2,230 feet west of the southeast section corner, NW1/4SE1/4 sec. 31, T. 5 S., R. 9 W.; 30° 34´58" N. lat., 93° 19´37" W. long., Kernan 7.5 minute USGS topographic quadrangle.

A—0 to 4 inches; brown (10YR 5/3) silt loam; few fine faint dark yellowish brown and grayish brown mottles; moderate fine and medium granular structure; friable; common fine roots; very strongly acid; abrupt smooth boundary.

E—4 to 6 inches; light yellowish brown (10YR 6/4) silt loam; few fine faint dark yellowish brown (10YR 4/4) masses of iron accumulation; weak medium subangular blocky structure; friable; common fine roots; very strongly acid; abrupt wavy boundary.

BE—6 to 11 inches; yellowish brown (10YR 5/6) silty clay loam; few fine distinct grayish brown (10YR 5/2) iron depletions and dark yellowish brown (10YR 4/4) masses of iron accumulation; weak medium subangular blocky structure; friable; few fine roots; few fine pores; few faint clay films on ped surfaces and in pores; very strongly acid; gradual wavy boundary.

Bt—11 to 20 inches; yellowish brown (10YR 5/4) silty clay; common medium distinct yellowish brown (10YR 5/8) masses of iron accumulation and common fine prominent red (2.5YR 4/8) masses of iron accumulation; weak fine and medium subangular blocky structure; plastic, sticky; few fine roots; very strongly acid; gradual wavy boundary.

Btg—20 to 45 inches; light brownish gray (10YR 6/2) silty clay; many fine prominent red (2.5YR 4/8) masses of iron accumulation; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; moderate fine and medium subangular blocky structure; plastic, sticky; few fine roots; common distinct clay films on faces of peds; moderately acid; gradual wavy boundary.

BCg—45 to 64 inches; light brownish gray (10YR 6/2) silty clay; common medium prominent red (2.5YR 4/8) masses of iron accumulation; weak coarse prismatic structure parting to weak fine and medium subangular blocky; plastic, sticky; common faint clay films on faces of peds; moderately acid; gradual wavy boundary.

C—64 to 82 inches; red (2.5YR 4/8) clay; many fine prominent strong brown (7.5YR 5/6) masses of iron accumulation and common fine prominent light brownish gray (10YR 6/2) iron depletions; massive; plastic, sticky; few fine roots; common intersecting slickensides; strongly acid (fig. 14).

Range in Characteristics

Solum thickness: 30 to more than 60 inches

Clay content in the control section: 40 to 55 percent

Redoximorphic features: Iron depletions and iron accumulations beginning within a depth of 16 inches; depleted matrix beginning at 20 to 30 inches deep

Other distinctive soil features: Clayey subsoil layer at 10 to 20 inches deep

Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.

Reaction: Very strongly acid to moderately acid in the A and E horizons; very strongly acid or strongly acid in the BE horizon; very strongly acid to moderately acid in the Bt and Btg horizons; very strongly acid to slightly acid in the BCg horizon; very strongly acid to slightly alkaline in the C horizon

A or Ap horizon:

Color: Hue of 10YR, value of 4 or 5, and chroma of 2 to 4

Redoximorphic features: None

Texture: Silt loam

Other features: None

Thickness: 4 to 8 inches

E horizon:

Color: Hue of 10YR, value of 5 or 6, and chroma of 2 to 4

Redoximorphic features: None to few iron accumulations in shades of brown

Texture: Silt loam

Other features: None

Thickness: 2 to 12 inches

BE horizon:
Color: Hue of 10YR, value of 5 or 6, and chroma of 4 to 8
Redoximorphic features: None to few iron accumulations in shades of brown, and iron depletions in shades of gray and grayish brown
Texture: Silt loam or silty clay loam
Other features: None
Thickness: 4 to 14 inches

Bt horizon: (where present)
Color: Hue of 10YR, value of 5 or 6, and chroma of 3 to 6
Redoximorphic features: Few to many iron depletions in shades of gray and iron accumulations in shades of red and brown
Texture: Clay or silty clay
Other features: None
Thickness: 0 to 10 inches

Btg horizon:
Color: Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features: Red and yellow masses of iron accumulation range from few to many.
Texture: Silty clay or clay
Other features: None

BCg horizon:
Color: Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features: Red and yellow masses of iron accumulation range from few to many.
Texture: Clay, silty clay, or silty clay loam
Other features: None

C horizon:
Color: Hue of 2.5YR, 5YR, or 7.5YR, value of 4 to 6, and chroma of 4 to 8
Redoximorphic features: None to many iron accumulations in shades of brown, and iron depletions in shades of gray
Texture: Silt loam, silty clay loam, or clay
Other features: None
* Acadia soils in Beauregard Parish are taxadjuncts because they typically do not have a depleted matrix or a dominance of iron depletions of chroma of 2 on faces of peds within the upper 20 inches.

Bearhead Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately permeable
Landscape: Coastal plain
Landform: Terraces
Parent material: Alluvium from sandy and loamy late Pleistocene-age stream deposits
Slope range: 1 to 5 percent

Taxonomic Classification

Coarse-loamy, siliceous, thermic Typic Hapludults

Associated Soils

Bienville, Dubach, Merryville, and Spurger soils. Bienville soils are on slightly higher positions and are sandy throughout. Dubach soils are on slightly lower intermound positions and are fine-loamy. Merryville soils are on lower positions between the mounds and in swales; they are poorly drained and are grayish throughout. Spurger soils are on side slopes along drainageways; they have a fine-textured control section and a reddish subsoil.

Typical Pedon

Bearhead very fine sandy loam in an area of Bearhead-Merryville complex, gently undulating; in woodland; about 0.75 mile east of Merryville, LA; 0.5 mile north of Highway 110, 3,200 feet east of Merryville High School, 105 feet north of gas pipeline; SE$^1/_4$NE$^1/_4$ sec. 6, T. 4 S., R. 11 W.; 30° 44´43" N. lat., 93° 31´31" W. long., Merryville, South 7.5 minute USGS topographic quadrangle.

A—0 to 8 inches; pale brown (10YR 6/3) very fine sandy loam; few fine distinct dark yellowish brown (10YR 4/4) mottles; weak fine subangular blocky structure parting to weak fine granular; friable; many fine roots and common coarse and medium roots; few fine soft iron and manganese accumulations; very strongly acid; clear wavy boundary.

E—8 to 15 inches; very pale brown (10YR 7/3) very fine sandy loam; common fine and medium faint light yellowish brown (2.5Y 6/4) mottles; weak medium subangular blocky structure; friable; many fine roots and common medium roots; few fine and medium soft accumulations of iron and manganese; few fine pieces of charcoal; strongly acid; clear smooth boundary.

B/E—15 to 21 inches; brownish yellow (10YR 6/6) very fine sandy loam (Bt); moderate very coarse subangular blocky structure parting to moderate fine subangular blocky; friable; common fine and medium roots; very pale brown (10YR 7/4) very fine sandy loam (E), in pockets $^1/_{16}$ to 1 inch in diameter, makes up about 35 percent of this horizon; slightly hard; very strongly acid; gradual smooth boundary.

Bt1—21 to 35 inches; strong brown (7.5YR 5/8) very fine sandy loam; common fine distinct light yellowish brown (10YR 6/4) iron depletions and common fine faint yellowish brown (10YR 5/6) mottles; weak coarse prismatic structure parting to weak fine angular blocky; friable; common fine and medium roots; common fine and very fine continuous vesicular pores; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt2—35 to 46 inches; brownish yellow (10YR 6/8) very fine sandy loam; common medium faint brownish yellow (10YR 6/6) masses of iron accumulation and few fine distinct very pale brown (10YR 7/4) iron depletions; weak medium subangular blocky structure; friable; common fine and medium roots; few fine and very fine continuous vesicular pores; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt3—46 to 59 inches; very pale brown (10YR 7/4) very fine sandy loam; common medium distinct light yellowish brown (10YR 6/4) and brownish yellow (10YR 6/8) masses of iron accumulation; moderate medium prismatic structure parting to weak medium angular blocky; friable; few fine and very fine continuous vesicular pores; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.

Btg—59 to 75 inches; grayish brown (10YR 5/2) loam; many fine and medium prominent red (2.5YR 4/8) masses of iron accumulation; weak coarse prismatic structure parting to weak medium angular blocky; friable; common distinct clay films on all faces of most peds; very pale brown (10YR 7/3) fine sandy loam coating on vertical faces of prisms; very strongly acid; gradual wavy boundary.

B′t—75 to 89 inches; light olive brown (2.5Y 5/4) loam; many medium and coarse prominent strong brown (7.5YR 5/8) masses of iron accumulation and many medium and coarse distinct olive brown (2.5Y 4/4) mottles; moderate medium and fine subangular blocky structure; friable; few fine and very fine pores; common distinct clay films on faces of peds; very strongly acid; clear wavy boundary.

2BCg1—89 to 98 inches; light gray (10YR 7/1) very fine sandy loam; few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation; weak coarse prismatic structure parting to weak fine subangular blocky; friable; few fine pores; common faint clay films on faces of prisms; very strongly acid; gradual wavy boundary.

2BCg2—98 to 108 inches; light gray (10YR 7/1) very fine sand; weak fine subangular blocky structure parting to single grained; very friable to loose; few thin bands of dark gray (10YR 4/1) fine sandy loam; very strongly acid (fig. 15).

Range in Characteristics

Solum thickness: 60 to more than 100 inches
Clay content in the control section: 6 to 18 percent
Redoximorphic features: Depleted matrix with common to many masses of iron accumulation in shades of red and brown beginning at more than 36 inches deep
Other distinctive soil features: 20 percent clay decrease within a depth of 60 inches
Concentrated minerals: Aluminum saturation is 20 to 50 percent within the upper 30 inches of the solum.
Reaction: Very strongly acid to slightly acid throughout

A or Ap horizon:
Color: Hue of 10YR, value of 4 to 6, and chroma of 2 or 3
Texture: Very fine sandy loam
Other features: None
Thickness: 4 to 10 inches

E horizon:
Color: Hue of 10YR, value of 4 to 7, and chroma of 3 or 4
Redoximorphic features: None
Texture: Fine sandy loam, very fine sandy loam, loam, or silt loam
Other features: None
Thickness: 6 to 22 inches

B/E horizon:
Color: Hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 4 to 8 in the B part; hue of 10YR, value of 4 to 7, and chroma of 3 or 4 in the E part
Redoximorphic features: None
Texture: Fine sandy loam, very fine sandy loam, or loam in the B part; fine sandy loam, very fine sandy loam, loam, or silt loam in the E part
Other features: None
Thickness: 6 to 20 inches

Bt or B′t horizon:
Color: Hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 4 to 8
Redoximorphic features: Few to many iron accumulations and iron depletions in shades of brown
Texture: Fine sandy loam, very fine sandy loam, or loam

Other features: None

Btg horizon:
Color: Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features: Depleted matrix with masses of iron accumulation in shades of red and brown
Texture: Fine sandy loam, very fine sandy loam, or loam
Other features: None
Thickness: 0 to 20 inches

2BCg horizon:
Color: Hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2
Redoximorphic features: Depleted matrix with masses of iron accumulation in shades of red and brown
Texture: Very fine sandy loam, loamy very fine sand, or very fine sand
Other features: None

Beauregard Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slowly permeable
Landscape: Coastal plain
Landform: Uplands
Parent material: Coastal plain sediments from loamy, early Pleistocene-age marine deposits
Slope range: 1 to 5 percent

Taxonomic Classification

Fine-silty, siliceous, thermic Plinthaquic Paleudults

Associated Soils

Blevins, Caddo, Guyton, Kolin, Malbis, and Messer soils.

Blevins and Malbis soils are at slightly higher elevations, are well drained, and have less than 5 percent plinthite. Malbis soils are fine-loamy. Caddo and Guyton soils are poorly drained and grayish throughout; these soils are on lower positions than the Beauregard soils. Guyton soils are also on flood plains. Kolin soils are on positions similar to those of the Beauregard soils and have a subsoil that is clayey in the lower part. Messer soils are on convex mounds and are coarse-silty.

Typical Pedon

Beauregard silt loam in an area of Beauregard silt loam, 1 to 3 percent slopes; in pasture; about 3.7 miles southwest of Longville, LA; 2 miles south of Longville on Highway 171, 2 miles west on access road, 1 mile south on parish road; 1,800 feet south and 750 feet east of northwest corner of sec. 11; SW1/4NW1/4 sec. 11, T. 6 S., R. 9 W.; 30° 33´27" N. lat., 93° 15´51" W. long., Kernan 7.5 minute USGS topographic quadrangle.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; weak fine subangular blocky structure parting to weak fine granular; friable; many fine and medium roots; few fine soft iron and manganese nodules; few fine pieces of charcoal; few fine pockets of very pale brown (10YR 7/3) silt in lower part; strongly acid; abrupt wavy boundary.

E—5 to 9 inches; light yellowish brown (10YR 6/4) silt loam; weak medium subangular blocky structure parting to weak fine subangular blocky; friable; many fine and medium roots; common fine and very fine continuous vesicular pores; many fine and medium iron and manganese nodules; root channels lined with strong brown (7.5YR 5/8) oxidation stains (lepidocrocite); few fine pockets of very pale brown (10YR 7/3) silt, 1/16 to 1/4 inch in diameter; very strongly acid; clear wavy boundary.

Bt—9 to 16 inches; light yellowish brown (10YR 6/4) silt loam; few medium distinct brownish yellow (10YR 6/8) masses of iron accumulation; weak coarse prismatic structure parting to weak medium subangular blocky; friable, slightly hard and brittle when dry; few fine and very fine continuous vesicular pores; few fine soft iron and manganese nodules,1/16 to 1/8 inch in diameter; common yellowish brown (10YR 5/6) oxidation stains lining root channels; few faint clay films on faces of peds; few pockets of light yellowish brown (10YR 6/4) silt loam "E", 1/2 inch to 2 inches in diameter make up about 5 percent of this horizon; common fine and medium roots in "E" pockets; common crawfish krotovinas, 1 to 3 inches wide; very strongly acid; clear wavy boundary.

Btv/E1—16 to 22 inches; brownish yellow (10YR 6/6) silt loam (Btv); common fine and medium prominent red (2.5YR 4/8) masses of iron accumulation and common fine and medium distinct light yellowish brown (10YR 6/4) mottles; moderate coarse prismatic structure parting to moderate fine subangular blocky; firm; common fine and very fine continuous vesicular pores, lined with clay films; 25 percent plinthite; common distinct clay films on all faces of most peds; common thick silt coats on vertical faces of prisms; interfingering of light brownish gray (10YR 6/2) silt loam "E", 1 to 3 inches wide, makes up about 25 percent of this horizon; few fine and medium roots in "E" part; many fine pores and root channels lined with dark gray clay films, and common fine iron and manganese nodules in "E" part; common crawfish krotovinas, 1 to 3 inches wide; very strongly acid; gradual irregular boundary.

Btv/E2—22 to 32 inches; brownish yellow (10YR 6/6) silt loam; few fine prominent red (2.5YR 4/8) masses of iron accumulation, common medium distinct light yellowish brown (10YR 6/4) iron depletions, and common fine distinct light brownish gray (10YR 6/2) iron depletions; moderate very coarse prismatic structure parting to moderate fine subangular blocky; firm; few fine and very fine continuous vesicular pores, lined with dark gray (10YR 4/1) clay films; 12 percent plinthite; many distinct clay films on all faces of most peds; few fine soft iron and manganese nodules; common thick silt coats on vertical faces of prisms; tongues of light brownish gray (10YR 6/2) silt loam "E", 1 to 6 inches wide make up about 35 percent of this horizon; few fine and very fine roots in tongues and along seams; common crawfish krotovinas, 1 to 3 inches wide; very strongly acid; gradual irregular boundary.

Bt/E1—32 to 49 inches; brownish yellow (10YR 6/8) silt loam; common medium distinct light brownish gray (10YR 6/2) iron depletions and few fine prominent red (2.5YR 4/8) masses of iron accumulation; moderate very coarse prismatic structure parting to moderate coarse subangular blocky; firm; few fine and very fine continuous vesicular pores; common faint clay films on faces of peds; 4 percent plinthite; common thick red (2.5YR 4/8) oxidation stains on ped faces; tongues of light brownish gray (10YR 6/2) silt loam "E" 1 to 6 inch wide, make up about 25 percent of this horizon; few fine and very fine roots; few very fine continuous vesicular pores; common fine root channels and common fine pieces of charcoal in tongues; common crawfish krotovinas, 1 to 3 inches wide; very strongly acid; gradual irregular boundary.

Bt/E2—49 to 62 inches; yellowish brown (10YR 5/6) silt loam; common fine distinct light brownish gray (10YR 6/2) iron depletions; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; common fine and very fine continuous vesicular pores; common distinct clay films on faces of most peds; few distinct strong brown (7.5YR 5/6) oxidation stains (lepidocrocite) on ped faces and lining root channels and pores; 2 percent plinthite; tongues and interfingering of grayish brown (10YR 5/2) silt loam "E", 1 to 6 inches wide, make up about 17 percent of this horizon; very few fine roots, and many fine pieces of charcoal in tongues; common crawfish krotovinas, 1 to 3 inches wide; very strongly acid; gradual wavy boundary.

B´t—62 to 75 inches; brownish yellow (10YR 6/6) silt loam; common medium distinct light brownish gray (10YR 6/2) iron depletions; moderate very coarse prismatic structure parting to moderate medium subangular blocky; firm; 2 percent plinthite; common very fine to medium continuous vesicular pores, lined with dark gray (10YR 4/2) clay films; common distinct clay films on all faces of most peds; common prominent red (2.5YR 4/6) oxidation stains on faces of peds; common fine strong brown (7.5YR 5/6) oxidation stains (lepidocrocite) lining root channels; interfingering of light brownish gray (10YR 6/2) silt loam "E", 1 to 3 inches wide, makes up about 8 percent of this horizon; thick silt coats on vertical faces of prisms; strongly acid; gradual wavy boundary.

Btg—75 to 90 inches; light gray (10YR 7/2) silt loam; common medium distinct yellowish brown (10YR 5/8) masses of iron accumulation; weak very coarse prismatic structure parting to weak medium subangular blocky; firm; common fine and very fine continuous vesicular pores, lined with dark gray (10YR 4/2) clay films; distinct clay films on all faces of most peds; many fine root channels lined with strong brown (7.5YR 5/6) oxidation stains (lepidocrocite); very strongly acid; clear wavy boundary (fig. 16).

Range in Characteristics

Solum thickness: 50 to more than 90 inches
Clay content in the control section: 18 to 32 percent
Redoximorphic features: Iron depletions with chroma of 1 or 2 and iron accumulations in shades of red or brown beginning at 12 to 30 inches deep
Other distinctive soil features: Layers that contain 5 to 30 percent plinthite at 15 to 40 inches deep
Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.
Reaction: Very strongly acid to slightly acid in the A, E, and BE horizons; very strongly acid to moderately acid in the underlying horizons

A or Ap horizon:
Color: Hue of 10YR, value of 3 to 5, and chroma of 1 to 3
Redoximorphic features: None
Texture: Silt loam
Other features: None

Thickness: 2 to 6 inches

E horizon: (where present)
Color: Hue of 10YR, value of 4 to 6, and chroma of 2 to 4
Redoximorphic features: None
Texture: Silt loam
Other features: None
Thickness: 0 to 12 inches

BE horizon: (where present)
Color: Hue of 10YR, value of 4 to 6, and chroma of 3 to 6
Redoximorphic features: None
Texture: Silt loam
Other features: None

Bt or Btv horizon:
Color: Hue of 10YR, value of 4 to 6, and chroma of 3 to 8
Redoximorphic features: Iron accumulations in shades of red and brown; iron depletions in shades of gray
Texture: Silt loam or silty clay loam
Other features: None

Bt/E or Btv/E horizon:
Color: Hue of 10YR, value of 4 to 6, and chroma of 3 to 8 in the Bt part; hue of 10YR, value of 4 to 6, and chroma of 2 to 4 in the E part
Redoximorphic features: Iron accumulations in shades of red and brown; iron depletions in shades of gray
Texture: Silt loam or silty clay loam in the Bt part; fine sandy loam, very fine sandy loam, or silt loam in the E part
Other features: None

Btg horizon:
Color: Hue of 10YR, 2.5Y, or 5Y, value of 5 to 7, and chroma of 1 to 3
Redoximorphic features: Iron accumulations in shades of red and brown; iron depletions in shades of gray
Texture: Silt loam, clay loam, or silty clay loam
Other features: None

BCg, 2BCg or Cg horizon: (where present)
Color: Hue of 10YR, 2.5Y, or 5Y, value of 5 to 7, and chroma of 1 to 3
Redoximorphic features: Iron accumulations in shades of red and brown; iron depletions in shades of gray
Texture: Silt loam, clay loam, silty clay loam, or silty clay
Other features: None

Betis Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapidly permeable
Landscape: Coastal plain
Landform: Uplands
Parent material: Coastal plain sediments from early Pleistocene-age sandy marine deposits
Slope range: 1 to 8 percent

Taxonomic Classification

Sandy, siliceous, thermic Psammentic Paleudults *

Associated Soils

Boykin, Doucette, Malbis, Osier, and Ruston soils. Boykin and Doucette soils are on positions similar to those of the Betis soils and have a loamy argillic horizon. Malbis and Ruston soils are on positions similar to those of the Betis soils and have a fine-loamy control section. Malbis soils have more than 5 percent plinthite. Osier soils are on lower side slope positions, are poorly drained, and are gray in color throughout.

Typical Pedon

Betis fine sand in an area of Betis fine sand, 5 to 8 percent slopes; in woodland; about 1.5 miles east of Merryville, LA; 2,300 feet west and 2,540 feet north of southeast section corner, NW1/4SE1/4 sec. 5, T. 4 S., R. 11 W.; 30° 44´40" N. lat., 93° 30´45" W. long., Merryville South 7.5 minute USGS topographic quadrangle.

A—0 to 9 inches; dark grayish brown (10YR 4/2) fine sand; weak fine granular structure; loose; many coarse to fine roots; strongly acid; abrupt smooth boundary.

E—9 to 16 inches; light yellowish brown (10YR 6/4) loamy fine sand; weak medium subangular blocky structure parting to weak fine granular; very friable; many coarse to fine roots; common fine pockets of very pale brown loamy fine sand; few fine pieces of charcoal; strongly acid; clear smooth boundary.

E/B—16 to 26 inches; light yellowish brown (10YR 6/4) loamy fine sand; weak medium prismatic structure parting to weak medium subangular blocky; very friable; common coarse to fine roots; many small bodies of brownish yellow (10YR 6/6) fine sandy loam (B) 1/4 to 1/2 inch in diameter, make up about 25 percent of this horizon; strongly acid, gradual wavy boundary.

B/E—26 to 36 inches; yellowish brown (10YR 5/6) loamy fine sand; weak very coarse prismatic structure parting to weak medium subangular blocky; very friable; common fine to coarse roots; few fine continuous vesicular pores; interfingering of pale brown (10YR 6/3) loamy sand (E), 1/2 to 1 inch wide, makes up about 25 percent of this horizon; strongly acid; clear smooth boundary.

Bt/E1—36 to 50 inches; strong brown (7.5YR 5/8) loamy fine sand; moderate coarse prismatic structure parting to moderate medium subangular blocky; friable; common fine and medium roots; few fine continuous vesicular pores; common interfingering and pockets of light yellowish brown (10YR 6/4) loamy sand (E), make up about 15 percent of this horizon; common fine roots in interfingerings; strongly acid; clear wavy boundary.

Bt/E2—50 to 60 inches; brownish yellow (10YR 6/6) loamy fine sand; moderate coarse prismatic structure parting to moderate medium subangular blocky; friable; common strong brown (7.5YR 5/6) brittle bodies, 2 to 3 inches in diameter; interfingering of light yellowish brown (10YR 6/4) loamy sand (E), 1/4 to 1 inch wide makes up about 15 percent of this horizon; common fine roots in interfingerings; strongly acid; gradual wavy boundary.

Bt/E3 —60 to 73 inches; brownish yellow (10YR 6/8) loamy fine sand; weak very coarse prismatic structure parting to weak medium; subangular blocky; very friable; few fine continuous vesicular pores; common strong brown (7.5YR 5/6) brittle bodies, 1/2 inch to 2 inches in diameter, with red (2.5YR 4/8) rind; skeletans of light yellowish brown (10YR 6/4) loamy sand (E) make up about 25 percent of this horizon; strongly acid; gradual wavy boundary.

Bt/E4—73 to 85 inches; reddish yellow (7.5YR 5/8) loamy fine sand; moderate very coarse prismatic structure parting to moderate medium subangular blocky; friable; patchy strong brown (7.5YR 5/6) ped coats on all surfaces of peds; common fine root channels filled with very pale brown (10YR 7/3) loamy fine sand; common fine and very fine continuous vesicular pores lined with distinct discontinuous clay films; (25 percent) pockets 2 to 10 inches in diameter and (15 percent) interfingering 1/2 to 1 inch wide, and skeletans of very pale brown (10YR 7/3) loamy fine sand (E) make up about 40 percent of this horizon; very strongly acid; gradual wavy boundary.

Bt/E5—85 to 109 inches; strong brown (7.5YR 5/8) loamy fine sand; moderate very coarse prismatic structure parting to moderate medium subangular blocky; friable; few very fine to medium continuous vesicular pores, lined with distinct continuous clay films; strong brown (7.5YR 4/6) continuous ped coats on all ped surfaces; interfingering 1/4 to 1 inch wide, of light brownish gray (10YR 6/2) loamy sand, makes up about 20 percent of this horizon; strongly acid.

Range in Characteristics

Solum thickness: More than 80 inches
Clay content in the control section: 2 to 10 percent
Redoximorphic features: None within 80 inches of the surface
Other distinctive soil features: The soil at the surface to 40 inches deep is dry for 75 to 90 cumulative days in most years.
Concentrated minerals: Aluminum saturation is 20 to 50 percent within the upper 30 inches of the solum.
Reaction: Very strongly acid to moderately acid throughout the profile, except where lime has been added

A or Ap horizon:
Color: Hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 2 to 4
Redoximorphic features: None
Texture: Fine sand
Other features: None
Thickness: 4 to 12 inches

E horizon:
Color: Hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 2 to 4
Redoximorphic features: None
Texture: Fine sand or loamy fine sand
Other features: None
Thickness: 13 to 40 inches

Bw horizon: (where present)
Color: Hue of 10YR, 7.5YR, or 5YR, value of 5, and chroma of 6 or 8
Redoximorphic features: None
Texture: Fine sand or loamy fine sand
Other features: Randomly distributed pockets of clean sand grains range from few to common.
Thickness: 12 to 40 inches

E/Bt, E/B, Bt/E, or BE horizon:
Color: Hue of 10YR, value of 5 to 7, and chroma of 3 or 4 in the E part; hue of 10YR, 7.5YR, or 5YR, value of 5, and chroma of 6 or 8, or hue of 5YR, value of 4, and chroma of 6 in the Bt part
Redoximorphic features: None

Texture: Fine sand or loamy fine sand in the Bt part; fine sand, loamy fine sand, or loamy sand in the E part
Other features: The E part consists of interfingers and pockets.

Bt horizon: (where present)
Color: Hue of 10YR, 7.5YR, or 5YR, value of 5, and chroma of 6 or 8, or have hue of 5YR, value of 4, and chroma of 6 or 8
Redoximorphic features: None
Texture: Loamy fine sand
Other features: Lamellae, where present, are loamy fine sand or fine sandy loam.
* Betis soils in Beauregard Parish are taxadjuncts because they typically do not have lamellae.

Bienville Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Moderately rapidly permeable
Landscape: Coastal plain
Landform: Stream terraces
Parent material: Sandy alluvium from late Pleistocene-age river and stream deposits
Slope range: 1 to 5 percent

Taxonomic Classification

Sandy, siliceous, thermic Psammentic Paleudalfs

Associated Soils

Bearhead, Cahaba, Dubach, Guyton, Merryville, and Spurger soils.
Cahaba soils are on positions similar to those of the Bienville soils and have a fine-loamy control section. Bearhead and Dubach soils are on slightly lower positions and contain more clay in the subsoil. Guyton and Merryville soils are on lower positions, are poorly drained, and are gray throughout. Spurger soils are on escarpments adjacent to flood plains and have a reddish fine-textured control section, and are moderately well drained.

Typical Pedon

Bienville loamy fine sand in an area of Bienville loamy fine sand, 1 to 5 percent slopes; in woodland; about 3 miles northwest of Merryville, LA; 1,900 feet north and 800 feet east of the southwest section corner, NW1/4 SW1/4 sec. 23, T. 3 S., R. 12 W.; 30° 47´11" N. lat., 93° 34´10" W. long., Merryville North 7.5 minute USGS topographic quadrangle.

Ap—0 to 10 inches; brown (10YR 4/3) loamy fine sand; weak medium granular structure; very friable; many fine and very fine roots; moderately acid; abrupt smooth boundary.
E—10 to 36 inches; yellowish brown (10YR 5/4) loamy fine sand; few medium faint dark yellowish brown (10YR 4/4) mottles; massive; very friable; common very fine roots; moderately acid; clear wavy boundary.
Bt/E—36 to 50 inches; strong brown (7.5YR 5/6) loamy fine sand (Bt); many coarse distinct yellowish brown (10YR 5/4) spots and streaks of uncoated sand (E); weak medium subangular blocky structure; very friable; strongly acid; clear wavy boundary.
Bt1—50 to 56 inches; strong brown (7.5YR 5/6) loamy fine sand; few coarse faint dark brown (7.5YR 4/4) clay depletions; weak medium subangular blocky structure; very friable; common yellowish red lamellae 1 to 3 mm thick; strongly acid, gradual smooth boundary.
Bt2—56 to 74 inches; yellowish red (5YR 5/6) loamy fine sand; few coarse distinct strong brown (7.5YR 5/6) clay depletions; weak medium subangular blocky structure; very friable; strongly acid.

Range in Characteristics

Solum thickness: 60 to 80 inches
Clay content in the control section: 2 to 15 percent
Redoximorphic features: Clay depletions in shades of brown or gray beginning at 40 to 60 inches deep
Other distinctive soil features: Lamellae are in some pedons at 40 to 80 inches deep.
Concentrated minerals: None
Reaction: Strongly acid to slightly acid in the A or Ap horizon, very strongly acid to slightly acid in the E horizon, and very strongly acid to moderately acid in the Bt/E and Bt horizons

A or Ap horizon:
Color: Hue of 10YR, value of 4 or 5, and chroma of 2 to 4
Redoximorphic features: None
Texture: Loamy fine sand
Other features: None
Thickness: 4 to 12 inches

E horizon:
Color: Hue of 10YR or 7.5YR, value of 4 to 7, and chroma of 3 or 4
Redoximorphic features: None
Texture: Fine sand or loamy fine sand
Other features: None
Thickness: 8 to 30 inches

Bt/E horizon:
Color: The Bt part has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 5 or 6; the E part

has hue of 10YR or 7.5YR, value of 4 to 7, and chroma of 3 or 4

Redoximorphic features: None

Texture: Fine sand, loamy fine sand, or fine sandy loam in the Bt part; fine sand or loamy fine sand in the E part

Other features: The Bt part consists of splotches and pockets of finer textured material; lamellae are in some pedons.

Thickness: 12 to 30 inches

Bt horizon:

Color: Hue of 7.5YR or 5YR, value of 4 or 5, and chroma of 5 or 6. Some pedons have subhorizons with hue of 10YR, or with chroma of 4

Redoximorphic features: Few to common clay depletions in shades of brown or gray

Texture: Fine sand or loamy fine sand; may also be fine sandy loam in the lower parts in some pedons

Other features: Lamellae are present in some pedons.

Blevins Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately permeable
Landscape: Coastal plain
Landform: Uplands
Parent material: Coastal plains sediments from loamy, early Pleistocene-age marine sediments
Slope range: 1 to 8 percent

Taxonomic Classification

Fine-silty, siliceous, thermic Typic Paleudults

Associated Soils

Angie, Beauregard, Glenmora, Guyton, and Kolin soils.

Angie soils are on positions similar to those of the Blevins soils and have a fine-textured control section. Beauregard and Glenmora soils are on slightly lower concave side slopes, have gray iron depletions within 30 inches of the soil surface, and have slow permeability. Guyton soils are on lower positions on broad flats and drainageways and are gray throughout. Kolin soils are on slightly lower concave side slopes and have a clayey subsoil layer within 40 inches of the soil surface.

Typical Pedon

Blevins very fine sandy loam in an area of Blevins very fine sandy loam, 1 to 3 percent slopes; in woodland; 9.3 miles south of DeRidder, LA, 2,500 feet north and 2,300 feet east of the southwest section corner, NE1/4 SW1/4 sec. 17, T. 4 S., R. 9 W.; 30° 42′50" N. lat., 93° 18′36" W. long., Mach Branch 7.5 minute USGS topographic quadrangle.

A—0 to 5 inches; dark grayish brown (10YR 4/2) very fine sandy loam; weak fine granular structure; very friable; common medium and coarse iron oxide concretion; common medium tubular pores; very strongly acid; clear wavy boundary.

E—5 to 10 inches; pale brown (10YR 6/3) very fine sandy loam; few medium faint yellowish brown (10YR 5/4) mottles; weak medium granular structure; very friable; common medium and coarse iron oxide concretions; common fine roots; common fine and medium tubular pores; strongly acid; clear wavy boundary.

Bt1—10 to 17 inches; strong brown (7.5YR 5/6) loam; weak medium subangular blocky structure; friable; few thin discontinuous clay films on faces of peds; few fine roots; common medium and coarse rounded iron oxide concretions; few fine and medium continuous vesicular pores; strongly acid; clear wavy boundary.

Bt2—17 to 24 inches; strong brown (7.5YR 5/8) loam; moderate medium subangular blocky structure; friable; few thin discontinuous clay films on faces of peds; common medium and coarse rounded iron oxide concretions; few medium roots; few medium continuous vesicular pores; strongly acid; gradual wavy boundary.

Bt3—24 to 39 inches; yellowish brown (10YR 5/8) loam; few fine prominent red (2.5YR 4/8) masses of iron accumulation; moderate medium subangular blocky structure; firm; few thin continuous clay films on faces of peds; common medium and coarse rounded iron oxide concretions; few fine roots; few medium continuous vesicular pores; very strongly acid; gradual wavy boundary.

Bt4—39 to 50 inches; yellowish brown (10YR 5/6) loam; few fine prominent red (2.5YR 4/6) masses of iron accumulation; moderate coarse prismatic structure parting to moderate medium subangular blocky; very firm; few thick continuous clay films on faces of peds; few thin patchy clay films on vertical faces of peds; very strongly acid; gradual wavy boundary.

Bt/E—50 to 59 inches; yellowish brown (10YR 5/6) clay loam; many coarse prominent red (10R 4/6) masses of iron accumulation; moderate coarse prismatic structure parting to moderate medium subangular blocky; with light brownish gray

(10YR 6/2) ped faces; firm; few thick continuous light gray (10YR 6/1) clay films on faces of peds; few thick continuous skeletans on vertical faces of peds; common medium and coarse rounded iron concretions; very strongly acid; gradual wavy boundary.

B′t—59 to 72 inches; yellowish brown (10YR 5/6) clay loam; many coarse prominent red (10R 4/6) masses of iron accumulation; moderate coarse prismatic structure parting to moderate medium subangular blocky; with strong brown (7.5YR 5/6) ped faces; few thin patchy skeletans on vertical faces of peds; a few fine and medium rounded iron concretions; very strongly acid.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Clay content in the control section: 18 to 30 percent
Redoximorphic features: Relict iron accumulations in shades of red or brown beginning at more than 20 inches deep
Other distinctive soil features: Plinthite content ranges from 0 to 4 percent by volume.
Concentrated minerals: Aluminum saturation is 20 to 50 percent within the upper 30 inches of the solum.
Reaction: Very strongly acid to moderately acid throughout

A or Ap horizon:
Color: Hue of 10YR, value of 4 or 5, and chroma of 2 to 4
Texture: Very fine sandy loam
Other features: None
Thickness: 5 to 8 inches

E horizon: (where present)
Color: Hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Redoximorphic features: None
Texture: Silt loam, very fine sandy loam, or loam
Other features: None
Thickness: 0 to 12 inches

Bt horizon:
Color: Hue of 10YR or 7.5YR, value of 5, and chroma of 4 to 8
Redoximorphic features: Relict iron accumulations in shades of red or brown
Texture: Loam, silt loam, clay loam, or silty clay loam
Other features: None
Thickness: 30 to 70 inches

Bt/E horizon:
Color: Hue of 10YR, value of 5 or 6, and chroma of 4 to 8 in the Bt part; hue of 10YR, value of 6 or 7, and chroma of 1 or 2 in the E part
Redoximorphic features: Relict iron accumulations in shades of brown and red; relict iron depletions in shades of gray
Texture: Loam, silt loam, clay loam, or silty clay loam in the Bt part; silt loam, silt, or very fine sandy loam in the E part
Other features: The E part consists of pockets and interfingers of uncoated sand and silt, making up 5 to 25 percent of the horizon.
Thickness: 8 to 20 inches

B′t horizon:
Color: Hue of 10YR or 7.5YR, value of 5, and chroma of 4 through 8
Redoximorphic features: Relict iron accumulations in shades of brown and red; relict iron depletions in shades of gray
Texture: Loam, silt loam, silty clay loam, or clay loam
Other features: None

Boykin Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately permeable
Landscape: Coastal plain
Landform: Uplands
Parent material: Coastal plain sediments from early Pleistocene-age stratified sandy and loamy marine sediments
Slope range: 1 to 8 percent

Taxonomic Classification

Loamy, siliceous, thermic Arenic Paleudults

Associated Soils

Betis, Doucette, Guyton, Iuka, Malbis, Osier, and Ruston soils.

Betis and Doucette soils are on positions similar to those of the Boykin soils. Betis soils have a sandy particle-size control section. Doucette soils have a yellowish brown subsoil that has more than 5 percent plinthite. Guyton and Iuka soils are on drainageways and flood plains. Guyton soils are poorly drained and are silty throughout. Iuka soils are moderately well drained and have a coarse-loamy control section. Malbis and Ruston soils are on positions similar to those of the Boykin soils and have an epipedon that is less than 20 inches thick. Osier soils are on low terraces, are poorly drained, and are sandy throughout.

Typical Pedon

Boykin loamy fine sand in an area of Boykin loamy fine sand, 5 to 8 percent slopes; in woodland; about 3 miles east of Merryville, LA; 1,450 feet west and 1,800 feet north of the southeast section corner, in the NW1/4SE1/4 sec. 33, T. 3 S., R. 11 W.; 30°45'22" N. lat., 93°29'31" W. long., Neale 7.5 minute USGS topographic quadrangle.

A—0 to 9 inches; grayish brown (10YR 5/2) loamy fine sand; weak medium granular structure; very friable; common fine and medium roots; strongly acid; clear smooth boundary.

E—9 to 21 inches; light yellowish brown (10YR 5/4) loamy fine sand; weak medium granular structure; very friable; common fine and medium roots; very strongly acid; clear smooth boundary.

Bt1—21 to 32 inches; strong brown (7.5YR 5/8) fine sandy loam; common medium faint strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; very friable; common fine and medium roots; few distinct clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt2—32 to 47 inches; strong brown (7.5YR 5/6) fine sandy loam; common coarse faint strong brown (7.5YR 5/8) relict masses of iron accumulation; weak medium subangular blocky structure; very friable; patchy, faint clay films on surface of peds; very strongly acid; gradual wavy boundary.

Bt3—47 to 70 inches; strong brown (7.5YR 5/6) fine sandy loam; common fine faint strong brown (7.5YR 5/8) relict masses of iron accumulation; weak medium subangular blocky structure; very friable; very strongly acid; gradual wavy boundary.

B/E—70 to 76 inches; strong brown (7.5YR 5/6) fine sandy loam (B); common fine distinct pinkish white (7.5YR 8/2) lithochromic mottles; weak medium subangular blocky structure; very friable; strong brown (7.5YR 5/8) loamy fine sand (E); very strongly acid.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Clay content in the control section: 18 to 30 percent
Redoximorphic features: Relict iron accumulations beginning at more than 20 inches deep
Other distinctive soil features: Thickness of the sandy epipedon is at 20 to 40 inches deep.
Concentrated minerals: Aluminum saturation is 20 to 50 percent in the upper 30 inches of the solum.
Reaction: Very strongly acid to slightly acid in the A and E horizons; very strongly acid to moderately acid in the Bt and B/E horizons

A or Ap horizon:
Color: Hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 2 to 4
Redoximorphic features: None
Texture: Loamy fine sand
Other features: None
Thickness: 4 to 10 inches

E horizon:
Color: Hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 2 to 4
Redoximorphic features: None
Texture: Loamy fine sand
Other features: None
Thickness: 9 to 30 inches

Bt horizon:
Color: Hue of 2.5YR through 7.5YR, value of 4 or 5, and chroma of 6 to 8
Redoximorphic features: Few to common relict iron accumulations in shades of brown, red, or yellow
Texture: Fine sandy loam or sandy clay loam
Other features: Up to 5 percent plinthite nodules; some pedons have skeletans with chroma of 2 or 3 in the lower part of the Bt horizon

B/E horizon: (where present)
Color: Hue of 2.5YR through 7.5YR, value of 4 or 5, and chroma of 6 to 8 in the B part; hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 2 to 4 in the E part
Redoximorphic features: Few to common relict iron accumulations in shades of brown, red, or yellow
Texture: Fine sandy loam or sandy clay loam in the B part; loamy fine sand in the E part
Other features: None

Brimstone Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slowly permeable
Landscape: Flatwoods
Landform: Terraces
Parent material: Loamy alluvium from late Pleistocene-age stream deposits

Slope range: 0 to 1 percent

Taxonomic Classification

Fine-silty, siliceous, thermic Glossic Natraqualfs

Associated Soils

Acadia, Caddo, Glenmora, Guyton, and Messer soils. None of these soils have a natric horizon. Acadia soils are on higher positions and have a fine-textured control section. Caddo soils are on slightly higher intermound positions and have red iron accumulations in the subsoil. Glenmora soils are on higher positions and are yellowish or brownish in the upper part of the subsoil. Guyton soils are on lower positions and are acid throughout. Messer soils are on higher mound positions and have a coarse-silty control section.

Typical Pedon

Brimstone silt loam in an area of Brimstone silt loam; in woodland; 5.6 miles south of Ragley, LA, 2,000 feet west and 600 feet north of the southeast section corner, SW1/4SE1/4 sec. 24, T. 7 S., R. 9 W.; 30°26′01" N. lat., 93°14′22" W. long., Gaytine 7.5 minute USGS topographic quadrangle.

A—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam; common fine distinct (10YR 5/3) brown masses of iron accumulation; weak fine granular structure; friable; many fine roots; common fine pores; few dark yellowish brown stains in pores, lining root channels, and on faces of peds; neutral; clear smooth boundary.

Eng—6 to 16 inches; grayish brown (10YR 5/2) silt loam; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation and common fine faint pale brown (10YR 6/3) masses of iron accumulation; weak very coarse prismatic structure; firm, brittle; few fine roots; common fine pores; few patches and streaks of light gray silt; common fine dark yellowish brown stains on faces of prisms and in root channels; few fine and medium iron and manganese concretions; strongly alkaline; abrupt smooth boundary.

E/Btng—16 to 26 inches; about 75 percent light brownish gray (10YR 6/2) silt loam (E); common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; weak very coarse prismatic structure; friable; few fine roots; distinct discontinuous clay film on faces of peds; few fine and medium iron and manganese concretions; common dark gray horizontal clay bands; few horizontal streaks and pockets of light gray silt; few yellowish brown and very dark grayish brown root channels; grayish brown (10YR 5/2) silty clay loam (Bt) makes up about 25 percent of this horizon; strongly alkaline; gradual wavy boundary.

Btng/E—26 to 45 inches; about 75 percent grayish brown (10YR 5/2) silty clay loam (Bt); common fine distinct olive yellow (2.5Y 6/8) masses of iron accumulation; weak coarse prismatic structure; friable; few fine roots; few discontinuous clay films on faces of peds; about 25 percent light brownish gray (10YR 6/2) silt loam (E); massive; firm; brittle; few medium and fine iron and manganese concretions; strongly alkaline; gradual wavy boundary.

Btng—45 to 79 inches; light brownish gray (2.5Y 6/2) silty clay loam; common fine and medium distinct olive yellowish (2.5Y 6/8) masses of iron accumulation and common coarse faint light olive gray (5Y 6/2) iron depletions; weak coarse prismatic structure parting to weak medium subangular blocky; firm; few fine pores; thin discontinuous dark grayish brown clay films on faces of peds and in root channels; few fine and medium iron and manganese concretions; few horizontal streaks of brown silt; moderately alkaline; gradual wavy boundary.

BCng—79 to 90 inches; grayish brown (2.5Y 5/2) silty clay loam; common fine distinct olive yellow (2.5Y 6/8) masses of iron accumulation; weak coarse subangular blocky structure; firm; thin patchy dark grayish brown clay films on faces of peds and in root channels; few medium calcium carbonate concretions; moderately alkaline.

Range in Characteristics

Solum thickness: 80 to 100 inches
Clay content in the control section: 17 to 32 percent
Redoximorphic features: Depleted matrix with common to many iron accumulations beginning at 4 to 7 inches deep
Other distinctive soil features: None
Concentrated minerals: Sodium saturation is 15 to 30 percent within the upper 16 inches of the solum.
Reaction: Strongly acid to slightly alkaline in the A or Ap horizon; moderately acid to strongly alkaline in the E horizon; neutral to strongly alkaline in the E/Btng, Btng/E, Btng, and BCg horizons

A or Ap horizon:
Color: Hue of 10YR, value of 3 to 5, and chroma of 1 or 2
Redoximorphic features: None
Texture: Silt loam
Other features: None

Thickness: 4 to 7 inches

Eng horizon:
Color: Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features: Depleted matrix and iron accumulations in shades of brown
Texture: Silt loam
Other features: Accumulations or discontinuous bands of clay within the E horizon range from few to common.
Thickness: 8 to 24 inches

E/Btng or Btng/E horizon:
Color: Hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2 in the Btng part; hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2 in the E part
Redoximorphic features: Depleted matrix and iron accumulations in shades of brown; iron depletions in shades of gray
Texture: Silt loam or silty clay loam in the Btng part; silt loam or very fine sandy loam in the E part
Other features: None

Btng horizon:
Color: Hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features: Depleted matrix and iron accumulations in shades of brown; iron depletions in shades of gray
Texture: Silt loam or silty clay loam
Other features: Calcium carbonate concretions range from none to common.

BCg horizon:
Color: Hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features: Depleted matrix and iron accumulations in shades of brown; iron depletions in shades of gray
Texture: Silt loam or silty clay loam
Other features: Calcium carbonate concretions range from none to common.

Caddo Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slowly permeable
Landscape: Flatwoods
Landform: Terraces
Parent material: Alluvium from loamy, early to mid Pleistocene-age stream deposits
Slope range: 0 to 1 percent

Taxonomic Classification

Fine-silty, siliceous, thermic Typic Glossaqualfs

Associated Soils

Beauregard, Brimstone, Glenmora, Guyton, and Messer soils.
Beauregard and Glenmora soils are on higher positions and are yellowish or brownish in the upper part of the subsoil. Brimstone soils are on lower positions and have sodium saturation of more than 15 percent. Guyton soils are on lower positions and have yellowish brown iron accumulations. Messer soils are on higher mound positions and have a coarse-silty control section.

Typical Pedon

Caddo silt loam in an area of Caddo-Messer silt loams; in woodland; 1 mile north of Hollinsworth, LA on U.S. Highway 171; 0.5 mile east on access road; 150 feet north of road opposite east edge of plant; NW1/4NE1/4 sec. 19, T. 6 S., R. 8 W.; Longville 7.5 minute USGS topographic quadrangle.

A—0 to 6 inches; grayish brown (10YR 5/2) silt loam; common fine faint light brownish gray (10YR 6/2) iron depletions and common fine distinct brownish yellow (10YR 6/6) masses of iron accumulation; weak fine subangular blocky structure; friable; few medium black concretions; strongly acid; abrupt irregular boundary.
Eg1—6 to 16 inches; light brownish gray (10YR 6/2) silt loam; many medium distinct brownish yellow (10YR 6/6) masses of iron accumulation; weak fine subangular blocky structure; friable; few fine tubular pores; strongly acid; gradual smooth boundary.
Eg2—16 to 30 inches; light brownish gray (10YR 6/2) silt loam; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation; weak medium subangular blocky structure; friable; few fine red concretions; strongly acid; abrupt irregular boundary.
Bt/Eg—30 to 60 inches; light brownish gray (10YR 6/2) silty clay loam (Bt); many medium prominent strong brown (7.5YR 5/6) and red (2.5YR 4/8) masses of iron accumulation; weak medium subangular blocky structure; firm; thin patchy clay films on peds; tongues of silt loam (E) 2 to 10 cm wide extending to 45 inches make up about 20 percent of horizon; about 4 percent medium red concretions and plinthite; strongly acid; clear irregular boundary.
Btg—60 to 87 inches; light gray (10YR 7/1) silty clay loam; many coarse and fine distinct yellow (10YR

7/6) and yellowish brown (10YR 5/8) masses of iron accumulation; weak medium subangular blocky structure; firm; strongly acid.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Clay content in the control section: 18 to 35 percent
Redoximorphic features: Depleted matrix with few to many iron accumulations beginning at 2 to 8 inches deep
Other distinctive soil features: Glossic horizon at 15 to 35 inches deep
Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.
Reaction: Very strongly acid to moderately acid throughout

A or Ap horizon:
Color: Hue of 10YR, value of 4 or 5, and chroma of 1 or 2
Redoximorphic features: None
Texture: Silt loam
Other features: None
Thickness: 2 to 8 inches

Eg horizon:
Color: Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features: Depleted matrix with common iron accumulations in shades of brown or yellow
Texture: Silt loam
Other features: None
Thickness: Combined A and E thickness is 15 to 35 inches

Bt/Eg horizon:
Color: Hue of 10YR or 2.5Y, value of 5 or 7, and chroma of 1 or 2
Redoximorphic features: Depleted matrix and few to common iron accumulations in shades of red, brown, or yellow
Texture: Silt loam or silty clay loam in the Bt part; silt loam or very fine sandy loam in the E part
Other features: Vertical intrusions of E material make up more than 15 percent of the horizon; up to 5 percent plinthite nodules are in some pedons.
Thickness: 8 to 40 inches

Btg horizon:
Color: Hue of 10YR or 2.5Y, value of 5 or 7, and chroma of 1 or 2
Redoximorphic features: Depleted matrix and common to many iron accumulations in shades of red, brown, or yellow
Texture: Silt loam or silty clay loam
Other features: Up to 5 percent plinthite nodules are in some pedons.

BCg or Cg horizon: (where present)
Color: Hue of 10YR or 2.5Y, value of 5 or 7, and chroma of 1 or 2
Redoximorphic features: Depleted matrix and common to many iron accumulations in shades of red, brown, or yellow
Texture: Silt loam or silty clay loam
Other features: None

Cahaba Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately permeable
Landscape: Coastal plain
Landform: Stream terraces
Parent material: Loamy and sandy alluvium from late Pleistocene-age river and stream deposits
Slope range: 1 to 3 percent

Taxonomic Classification

Fine-loamy, siliceous, thermic Typic Hapludults

Associated Soils

Bearhead, Bienville, Dubach, Merryville, Spurger, and Urbo soils.
Bearhead and Dubach soils are on positions similar to those of the Cahaba soils and have a yellowish brown argillic horizons. Bearhead soils are moderately well drained and have a coarse-loamy control section. Dubach soils are well drained.
Bienville soils are on positions similar to those of the Cahaba soils, are somewhat excessively drained, and have a sandy control section. Merryville soils are on lower positions, are poorly drained, and have a grayish coarse-silty control section. Spurger soils are on side slopes along drainageways and have a fine-textured control section. Urbo soils are on flood plains and have a grayish, fine-textured control section.

Typical Pedon

Cahaba fine sandy loam in an area of Cahaba fine sandy loam, 1 to 3 percent slopes; in woodland; about 4.3 miles northwest of Sugartown, LA; 2,600 feet south and 1,800 feet east of the northwest section corner, in the SE1/4NW1/4 sec. 23, T. 2 S., R. 7 W.; 30°54´01" N. lat., 93°5´05" W. long., Sugrue 7.5 minute USGS topographic quadrangle.

A—0 to 7 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; common fine and medium roots; moderately acid; clear smooth boundary.

E—7 to 15 inches; light yellowish brown (10YR 6/4) loam; weak fine granular structure; very friable; common fine and medium roots; strongly acid; clear smooth boundary.

E/B—15 to 18 inches; light yellowish brown (10YR 6/4) loam (E) makes up about 70 percent of this horizon; red (2.5YR 4/8) clay loam (B) makes up about 30 percent; weak medium subangular blocky structure; very friable; common fine and medium roots; strongly acid; clear wavy boundary.

Bt1—18 to 32 inches; red (2.5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; firm; common medium roots; few thin patchy clay films on ped faces and in pores; few small pockets of clean sand grains; strongly acid; clear wavy boundary.

Bt2—32 to 40 inches; red (2.5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; firm; few fine and medium roots; few thin patchy clay films on faces of some peds; few small pockets of clean sand grains; strongly acid; clear wavy boundary.

Bt3—40 to 58 inches; yellowish red (5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; firm; few fine roots; few thin patchy clay films on faces of some peds; very strongly acid; clear wavy boundary.

BC1—58 to 68 inches; yellowish red (5YR 5/8) sandy loam; moderate medium subangular blocky; very firm; many fine pockets of reddish yellow (7.5YR 6/6) loam; common distinct red (2.5YR 4/6) ped faces; strongly acid; clear wavy boundary.

BC2—68 to 77 inches; yellowish red (5YR 5/8) sandy loam; weak medium subangular blocky structure; very friable; few fine pockets of reddish yellow (7.5YR 6/6) loam; strongly acid; clear wavy boundary.

C—77 to 89 inches; strong brown (7.5YR 5/6) sandy loam; massive; very friable; few fine roots; strongly acid.

Range in Characteristics

Solum thickness: 36 to 80 inches
Clay content in the control section: 18 to 35 percent
Redoximorphic features: None to common relict iron accumulations and iron depletions beginning at 40 to more than 60 inches deep
Other distinctive soil features: None
Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.
Reaction: Very strongly acid to moderately acid throughout, except where the surface has been limed

A or Ap horizon:
Color: Hue of 10YR, value of 3 to 5, and chroma of 2 to 4
Redoximorphic features: None
Texture: Fine sandy loam
Other features: None
Thickness: 4 to 8 inches

E horizon: (where present)
Color: Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4; or hue of 7.5YR, value of 5, and chroma of 6 or 8
Redoximorphic features: None
Texture: Loam
Other features: None
Thickness: 0 to 10 inches

E/B horizon: (where present)
Color: Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4 in the E part; hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8 in the B part
Redoximorphic features: None
Texture: Loam in the E part, and loam or clay loam in the B part
Other features: None
Thickness: 0 to 8 inches

Bt horizon:
Color: Hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 6 or 8
Redoximorphic features: None
Texture: Sandy clay loam, loam, or clay loam
Other features: Silt content is 20 to 50 percent
Thickness: 24 to 56 inches

BC or CB horizon: (where present)
Color: Strong brown, yellowish red, or red.
Redoximorphic features: Relict iron accumulations in shades of yellow or brown
Texture: Sandy loam or fine sandy loam
Other features: None
Thickness: 0 to 20 inches

C horizon:
Color: Variegated in shades of brown and red.
Redoximorphic features: None to common relict

iron accumulations in shades of yellow or brown; relict iron depletions in shades of gray
Texture: Stratified layers of sand, loamy sand, and fine sandy loam
Other features: None

Cypress Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Very slowly permeable
Landscape: Coastal plain
Landform: Flood plains
Parent material: Alluvium from recent clayey stream deposits
Slope range: 0 to 1 percent

Taxonomic Classification

Fine, mixed, acid, thermic Typic Fluvaquents

Associated Soils

Guyton, Hainesville, Iuka, Mantachie, Spurger, and Urbo soils.
Guyton soils are on slightly higher positions and have a fine-silty control section. Hainesville soils are on higher ridges and hummocks, and are sandy throughout. The Iuka, Mantachie, and Urbo soils are on higher positions. Iuka and Mantachie soils are loamy throughout. Urbo soils are somewhat poorly drained. Spurger soils are on higher, terrace side slope positions and are moderately well drained.

Typical Pedon

Cypress silty clay loam in an area of Cypress silty clay loam, frequently flooded; in woodland; about 1.6 miles north of Merryville, LA; 750 feet east and 800 feet north of the southwest section corner, in the SW1/4SW1/4 sec. 25, T. 3 S., R. 1 W.; 30°46´06" N. lat., 93°33´13" W. long., Merryville North 7.5 minute USGS topographic quadrangle.

A—0 to 2 inches; grayish brown (10YR 5/2) silty clay loam; massive; plastic, sticky; common fine, medium, and coarse roots; very strongly acid; clear smooth boundary.
Cg1—2 to 37 inches; gray (10YR 5/1) silty clay; massive; plastic, sticky; common fine, medium and coarse roots; very strongly acid; clear smooth boundary.
Cg2—37 to 60 inches; gray (10YR) 6/1) silty clay; massive; plastic, very sticky; few medium and coarse roots; very strongly acid.

Range in Characteristics

Solum thickness: 5 to 8 inches
Clay content in the control section: 35 to 60 percent
Redoximorphic features: Depleted matrix with iron accumulations throughout
Other distinctive soil features: Organic carbon content decreases irregularly with depth, or it is greater than 0.2 percent at 50 inches deep.
Concentrated minerals: None
Reaction: Extremely acid to very strongly acid throughout

O horizon: (where present)
Color: Very dark brown to black
Redoximorphic features: None
Texture: Partially decomposed leaves, twigs, and roots
Other features: None
Thickness: 0 to 6 inches

A horizon:
Color: Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features: Depleted matrix with none to common iron accumulations in shades of brown
Texture: Silty clay loam
Other features: None
Thickness: 2 to 8 inches

Cg horizon:
Color: Hue of 10YR to 5GY, value of 5 or 6, and chroma of 1; or neutral hue with value of 5 or 6
Redoximorphic features: Depleted matrix with few to common iron accumulations in shades of brown or olive
Texture: Clay loam, silty clay, or clay
Other features: None

Doucette Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately permeable
Landscape: Coastal plain
Landform: Uplands
Parent material: Coastal plains sediments from sandy and loamy early Pleistocene-age marine sediments
Slope range: 1 to 8 percent

Taxonomic Classification

Loamy, siliceous, thermic Arenic Plinthic Paleudults

Associated Soils

Betis, Boykin, Malbis, Osier, and Ruston soils.
Betis soils are on lower positions and have less than 18 percent clay throughout the solum. Boykin, Malbis, and Ruston soils are on positions similar to those of the Doucette soils. Boykin and Ruston soils have subsoil layers with hue of 5YR or redder, and have less than 5 percent plinthite. Malbis and Ruston soils have loamy epipedons that are less than 20 inches thick. Osier soils are on lower terrace positions along drainageways, are poorly drained, and are sandy throughout.

Typical Pedon

Doucette loamy fine sand in an area of Doucette loamy fine sand, 5 to 8 percent slopes; in woodland; about 6.0 miles northwest of Merryville, LA; 2,550 feet east and 1,000 feet south of the northwest section corner, in the NE¼NW¼ sec. 15, T. 3 S. R 11 W.; 30°48´26" N. lat., 93°28´48" W. long., Neale 7.5 minute USGS topographic quadrangle.

A1—0 to 4 inches; dark grayish brown (10YR 4/2) loamy fine sand; single grained; soft, very friable; many fine and medium roots; moderately acid; clear smooth boundary.

A2—4 to 10 inches; brown (10YR 4/3) loamy fine sand; single grained; soft, very friable, nonsticky and non-plastic; many fine and medium roots; moderately acid; gradual smooth boundary.

E—10 to 30 inches; light yellowish brown (10YR 6/4) loamy fine sand; single grained; soft, very friable, nonsticky, non-plastic; few fine and medium roots; strongly acid; clear smooth boundary.

Bt—30 to 38 inches; yellowish brown (10YR 5/8) sandy clay loam; weak medium subangular blocky structure; slightly hard, friable; few medium and coarse roots; few patchy clay films on faces of peds; about 2 percent plinthite by volume; strongly acid; gradual smooth boundary.

Btv1—38 to 48 inches; yellowish brown (10YR 5/8) sandy clay loam; many coarse prominent yellowish red (5YR 5/6) relict masses of iron accumulation; moderate medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few medium roots; few patchy clay films on faces of peds; about 15 percent plinthite by volume; strongly acid; gradual smooth boundary.

Btv2—48 to 64 inches; yellowish brown (10YR 5/8) sandy clay loam; common medium prominent yellowish red (5YR 5/6) relict masses of iron accumulation and light brownish gray (10YR 6/2) relict iron depletions; weak medium subangular blocky structure; hard, firm, sticky and plastic, about 10 percent plinthite by volume; strongly acid; gradual smooth boundary.

B´t—64 to 80 inches; yellowish brown (10YR 5/8) sandy clay loam; many coarse prominent yellowish red (5YR 5/6) relict masses of iron accumulation and common fine prominent light brownish gray (10YR 6/2) relict iron depletions; weak medium subangular blocky structure; hard, firm; very strongly acid.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Clay content in the control section: 20 to 35 percent
Redoximorphic features: Relict iron accumulations in shades of red or yellow and iron depletions in shades of gray beginning at 36 to 60 inches deep
Other distinctive soil features: Layers with 5 to 20 percent plinthite nodules are at 30 to 60 inches deep
Concentrated minerals: Aluminum saturation is 20 to 50 percent within the upper 30 inches of the solum.
Reaction: Moderately acid to strongly acid in the A or Ap horizons and in the E horizons; strongly acid or very strongly acid in the Bt, Btv, and B´t horizons

A or Ap horizon:
Color: Hue of 10YR, value of 4 to 6, chroma of 2 to 4
Redoximorphic features: None
Texture: Loamy fine sand
Other features: None
Thickness: 5 to 12 inches

E horizon:
Color: Hue of 10YR, value of 5 or 6, chroma of 3 and 4
Redoximorphic features: None
Texture: Loamy fine sand or fine sand
Other features: None
Thickness: Combined thickness of the A and E horizons is 20 to 40 inches

Bt and B´t horizon:
Color: Hue of 7.5YR or 10YR, value of 5 or 6, chroma of 4 to 8
Redoximorphic features: Relict iron accumulations in shades of red and yellow; relict iron depletions in shades of gray are in the lower part of most pedons
Texture: Sandy clay loam

Other features: 0 to 5 percent plinthite nodules

Btv horizon:
Color: Hue of 7.5YR or 10YR, value of 5 or 6, chroma of 4 to 8
Redoximorphic features: Relict iron accumulations in shades of red and yellow; relict iron depletions in shades of gray are in the lower part of most pedons
Texture: Sandy clay loam
Other features: 5 to 20 percent plinthite nodules
Thickness: 15 to 46 inches

Dubach Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slowly permeable
Landscape: Coastal plain
Landform: Stream terraces
Parent material: Loamy alluvium from late Pleistocene-age stream deposits
Slope range: 1 to 5 percent

Taxonomic Classification

Fine-loamy, siliceous, thermic Typic Paleudults *

Associated Soils

Bearhead, Bienville, Blevins, Cahaba, Malbis, Merryville, and Osier soils.
Bearhead soils are on slightly higher mound and ridge positions and are coarse-loamy. Bienville soils are on slightly higher ridge positions on stream terraces and are sandy throughout. Blevins soils are on uplands and have a fine-silty control section. Cahaba soils are on slightly higher ridge positions and have a reddish subsoil. Malbis soils are on uplands, have more than 5 percent plinthite, and do not have interfingerings of coarser materials in the subsoil. Merryville soils are on lower swales or intermound positions and have a grayish, coarse-silty control section.

Typical Pedon

Dubach fine sandy loam in an area of Dubach-Bearhead fine sandy loams, gently undulating; in woodland; about 6 miles northwest of Merryville, LA; 250 feet east and 200 feet south of the northwest section corner, NW¼NW¼ sec. 15, T. 3 S., R. 11 W.; 30°48´33" N. lat., 93°29´14" W. long., Neale 7.5 minute USGS topographic quadrangle.

A—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; many fine and very fine roots; moderately acid; clear wavy boundary.

BE—6 to 11 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine granular structure; very friable; common very fine soft iron and manganese concretions; common fine and very fine roots; few streaks of brown (10YR 5/3) loamy fine sand; moderately acid; clear wavy boundary.

Bt—11 to 25 inches; yellowish brown (10YR 5/6) clay loam; few fine prominent yellowish red (5YR 5/6) masses of iron accumulation; weak medium subangular blocky structure; friable; few medium roots; few fine roots; few faint discontinuous clay films; few fine and medium soft dark brown accumulations of iron and manganese; few fine and medium iron and manganese concretions; strongly acid; clear wavy boundary.

Btv—25 to 34 inches; light yellowish brown (10YR 6/4) clay loam; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation and few fine prominent yellowish red (5YR 5/6) masses of iron accumulation; moderate medium subangular blocky structure; firm; few faint discontinuous clay films; common medium dark brown concretions; about 2 percent plinthite; strongly acid; gradual wavy boundary.

Bt/E—34 to 72 inches; light yellowish brown (10YR 6/4) clay loam; common medium distinct light brownish gray (10YR 6/2) iron depletions, few fine prominent yellowish red (5YR 5/6) masses of iron accumulation, and common coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation; weak medium subangular blocky structure; firm; pockets and streaks of pale brown (10YR 6/3) fine sand and sandy loam (E) make up 15 percent of this horizon; few fine streaks of clean sand on ped faces; few faint discontinuous clay films; strongly acid.

Range in Characteristics

Solum thickness: More than 80 inches
Clay content in the control section: 18 to 33 percent
Redoximorphic features: Iron depletions with chroma of 2 or less beginning at more than 30 inches deep; iron accumulations throughout the subsoil
Other distinctive soil features: Layers with up to 5 percent plinthite at 25 to 70 inches deep
Concentrated minerals: Aluminum saturation is 20 to 50 percent within the upper 30 inches of the solum.
Reaction: Moderately acid to slightly acid in the A, E, and BE horizons; very strongly acid to moderately

acid in the Bt and Btv horizons; very strongly acid to strongly acid in the Bt/E horizon

A or Ap horizon:
Color: Hue of 10YR or 7.5YR, value of 3 to 5, and chroma of 2 to 4
Redoximorphic features: None
Texture: Fine sandy loam
Other features: None
Thickness: 3 to 7 inches

E horizon: (where present)
Color: Hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 3 to 6
Redoximorphic features: None
Texture: Fine sandy loam
Other features: None
Thickness: Combined thickness of the A and E horizons is 3 to 18 inches

BE horizon: (where present)
Color: Hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 6 to 8
Redoximorphic features: None
Texture: Fine sandy loam
Other features: None
Thickness: 0 to 10 inches

Bt horizon:
Color: Hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8
Redoximorphic features: None to common iron accumulations in shades of brown or red
Texture: Loam, sandy clay loam, or clay loam
Other features: None
Thickness: 10 to 65 inches

Btv horizon:
Color: Hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8
Redoximorphic features: Iron accumulations in shades of brown or red; none to common iron depletions in shades of gray
Texture: Loam, sandy clay loam, or clay loam
Other features: 1 to 5 percent plinthite nodules
Thickness: 8 to 55 inches

B′t horizon: (where present)
Color: Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8
Redoximorphic features: Iron accumulations in shades of brown or red; iron depletions in shades of gray
Texture: Sandy clay loam, or clay loam
Other features: None

Bt/E horizon: (where present)
Color: Hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8 in the Bt part; hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 3 to 6 in the E part
Redoximorphic features: Iron accumulations in shades of brown or red; none to common iron or clay depletions in shades of gray
Texture: Loam, sandy clay loam, or clay loam in the Bt part; fine sandy loam, loam, or sandy loam in the E part
Other features: E part consists of pockets and streaks
* Dubach soils in Beauregard Parish are taxadjuncts because they typically have a glossic horizon or glossic features in the lower part of the solum within a depth of 60 inches.

Glenmora Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slowly permeable
Landscape: Coastal plain
Landform: Terraces
Parent material: Alluvium from silty, mid Pleistocene-age stream deposits
Slope range: 1 to 3 percent

Taxonomic Classification

Fine-silty, siliceous, thermic Glossaquic Paleudalfs

Associated Soils

Acadia, Brimstone, Caddo, Guyton, and Messer soils. Acadia soils are on slightly lower side-slope positions and have a fine-textured control section. Brimstone, Caddo, and Guyton soils have grayish subsoils. Caddo soils are on higher, broad flats. Brimstone soils are on lower positions adjacent to drainageways. Guyton soils are on lower positions. Messer soils are on higher mound positions and have a coarse-silty control section.

Typical Pedon

Glenmora silt loam in an area of Glenmora silt loam, 1 to 3 percent slopes; in woodland; 7 miles east of DeQuincy, LA, 2,300 feet east and 1,600 feet north of southwest section corner, in the NE1/4SW1/4 sec. 29, T. 7 S., R. 9 W.; 30°25′14" N. lat., 93°18′38" W. long., Gordon 7.5 minute USGS topographic quadrangle.

A—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; many fine and medium roots; moderately acid; clear smooth boundary.

E—5 to 8 inches; pale brown (10YR 6/3) silt loam;

Figure 14.—Profile of Acadia silt loam. The subsoil is gray silty clay with prominent red masses of iron accumulation in the lower part. The scale is in centimeters.

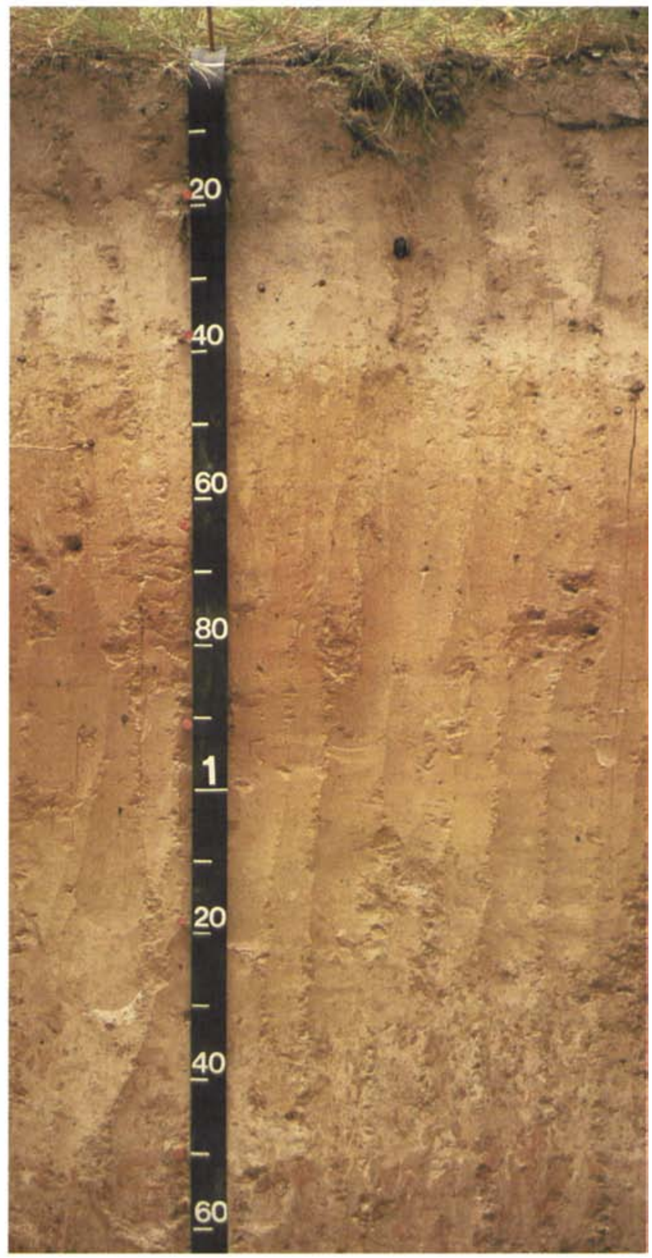


Figure 15.—Profile of Bearhead very fine sandy loam. This moderately well drained soil is on mounds and low, elongated ridges on stream terraces. The very fine sandy loam subsoil is underlain by very fine sand below a depth of 8 feet. The scale is in centimeters.

Figure 16.—Profile of Beauregard silt loam. A distinguishing feature of this soil are the many red nodules of plinthite in the 41 to 81 centimeters layer. The scale is in centimeters.

Figure 17.—Profile of Kolin silt loam. The gray, clayey subsoil layer has many red masses of oxidized iron, mostly between 104 and 208 centimeters, that have accumulated during periods of wetting and drying. The scale is in centimeters.

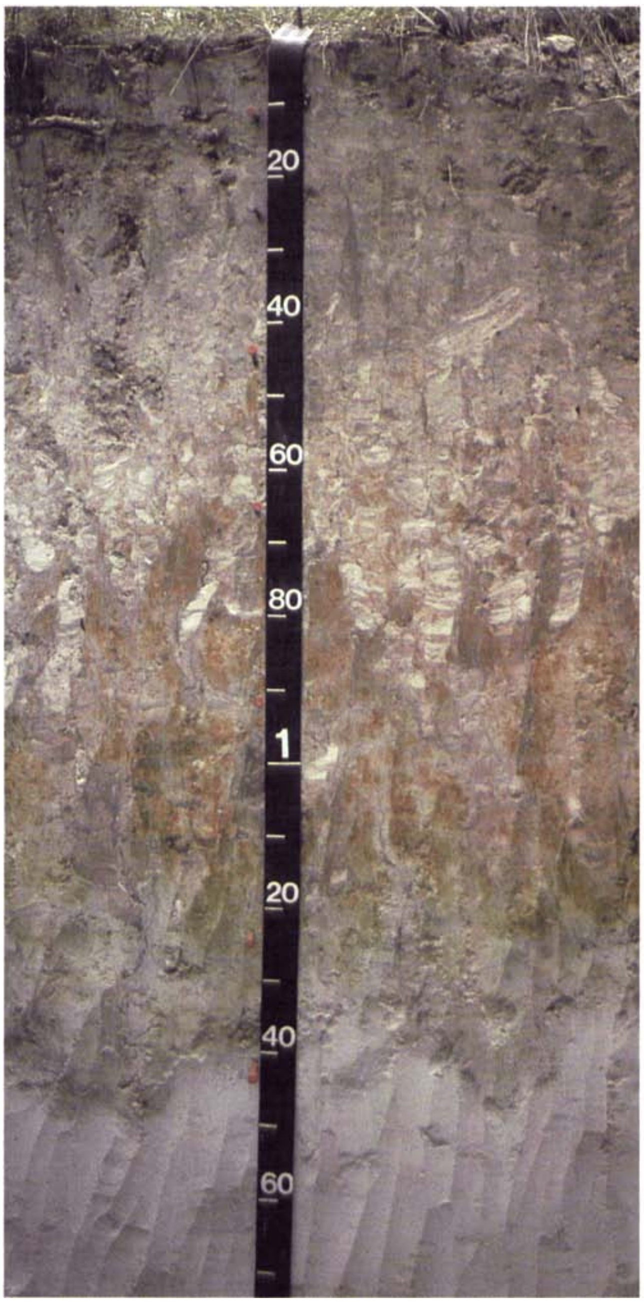


Figure 18.—Profile of Merryville silt loam. This soil is in low intermound and swale areas of stream terraces. The loamy subsoil is underlain by sandy materials at a depth of 140 centimeters. The scale is in centimeters.

Figure 19.—Profile of Messer silt loam. This soil is on convex mound positions on stream terraces. Distinct streaks of light-colored eluvial material extend into the upper part of the brownish yellow subsoil. The scale is in centimeters.

Figure 20.—Profile of Ruston fine sandy loam. This soil is on uplands. The reddish, mostly unmottled, clay loam subsoil is an indication of good internal drainage. The scale is in centimeters.

weak coarse subangular blocky structure; friable; common fine and medium roots; common fine pores; moderately acid; clear smooth boundary.

BE—8 to 13 inches; yellowish brown (10YR 5/4) silt loam; common fine faint yellowish brown (10YR 5/8) masses of iron accumulation; weak coarse subangular blocky structure; friable; common fine roots; few fine discontinuous random tubular pores; strongly acid; gradual wavy boundary.

Bt1—13 to 18 inches; yellowish brown (10YR 5/4) silty clay loam; common medium faint brown (10YR 5/3) iron depletions; weak coarse subangular blocky structure; friable; few fine roots; few fine discontinuous random tubular pores; common distinct discontinuous clay films on faces of peds; thin coatings of silt on vertical faces of peds; moderately acid; gradual wavy boundary.

Bt2—18 to 26 inches; yellowish brown (10YR 5/6) silty clay loam; common fine faint pale brown (10YR 6/3) iron depletions and common coarse prominent red (2.5YR 4/8) masses of iron accumulation; weak coarse prismatic structure parting to weak coarse subangular blocky; firm and slightly brittle; few fine roots; common distinct discontinuous clay films on faces of peds; about 2 percent plinthite; strongly acid; clear wavy boundary.

Bt/E—26 to 33 inches; yellowish brown (10YR 5/6) silty clay loam; few medium prominent red (2.5YR 4/8) masses of iron accumulation and common medium faint strong brown (7.5YR 5/6) masses of iron accumulation; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; clay depletions 5 to 10 millimeters thick on ped faces; few pockets of gray silt loam (E) about 10 centimeters thick make up 15 percent of this horizon; few fine roots; common faint discontinuous clay films on faces of peds; few red (2.5YR 4/8) brittle accumulations about 2 centimeters in diameter; strongly acid; gradual wavy boundary.

Btg—33 to 54 inches; gray (10YR 6/1) silty clay loam; common medium prominent red (2.5YR 4/8) and many medium distinct yellowish brown (10YR 5/8) masses of iron accumulation; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; strongly acid; gradual wavy boundary.

BCg—54 to 80 inches; light brownish gray (10YR 6/2) silty clay loam; common fine prominent red (2.5YR 4/8) masses of iron accumulation and common distinct yellowish brown (10YR 5/8) masses of iron accumulation; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; strongly acid.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Clay content in the control section: 18 to 35 percent
Redoximorphic features: Few to many iron or clay depletions in shades of gray and iron accumulations in shades of brown or red beginning at 6 to 30 inches deep
Other distinctive soil features: Interfingering of albic materials beginning at 10 to 36 inches deep
Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.
Reaction: Very strongly acid to moderately acid throughout

A or Ap horizon:
Color: Hue of 10YR, value of 4 or 5, and chroma of 2 or 3
Redoximorphic features: None
Texture: Silt loam
Other features: None
Thickness: 4 to 7 inches

E horizon: (where present)
Color: Hue of 10YR, value of 5 or 6, and chroma of 2 or 3
Redoximorphic features: None
Texture: Silt loam
Other features: None
Thickness: 0 to 6 inches

BE horizon:
Color: Hue 7.5YR or 10YR, value of 5 or 6, and chroma of 3 to 6
Redoximorphic features: Iron and clay depletions in shades of gray or grayish brown; iron accumulations in shades of red or brown
Texture: Silt loam or silty clay loam
Other features: None
Thickness: 4 to 6 inches

Bt horizon:
Color: Hue 7.5YR or 10YR, value of 5 or 6, and chroma of 3 to 6
Redoximorphic features: Iron depletions in shades of gray; iron accumulations in shades of red or brown
Texture: Silt loam or silty clay loam
Other features: None
Thickness: 6 to 16 inches

Bt/E horizon:
Color: Hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 3 to 6; or value of 6 and chroma of 1 in the Bt part; and hue of 10YR, value of 5 or 6, and chroma of 2 or 3 in the E part
Redoximorphic features: Iron and clay depletions in shades of gray or grayish brown; iron accumulations in shades of red or brown
Texture: Silt loam or silty clay loam in the Bt part, and silt loam in the E part
Other features: The E part consists of pockets or interfingerings around peds and makes up from 5 to 15 percent of the horizon.
Thickness: 4 to 8 inches

Btg and BCg horizon:
Color: Hue of 10YR, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features: Depleted matrix with few to many iron accumulations in shades of red or brown
Texture: Silty clay loam
Other features: None

Gore Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slowly permeable
Landscape: Coastal plain
Landform: Terraces
Parent material: Alluvium from clayey, mid Pleistocene-age stream deposits
Slope range: 1 to 20 percent

Taxonomic Classification

Fine, mixed, thermic, Vertic Paleudalfs *

Associated Soils

Acadia, Angie, Beauregard, Blevins, Kolin, and Malbis soils.

Acadia soils are on side-slope positions along drainageways, are somewhat poorly drained, and are grayish in the upper part of the subsoil. Angie and Malbis soils are at higher elevations and are loamy throughout. Angie soils are yellowish brown in the upper part of the subsoil. Malbis soils are loamy throughout. Beauregard and Kolin soils are on higher positions. Beauregard soils are loamy throughout and are moderately well drained. Kolin soils are loamy to depths ranging from 20 to 40 inches. Blevins soils are well drained and are loamy throughout.

Typical Pedon

Gore very fine sandy loam in an area of Gore very fine sandy loam, 1 to 5 percent slopes; in woodland; about 1.5 miles west of Longville, LA; 2,600 feet west and 50 feet south of the northeast section corner, in the NW1/4NE1/4 sec. 26, T. 5 S., R. 9 W.; 30°36′21" N. lat., 93°15′27" W. long., Kernan 7.5 minute USGS topographic quadrangle.

A—0 to 2 inches; dark grayish brown (10YR 4/2) very fine sandy loam; weak fine granular structure; friable; many very fine roots; strongly acid; abrupt smooth boundary.

E—2 to 3 inches; brown (10YR 5/3) very fine sandy loam; weak fine granular structure; friable; many very fine roots; strongly acid; abrupt smooth boundary.

BE—3 to 4 inches; brown (7.5YR 5/4) silty clay loam, common fine prominent red (2.5YR 4/6) relict masses of iron accumulation and common fine distinct brown (10YR 5/3) mottles; weak fine subangular blocky structure; firm; many very fine roots; common distinct clay films on all faces of peds; very strongly acid; abrupt smooth boundary.

Bt1—4 to 12 inches; dark red (2.5YR 3/6) clay; common fine distinct strong brown (7.5YR 6/4) relict masses or iron accumulation; moderate medium subangular blocky structure; very firm; few fine and very fine roots; many distinct clay films on all faces of subangular blocks; very strongly acid; clear wavy boundary.

Bt2—12 to 18 inches; yellowish red (5YR 5/6) clay; many fine prominent red (2.5YR 4/6) relict masses of iron accumulation; moderate medium subangular blocky structure; very firm; few very fine roots; many distinct clay film on all faces of subangular blocks; very strongly acid; clear wavy boundary.

Btss1—18 to 34 inches; light brownish gray (2.5Y 6/2) clay; common fine prominent red (2.5YR 4/6) relict masses of iron accumulation; moderate medium subangular blocky structure; very firm; few very fine roots; common distinct clay films on all faces of subangular blocks; few small intersecting slickensides; extremely acid; gradual wavy boundary.

Btss2—34 to 40 inches; light brownish gray (2.5Y 6/2) clay; many fine and medium prominent red (2.5YR 4/6) relict masses of iron accumulation; moderate medium subangular blocky structure; very firm; few very fine roots; common distinct clay films on all faces of subangular blocks; common small and medium intersecting slickensides; extremely acid; gradual wavy boundary.

BCss1—40 to 46 inches; yellowish red (5YR 5/6) clay; common fine and medium prominent light brownish gray (2.5Y 6/2) relict iron depletions and many fine and medium distinct red (2.5YR 4/6) relict masses of iron accumulation; weak prismatic parting to moderate medium subangular blocky structure; very firm; common medium and large intersecting slickensides; extremely acid; gradual wavy boundary.

BCss2—46 to 58 inches; brown (7.5YR 5/4) clay; common medium prominent light brownish gray (2.5Y 6/2) relict iron depletions and few medium prominent red (2.5YR 4/6) relict masses of iron accumulation; weak prismatic structure parting to moderate medium subangular blocky; very firm; common medium and large intersecting slickensides; very strongly acid; gradual wavy boundary.

Css—58 to 68 inches; brown (7.5YR 5/4) clay; few medium prominent light brownish gray (2.5Y 6/2) relict iron depletions, few medium prominent red (2.5YR 4/6) relict masses of iron accumulation, common medium distinct strong brown (7.5YR 5/6) relict masses of iron accumulation, and common fine prominent light brownish gray (10YR 6/2) iron depletions; massive; very firm; many large intersecting slickensides; few fine roots along faces of slickensides; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches

Clay content in the control section: 40 to 60 percent

Redoximorphic features: Relict iron accumulations in shades of red and brown and relict iron depletions in shades of gray throughout the subsoil

Other distinctive soil features: Intersecting slickensides beginning at 10 to 30 inches deep

Concentrated minerals: Aluminum saturation is 20 to 50 percent within the upper 30 inches of the solum.

Reaction: Very strongly acid to moderately acid in the A, E, and BE horizons; very strongly acid to neutral in the Bt horizon; extremely acid to neutral in the Btssg and BCss horizons; very strongly acid to moderately alkaline in the Css horizon

A or Ap horizon:

Color: Hue of 10YR, value of 3 to 5, and chroma of 1 to 3

Redoximorphic features: None

Texture: Very fine sandy loam

Other features: None

Thickness: 1 to 6 inches

E horizon: (where present)

Color: Hue of 10YR, value of 5 to 7, and chroma of 1 to 3

Redoximorphic features: None

Texture: Very fine sandy loam

Other features: None

Thickness: 0 to 5 inches

BE horizon: (where present)

Color: Hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8

Redoximorphic features: Relict iron accumulations in shades of brown

Texture: Silty clay loam

Other features: None

Thickness: 0 to 4 inches

Bt horizon:

Color: Hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 4 to 6

Redoximorphic features: Relict iron accumulations in shades of red or brown; relict iron depletions in shades of gray

Texture: Clay or silty clay

Other features: None

Thickness: 8 to 20 inches

Btss horizon:

Color: Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2

Redoximorphic features: Relict iron accumulations in shades of red or brown and relict iron depletions in shades of gray

Texture: Clay or silty clay

Other features: Intersecting slickensides

Thickness: 10 to 50 inches

BC or BCss horizon: (where present)

Color: Variegated in shades of red and gray

Redoximorphic features: Relict iron accumulations in shades of red or brown; relict iron depletions in shades of gray

Texture: Clay or silty clay

Other features: Few to common intersecting slickensides

Thickness: 0 to 20 inches

C or Css horizon:

Color: Variegated in shades of red and gray

Redoximorphic features: Relict iron accumulations in shades of red or brown; relict iron depletions in shades of gray

Texture: Clay or silty clay

Other features: None to few intersecting slickensides

* Gore soils in Beauregard Parish are taxadjuncts because they typically have an extremely acid reaction in the lower part of the solum.

Guyton Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slowly permeable
Landscape: Coastal plain
Landform: Low stream terraces and narrow flood plains
Parent material: Silty alluvium from Pleistocene-age stream deposits
Slope range: 0 to 1 percent

Taxonomic Classification

Fine-silty, siliceous, thermic Typic Glossaqualfs

Associated Soils

Beauregard, Bienville, Brimstone, Caddo, Cahaba, Glenmora, Iuka, and Messer soils.
Beauregard and Glenmora soils are on higher side slope positions and have subsoils that are brownish in the upper parts. Bienville and Cahaba soils are on higher ridge positions on stream terraces. Bienville soils are sandy throughout. Cahaba soils have a reddish fine-loamy control section. Brimstone soils are on slightly higher positions and have a natric horizon. Caddo soils are on slightly higher intermound positions and have reddish iron accumulations in the upper part of the subsoil. Iuka soils are on higher natural levee positions on flood plains and have a coarse-loamy control section. Messer soils are on mound positions and are coarse-silty.

Typical Pedon

Guyton silt loam in an area of Guyton silt loam, occasionally flooded; in woodland; 6.8 miles south of Ragley, LA, 500 feet west and 100 feet north of the southeast section corner, in the SE¼SE¼ sec. 26, T. 7 S., R. 9 W.; 30°25´06" N. lat., 93°15´04" W. long., Gordon 7.5 minute USGS topographic quadrangle.

A—0 to 5 inches; grayish brown (10YR 5/2) silt loam; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; weak fine granular structure; friable; common medium and fine roots; dark yellowish brown oxidation stains around root channels; very strongly acid; clear smooth boundary.

Eg1—5 to 24 inches; grayish brown (10YR 5/2) silt loam; common fine distinct brownish yellow (10YR 6/6) masses of iron accumulation; weak medium subangular blocky structure; friable; few fine roots; common root channels with yellowish brown (10YR 5/8) oxidation stains; common fine tubular pores; very strongly acid; clear wavy boundary.

Eg2—24 to 30 inches; light brownish gray (10YR 6/2) silt loam; common medium distinct brownish yellow (10YR 6/6) masses of iron accumulation; weak medium subangular blocky structure; firm; slightly brittle; few fine roots; common root channels and ped faces with dark yellowish brown (10YR 4/4) oxidation stains; few fine and medium tubular pores; common fine pockets of light gray (10YR 7/1) silt; very strongly acid; clear irregular boundary.

Btg/E—30 to 42 inches; grayish brown (10YR 5/2) silty clay loam (Bt); many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; common medium distinct brownish yellow (10YR 6/6) masses of iron accumulation; tongues of light brownish gray (10YR 6/2) silt loam (E) make up about 20 percent of this horizon; weak medium prismatic structure parting to weak medium subangular blocky; firm; few fine roots; common distinct continuous clay films on surfaces of peds; common fine iron and manganese concretions; common light gray (10YR 7/1) silt pockets; common tubular pores; very strongly acid; clear wavy boundary.

Btg1—42 to 54 inches; grayish brown (10YR 5/2) silty clay loam; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; moderate medium subangular blocky structure; firm; few fine roots; common fine tubular pores; common distinct continuous clay films on surfaces of peds; common fine iron and manganese concretions; common light gray (10YR 7/1) silt pockets; very strongly acid; clear wavy boundary.

Btg2—54 to 69 inches; light brownish gray (10YR 6/2) silty clay loam; common fine and medium distinct yellowish brown (10YR 5/8) masses of iron accumulation; moderate medium subangular blocky structure; firm; few fine roots; common fine tubular pores; common faint discontinuous clay films on surfaces of peds; few fine iron and manganese concretions; common fine light gray (10YR 7/1) silt pockets; very strongly acid; clear wavy boundary.

Cg—69 to 74 inches; light brownish gray (2.5Y 6/2) silty clay loam; common fine distinct brownish yellow (10YR 6/6) masses of iron accumulation; weak coarse subangular blocky structure; few fine soft iron and manganese concretions; very strongly acid.

Range in Characteristics

Solum thickness: 50 to 80 inches
Clay content in the control section: 20 to 35 percent
Redoximorphic features: Depleted matrix with iron accumulations in shades of brown or yellow beginning at 0 to 6 inches deep
Other distinctive soil features: Glossic horizon beginning at 12 to 36 inches deep
Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.
Reaction: Extremely acid to moderately acid in the A, Eg, Btg/E, and Btg horizons; strongly acid to moderately alkaline in the BCg and Cg horizons

A or Ap horizon:
Color: Hue of 10YR, value of 3 to 6, and chroma of 2 or 3; where value is 3, thickness is less than 6 inches.
Redoximorphic features: None to few iron accumulations in shades of brown
Texture: Silt loam
Other features: None
Thickness: 2 to 8 inches

Eg horizon:
Color: Hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 or 2
Redoximorphic features: Depleted matrix and few to many iron accumulations in shades of brown or yellow
Texture: Silt loam
Other features: None
Thickness: 11 to 27 inches

Btg/E horizon:
Color: Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2 in the Bt part; hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2 in the E part
Redoximorphic features: Few to many iron accumulations in shades of brown or yellow; iron depletions in shades of gray
Texture: Silt loam, silty clay loam, or clay loam in Bt part; silt loam or very fine sandy loam in E part
Other features: The E part consists of vertical intrusions or tongues that make up 15 to more than 30 percent of the horizon.
Thickness: 8 to 24 inches

Btg horizon:
Color: Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features: Depleted matrix and few to many iron accumulations in shades of brown or yellow
Texture: Silt loam, silty clay loam, or clay loam
Other features: None
Thickness: 15 to 45 inches

BCg or Cg horizon: (where present)
Color: Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features: Depleted matrix and few to many iron accumulations in shades of brown or yellow
Texture: Silt loam, silty clay loam, clay loam, or sandy clay loam
Other features: None

Hainesville Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapidly permeable
Landscape: Coastal plain
Landform: Low stream terrace remnants
Parent material: Alluvium from sandy stream deposits
Slope range: 0 to 2 percent

Taxonomic Classification

Thermic, coated Argic Quartzipsamments

Associated Soils

Bienville, Cahaba, Iuka, Mantachie, Merryville, and Urbo soils.
Bienville and Cahaba soils are at higher elevations on stream terraces. Bienville soils have a sandy argillic horizon. Cahaba soils have a fine-loamy control section. Iuka and Mantachie soils are on natural levee positions on flood plains. Iuka soils are moderately well drained and have a coarse-loamy control section. Mantachie soils are somewhat poorly drained and have a fine-loamy control section. Merryville soils are at higher elevations, are poorly drained, and have a coarse-silty control section. Urbo soils are on lower positions, are somewhat poorly drained, and are clayey throughout the solum.

Typical Pedon

Hainesville loamy fine sand in an area of Hainesville loamy fine sand, 0 to 2 percent slopes; in woodland; about 1.6 miles southwest of Merryville, LA, 700 feet west and 200 feet north of southeast section corner; SE1/4SE1/4 sec. 3, T. 4 S., R. 12 W.; 30°44´47" N. lat., 93°34´29" W. long., Merryville South 7.5 minute USGS topographic quadrangle.

A—0 to 6 inches; brown (10YR 4/3) loamy fine sand; weak medium granular structure; very friable; many fine and very fine roots; moderately acid; abrupt smooth boundary.

Bw—6 to 24 inches; brownish yellow (10YR 6/6) loamy fine sand; weak coarse subangular blocky structure; very friable; common very fine roots; strongly acid; gradual wavy boundary.

Bw/E1—24 to 47 inches; yellowish brown (10YR 5/6) loamy fine sandy (Bw); weak coarse subangular blocky structure; very friable; many coarse distinct light yellowish brown (10YR 6/4) spots and streaks of uncoated sand (E) make up about 35 percent of this horizon; very strongly acid; gradual wavy boundary.

Bw/E2—47 to 72 inches; yellowish brown (10YR 5/6) loamy fine sand; weak coarse subangular blocky structure; very friable; few coarse distinct light yellowish (10YR 6/4) spots and streaks of uncoated sand (E) make up about 10 percent of this horizon; common lamellae 1 to 3 mm thick; strongly acid.

Range in Characteristics

Solum thickness: More than 80 inches
Clay content in the control section: 2 to 10 percent
Redoximorphic features: None within 80 inches
Other distinctive soil features: Lamellae with a total thickness less than 6 inches at 40 to 72 inches deep
Concentrated minerals: Aluminum saturation is 20 to 50 percent within the upper 30 inches of the solum.
Reaction: Strongly acid to slightly acid in the A or Ap horizon; very strongly acid to slightly acid in the E, Bw, Bw/E, and E/Bw horizons

A or Ap horizon:
Color: Hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 3 or 4
Redoximorphic features: None
Texture: Loamy fine sand
Other features: Up to 3 percent rounded siliceous or ironstone pebbles
Thickness: 3 to 8 inches

E horizon: (where present)
Color: Hue of 7.5YR or 10YR, value of 6 to 8, and chroma of 3 or 4
Redoximorphic features: None
Texture: Fine sand or loamy fine sand
Other features: Up to 3 percent rounded siliceous or ironstone pebbles

Bw horizon:
Color: Hue of 5YR to 10YR, value of 5 to 7, and chroma of 6 or 8
Redoximorphic features: None
Texture: Fine sand or loamy fine sand
Other features: Lamellae with a cumulative thickness up to 6 inches
Thickness: Combined thickness of the E and Bw horizons is 0 to 20 inches.

E/Bw or Bw/E horizon:
Color: Hue of 7.5YR or 10YR, value of 6 to 8, and chroma of 3 or 4 in the E part; hue of 5YR to 10YR, value of 5 to 7, and chroma of 6 or 8 in the Bw part
Redoximorphic features: None
Texture: Fine sand or loamy fine sand
Other features: Up to 3 percent rounded siliceous or ironstone pebbles

Iuka Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately permeable
Landscape: Coastal plain
Landform: Flood plains
Parent material: Alluvium from recent loamy stream deposits
Slope range: 0 to 2 percent

Taxonomic Classification

Coarse-loamy, siliceous, acid, thermic Aquic Udifluvents

Associated Soils

Guyton, Hainesville, Mantachie, and Urbo soils. Guyton and Urbo soils are on slightly lower positions. Guyton soils are poorly drained and have a fine-silty control section. Urbo soils are somewhat poorly drained and have a fine-textured control section. Hainesville soils are on higher ridge and hummock positions and have less than 10 percent clay in the control section. Mantachie soils are on slightly lower positions and are fine-loamy.

Typical Pedon

Iuka fine sandy loam in an area of Iuka-Mantachie complex, frequently flooded; in woodland; about 3.0 miles southwest of Bancroft, LA, 50 feet east and

1,250 south of the northwest section corner, in the NW1/4NW1/4 sec. 8, T. 6 S., R. 13 W.; 30°33´35" N. lat., 93°43´19" W. long., Bancroft 7.5 minute USGS topographic quadrangle.

A—0 to 5 inches; brown (10YR 5/3) fine sandy loam; weak medium granular structure; very friable; common fine and medium roots; strongly acid, abrupt smooth boundary.

C1—5 to 19 inches; light yellowish brown (10YR 6/4) fine sandy loam; common medium distinct dark brown (7.5YR 4/4) masses of iron accumulation; weak medium subangular blocky structure; very friable; common fine and medium roots; strongly acid; gradual wavy boundary.

Cg2—19 to 34 inches; light brownish gray (10YR 6/2) loam; weak medium subangular blocky structure; friable; very strongly acid, gradual wavy boundary.

Cg3—34 to 42 inches; gray (10YR 6/1) silt loam; many coarse distinct brown (7.5YR 5/4) masses of iron accumulation; weak fine subangular blocky structure; friable; very strongly acid; gradual wavy boundary.

Cg4—42 to 55 inches; gray (10YR 6/1) loam; common fine and medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; moderate medium subangular blocky structure; firm; very strongly acid; gradual wavy boundary.

Cg5—55 to 63 inches; gray (10YR 6/1) sandy loam; many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; weak medium subangular blocky structure; friable; very strongly acid; gradual wavy boundary.

Cg6—63 to 74 inches; light brownish gray (2.5Y 6/2) sandy loam; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; weak fine granular structure; very friable; very strongly acid.

Range in Characteristics

Solum thickness: 5 to 12 inches
Clay content in the control section: 5 to 18 percent
Redoximorphic features: Iron depletions with chroma of 2 or less and iron accumulations in shades of brown beginning at 5 to 20 inches deep
Other distinctive soil features: Bedding planes and irregular organic carbon distribution at 5 to 80 inches deep
Concentrated minerals: None
Reaction: Strongly acid or very strongly acid throughout, except where the surface layer has been limed

A or Ap horizon:
Color: Hue of 10YR or 7.5YR, value of 4 to 7, and chroma of 2 to 4
Redoximorphic features: None
Texture: Fine sandy loam
Other features: None
Thickness: 5 to 12 inches

C horizon:
Color: Hue of 2.5Y through 7.5YR, value of 4 to 6, and chroma of 3 to 6; or hue of 10YR or 7.5YR, value of 4, and chroma of 2
Redoximorphic features: Iron depletions with chroma of 2 or less are within 20 inches; iron accumulations are in shades of brown.
Texture: Fine sandy loam, sandy loam, loam, or silt loam
Other features: Bedding planes and irregular organic carbon decrease with depth.
Thickness: 8 to 30 inches

Cg horizon:
Color: Hue of 10YR or 2.5Y, value of 4 or 6, and chroma of 1 or 2; or it is variegated in shades of gray, brown, red, and yellow
Redoximorphic features: Depleted matrix with iron accumulations in shades of brown, red, or yellow
Texture: Fine sandy loam, sandy loam, loam, or silt loam
Other features: Bedding planes and irregular organic carbon decrease with depth.

Kirbyville Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately permeable
Landscape: Coastal plains
Landform: Uplands
Parent material: Coastal plains sediments from loamy Pleistocene-age marine sediments.
Slope range: 1 to 3 percent

Taxonomic Classification

Fine-loamy, siliceous, thermic Plinthaquic Paleudults

Associated Soils

Dubach, Guyton, Malbis, Niwana, and Ruston soils. Dubach soils are on stream terrace positions and have less than 5 percent plinthite. Guyton soils are on flood plain or terrace positions, are poorly drained, and have a fine-silty control section. Malbis soils are on higher positions and are moderately well drained. Niwana soils are on slightly higher mound positions and are moderately well drained. Ruston soils are well drained.

Typical Pedon

Kirbyville fine sandy loam in an area of Kirbyville-Niwana fine sandy loams, 1 to 3 percent slopes; in pasture; about 8 miles northeast of Sugartown, LA; 1,700 feet east and 200 feet south of the northwest section corner, in the NE1/4NW1/4 sec. 19, T. 2 S, R. 7 W.; 30°52´36" N. lat., 93°07´43" W. long., Hurricane Branch 7.5 minute USGS topographic quadrangle.

Ap—0 to 6 inches; very dark gray (10YR 4/2) fine sandy loam; weak medium granular structure; very friable; few medium and many fine roots; strongly acid; gradual smooth boundary.

E—6 to 11 inches; brown (10YR 5/3) fine sandy loam; weak medium granular structure; very friable; few medium and many fine roots; strongly acid; gradual wavy boundary.

Bt/E—11 to 26 inches; yellowish brown (10YR 5/6) sandy clay loam; few medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the lower part; tongues of pale brown (10YR 6/3) fine sandy loam (E) make up about 20 percent of this horizon; weak medium subangular blocky structure; friable; common fine roots; few fine pores; few distinct clay films; very strongly acid; gradual smooth boundary.

Btv/E—26 to 44 inches; strong brown (7.5YR 5/6) sandy clay loam; common medium prominent red (2.5YR 4/6) masses of iron accumulation; tongues of light brownish gray (10YR 6/2) sandy loam (E) make up about 25 percent of this horizon; weak medium subangular blocky structure; friable; few fine pores; few distinct clay films; few medium iron concretions; about 6 percent plinthite; very strongly acid; clear smooth boundary.

Bt/E´—44 to 85 inches; strong brown (7.5YR 5/6) sandy clay loam; common medium distinct yellowish brown (10YR 5/4 and 5/6) masses of iron accumulation; tongues of light brownish gray (10YR 6/2) sandy loam (E) make up about 35 percent of this horizon; weak medium subangular blocky structure; friable; few distinct clay films; very strongly acid.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Clay content in the control section: 18 to 30 percent
Redoximorphic features: Few to common iron or clay depletions in shades of gray and iron accumulations in shades of brown or red beginning at 6 to 30 inches deep
Other distinctive soil features: 5 to 15 percent plinthite nodules at more than 25 inches deep
Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.
Reaction: Very strongly acid to moderately acid in the A or Ap horizon, and in the E horizons; very strongly acid or strongly acid in the Btv/E and Bt/E horizons

A or Ap horizon:
Color: Hue of 10YR, value of 4 to 6, and chroma of 2 or 3; some pedons have surface layers up to 5 inches that have value of 3
Redoximorphic features: None
Texture: Fine sandy loam
Other features: None
Thickness: 4 to 8 inches

E horizon:
Color: Hue of 10YR, value of 5 to 7, chroma of 3 to 6
Redoximorphic features: None to common iron accumulations in shades of brown and yellow and clay depletions in shades of gray
Texture: Fine sandy loam
Other features: None
Thickness: 5 to 20 inches

Bt/E horizon: (where present)
Color: Hue of 10YR or 7.5YR, value of 5 or 6, chroma of 4 to 8 in the Bt part; hue of 10YR, value of 6 or 7, chroma of 1 to 3 in the E part
Redoximorphic features: Few to common iron accumulations in shades of brown, red, or yellow in ped interiors; few to common iron or clay depletions in shades of gray on faces of peds
Texture: Loam or sandy clay loam in the Bt part; fine sandy loam or very fine sandy loam in the E part
Other features: None

Btv/E horizon:
Color: Hue of 10YR or 7.5YR, value of 5 or 6, chroma of 4 to 8 in the Btv part; hue of 10YR, value of 6 or 7, chroma of 1 to 3 in the E part
Redoximorphic features: Few to common iron accumulations in shades of brown, red, or yellow in ped interiors; few to common iron or clay depletions in shades of gray on faces of peds

Texture: Loam or sandy clay loam in the Btv part; fine sandy loam or very fine sandy loam in the E part
Other features: 5 to 15 percent plinthite nodules; the E part consists of tongues or interfingers and makes up 5 to 40 percent of the horizon.
Thickness: More than 15 inches

Kolin Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slowly permeable
Landscape: Coastal plain
Landform: Stream terraces
Parent material: Alluvium from loamy over clayey, early and mid Pleistocene-age stream deposits
Slope range: 1 to 5 percent

Taxonomic Classification

Fine-silty, siliceous, thermic Haplic Glossudalfs

Associated Soils

Acadia, Beauregard, Blevins, Caddo, Gore, Guyton, and Messer soils.

Acadia and Beauregard soils are on positions similar to those of the Kolin soils. Acadia soils have a fine-textured control section. Beauregard soils are loamy throughout and have more than 5 percent plinthite in the subsoil. Blevins soils are on upland positions and have a fine-silty control section. Caddo soils are on intermound positions and are grayish throughout. Messer soils are on mound positions and have a coarse-silty control section. Guyton soils are on drainageways and flood plains and are grayish throughout. Gore soils are on convex side slopes and escarpments adjacent to drainageways and have a fine-textured control section.

Typical Pedon

Kolin silt loam in an area of Kolin silt loam, 1 to 3 percent slopes; in woodland; about 7.3 miles southwest of Fields, LA; 2,200 feet east and 2,500 feet north of the southwest section corner, in the NE1/4SW1/4 sec. 11, T. 7 S., R. 13 W; 30°28´03" N. lat., 93°39´58" W. long., Shoats Creek 7.5 minute USGS topographic quadrangle.

A—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; few fine distinct yellowish brown (10YR 5/6) mottles; weak fine subangular blocky structure parting to weak fine granular (platy in the lower part); very friable; many coarse to fine roots; very strongly acid; abrupt smooth boundary.

E—5 to 11 inches; yellowish brown (10YR 5/4) silt loam; many fine and medium faint brown (10YR 5/3) mottles; weak medium subangular blocky structure parting to weak fine granular; friable; many fine and medium roots; few fine continuous vesicular pores; common fine pockets of very pale brown (10YR 7/3) silt loam; very strongly acid; clear wavy boundary.

Bt—11 to 20 inches; yellowish brown (10YR 5/6) silty clay loam; few fine and medium distinct strong brown (7.5YR 5/6) masses of iron accumulation, and common medium distinct brown (10YR 5/3) iron depletions; weak coarse subangular blocky structure parting to weak medium subangular blocky; friable; few fine to coarse roots; many fine and very fine continuous vesicular pores; common fine soft iron and manganese nodules; common fine pockets and seams of very pale brown (10YR 7/3) silt loam, make up 15 to 20 percent of this horizon; very strongly acid; clear wavy boundary.

Bt/E1—20 to 31 inches; yellowish brown (10YR 5/6) silty clay loam; few fine prominent yellowish red (5YR 5/6) masses of iron accumulation, and common medium prominent red (2.5YR 4/6) masses of iron accumulation; weak coarse subangular blocky structure parting to weak medium subangular blocky; friable; few fine to coarse roots; many fine and very fine continuous vesicular pores; common fine soft iron and manganese nodules; common fine pockets and seams of very pale brown (10YR 7/3) silt loam, make up 15 to 20 percent of this horizon; strongly acid; clear wavy boundary.

Bt/E2—31 to 41 inches; yellowish brown (10YR 5/6) silty clay loam; many coarse distinct light brownish gray (10YR 6/2) iron depletions and few fine prominent red (2.5YR 4/8) masses of iron accumulation; weak medium prismatic structure parting to weak medium subangular blocky; very firm; common fine and medium roots; many fine and very fine pores, lined with dark yellowish brown (10YR 4/6) iron oxides; tongues and root channels, 1 to 6 inches wide, filled with light brownish gray (10YR 6/2) silt loam (E) and make up about 35 percent of this horizon; strongly acid; gradual irregular boundary.

2Btg1—41 to 60 inches; light brownish gray (10YR 6/2) silty clay; many fine and medium prominent red (2.5YR 4/8) masses of iron accumulation and common fine distinct yellowish brown (10YR 5/8) masses of iron accumulation; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; common fine and medium roots between prisms; distinct continuous clay films on all faces of most peds; common thick very pale brown (10YR 7/3) silt coats in cracks and along slickensides; common root channels 1 to 2 inches wide are filled with grayish brown (10YR 5/2) silt loam; strongly acid; gradual wavy boundary.

2Btg2—60 to 72 inches; light brownish gray (10YR 6/2) silty clay; many medium and coarse prominent red (2.5YR 4/6) masses of iron accumulation, few fine distinct yellowish brown (10YR 5/8) masses of iron accumulation and few medium distinct light olive gray (5Y 6/2) iron depletions; moderate very coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine and medium roots; distinct continuous clay films on all faces of most peds; many thick very pale brown (10YR 7/4) silt coats between prisms, in cracks, and along slickensides; common fine strands of soft manganese accumulations along slickensides; strongly acid; gradual wavy boundary.

2BCg1—72 to 82 inches; brownish gray (2.5Y 6/2) clay; many coarse prominent red (2.5YR 4/6) masses of iron accumulation and common medium prominent light reddish brown (5YR 6/4) masses of iron accumulation; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; few fine roots in cracks and slickensides; common intersecting slickensides; common thick very pale brown (10YR 7/4) and pink (7.5YR 7/4) silt coats along cracks and slickensides; strongly acid (fig. 17).

Range in Characteristics

Solum thickness: 60 to more than 100 inches
Clay content in the control section: 20 to 35 percent
Redoximorphic features: Iron and clay depletions in shades of brown and iron accumulations in shades of red or brown beginning at 12 to 30 inches deep
Other distinctive soil features: Clayey lithologic discontinuity at 20 to 40 inches deep
Concentrated minerals: Aluminum saturation is 20 to 50 percent within the upper 30 inches of the solum.
Reaction: Very strongly acid to slightly acid in the A and E horizons, very strongly acid to moderately acid in the Bt and Btg/E horizons; very strongly acid to slightly acid in the 2Btg and 2C horizons

A or Ap horizon:
Color: Hue of 10YR, value of 3 or 4, and chroma of 1 to 3
Redoximorphic features: None
Texture: Silt loam
Other features: None
Thickness: 3 to 6 inches

E horizon: (where present)
Color: Hue of 10YR, value of 5 or 6, and chroma of 1 to 3
Redoximorphic features: None
Texture: Silt loam
Other features: None
Thickness: 0 to 6 inches

Bt horizon:
Color: Hue of 7.5YR to 10YR, value of 5 or 6, and chroma of 4 to 8
Redoximorphic features: None to common iron accumulations in shades of red or brown; iron depletions in shades of brown
Texture: Silt loam, clay loam, or silty clay loam
Other features: Total sand content is less than 25 percent
Thickness: 9 to 20 inches

Bt/E horizon:
Color: Hue of 7.5YR to 10YR, value of 5 or 6, and chroma of 4 to 8 in the Bt part; hue of 10YR, value of 5 or 6, and chroma of 1 to 3 in the E part
Redoximorphic features: None to common iron accumulations in shades of red or brown; common to many iron and clay depletions in shades of gray
Texture: Silt loam, clay loam, or silty clay loam in the Bt part; silt loam, very fine sandy loam, or loam in the E part
Other features: The E part consists of silt coatings and interfingering of albic materials between peds.
Thickness: 5 to 25 inches

2Btg horizon:
Color: Hue of 5Y to 10YR, value of 4 to 7, and chroma of 1 or 2
Redoximorphic features: Reduced matrix with iron accumulations in shades of red or brown
Texture: Clay or silty clay
Other features: Clay content of the 2Bt horizon ranges from 40 to 55 percent

2BCg horizon: (where present)
Color: Hue of 5Y to 10YR, value of 4 to 7, and chroma of 1 or 2
Redoximorphic features: Reduced matrix with iron accumulations in shades of red or brown
Texture: Clay or silty clay

Other features: None

Malbis Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately slowly permeable
Landscape: Coastal plain
Landform: Uplands
Parent material: Coastal plain sediments from early Pleistocene-age, loamy marine deposits
Slope range: 1 to 8 percent

Taxonomic Classification

Fine-loamy, siliceous, thermic Plinthic Paleudults

Associated Soils

Beauregard, Betis, Blevins, Boykin, Doucette, Guyton, and Ruston soils.

Beauregard soils are on lower side slopes and have a fine-silty control section. Betis and Blevins soils are on positions similar to those of the Malbis soils. Betis soils are sandy throughout. Blevins soils have a fine-silty control section. Boykin and Doucette soils are on positions similar to those of the Malbis soils and have sandy epipedons more than 20 inches thick. Guyton soils are on lower flood plain and drainageway positions and are grayish throughout. Ruston soils are on higher, more convex positions and have hue of 5YR or redder in the subsoil.

Typical Pedon

Malbis fine sandy loam in an area of Malbis fine sandy loam, 1 to 3 percent slopes; in woodland; about 4.3 miles east of Merryville, LA; 750 feet west and 2,00 feet north of the southeast section corner, in the NE1/4SE1/4 sec. 28, T. 3 S., R. 11 W.; 30°46′ N. lat., 93°29′ W. long., Neale 7.5 minute USGS topographic quadrangle.

A—0 to 6 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium granular structure; very friable; common fine and medium roots; common medium pores; very strongly acid; clear smooth boundary.

E—6 to 10 inches; pale brown (10YR 6/3) fine sandy loam; weak fine granular structure; very friable; common fine roots; common fine and medium tubular pores; strongly acid; clear smooth boundary.

Bt/E—10 to 16 inches; yellowish brown (10YR 5/8) loam; pale brown (10YR 6/3) fine sandy loam (E) makes up about 15 percent of this horizon; moderate medium subangular blocky structure; firm; few fine and medium roots; few fine and medium tubular pores; thin continuous clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btv1—16 to 24 inches; strong brown (7.5YR 5/6) loam; few fine distinct light yellowish brown (10YR 6/4) iron depletions; moderate medium subangular blocky structure; friable, firm in areas around plinthite; common fine roots; common fine and medium tubular pores; common distinct continuous clay films on faces of peds; about 15 percent plinthite; strongly acid; gradual wavy boundary.

Btv2—24 to 40 inches; yellowish brown (10YR 5/6) loam; common medium distinct light brownish gray (10YR 6/2) iron depletions; moderate medium subangular blocky structure; friable, firm in areas around plinthite; common fine roots; common distinct clay films on faces of peds; about 15 percent plinthite; very strongly acid; gradual wavy boundary.

Btv3—40 to 49 inches; yellowish brown (10YR 5/4) loam; common medium distinct light brownish gray (10YR 6/2) iron depletions; moderate medium subangular blocky structure; friable; firm in areas around plinthite; common fine roots; few distinct clay films on faces of peds; about 15 percent plinthite; very strongly acid; gradual wavy boundary.

Btv4—49 to 62 inches; yellowish brown (10YR 5/6) and yellowish red (5YR 4/8) clay loam; common medium distinct light brownish gray (10YR 6/2) iron depletions; moderate medium subangular blocky structure; friable; firm in areas around plinthite; common fine roots; few distinct continuous clay films on faces of peds; about 15 percent plinthite; very strongly acid; gradual wavy boundary.

Btv5—62 to 76 inches; yellowish brown (10YR 5/6) sandy clay loam; common medium prominent red (2.5YR 4/8) masses of iron accumulation and many medium distinct gray (10YR 6/1) iron depletions; weak medium subangular blocky structure; friable, firm in areas around plinthite; few fine roots; few faint discontinuous clay films on faces of peds; very strongly acid.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Clay content in the control section: 18 to 33 percent

Redoximorphic features: Iron depletions in shades of gray and iron accumulations in shades of red or brown beginning at 20 to 50 inches deep
Other distinctive soil features: 5 percent or more plinthite nodules at 24 to 56 inches deep
Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.
Reaction: Very strongly acid to moderately acid in the A and E horizons; very strongly acid to strongly acid in the BE, Bt/E, Bt, Btv, and BC horizons

A or Ap horizon:
Color: Hue of 10YR, value of 3 to 5, and chroma of 2 or 3
Redoximorphic features: None
Texture: Fine sandy loam
Other features: None
Thickness: 4 to 8 inches

E horizon: (where present)
Color: Hue of 10YR, value of 5, and chroma of 4 to 8; or value of 6 and chroma of 3 or 4
Redoximorphic features: None
Texture: Fine sandy loam
Other features: None
Thickness: 0 to 11 inches

BE horizon: (where present)
Color: Hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8
Redoximorphic features: None
Texture: Loam, sandy clay loam, or clay loam
Other features: None
Thickness: 0 to 10 inches

Bt horizon: (where present)
Color: Hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 8
Redoximorphic features: None to common iron accumulations in shades of brown or red, and iron depletions in shades of brown
Texture: Loam, sandy clay loam, or clay loam
Other features: None

Bt/E horizon: (where present)
Color: Hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 8 in the Bt part; hue of 10YR, value of 5, and chroma of 4 to 8 or value of 6 and chroma of 3 or 4 in the E part
Redoximorphic features: Iron accumulations are in shades of brown, yellow, or red; chroma of 2 iron and clay depletions are below a depth of 20 inches.
Texture: Loam, sandy clay loam, or clay loam in the Bt part; fine sandy loam in the E part
Other features: None
Thickness: 0 to 6 inches

Btv horizon:
Color: Hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 8
Redoximorphic features: Iron accumulations are in shades of brown, yellow, or red; chroma of 2 iron depletions are below a depth of 20 inches.
Texture: Loam, sandy clay loam, or clay loam
Other features: 5 to 25 percent plinthite nodules
Thickness: 30 or more inches

BC horizon: (where present)
Color: Hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 8
Redoximorphic features: Iron accumulations in shades of brown, yellow, or red; iron depletions in shades of gray
Texture: Loam, sandy clay loam, or clay loam
Other features: None

Mantachie Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately permeable
Landscape: Coastal plain
Landform: Flood plains
Parent material: Loamy alluvium from recent stream deposits
Slope range: 0 to 3 percent

Taxonomic Classification

Fine-loamy, siliceous, acid, thermic Aeric Fluvaquents

Associated Soils

Cypress, Guyton, Hainesville, Iuka, and Urbo soils. Cypress and Urbo soils are on lower positions and have fine-textured control sections. Cypress soils are covered by water most of the time. Guyton soils are on lower positions on the flood plain and are fine-silty. Hainesville soils are on higher, ridge and hummock positions and are sandy throughout. Iuka soils are on slightly higher positions and are coarse-loamy.

Typical Pedon

Mantachie fine sandy loam in an area of Urbo and Mantachie soils, frequently flooded; in woodland; about 2.3 miles northwest of Merryville, LA; 500 feet east and 1,900 feet south of the northwest section corner, SW1/4NW1/4 sec. 34, T. 3 S., R. 12 W.; 30°45´39" N. lat., 93°35´16" W. long., Merryville North 7.5 minute USGS topographic quadrangle.

A—0 to 3 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; many very fine roots; strongly acid; abrupt smooth boundary.

Bw—3 to 5 inches; mottled grayish brown (10YR 5/2) and strong brown (7.5YR 5/8) loam; few medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; weak medium subangular blocky structure; friable; many fine and very fine roots; very strongly acid; clear wavy boundary.

Bg1—5 to 21 inches; grayish brown (10YR 5/2) loam; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation and common medium distinct dark yellowish brown (10YR 4/4) masses of iron accumulation; weak medium subangular blocky structure; friable; many very fine roots; very strongly acid; gradual wavy boundary.

Bg2—21 to 31 inches; gray (10YR 6/1) loam; many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; weak medium subangular blocky structure; friable; few fine roots; very strongly acid; gradual wavy boundary.

Bg3—31 to 41 inches; gray (10YR 6/1) clay loam; few medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; weak medium subangular blocky structure; friable; very strongly acid; gradual wavy boundary.

Cg—41 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam, common fine prominent yellowish red (5YR 5/8) masses of iron accumulation; coarse medium subangular blocky structure, friable; very strongly acid.

Range in Characteristics

Solum thickness: 30 to 65 inches

Clay content in the control section: 18 to 34 percent

Redoximorphic features: Depleted matrix with iron accumulations in shades of yellow, brown, or red beginning at 5 to 19 inches deep

Other distinctive soil features: Iron concretions range from none to common at all depths within 80 inches.

Concentrated minerals: None

Reaction: Very strongly acid to strongly acid throughout, except where the surface layer has been limed

A or Ap horizon:

Color: Hue of 10YR, value of 4 or 5, and chroma of 2 to 6; or hue of 2.5Y, value of 4, and chroma of 2; or it is mottled in shades of brown and gray. Some pedons have an A horizon up to 6 inches thick that has hue of 10YR, value of 3, and chroma of 1 to 3.

Redoximorphic features: Iron depletions in shades of gray; iron accumulations in shades of brown

Texture: Fine sandy loam or clay loam

Other features: None

Thickness: 3 to 8 inches

Bw horizon:

Color: Hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 to 6

Redoximorphic features: Few to many iron accumulations in shades of yellow or brown; iron depletions in shades of gray

Texture: Clay loam, loam, or sandy clay loam

Other features: None

Thickness: 4 to 20 inches

Bg horizon:

Color: Hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2

Redoximorphic features: Depleted matrix with few to many iron accumulations in shades of yellow, brown, or red.

Texture: Clay loam, loam, or sandy clay loam

Other features: Organic carbon distribution is irregular, or it is more than 0.2 percent at 50 inches deep.

Cg horizon:

Color: Hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2

Redoximorphic features: Depleted matrix with few to many iron accumulations in shades of yellow, brown, or red

Texture: Clay loam, loam, or sandy clay loam

Other features: None

Merryville Series

Depth class: Very deep

Drainage class: Poorly drained

Permeability: Slowly permeable

Landscape: Coastal plain

Landform: Low stream terraces

Parent material: Alluvium from stratified loamy, late Pleistocene-age stream deposits

Slope range: 0 to 1 percent

Taxonomic Classification

Coarse-silty, siliceous, thermic Typic Glossaqualfs

Associated Soils

Bearhead, Bienville, Cahaba, Dubach, and Urbo soils. Bearhead soils are on higher mound and ridge positions, are moderately well drained, and have a coarse-loamy control section. Bienville and Cahaba soils are on higher positions on broad ridges. Bienville soils are sandy throughout. Cahaba soils have a reddish, fine-loamy control section. Dubach soils are at slightly higher elevations, are well drained, and have a yellowish brown fine-loamy control section. The Urbo soils are on flood plains and have a fine-textured control section.

Typical Pedon

Merryville silt loam in an area of Bearhead-Merryville complex, gently undulating; in woodland; about .75 mile east of Merryville, LA; 1,260 feet west and 2,570 feet south of the northeast section corner, SE¼NE¼ sec. 6, T. 4 S., R. 11 W.; 30°44´42" N. lat., 93°31´31" W. long., Merryville South 7.5 minute USGS topographic quadrangle.

A—0 to 4 inches; light brownish gray (10YR 6/2) silt loam; weak fine subangular blocky structure parting to weak fine granular; friable; many fine and medium roots; many fine root channels lined with dark yellowish brown (10YR 4/4) masses of iron accumulation; extremely acid; gradual smooth boundary.

Eg—4 to 9 inches; grayish brown (10YR 5/2) silt loam; common medium distinct light olive brown (2.5Y 5/4) masses of iron accumulation; weak medium subangular blocky structure; friable; common fine and medium roots; many fine and very fine continuous vesicular pores; common fine root channels lined with yellowish brown (10YR 5/4) oxidation stains; extremely acid; clear wavy boundary.

Btg/E1—9 to 18 inches; grayish brown (10YR 5/2) silt loam; weak coarse subangular blocky structure parting to weak fine subangular blocky; friable; slightly hard and brittle (dry); few fine and medium roots; many fine and very fine continuous vesicular pores; common distinct clay films on vertical ped faces; pockets of light brownish gray (10YR 6/2) very fine sandy loam (E) make up about 20 percent of this horizon; very strongly acid; clear wavy boundary.

Btg/E2—18 to 26 inches; grayish brown (10YR 5/2) silt loam; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; slightly hard and brittle when dry; common distinct clay films on all surfaces of most peds; pockets of light brownish gray (10YR 6/2) very fine sandy loam (E) make up about 40 percent of this horizon; common fine and medium discontinuous vesicular pores lined with clay films in (E) pockets; very strongly acid; gradual wavy boundary.

Btg/E3—26 to 35 inches; grayish brown (10YR 5/2) silt loam; many fine distinct yellowish brown (10YR 5/8) masses of iron accumulation; weak very coarse prismatic structure parting to weak coarse subangular blocky; firm; pockets of light brownish gray (10YR 6/2) silt loam (E) make up about 20 percent of this horizon; very strongly acid; gradual wavy boundary.

Btg1—35 to 48 inches; grayish brown (10YR 5/2) loam; many fine and medium distinct strong brown (7.5YR 5/6) and olive brown (2.5Y 4/4) masses of iron accumulation; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; common fine and very fine continuous vesicular pores; common silt coats on vertical prism faces; common vertical seams of dark grayish brown (10YR 4/2) silty clay loam; few pockets of light brownish gray (10YR 6/2) very fine sandy loam, ¼ inch to 2 inches in diameter, make up about 10 percent of this horizon; extremely acid; gradual wavy boundary.

Btg2—48 to 55 inches; light brownish gray (2.5Y 6/2) very fine sandy loam; weak coarse prismatic structure parting to weak fine subangular blocky; friable; common distinct clay films on all faces of most prisms; common strong brown (7.5YR 5/6) oxidation stains on most ped faces and lining root channels; few fine vertical seams and few krotovina 1 to 2 inches wide filled with dark grayish brown (10YR 4/2) silty clay loam; very strongly acid; clear smooth boundary.

2BCg1—55 to 72 inches; light gray (5Y 7/1) very fine sand; weak fine and medium subangular blocky structure; friable; few patchy clay films on vertical ped faces; very strongly acid; clear wavy boundary.

2BCg2—72 to 85 inches; light gray (5Y 7/1) loamy fine sand; few fine distinct olive (5Y 5/4) masses of iron accumulation; weak coarse subangular blocky structure parting to weak medium subangular blocky; common faint clay films on vertical ped faces; very strongly acid; clear smooth boundary.

2Cg—85 to 99 inches; light gray (10YR 7/1) sand (uncoated); single grain; loose; coarse sand makes up about 25 percent of this horizon; few chert gravel ¼ to ½ inch in diameter; very strongly acid (fig. 18).

Range in Characteristics

Solum thickness: 70 to more than 100 inches
Clay content in the control section: 4 to 14 percent
Redoximorphic features: Depleted matrix with iron accumulations in shades of brown beginning at 0 to 8 inches deep

Other distinctive soil features: Sandy subsoil layers beginning at 50 to 85 inches deep
Concentrated minerals: Sodium saturation is 1 to 15 percent in the subsoil. Aluminum saturation is 20 to 50 percent within 30 inches.
Reaction: Extremely acid to moderately acid throughout, except where the surface has been limed

A or Ap horizon:
Color: Hue of 10YR, value of 4 to 6, and chroma of 2 or 3
Redoximorphic features: None to common iron accumulations in shades of brown
Texture: Silt loam
Other features: None
Thickness: 2 to 8 inches

Eg horizon:
Color: Hue of 10YR, value of 5 to 7, and chroma of 1 or 2
Redoximorphic features: Depleted matrix with few to many iron accumulations in shades of brown
Texture: Silt loam
Other features: None
Thickness: 5 to 27 inches

Btg/E horizon:
Color: Hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2 in the Btg part; hue of 10YR, value of 5 to 7, and chroma of 1 or 2 in the E part
Redoximorphic features: Depleted matrix and few to many iron accumulations in shades of brown
Texture: Silt loam, loam, very fine sandy loam in the Btg part; silt loam or very fine sandy loam in the E part
Other features: Exchangeable sodium ranges from 1 to 15 percent.
Thickness: 12 to 30 inches

Btg horizon:
Color: Hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Redoximorphic features: Depleted matrix with few to many iron accumulations in shades of brown
Texture: Silt loam, loam, very fine sandy loam
Other features: Some pedons have thin strata of silty clay loam or clay loam. Exchangeable sodium ranges from 1 to 15 percent.
Thickness: 12 to 30 inches

2BCg or 2Cg horizon: (where present)
Color: Hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Redoximorphic features: Depleted matrix with few to many iron accumulations in shades of brown
Texture: Loamy fine sand, fine sandy loam, sand, or very fine sand
Other features: Some pedons have thin strata of clay loam or sandy clay loam

Messer Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slowly permeable
Landscape: Coastal plain
Landform: Terraces
Parent material: Alluvium from loamy, Pleistocene-age stream deposits
Slope range: 1 to 3 percent

Taxonomic Classification

Coarse-silty, siliceous, thermic Haplic Glossudalfs

Associated Soils

Acadia, Beauregard, Brimstone, Caddo, Glenmora, Guyton, and Kolin soils.
Acadia, Beauregard, Glenmora, and Kolin soils are at lower elevations than Messer soils. Acadia soils have a fine-textured control section. Beauregard, Glenmora, and Kolin soils are fine-silty. Caddo and Brimstone soils are on lower, intermound positions; are poorly drained; and are fine-silty. Guyton soils are on lower, flood plain or drainageway positions; are poorly drained; and are fine-silty.

Typical Pedon

Messer silt loam in an area of Caddo-Messer silt loams; in woodland; about 1.75 miles north of Ragley, LA, 2,550 feet west and 1,500 feet south of the northeast section corner; SW1/4NE1/4 sec. 19, T. 6 S., R. 8 W.; 30°31´48" N. lat., 93°13´44" W. long., Longville 7.5 minute USGS topographic quadrangle.

A—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; weak fine subangular blocky structure parting to weak fine granular; friable; many fine to coarse roots; few fine soft iron manganese nodules; few fine pieces of charcoal; very strongly acid; abrupt smooth boundary.
E—5 to 8 inches; light brownish gray (10YR 6/2) silt loam; common fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation; weak medium subangular blocky structure parting to weak fine granular; friable; many fine and medium

roots; few fine iron and manganese nodules; few fine pieces of charcoal; common fine root channels lined with strong brown (7.5YR 5/6) and yellowish brown (10YR 5/8) oxidation stains; very strongly acid; abrupt smooth boundary.

BE—8 to 17 inches; light yellowish brown (10YR 6/4) silt loam; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; weak coarse subangular blocky structure parting to weak fine granular; friable; common fine and medium roots; many fine and very fine continuous vesicular pores; many fine and medium hard iron and manganese nodules; very strongly acid; clear smooth boundary.

Bt/E1—17 to 22 inches; brownish yellow (10YR 6/6) silt loam, (Bt); weak coarse prismatic structure parting to weak fine granular; friable; few fine and medium continuous vesicular pores; common pore spaces filled with dark grayish brown (10YR 4/2) silt loam; few void spaces, up to 1/2 inch in diameter, lined with distinct clay films; many fine yellowish brown (10YR 5/6) pockets of soft iron oxides; many fine and medium iron and manganese nodules, up to 3/8 inch in diameter; pale brown (10YR 6/3) silt loam (E) makes up about 40 percent of this horizon; very strongly acid; clear wavy boundary.

Bt/E2—22 to 28 inches; brownish yellow (10YR 6/6) silty clay loam; few medium faint yellowish brown (10YR 5/6) masses of iron accumulation; weak coarse prismatic structure parting to weak fine granular; friable; few fine roots; few medium and many fine and very fine continuous vesicular pores; common distinct clay films on faces of peds; few thin silt coats on vertical faces of prisms; common fine pockets of red (2.5YR 4/8) soft iron oxide accumulations; common fine and medium iron and manganese nodules up to 3/8 inch in diameter; interfingering of light yellowish brown (10YR 6/4) silt loam (E), 1/2 to 1 inch wide, makes up about 15 percent of this horizon; very strongly acid; gradual irregular boundary.

Bt1—28 to 37 inches; brownish yellow (10YR 6/6) silty clay loam; common medium faint yellowish brown (10YR 5/6) masses of iron accumulation; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; few fine and very fine roots between prisms; many fine and very fine continuous vesicular pores; few faint clay films on faces of prisms; common fine soft iron and manganese nodules; common red (2.5YR 4/8) oxidation stains on faces of prisms; interfingering of light brownish gray (10YR 6/2) silt loam (E), 1/4 inch to 3 1/2 inches wide, makes up about 7 percent of this horizon; very strongly acid; clear wavy boundary.

Bt2—37 to 46 inches; brownish yellow (10YR 6/6) silty clay loam; few medium faint brownish yellow (10YR 6/8) masses of iron accumulation; weak very coarse prismatic structure parting to weak medium subangular blocky; firm; many fine and very fine continuous vesicular pores, lined with distinct clay films; few distinct yellowish red (5YR 5/6) oxidation stains on faces of peds and lining root channels; few fine and medium hard and soft iron and manganese nodules; common distinct clay films and thin patchy silt coats on all faces of most peds; strongly acid; gradual wavy boundary.

Bt3—46 to 62 inches; yellowish brown (10YR 5/6) silty clay loam; many coarse distinct light yellowish brown (10YR 6/4) iron depletions, common fine and medium prominent red (2.5YR 4/8) masses of iron accumulation, and common fine distinct light brownish gray (10YR 6/2) iron depletions; weak very coarse prismatic structure parting to weak fine subangular blocky, slightly hard and brittle when dry; firm; many fine and very fine continuous vesicular pores lined with distinct clay films; common distinct clay films on all faces of most peds; few red (2.5YR 4/8) iron oxide accumulations on faces of prisms; common seams and coats of light brownish gray (10YR 6/2) silty clay loam between prisms; strongly acid; gradual smooth boundary.

Bt4—62 to 78 inches; light yellowish brown (10YR 6/4) silty clay loam; common fine prominent red (2.5YR 4/8) and common fine and medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; weak very coarse prismatic structure; friable, slightly hard and brittle when dry; many fine and very fine continuous vesicular pores lined with clay films; common distinct clay films on all faces of most peds; few medium iron and manganese nodules; few seams of grayish brown (10YR 5/2) silty clay, 1/4 to 1/2 inch wide; strongly acid; gradual wavy boundary.

BC—78 to 95 inches; brownish yellow (10YR 6/8) silty clay; common fine distinct yellowish brown (10YR 5/6) mottles; common fine prominent grayish brown (10YR 5/2) iron depletions; few fine prominent red (2.5YR 4/8) masses of iron accumulation; weak very coarse prismatic structure parting to weak very coarse subangular blocky; firm; few medium and few fine continuous vesicular pores lined with clay films; few coarse hard iron and manganese nodules; very strongly acid; gradual wavy boundary.

BCg—95 to 113 inches; light brownish gray (10YR 6/2) silty clay; common medium distinct yellow (10YR 7/8) masses of iron accumulation, few fine distinct yellowish brown (10YR 5/8) masses of iron accumulation, and common fine faint light yellowish brown masses of iron accumulation; weak very coarse prismatic structure parting to weak medium subangular blocky; firm; strongly acid (fig. 19).

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Clay content in the control section: 10 to 18 percent
Redoximorphic features: Iron and clay depletions in shades of gray beginning at 24 to 50 inches deep; iron accumulations in shades of red, yellow, or brown beginning at 5 to 50 inches deep
Other distinctive soil features: Glossic horizon at 20 to 40 inches deep
Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.
Reaction: Very strongly acid to moderately acid throughout

A or Ap horizon:
Color: Hue of 10YR, value of 4 or 5, and chroma of 2 or 3
Redoximorphic features: None
Texture: Silt loam
Other features: None
Thickness: 2 to 7 inches

E horizon:
Color: Hue of 10YR, value of 5 or 6, and chroma of 2 to 4
Redoximorphic features: None to common iron accumulations in shades of brown
Texture: Silt loam
Other features: None
Thickness: 3 to 4 inches

BE horizon:
Color: Hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 3 to 6
Redoximorphic features: None to common iron accumulations in shades of yellow and brown
Texture: Silt loam, loam, or very fine sandy loam
Other features: None to common silt coatings on faces of peds and in pores.
Thickness: 8 to 32 inches

Bt/E horizon:
Color: Hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 3 to 6 in the Bt part; hue of 10YR, value of 5 or 6, and chroma of 2 or 3 in the E part
Redoximorphic features: None to common iron accumulations in shades of red, yellow, and brown
Texture: Loam, silt loam, silty clay loam, or clay loam in the Bt part; silt loam in the E part
Other features: The E part consists of vertical intrusions between peds and coatings on faces of peds that make up 15 to 50 percent of the horizon.
Thickness: 3 to 19 inches

Bt horizon:
Color: Hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 3 to 6
Redoximorphic features: Iron and clay depletions in shades of gray; iron accumulations in shades of red and yellow
Texture: Silty clay loam, clay loam, or loam
Other features: None
Thickness: More than 18 inches

BC horizon: (where present)
Color: Variegated in shades of gray, brown, or olive
Redoximorphic features: Iron and clay depletions in shades of gray; iron accumulations in shades of yellow
Texture: Silty clay loam, clay loam, or clay
Other features: None

Niwana Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately permeable
Landscape: Coastal plain
Landform: Uplands
Parent material: Coastal plains sediments from loamy, early Pleistocene-age marine deposits
Slope range: 1 to 3 percent

Taxonomic Classification

Coarse-loamy, siliceous, thermic Typic Paleudults

Associated Soils

Dubach, Guyton, Kirbyville, and Malbis soils.
Dubach soils are on terrace positions, have a fine-loamy control section, and have up to 5 percent

plinthite in the solum. Guyton soils are on flood plain or terrace positions and have a grayish, fine-silty control section. Kirbyville soils are on lower, intermound positions; have a fine-loamy control section; and have 5 percent or more plinthite in the subsoil. Malbis soils are on higher, ridgetop and side slope positions; have a fine-loamy control section; and have more than 5 percent plinthite in the subsoil.

Typical Pedon

Niwana fine sandy loam in an area of Kirbyville-Niwana fine sandy loams, 1 to 3 percent slopes; in pasture; about 8 miles northeast of Sugartown, LA; 1,800 feet east and 400 feet south of the northwest section corner, NE1/4NW1/4 sec. 19, T. 2 S., R. 7 W.; 30°52´35" N. lat., 93°07´43" W. long., Sugartown 7.5 minute USGS topographic quadrangle.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak medium granular structure; very friable; many fine and few medium roots; strongly acid; gradual smooth boundary.

E—6 to 22 inches; brown (10YR 5/3) fine sandy loam; weak medium subangular blocky structure; very friable; few fine roots; few fine pores; very strongly acid; gradual smooth boundary.

Bt/E1—22 to 31 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; few fine roots; few fine pores; few faint discontinuous clay films; brown (10YR 5/3) fine sandy loam (E) makes up about 20 percent of this horizon; very strongly acid; gradual smooth boundary.

Bt/E2—31 to 48 inches; yellowish brown (10YR 5/6) loam (Bt); few medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; tongues of brown (10YR 5/3) fine sandy loam (E) makes up about 15 percent of this horizon; weak medium subangular blocky structure; friable; common fine pores; common faint clay films; few fine iron concretions; very strongly acid; gradual smooth boundary.

Bt/E3—48 to 63 inches; yellowish brown (10YR 5/6) loam (Bt); tongues of light gray (10YR 7/2) fine sandy loam (E) makes up about 15 percent of this horizon; few medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; weak medium subangular blocky structure; friable; common fine pores; common faint clay films; few fine iron concretions; very strongly acid; gradual smooth boundary.

Bt/E4—63 to 80 inches; yellowish brown (10YR 5/6) sandy clay loam (Bt); light gray (10YR 7/2) (E) fine sandy loam makes up about 5 percent of this horizon; few medium distinct yellowish brown (10YR 5/4) iron accumulations; weak medium subangular blocky structure; friable; few faint clay films; very strongly acid.

Range in Characteristics

Solum thickness: More than 80 inches
Clay content in the control section: 8 to 15 percent
Redoximorphic features: Iron accumulations in shades of red, yellow, or brown throughout the subsoil; iron and clay depletions in shades of gray beginning at more than 40 inches deep
Other distinctive soil features: Glossic horizon beginning at 20 to 30 inches deep
Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.
Reaction: Strongly acid to moderately acid in the A and E horizons; very strongly acid to strongly acid in the Bt/E horizon

A or Ap horizon:
Color: Hue of 10YR, value of 3 to 5, and chroma of 2 or 3
Redoximorphic features: None
Texture: Fine sandy loam
Other features: None
Thickness: 4 to 6 inches

E horizon:
Color: Hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 3 or 4
Redoximorphic features: None
Texture: Fine sandy loam
Other features: None
Thickness: 16 to 23 inches

Upper parts of the Bt/E horizon:
Color: Hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 6 to 8 in the Bt part; hue of 10YR, value of 7 or 7, and chroma of 2 to 4 in the E part
Redoximorphic features: None to common iron accumulations in shades of yellow and brown
Texture: Fine sandy loam or loam
Other features: The E part is interfingers or tongues that occupy 15 to 25 percent of the horizon.

Lower parts of the Bt/E horizon:
Color: Hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 6 to 8 in the Bt part; hue of 10YR, value of 5 or 6, and chroma of 2 to 4 in the E part
Redoximorphic features: Few to common iron accumulations in shades of yellow, red, and

brown; few to common iron and clay depletions in shades of gray
Texture: Loam or sandy clay loam
Other features: Up to 3 percent plinthite and ironstone nodules; up to 20 percent brittle peds; the E part is interfingers or tongues that occupy 5 to 15 percent of the horizon.

Osier Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapidly permeable
Landscape: Coastal plain
Landform: Low stream terraces
Parent material: Sandy alluvium from early Pleistocene-age stream deposits
Slope range: 0 to 2 percent

Taxonomic Classification

Siliceous, thermic Typic Psammaquents

Associated Soils

Betis, Boykin, Doucette, Guyton, and Iuka soils. Betis soils are at higher elevations on ridgetop or side slope positions, are somewhat excessively drained, and have an argillic horizon. Boykin and Doucette soils are on higher elevations, have loamy control sections, and have sandy epipedons 20 to 40 inches thick. Guyton soils are on slightly lower elevations and have a fine-silty control section. Iuka soils are on flood plains, are moderately well drained, and have a coarse-loamy control section.

Typical Pedon

Osier sand in an area of Osier sand, 0 to 2 percent slopes; in woodland; about 2.7 miles southeast of Merryville, LA; 2,300 feet west and 300 feet north of the southeast corner of section 7; SW1/4SE1/4 sec. 7, T. 4 S., R. 11 W.; 30°43´23" N. lat., 93°31´43" W. long., Merryville South 7.5 minute USGS topographic quadrangle.

A—0 to 7 inches; black (10YR 2/1) sand; moderate fine granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.
Cg1—7 to 20 inches; gray (10YR 6/1) loamy fine sand; massive; loose; few fine and medium roots; common white (10YR 8/1) coarse sand grains; very strongly acid; gradual wavy boundary.
Cg2—20 to 60 inches; light gray (10YR 7/1) fine sand; massive; loose; few fine roots; common white (10YR 8/1) coarse sand grains; very strongly acid.

Range in Characteristics

Solum thickness: 3 to 10 inches
Clay content in the control section: 1 to 10 percent
Redoximorphic features: Depleted matrix with iron accumulations beginning at 3 to 10 inches deep
Other distinctive soil features: None
Concentrated minerals: None
Reaction: Extremely acid to moderately acid throughout

A horizon:
Color: Hue of 10YR or 2.5Y, value of 2 to 5, and chroma of 1 or 2
Redoximorphic features: None
Texture: Sand
Other features: None
Thickness: 3 to 10 inches

Cg horizon:
Color: Hue of 10YR to 5GY, value of 4 to 8, and chroma of 1; or value of 6 to 8, and chroma of 2; or it is neutral with value of 5 to 7
Redoximorphic features: Depleted matrix and none to common iron accumulations in shades of brown or yellow
Texture: Sand, fine sand, loamy sand, or loamy fine sand
Other features: None

Ouachita Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slowly permeable
Landscape: Coastal plain
Landform: Flood plains
Parent material: Loamy alluvium from recent stream deposits
Slope range: 0 to 3 percent

Taxonomic Classification

Fine-silty, siliceous, thermic Fluventic Dystrochrepts

Associated Soils

Beauregard, Caddo, Guyton, and Messer soils. Beauregard, Caddo and Messer soils are on higher terrace or upland positions. Beauregard soils are moderately well drained and have more than 5 percent plinthite in the subsoil. Caddo soils are poorly drained and are grayish throughout. Messer soils are moderately well drained and have a coarse-silty control section. Guyton soils are on lower positions and depressions on the flood plain and are grayish throughout.

Typical Pedon

Ouachita silt loam in an area of Guyton-Ouachita silt loams, frequently flooded; in woodland; about 8 miles southeast of DeRidder, LA; 500 feet east and 250 feet south of the northwest section corner, in the NW1/4NW1/4 sec. 27, T. 3 S., R. 8 W.; 30°46′49" N. lat., 93°11′01" W. long., Boneset Creek 7.5 minute USGS topographic quadrangle.

A1—0 to 3 inches; dark brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine and medium roots; moderately acid; clear smooth boundary.

A2—3 to 14 inches, dark brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine and medium roots; strongly acid; gradual smooth boundary.

Bw1—14 to 20 inches; dark brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; few fine and medium roots; strongly acid; gradual wavy boundary.

Bw2—20 to 30 inches; dark brown (10YR 4/3) silty clay loam; common fine faint brown (10YR 5/3) mottles; weak medium subangular blocky structure; friable; few fine roots; very strongly acid; gradual wavy boundary.

Bw3—30 to 38 inches; brown (10YR 5/3) silty clay loam; common medium distinct light brownish gray (10YR 6/2) relict iron depletions and common fine distinct dark yellowish brown (10YR 4/4) relict masses of iron accumulation; weak medium subangular blocky structure; friable; many iron and manganese concretions; very strongly acid; gradual wavy boundary.

Bw4—38 to 60 inches; dark grayish brown (10YR 4/2) silty clay loam; common coarse distinct yellowish brown (10YR 5/8) relict masses of iron accumulation and light brownish gray (10YR 6/2) relict iron depletions; weak medium subangular blocky structure; friable; few iron and manganese concretions; very strongly acid; gradual wavy boundary.

Bw5—60 to 72 inches; brown (10YR 5/3) silty clay loam; many medium distinct light brownish gray (10YR 6/2) relict iron depletions and yellowish brown (10YR 5/8) relict masses of iron accumulation; weak medium subangular blocky structure; friable; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 80 inches

Clay content in the control section: 18 to 35 percent

Redoximorphic features: Relict iron depletions and iron accumulations beginning at more than 24 inches deep

Other distinctive soil features: None

Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.

Reaction: Very strongly acid to moderately acid in the A horizon; very strongly acid or strongly acid in the Bw and C horizon

A1 or Ap horizon:

Color: Hue of 10YR, value of 4, and chroma of 2 to 4, or value of 5 and chroma of 3.
Redoximorphic features: None
Texture: Silt loam
Other features: None
Thickness: 1 to 6 inches

A2 horizon:

Color: Hue of 10YR, value of 4 or 5, and chroma of 3 or 4
Redoximorphic features: None
Texture: Silt loam, loam, or very fine sandy loam
Other features: None
Thickness: 6 to 15 inches

Bw horizon:

Color: Hue of 10YR, value of 4 or 5, and chroma of 3 to 8, or value of 4 and chroma of 2
Redoximorphic features: Relict iron accumulations in shades of brown; none to few relict iron depletions with chroma of 2 or less below 24 inches
Texture: Silt loam, very fine sandy loam, loam, or silty clay loam
Other features: None
Thickness: 20 or more inches

BC horizon: (where present)

Color: Hue of 10YR, value of 4 or 5, and chroma of 3 to 8; or value of 4 and chroma of 2
Redoximorphic features: Relict iron accumulations in shades of brown; relict iron depletions in shades of gray
Texture: Silt loam, loam, or fine sandy loam
Other features: None

C horizon: (where present)

Color: Hue of 10YR, value of 4 or 5, and chroma of 3 to 8; or value of 4 and chroma of 2
Redoximorphic features: Relict iron accumulations in shades of brown; relict iron depletions in shades of gray
Texture: Silt loam, loam, fine sandy loam, very fine sandy loam, or loamy fine sand
Other features: None

Ruston Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately permeable
Landscape: Coastal plain
Landform: Uplands
Parent material: Coastal plain sediments from early Pleistocene-age, loamy marine deposits
Slope range: 1 to 8 percent

Taxonomic Classification

Fine-loamy, siliceous, thermic Typic Paleudults

Associated Soils

Beauregard, Betis, Boykin, Doucette, Guyton, and Malbis soils.

Beauregard soils are on lower positions and have a fine-silty control section. Betis soils are on lower positions and have a sandy control section. Boykin and Doucette soils are on positions similar to those of the Ruston soils and have sandy epipedons 20 to 40 inches thick. Guyton soils are on drainageways and are grayish throughout. Malbis soils are on slightly lower, less convex slopes, and have yellowish brown subsoils with more than 5 percent plinthite.

Typical Pedon

Ruston fine sandy loam in an area of Ruston fine sandy loam, 3 to 5 percent slopes; in woodland; about 5.7 miles southwest of Fields, LA; 2,100 feet east and 50 feet south of the northwest section corner, in the NE1/4NW1/4 sec. 17, T. 7 S., R. 13 W.; 30°27′38" N. lat., 93°36′56" W. long., Clark Hollow 7.5 minute USGS topographic quadrangle.

A—0 to 4 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; common fine roots; moderately acid; clear smooth boundary.

E—4 to 11 inches; brown (10YR 5/3) fine sandy loam; common fine distinct dark grayish brown (10YR 4/2) mottles; weak medium subangular blocky structure; very friable; common fine roots; many fine pores; moderately acid; clear smooth boundary.

Bt1—11 to 19 inches; yellowish red (5YR 5/6) clay loam; common fine distinct strong brown (7.5YR 5/6) relict masses of iron accumulations; moderate medium subangular blocky structure; friable; common distinct clay films on vertical faces of peds, common fine roots; few fine pores; moderately acid; gradual wavy boundary.

Bt2—19 to 36 inches; red (2.5YR 4/6) clay loam; moderate medium subangular blocky structure; friable; few distinct clay films on vertical faces of peds; strongly acid; gradual wavy boundary.

Bt3—36 to 47 inches; red (2.5YR 5/6) clay loam; moderate medium subangular blocky structure; friable; few distinct clay films on vertical faces of peds; strongly acid; gradual wavy boundary.

Bt/E—47 to 61 inches; yellowish red (5YR 5/6) clay loam, weak medium subangular blocky structure; friable; few faint clay films on vertical faces of peds; few fine pores; common streaks and pockets of light yellowish brown (10YR 6/4) fine sandy loam (E) makes up about 15 percent of this horizon; very strongly acid; clear wavy boundary.

B′t1—61 to 76 inches; yellowish red (5YR 5/6) clay loam; common medium prominent yellowish brown (10YR 5/8) relict masses of iron accumulation; weak medium subangular blocky structure; firm; common thick yellowish brown (10YR 6/4) silt coats on vertical faces of peds; few thin clay films on vertical ped faces; strongly acid; gradual wavy boundary.

B′t2—76 to 92 inches; yellowish red (5YR 5/6) clay loam; many medium prominent yellowish brown (10YR 5/8) relict masses of iron accumulation; weak medium subangular blocky structure; firm; common thick yellowish brown (10YR 6/4) silt coats on vertical faces of peds; few faint discontinuous clay films on vertical ped faces; strongly acid (fig. 20).

Range in Characteristics

Solum thickness: More than 80 inches
Clay content in the control section: 18 to 35 percent
Redoximorphic features: Relict iron accumulations beginning at 18 to 70 inches deep
Other distinctive soil features: Buried B′t horizon at 18 to 70 inches deep
Concentrated minerals: None
Reaction: Very strongly acid to slightly acid throughout

A or Ap horizon:
Color: Hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 2 or 3
Redoximorphic features: None
Texture: Fine sandy loam
Other features: Quartz gravel or ironstone nodules are none to few.
Thickness: 3 to 6 inches

E or BE horizon: (where present)
Color: Hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 2 to 4
Redoximorphic features: None
Texture: Fine sandy loam

Other features: Quartz gravel or ironstone nodules are none to few.
Thickness: 0 to 15 inches

Bt horizon:
Color: Hue of 5YR or 2.5YR, value of 4 to 6, and chroma of 4 to 8
Redoximorphic features: None to common relict masses of iron accumulation in shades of brown or yellow
Texture: Sandy clay loam, loam, or clay loam
Other features: Quartz gravel or ironstone nodules are none to few.
Thickness: 10 to 40 inches

Bt/E horizon:
Color: Hue of 5YR or 2.5YR, value of 4 to 6, and chroma of 4 to 8 in the Bt part; hue of 10YR, value of 5 or 6, and chroma of 3 or 4 in the E part
Redoximorphic features: None to common relict masses of iron accumulation in shades of brown or yellow
Texture: Sandy clay loam, loam, or clay loam in the Bt part; loamy sand, fine sandy loam, or sandy loam in the E part
Other features: The Bt/E horizon has a clay decrease of 20 percent or more than the clay content of the overlying Bt horizon. Total clay content of the Bt/E horizon is 10 to 20 percent; the E part consists of streaks and pockets that make up as much as 50 percent of the horizon.
Thickness: 4 to 20 inches

B´t horizon:
Color: Hue of 5YR or 2.5YR, value of 4 to 6, and chroma of 4 to 8
Redoximorphic features: Few to many iron accumulations in shades of red, brown, or yellow; none to many iron depletions in shades of gray
Texture: Sandy clay loam, loam, or clay loam
Other features: The clay content in the B´t horizon increases from that of the Bt/E horizon. Quartz gravel or ironstone nodules are none to few.

Spurger Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slowly permeable
Landscape: Coastal plain
Landform: Terraces
Parent material: Alluvium from stratified clayey and loamy, late Pleistocene-age stream deposits
Slope range: 1 to 5 percent

Taxonomic Classification

Fine, mixed, thermic, Albaquultic Hapludults *

Associated Soils

Bearhead, Bienville, Cahaba, Dubach, and Merryville soils.
Bearhead, Bienville, Cahaba, and Dubach soils are on slightly higher positions. Bearhead soils have coarse-loamy control sections. Bienville soils have sandy control sections. Cahaba and Dubach soils have fine-loamy control sections. Merryville soils are on slightly lower, swale or intermound positions and have coarse-silty control sections.

Typical Pedon

Spurger fine sandy loam in an area of Spurger fine sandy loam, 1 to 5 percent slopes; in woodland; about 7 miles south of Merryville, LA; 800 feet west and 450 feet north of the southeast section corner, in the SE¼SE¼ sec. 33, T. 4 S., R. 12 W.; 30°40´06" N. lat., 93°35´27" W. long., Merryville South 7.5 minute USGS topographic quadrangle.

A—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak granular structure; very friable; many very fine and fine roots and few medium roots; neutral; gradual smooth boundary.
E—6 to 9 inches; brown (10YR 5/3) loam; weak fine granular structure; very friable; common fine and very fine roots and few medium roots; neutral; abrupt wavy boundary.
Bt1—9 to 20 inches; red (2.5YR 4/8) clay; few fine prominent light grayish brown (10YR 6/2) iron depletions; moderate medium subangular blocky structure; very firm; few fine and very fine roots; few faint discontinuous clay films on vertical faces of peds; very strongly acid; gradual wavy boundary.
Bt2—20 to 27 inches; yellowish red (5YR 5/6) clay loam; few fine prominent light brownish gray (10YR 6/2) iron depletions and common fine prominent pale brown (10YR 6/3) iron depletions; moderate medium subangular blocky structure; very firm; few very fine roots; common faint discontinuous clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt3—27 to 36 inches; yellowish red (5YR 5/6) clay loam; few fine prominent light brownish gray (10YR 6/2) iron depletions and common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; moderate medium prismatic structure; very firm; few medium and coarse roots; common faint discontinuous clay films on

faces of peds; very strongly acid; clear wavy boundary.

BC—36 to 47 inches; yellowish red (5YR 5/6) loam; few fine prominent light brownish gray (10YR 6/2) iron depletions and common medium distinct light yellowish brown (10YR 6/4) iron depletions; moderate medium prismatic structure; firm; very strongly acid; clear wavy boundary.

C—47 to 77 inches; stratified yellowish red (5YR 5/8) loam and light gray (10YR 7/2) fine sand; massive; very friable; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 70 inches
Clay content in the control section: 35 to 60 percent
Redoximorphic features: Iron depletions in shades of gray and iron accumulations in shades of brown, yellow, or red beginning at 6 to 25 inches deep
Other distinctive soil features: None
Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.
Reaction: Very strongly acid to neutral in the A and E horizons; very strongly acid to strongly acid in the Bt, BC, and C horizons

A or Ap horizon:
Color: Hue of 10YR, value of 3 to 5, and chroma of 2 or 3
Redoximorphic features: None
Texture: Fine sandy loam
Other features: None
Thickness: 3 to 6 inches

E horizon:
Color: Hue of 10YR, value of 4 to 6, and chroma of 2 to 4
Redoximorphic features: None
Texture: Fine sandy loam
Other features: None
Thickness: 3 to 10 inches

Bt1 and Bt2 horizon:
Color: Hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 4 to 8
Redoximorphic features: Iron depletions in shades of gray are in the upper 10 inches of the Bt horizon; iron accumulations in shades of brown, yellow, or red are throughout the horizon.
Texture: Clay or clay loam
Other features: None

Bt3 horizon:
Color: Hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 4 to 8
Redoximorphic features: Iron depletions in shades of gray; iron accumulations in shades of brown, yellow, or red
Texture: Loam, clay loam, or sandy clay loam
Other features: Sand or silt interfingerings or coatings on faces of peds in some pedons

BC horizon:
Color: Hue of 5YR to 10YR, value of 5 to 7, and chroma of 2 to 8
Redoximorphic features: Iron depletions in shades of gray; iron accumulations in shades of brown, yellow, or red
Texture: Sandy clay loam, loam or clay loam
Other features: None

C horizon:
Color: Hue of 5YR to 10YR, value of 5 to 7, and chroma of 2 to 8
Redoximorphic features: Iron depletions in shades of gray; iron accumulations in shades of brown, yellow, or red
Texture: Loamy fine sandy, loamy sand or sand
Other features: Thin strata of clay loam, sandy clay loam, or loam are in some pedons.
* Spurger soils in Beauregard Parish are taxadjuncts because the base saturation typically is less than 35 percent in the lower part of the solum.

Sugartown Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slowly permeable
Landscape: Coastal plain
Landform: Terraces
Parent material: Loamy and clayey alluvium from early Pleistocene-age stream deposits
Slope range: 1 to 8 percent

Taxonomic Classification

Fine, mixed, thermic Ultic Hapludalfs

Associated Soils

Beauregard, Blevins, Gore, and Kolin soils. Beauregard and Kolin soils are on concave side slopes or ridgetops and have fine-silty control sections. Blevins soils are on positions similar to those of Sugartown soils and have fine-silty control sections. Gore soils are on side slope or escarpment positions adjacent to drainageways and have hue of 5YR or redder in the upper parts of the subsoil.

Typical Pedon

Sugartown very fine sandy loam in an area of

Sugartown very fine sandy loam, 1 to 3 percent slopes; in woodland; about 7.3 miles southeast of DeRidder, LA; 2,000 feet north and 2,300 feet west of the southeast section corner, NW1/4SE1/4 sec. 29, T. 3 S., R. 8 W.; 30°46′18" N. lat., 93°12′25" W. long., Boneset Creek 7.5 minute USGS topographic quadrangle.

A—0 to 3 inches; dark grayish brown (10YR 4/2) very fine sandy loam; weak fine granular structure; friable; many fine and medium roots; strongly acid; abrupt smooth boundary.

E—3 to 8 inches; yellowish brown (10YR 5/4) very fine sandy loam; weak fine granular structure; friable; common fine and medium roots; strongly acid; abrupt smooth boundary.

BE—8 to 15 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium prismatic structure; friable; common fine and medium roots; very strongly acid; gradual smooth boundary.

Bt—15 to 25 inches; brownish yellow (10YR 6/6) silty clay; many fine prominent red (2.5YR 4/6) masses of iron accumulation; moderate medium prismatic structure parting to weak medium subangular blocky structure; firm; few fine roots; common distinct discontinuous clay films on ped faces; common thin pale brown (10YR 6/3) silt coatings on prism faces; very strongly acid; gradual wavy boundary.

Btg—25 to 64 inches; light brownish gray (10YR 6/2) silty clay; many fine prominent red (10R 4/6) masses of iron accumulation and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; few medium faint brown (10YR 5/3) masses of iron accumulation; weak coarse prismatic structure parting to weak medium subangular blocky structure; firm; very strongly acid; abrupt wavy boundary.

2Cg—64 to 69 inches; light gray (10YR 7/2) clay loam; many fine prominent strong brown (7.5YR 5/6) masses of iron accumulation and common medium prominent weak red (10R 5/3) masses of iron accumulation; massive; firm; many thin bands of manganese on ped faces; very strongly acid.

Range in Characteristics

Solum thickness: 60 to more than 80 inches

Clay content in the control section: 35 to 60 percent

Redoximorphic features: Depleted matrix with iron accumulations in shades of red, yellow, or brown beginning at 20 to 30 inches deep

Other distinctive soil features: None

Concentrated minerals: Aluminum saturation is 50 percent or more within the upper 30 inches of the solum.

Reaction: Very strongly acid to slightly acid in the A, E, BE, Bt, and Btg horizons; extremely acid to slightly acid in the BCg and 2Cg horizons

A or Ap horizon:

Color: Hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 to 4

Redoximorphic features: None

Texture: Very fine sandy loam

Other features: None

Thickness: 3 to 6 inches

E horizon:

Color: Hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 to 6

Redoximorphic features: None

Texture: Very fine sandy loam, silt loam, or fine sandy loam

Other features: None

Thickness: 3 to 6 inches

BE horizon: (where present)

Color: Hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 6

Redoximorphic features: None

Texture: Silty clay loam, sandy clay loam, or clay loam

Other features: None

Thickness: 0 to 10 inches

Bt horizon:

Color: Hue of 10YR, or 7.5YR, value of 4 to 6, and chroma of 4 to 8; the lower part of the Bt horizon has hue of 2.5Y in some pedons

Redoximorphic features: Few to many iron depletions in shades of gray; iron accumulations in shades of red, yellow or brown in the lower parts

Texture: Silty clay loam, clay loam, or silty clay

Other features: None

Thickness: 10 to 24 inches

Btg horizon:

Color: Hue of 10YR, to 5Y, value of 4 to 7, and chroma of 1 or 2

Redoximorphic features: Depleted matrix with iron accumulations in shades of red, yellow, or brown

Texture: Silty clay loam, clay loam, or silty clay

Other features: None

Thickness: More than 30 inches

BCg or 2Cg horizon: (where present)

Color: Variegated in shades of red, brown, yellow, and gray

Redoximorphic features: Iron depletions in shades of gray; iron accumulations in shades of red, yellow, or brown
Texture: Silty clay loam, clay loam, or silty clay
Other features: None

Urbo Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slowly permeable
Landscape: Coastal plain
Landform: Flood plains
Parent material: Clayey alluvium from recent stream deposits
Slope range: 0 to 3 percent

Taxonomic Classification

Fine, mixed, acid, thermic Vertic Haplaquepts

Associated Soils

Guyton, Iuka, Mantachie, and Spurger soils. Guyton soils are on similar positions and have fine-silty control sections. Iuka and Mantachie soils are on higher positions on the flood plain. Iuka soils have coarse-loamy control sections, and the Mantachie soils have fine-loamy control sections. Spurger soils are on higher, terrace side slope positions and have hue of 7.5YR or 5YR in the subsoil.

Typical Pedon

Urbo silty clay in an area of Urbo and Mantachie soils, frequently flooded; in woodland; about 2 miles west of Merryville, LA; 30 feet east and 1,300 feet north of the southwest section corner, in the SW$^1/_4$SW$^1/_4$ sec. 34, T. 3 S., R. 12 W.; 30°45′18" N. lat., 93°35′18" W. long., Merryville North 7.5 minute USGS topographic quadrangle.

A—0 to 5 inches; dark grayish brown (10YR 4/2) silty clay; common fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation; weak medium granular structure; friable; common fine roots; very strongly acid; clear smooth boundary.

Bg1—5 to 11 inches; grayish brown (10YR 5/2) silty clay; common fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation; moderate medium subangular blocky structure; firm, slightly plastic; common fine and medium charcoal nodules; common soft manganese concretions; common fine and few medium roots; common fine pores; very strongly acid; clear smooth boundary.

Bg2—11 to 24 inches; grayish brown (10YR 5/2) silty clay; common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation; moderate medium subangular blocky structure; firm, plastic; few soft manganese concretions; few fine roots; common fine pores; very strongly acid; gradual wavy boundary.

Bg3—24 to 74 inches; grayish brown (10YR 5/2) silty clay; few medium distinct gray (10YR 5/1) iron depletions and common and many fine prominent strong brown (7.5YR 5/8) masses of iron accumulation; moderate medium subangular blocky structure; firm, plastic; few fine roots in upper part; common fine pores; very strongly acid; gradual wavy boundary.

BCg—74 to 90 inches; grayish brown (2.5Y 5/2) silty clay; common medium distinct light olive brown (2.5Y 5/4) masses of iron accumulation and common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation; moderate medium subangular blocky; firm, plastic; sand percent increases in the lower part; very strongly acid; gradual wavy boundary.

2Cg—90 to 95 inches; light brownish gray (10YR 6/2) fine sand; massive; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Clay content in the control section: 35 to 55 percent
Redoximorphic features: Depleted matrix with iron accumulations beginning at 4 to 20 inches deep
Other distinctive soil features: None
Concentrated minerals: None
Reaction: Very strongly acid to strongly acid throughout

A or Ap horizon:
Color: Hue of 10YR, value of 4 or 5, and chroma of 2 or 3; or hue of 2.5Y, value of 4 or 5, and chroma of 2; some pedons have a very thin A horizon which has hue of 10YR, value of 3, and chroma of 1 or 2
Redoximorphic features: None to common iron accumulations in shades of brown
Texture: Silty clay
Other features: Few to common iron-manganese concretions
Thickness: 4 to 16 inches

Bw horizon: (where present)
Color: Hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 or 4
Redoximorphic features: Few to many iron depletions in shades of gray; iron accumulations in shades of brown or yellow

Texture: Silty clay loam, clay loam, silty clay or clay
Other features: Few to common iron-manganese concretions. A few patches of oriented clay are in pores and cracks.
Thickness: 0 to 12 inches

Bg horizon:
Color: Hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2
Redoximorphic features: Few to many iron depletions in shades of gray; iron accumulations in shades of brown or yellow
Texture: Silty clay loam, clay loam, silty clay, or clay
Other features: Few to common iron-manganese concretions. A few patches of oriented clay are in pores and cracks.
Thickness: More than 20 inches

BCg horizon: (where present)
Color: Hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Redoximorphic features: Few to many iron depletions in shades of gray; iron accumulations in shades of red, brown, or yellow
Texture: Silty clay loam, clay loam, silty clay, or clay
Other features: Few to common iron-manganese concretions

2Cg horizon: (where present)
Color: Hue of 10YR, or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Redoximorphic features: Few to many iron depletions in shades of gray; iron accumulations in shades of red, brown, or yellow
Texture: Fine sand, loamy fine sand, or fine sandy loam
Other features: Few to common iron-manganese concretions

Formation of the Soils

Dr. W.H. Hudnall, Department of Agronomy, Louisiana Agricultural Experiment Station, Louisiana State University Agricultural Center, prepared this section.

In this section the processes and factors of soil formation are discussed and related to the soils in the survey area.

Processes of Soil Formation

The processes of soil formation influence the kind and degree of development of soil horizons. The rate and relative effectiveness of different processes are determined by the factors of soil formation: climate, living organisms, parent material, relief, and time.

Important soil-forming processes are those that result in additions of organic, mineral, and gaseous materials to the soil; losses of these same materials from the soil; translocation of materials from one point to another within the soil; and physical and chemical transformation of mineral and organic materials within the soil (Buol, Hole, and McCracken, 1980; Simonson, 1959). Many processes take place simultaneously. Examples in the survey area include accumulation of organic matter, development of soil structure, formation and translocation of clay, and leaching of bases from some soil horizons. Some important processes that have contributed to the formation of soils in Beauregard Parish are discussed in the following paragraphs.

Organic matter has accumulated and has been partly decomposed and mixed into all the soils. Organic matter production is greatest in and above the surface horizon. This results in the formation of soils in which the surface horizon is higher in organic matter content than are the deeper horizons. Decomposition and mixing of organic residue into the soil horizons are brought about largely by the activity of living organisms. Many of the more stable products of decomposition remain as finely divided material that contributes dark color to the soil, increases the available water-holding and cation-exchange capacities, contributes to granulation, and serves as a source of plant nutrients. In Beauregard Parish, the conversion of woodland and pasture areas to cropland has reduced the content of organic matter in many of the soils.

The addition of alluvial sediment at the surface has been important in the formation of some of the soils in the parish. Added sediment provides new parent material in which the processes of soil formation then occur. In many cases, new material accumulated faster than the processes of soil formation could appreciably alter it. The evident deposition strata in the luka and Ouachita soils are a result of accumulation of this sort. Additions of alluvial sediment are also occurring in flooded areas of the Guyton soils.

Processes resulting in development of soil structure have taken place in all the soils. Plant roots and other organisms are effective agents in the rearrangement of soil material into secondary aggregates. Decomposition products, organic residues, secretions of organisms, clays, and oxides of elements such as iron that form during soil development, all serve as cementing agents that help to stabilize structural aggregates.

Alternate wetting and drying and shrinking and swelling contribute to the development of structural aggregates. This is particularly effective in soils, such as the Gore soils that have large amounts of clay.

The poorly drained soils in the survey area have horizons in which reduction and segregation of iron and manganese compounds is an important process. Reducing conditions prevail for long periods of time in poorly aerated horizons; consequently, the relatively soluble reduced forms of iron and manganese predominate over the less soluble oxidized forms. Reduced forms of these elements result in the gray colors that are characteristic in the subsoil of the Guyton soils. In the more soluble reduced forms, appreciable amounts of iron and manganese can be removed from the soils or translocated from one position to another within the soil by water. Browner mottles in predominantly gray horizons indicate segregation and concentration of oxidized iron compounds that result from alternate oxidizing and reducing conditions in the soils.

Water moving through the soil has leached soluble bases and any free carbonates that may have been initially present from some horizons of most of the soils. The effects of leaching are least pronounced in the Brimstone soils; these soils contain traces of free calcium carbonate only in the substratum. All of the other soils in the parish are typically acid throughout. Brimstone soils are on Pleistocene terraces and formed in loamy sediment; they contain a concentration of sodium in the subsoil, which has an adverse affect on soil structure and permeability. Water movement is slow throughout the profile.

The formation, translocation, and accumulation of clay in the profile have been important processes during the development of all of the soils in the parish except seven: the Cypress, Hainesville, Iuka, Mantachie, Osier, Ouachita, and Urbo soils. Silicon and aluminum, released as a result of weathering of such minerals as pyroxenes, amphiboles, and feldspar, can recombine with the components of water to form secondary clay minerals, such as kaolinite. Layer silicate minerals, such as biotite and montmorillonite, can also weather to form other clay minerals, such as vermiculite or kaolinite. Horizons of secondary accumulation of clay result largely from translocation of clays from upper to lower horizons.

As water moves downward, it can carry small amounts of clay in suspension. This clay is deposited, and it accumulates at the depths of penetration of the water, or in horizons where it becomes flocculated or filtered out by fine pores in the soil. Over long periods, such processes can result in distinct horizons of clay accumulation.

Factors of Soil Formation

Soil is produced by soil-forming processes acting on material deposited or accumulated by geologic forces. The characteristics of the soil at any given point are determined by the physical and mineralogical composition of the parent material, the climate under which the soil has accumulated and existed since accumulation, the plant and animal life on and in the soil, the relief, and the length of time these forces of soil formation have acted on the soil material (Jenny, 1941).

Climate and plant and animal life, chiefly plant life, are active factors of soil formation. These factors act on the parent material that has accumulated through the weathering of rocks and slowly change it to a natural body that has genetically related horizons. The effects of climate and plant and animal life are conditioned by relief. The parent material also affects the kind of soil profile that is formed and, in some cases, determines it almost entirely. Finally, time is needed to change the parent material into a soil profile. In most cases, a very long time is needed to develop distinct soil horizons.

The factors of soil formation are so closely interrelated in their effects on the soil that few generalizations can be made regarding the effect of any one factor unless conditions are specified for the other four. In the following paragraphs the factors of soil formation are discussed as they relate to soils in the survey area.

Climate

Beauregard Parish is in a region characterized by a humid, subtropical climate. Detailed climatological data is given in the section "General Nature of the Survey Area."

A relatively uniform climate throughout the parish does not account for differences among the soils within the parish. The warm, moist climate promotes rapid soil formation. High precipitation rates promote rapid weathering of readily weatherable minerals and the movement of colloidal material downward in the soil. Plant remains decompose rapidly in the warm climate. This prevents the formation of soils that have high organic matter content. The organic acids produced by decomposition hasten the development of clay minerals and the removal of carbonates. Soil development is increased because the soil is seldom frozen for prolonged periods.

Living Organisms

Plants, animals, insects, bacteria, fungi, other micro-organisms, and human beings are important in the formation of the soils of Beauregard Parish. Plant growth and animal activity physically alter the soil. Human beings, by clearing land and cultivating crops, also physically alter the surface horizon of the soils.

The native vegetation in bottom lands and on low terraces of the parish was primarily hardwood forests. Native vegetation on the uplands was primarily mixed hardwood and pine forests. Soils developed under mixed hardwood and pine forests are generally lower in organic matter content and have a more distinct E horizon than soils developed under hardwood forests.

Bacteria, fungi, and other micro-organisms are primarily responsible for decomposition of organic matter and oxidation-reduction reactions that affect the physical and chemical properties of the soils. Aerobic bacteria, more abundant in well drained soils, decompose organic matter rapidly. Anaerobic bacteria, more abundant in poorly drained soils, decompose organic matter slowly. This results in lower organic matter content in well drained soils than in those that are poorly drained.

Parent Material

Parent material is the mass from which soil develops. It affects the color, texture, permeability, mineralogy, and the erosion potential of the soil. The soils of Beauregard Parish formed in alluvium deposited by local streams. They also formed in Pleistocene and Tertiary sediment (Durham, 1964; Howe, 1939). The characteristics, distribution, and deposition pattern of the different parent material in the parish are discussed in more detail in the section "Landforms and Surface Geology."

Relief

Relief influences soil formation by affecting soil drainage, runoff, erosion, deposition, and soil temperature. The influence of relief on soils in Beauregard Parish is especially evident in the rates at which water runs off the surface, in the internal soil drainage, and in the depth to a seasonal high water table. For example, Malbis soils have more relief than Beauregard soils. Runoff is medium, and the seasonal high water table is at a depth of 2.5 to 4 feet. The Beauregard soils generally have less relief. Runoff is slow to medium, and a seasonal high water table fluctuates from a depth of about 1.5 feet to about 3 feet below the surface.

Time

The formation of soils requires many years for changes to take place in the parent material (Jenny, 1941). A soil's age, however, is generally determined by the degree of development of the soil profile. Where the parent material is the same, soils that have little profile development are immature, and those that have well expressed soil profiles are mature.

Generally, the longer the parent material has remained in place, the more fully developed the soil profile. In Beauregard Parish, parent material ranges in age from a few hundreds of years to about a million years.

The youngest soils, such as Iuka and Ouachita soils, formed in recent alluvium that was deposited by overflows from local streams during the last 500 years. These soils have relatively weakly expressed soil horizons.

The oldest soils in the parish are those on the uplands that formed in parent material ranging in age from 20,000 years to perhaps 1 million years (Howe, 1939).

Landforms And Surface Geology

B. Arville Touchet, consultant soil scientist, prepared this section.

Beauregard Parish, located in southwest Louisiana, is within the West Gulf Coastal Plain Section of the Coastal Plain Geomorphic Province. It is bounded on the north by Vernon Parish; on the east by Allen and Jefferson Davis Parishes; on the south by Calcasieu Parish; and on the west by the Sabine River and Newton County, Texas. The land area occupies about 1,163 square miles. Elevations range from 215 feet above mean sea level northwest of the city of DeRidder to 15 feet above mean sea level along Marsh Bayou in the extreme southeast corner of the parish.

About 75 percent of Beauregard Parish is drained by Ouiska Chitto, Bundick, and Barnes Creeks; by Hickory and Cole Branch; and by Beckwith and Bearhead Creeks. These streams generally flow south-southeast, and are within the Calcasieu River drainage basin which empties into Lake Charles, Calcasieu Lake, and eventually the Gulf of Mexico. The remaining 25 percent, the northwestern, western, and southwestern periphery of the parish, is drained by west-flowing streams which include Bayou Anacoco and Trout, Bridge, and Brushy Creeks. These streams converge with the south-flowing Sabine River, which drains into Sabine Lake and ultimately into the Gulf of Mexico.

Geologic surface units in Beauregard Parish can be categorized by age or depositional sequence (Pope, Snead, and McCulloh, 1984) and physiographic area (Schoeneberger and Wysocki, 1997). These surface units are Quaternary fluvial sediments that dip southward toward the Gulf of Mexico. The sediments are underlain by Tertiary rocks at depths of several thousand feet (Holland, Hough, and Murray, 1952).

Beauregard Parish is within four physiographic areas. These areas are early Pleistocene High Terraces, middle Pleistocene Intermediate Terraces, late Pleistocene Deweyville Terraces, and Holocene alluvial valleys (Pope, Snead, and McCulloh, 1984). Each physiographic area is characterized by soils formed in different kinds or ages of parent materials and on unique landforms. A consistent relationship exists among geologic surface units, geomorphic landforms, and mapped soils.

High Terraces

The High Terraces physiographic area makes up the majority of the land area in Beauregard Parish.

This area occurs as a belt along the northern two-thirds of the parish, and is a part of a regional coastwise terrace that extends across Louisiana. The Sabine River and its tributaries dissected these terraces along the western edge of the parish. The High Terraces in Beauregard Parish are on level to nearly level uplands on the broad interfluve divides, on very gently to gently sloping uplands on narrow divides, and on moderately sloping uplands in areas that have been maturely dissected by streams.

High Terraces correspond to the Caddo-Beauregard-Messer, Beauregard-Blevins, and Malbis-Ruston general soil map units. Soils of the Caddo-Beauregard-Messer general soil map unit are on level to nearly level broad interfluve divides. Soils of the Beauregard-Blevins unit have developed on very gently sloping to moderately sloping narrow interfluve divides. Soils of the Malbis-Ruston unit are on interfluve divides and moderately sloping maturely dissected side slopes.

Intermediate Terraces

This physiographic area is in a belt along the southern part of Beauregard Parish and is part of a regional coastwise terrace that extends across southern Louisiana. Intermediate Terraces trend along and flank a portion of the Sabine River and extend east-northeast to the Red River flood plain.

The Intermediate Terraces in Beauregard Parish are on very gently sloping to moderately steep uplands, and rest on top or superpose the High Terraces as the High Terraces dip to the south. The Intermediate Terraces were deposited after the High Terraces had undergone mature stream dissection; consequently, Intermediate Terraces flank these streams northward well into the High Terraces area. The Intermediate Terraces flanking these streams have subsequently been maturely dissected, producing some of the steeper slopes in Beauregard Parish. These terraces are easily recognized by the reddish clayey material which is nearly always present in their geologic substrate.

Intermediate Terraces correspond to the Brimstone-Caddo-Messer, Glenmora-Caddo-Messer, Sugartown-Gore, Kolin-Sugartown, and Acadia-Gore general soil map units. Soils of the Brimstone-Caddo-Messer general soil map unit have developed on level, broad interfluve divides. Soils of the Glenmora-Caddo-Messer unit are on nearly level to very gently sloping broad interfluve divides. Soils of the Sugartown-Gore, Kolin-Sugartown, and Acadia-Gore units are mapped on very gently sloping, narrow interfluve divides and on moderately steep side slopes.

Deweyville Terraces

These terraces are located in western Beauregard Parish flanking the Sabine River and in the eastern sector of the parish flanking Bundick Creek and Ouiska Chitto Creek. The sandy valley-fill sediments are the result of a great Pleistocene pluvial episode which affected the larger stream valleys originating outside Beauregard Parish. Holocene stream dissection of the surface is minimal, and most of these sediments have kept their depositional features. These late Pleistocene terraces dip under Holocene alluvium in the Sabine River valley.

Soils of the Merryville-Bearhead-Dubach general soil map unit are on nearly level and level terrace surfaces. Soils of the Bienville-Cahaba-Guyton unit are on gently sloping to sloping terrace boundary areas, and on very gently sloping to gently undulating broad depositional meander scars.

Alluvial Valleys

Alluvial deposits on the flood plains of the Sabine River and smaller streams in Beauregard Parish are of Holocene age. The flood plains typically have level to gently sloping topography and are subject to repeated flooding, local erosion, and sediment deposition. Abandoned stream channels are easily identified on the flood plains in the larger valleys of the Sabine River, Ouiska Chitto Creek, and Bundick Creek.

All streams in the parish, except the Sabine River, drain weathered, acid soils on the High Terraces. These upland soils serve as a source of mostly loamy alluvial sediments. The Guyton-Ouachita general soil map unit corresponds to these flood plain parent materials. Also, the Guyton-Iuka general soil map unit is mapped in the upper reaches of the Bundick Creek, Ouiska Chitto, and Bearhead Creek valleys.

The clayey Urbo soils are mapped in the Sabine River valley. The mostly clayey alluvial parent materials originated from marine and deltaic plain deposits and High Terraces of northwest Louisiana and northeast Texas. Urbo soils were deposited in relatively tranquil water in depressions on the Sabine River flood plain. The Urbo-Mantachie general soil map unit corresponds to Sabine River alluvial valley backwater areas. Soils of the Iuka-Mantachie general soil map unit are mapped on the natural levees along the river channel.

References

American Association of State Highway and Transportation Officials (AASHTO). 1986. Standard specifications for highway materials and methods of sampling and testing. 14th edition, 2 volumes.

American Society for Testing and Materials (ASTM). 1993. Standard test method for classification of soils for engineering purposes. ASTM Standard D 2487.

Bray, R.H. and L.T. Kuntz. 1945. Determination of total, organic, and available forms or phosphorus in soil. Soil Science 59:39-45.

Buol, S.W., F.D. Hole, and R.J. McCracken. 1980. Soil genesis and classification. 3rd edition.

Durham, Clarence O., Jr. 1964. Iron ore of central north Louisiana. Geol. Bulletin No. 41.

Holland, W.C., L.W. Hough, and G.E. Murray, 1952. Geology of Beauregard and Allen parishes. Geol. Bulletin No. 27.

Howe, H.V., 1939. Louisiana Cook Mountain eocene foraminifera. Louisiana Geol. Survey Bulletin No. 14.

Jenny, Hans. 1941. Factors of soil formation.

Jones, P.H., E.L. Hendricks, et al. 1956. Water resources of southwestern Louisiana. United States Geological Survey. W-R Report No. 1364.

Mehlich, A. 1953. Determination of P, Ca, Mg, K, Na, and NH4.

Olsen, S.R., C.V. Cole, F.S. Watanake, and L.A. Dean. 1954. Estimation of available phosphorus in soils by extraction with sodium bicarbonate. U.S. Department of Agriculture Circular 939:1-19.

Pope, D.E., J.I. Snead, and R.P. McCulloh, 1984. Geologic Map of Louisiana, scale 1:500,000, Louisiana Geological Survey, Department of Natural Resources, Baton Rouge.

Schoeneberger, P.J. and D.A. Wysocki, 1997. Geomorphology: Field book for describing and sampling soils, version 1.0.

Simonson, Roy W. 1959. Outline of a generalized theory of soil genesis.

Smoot, C.W. 1987. Louisiana hydrologic atlas map no. 2: aerial extent of freshwater in major aquifers of Louisiana. U.S. Geological Survey. W-R Inv. Report No. 86-4150.

Smoot, C.W. 1988. Louisiana hydrologic atlas map no. 3: Altitude of the base of freshwater in Louisiana. U.S. Geological Survey. W-R Inv. Report No. 86-4314.

Tomaszewski, D.J. 1991. Louisiana hydrologic atlas map no. 5: Quality of freshwater in aquifers of Louisiana, 1988. U.S. Geological Survey. W-R Inv. Report No. 90-4119.
United States Department of Agriculture. 1993. Soil survey manual. Soil Conservation Service, Soil Survey Staff, U.S. Department of Agriculture Handbook 18.

United States Department of Agriculture, Bureau of Chemistry and Soils. 1928. Soil Survey of Beauregard Parish, Louisiana. Series 28, No. 20.

United States Department of Agriculture, Soil Conservation Service. 1975. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. U.S. Department of Agriculture Handbook 436.

United States Department of Agriculture. 1984. Procedures for collecting soil samples and methods of analysis for soil survey. Soil Survey Inv. Report No. 1.

United States Department of Agriculture. 1992. Keys to Soil Taxonomy. Soil Management Support Services Technical Monograph No. 19.

Glossary

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. The normal flood plain of a stream, subject to flooding.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Coarse fragments. If round, mineral or rock particles 2 millimeters to 25 centimeters (10 inches) in diameter; if flat, mineral or rock particles (flagstone) 15 to 38 centimeters (6 to 15 inches) long.

Coarse textured soil. Sand or loamy sand.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are:

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—Readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—Adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—These soils have very high and high hydraulic conductivity and a low water-holding capacity. They are not suited to crop production unless irrigated.

Somewhat excessively drained.—These soils have high hydraulic conductivity and a low water-holding capacity. Without irrigation, only a narrow range of crops can be grown and yields are low.

Well drained.—These soils have an intermediate water-holding capacity. They retain optimum amounts of moisture, but they are not wet close enough to the surface or long enough during the growing season to adversely affect yields.

Moderately well drained.—These soils are wet close enough to the surface or long enough that planting or harvesting operations or yields of some field crops are adversely affected unless a drainage system is installed. Moderately well drained soils commonly have a layer with low hydraulic conductivity, a wet layer relatively high in the profile, additions of water by seepage, or some combination of these.

Somewhat poorly drained.—These soils are wet close enough to the surface or long enough that planting or harvesting operations or crop growth is markedly restricted unless a drainage system is installed. Somewhat poorly drained soils commonly have a layer with low hydraulic conductivity, a wet layer high in the profile, additions of water through seepage, or a combination of these.

Poorly drained.—These soils commonly are so wet at or near the surface during a considerable part of the year that field crops cannot be grown under natural conditions. Poorly drained conditions are caused by a saturated zone, a layer with low hydraulic conductivity, seepage, or a combination of these.

Very poorly drained.—These soils are wet to the surface most of the time. The wetness prevents the growth of important crops (except for rice) unless a drainage system is installed.

Drainage, surface. Runoff, or surface flow of water, from an area.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Excess sodium (in tables). Excess exchangeable sodium in the soil. The resulting poor physical properties restrict the growth of plants.

Fast intake (in tables). The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fine textured soil. Sandy clay, silty clay, or clay.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Foot slope. The inclined surface at the base of a hill.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;*

size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent.* The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan.*

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Relief. The elevations or inequalities of a land surface, considered collectively.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Rough. The accumulation of mature living and dead vegetation, especially grasses and forbs, on forest, range, marshland, or prairie.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey the following classes for simple slopes are recognized:

Level to nearly level	0 to 1 percent
Very gently sloping	1 to 2 percent
Gently sloping	1 to 3 percent
Moderately sloping	3 to 5 percent
Sloping	5 to 8 percent
Strongly sloping	8 to 12 percent
Moderately steep	12 to 20 percent

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Slow intake (in tables). The slow movement of water into the soil.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the E horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay.* The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toe slope. The outermost inclined surface at the base of a hill; part of a foot slope.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Toxicity (in tables). Excessive amount of toxic substances, such as sodium, aluminum, or sulfur, that severely hinder establishment of vegetation or severely restrict plant growth.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

(Recorded in the period 1949-90 at De Quincy, Louisiana)

Month	Temperature						Precipitation			
				2 years in 10 will have--				2 years in 10 will have--		
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more
	°F	°F	°F	°F	°F	Units	In	In	In	
January----	60.0	37.5	48.8	79	14	103	4.76	2.45	6.79	6
February---	64.2	40.3	52.2	81	21	138	4.76	2.51	6.73	6
March------	71.5	47.5	59.5	86	26	301	4.44	1.87	6.62	6
April------	78.7	56.0	67.4	89	36	469	4.24	1.58	6.47	4
May--------	85.1	62.7	73.9	94	40	722	5.33	2.14	8.01	5
June-------	90.3	68.4	79.3	97	55	838	5.07	2.22	7.49	6
July-------	92.6	71.1	81.9	99	64	953	5.84	2.94	8.36	8
August-----	92.5	70.1	81.3	100	60	941	4.38	2.11	6.35	6
September--	88.4	65.9	77.1	97	48	773	5.33	2.18	7.99	6
October----	80.8	54.5	67.7	101	28	539	4.34	1.07	7.13	4
November---	71.3	46.6	59.0	94	23	286	4.47	1.92	6.65	5
December---	64.1	40.6	52.3	87	17	154	5.83	3.45	7.97	6
Yearly:										
Average--	78.3	55.1	66.7	---	---	---	---	---	---	---
Extreme--	105	6	---	100	15	---	---	---	---	---
Total----	---	---	---	---	---	6,217	58.80	49.21	66.78	68

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

(Recorded in the period 1955-90 at De Quincy, Louisiana)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Feb. 26	Mar. 15	Mar. 26
2 years in 10 later than--	Feb. 19	Mar. 7	Mar. 20
5 years in 10 later than--	Feb. 4	Feb. 22	Mar. 9
First freezing temperature in fall:			
1 yr in 10 earlier than--	Nov. 14	Nov. 6	Oct. 27
2 yrs in 10 earlier than--	Nov. 25	Nov. 14	Nov. 3
5 yrs in 10 earlier than--	Dec. 18	Nov. 30	Nov. 16

TABLE 3.--GROWING SEASON

(Recorded in the period 1955-90 at De Quincy, Louisiana)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	269	242	219
8 years in 10	277	252	229
5 years in 10	293	271	247
2 years in 10	309	291	265
1 year in 10	318	301	275

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
AcB	Acadia silt loam, 1 to 3 percent slopes	10,600	1.4
AcC	Acadia silt loam, 3 to 5 percent slopes	2,700	0.4
BaB	Bearhead-Merryville complex, gently undulating	8,700	1.2
BdB	Beauregard silt loam, 1 to 3 percent slopes	93,600	12.5
BdC	Beauregard silt loam, 3 to 5 percent slopes	10,200	1.4
BkC	Betis fine sand, 1 to 5 percent slopes	700	0.1
BkD	Betis fine sand, 5 to 8 percent slopes	1,000	0.1
BmC	Bienville loamy fine sand, 1 to 5 percent slopes	5,100	0.7
BnB	Bienville-Guyton complex, gently undulating	4,400	0.6
BpB	Blevins very fine sandy loam, 1 to 3 percent slopes	29,400	3.9
BpC	Blevins very fine sandy loam, 3 to 5 percent slopes	24,700	3.3
BpD	Blevins very fine sandy loam, 5 to 8 percent slopes	2,400	0.3
ByC	Boykin loamy fine sand, 1 to 5 percent slopes	1,100	0.1
ByD	Boykin loamy fine sand, 5 to 8 percent slopes	1,100	0.1
BzA	Brimstone silt loam	5,300	0.7
CdA	Caddo-Messer silt loams	141,900	19.0
ChB	Cahaba fine sandy loam, 1 to 3 percent slopes	5,000	0.7
CYA	Cypress silty clay loam, frequently flooded	1,600	0.2
DoC	Doucette loamy fine sand, 1 to 5 percent slopes	2,700	0.4
DoD	Doucette loamy fine sand, 5 to 8 percent slopes	1,000	0.1
DuC	Dubach fine sandy loam, 1 to 5 percent slopes	3,300	0.4
DxB	Dubach-Bearhead fine sandy loams, gently undulating	3,800	0.5
GnB	Glenmora silt loam, 1 to 3 percent slopes	57,800	7.8
GrC	Gore very fine sandy loam, 1 to 5 percent slopes	7,300	1.0
GRE	Gore very fine sandy loam, 5 to 12 percent slopes	4,800	0.6
GRF	Gore very fine sandy loam, 12 to 20 percent slopes	2,900	0.4
GtA	Guyton silt loam, occasionally flooded	28,800	3.9
GwA	Guyton-Messer silt loams	11,700	1.6
GXA	Guyton-Iuka complex, frequently flooded	29,000	3.9
GYA	Guyton-Ouachita silt loams, frequently flooded	55,600	7.5
HaB	Hainesville loamy fine sand, 0 to 2 percent slopes	3,400	0.5
IUA	Iuka-Mantachie complex, frequently flooded	5,400	0.7
KbB	Kirbyville-Niwana fine sandy loams, 1 to 3 percent slopes	1,500	0.2
KoB	Kolin silt loam, 1 to 3 percent slopes	22,600	3.0
KoC	Kolin silt loam, 3 to 5 percent slopes	2,300	0.3
MbB	Malbis fine sandy loam, 1 to 3 percent slopes	25,200	3.4
MbC	Malbis fine sandy loam, 3 to 5 percent slopes	26,400	3.5
MbD	Malbis fine sandy loam, 5 to 8 percent slopes	3,000	0.4
MuA	Merryville-Bearhead complex	8,300	1.1
OsB	Osier sand, 0 to 2 percent slopes	2,800	0.4
Pg	Pits	1,400	0.2
Rh	Riverwash	900	0.1
RuB	Ruston fine sandy loam, 1 to 3 percent slopes	3,600	0.5
RuC	Ruston fine sandy loam, 3 to 5 percent slopes	7,800	1.0
RuD	Ruston fine sandy loam, 5 to 8 percent slopes	3,000	0.4
SpC	Spurger fine sandy loam, 1 to 5 percent slopes	4,200	0.6
SuB	Sugartown very fine sandy loam, 1 to 3 percent slopes	9,700	1.3
SuC	Sugartown very fine sandy loam, 3 to 5 percent slopes	20,800	2.8
SuD	Sugartown very fine sandy loam, 5 to 8 percent slopes	4,700	0.6
URA	Urbo and Mantachie soils, frequently flooded	25,200	3.4
	Water	5,600	0.8
	Total	746,000	100.0

TABLE 5.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE

(Yields in the N columns are for nonirrigated soils; those in the I columns are for irrigated soils. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Soil name and map symbol	Land capability		Corn		Rice		Soybeans		Grain sorghum		Bahiagrass		Common bermudagrass		Improved bermudagrass	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	AUM*	AUM*	AUM*	AUM*	AUM*	AUM*
AcB----------------- Acadia	IIIe	---	90	---	---	100	27	---	70	---	6.5	---	5.0	---	10.5	---
AcC----------------- Acadia	IVe	---	85	---	---	---	23	---	65	---	6.5	---	5.0	---	10.0	---
BaB:																
Bearhead	IIe	---	---	---	---	---	---	---	---	---	6.9	---	6.0	---	11.0	---
Merryville	IIIw	---	---	---	---	---	---	---	---	---	---	---	5.0	---	---	---
BdB----------------- Beauregard	IIe	---	75	---	---	100	25	---	75	---	7.0	---	6.0	---	11.0	---
BdC----------------- Beauregard	IIIe	---	70	---	---	---	20	---	70	---	7.0	---	6.0	---	10.5	---
BkC, BkD------------ Betis	IIIs	---	---	---	---	---	---	---	---	---	5.5	---	---	---	3.0	---
BmC----------------- Bienville	IIIs	---	70	---	---	---	25	---	---	---	6.5	---	5.5	---	11.0	---
BnB:																
Bienville	IIIs	---	---	---	---	---	---	---	---	---	6.5	---	5.5	---	---	---
Guyton	IVw	---	---	---	---	---	---	---	---	---	6.0	---	4.5	---	---	---
BpB----------------- Blevins	IIe	---	85	---	---	---	25	---	65	---	7.5	---	6.5	---	8.0	---
BpC, BpD------------ Blevins	IIIe	---	70	---	---	---	20	---	55	---	7.5	---	6.5	---	8.0	---
ByC----------------- Boykin	IIIs	---	---	---	---	---	---	---	---	---	7.0	---	6.0	---	10.0	---

See footnote at end of table.

TABLE 5.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability		Corn		Rice		Soybeans		Grain sorghum		Bahiagrass		Common bermudagrass		Improved bermudagrass	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	AUM*	AUM*	AUM*	AUM*	AUM*	AUM*
ByD: Boykin	IIIe	---	---	---	---	---	---	---	---	---	7.0	---	6.0	---	10.0	---
BzA: Brimstone	IIIs	---	---	---	---	90	24	---	---	---	---	---	5.5	---	---	---
CdA:																
Caddo	IIIw	---	---	---	---	103	25	---	---	---	6.3	---	4.8	---	---	---
Messer	IIe	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
ChB: Cahaba	IIe	---	85	---	---	---	30	---	---	---	8.0	---	7.0	---	9.5	---
CYA: Cypress	VIIIw	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
DoC: Doucette	IIIs	---	---	---	---	---	---	---	---	---	7.0	---	6.0	---	10.0	---
DoD: Doucette	IIIe	---	---	---	---	---	---	---	---	---	7.0	---	6.0	---	10.0	---
DuC: Dubach	IIIe	---	95	---	---	---	30	---	70	---	8.5	---	4.5	---	9.5	---
DxB:																
Dubach	IIIe	---	85	---	---	---	30	---	65	---	8.0	---	5.0	---	8.0	---
Bearhead	IIe	---	85	---	---	---	30	---	65	---	8.0	---	5.0	---	8.0	---
GnB: Glenmora	IIe	---	85	---	---	110	30	---	60	---	7.0	---	5.0	---	9.5	---
GrC: Gore	IVe	---	---	---	---	---	---	---	---	---	6.5	---	4.5	---	8.0	---
GRE, GRF: Gore	VIe	---	---	---	---	---	---	---	---	---	6.0	---	4.0	---	---	---
GtA: Guyton	IVw	---	---	---	---	---	---	---	---	---	6.0	---	4.5	---	---	---

See footnote at end of table.

TABLE 5.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability		Corn		Rice		Soybeans		Grain sorghum		Bahiagrass		Common bermuda-grass		Improved bermuda-grass	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	AUM*	AUM*	AUM*	AUM*	AUM*	AUM*
GwA:																
Guyton	IIIw	---	---	---	---	104	25	---	---	---	6.3	---	4.7	---	---	---
Messer	IIe	---	---	---	---	100	28	---	---	---	6.0	---	4.5	---	---	---
GXA:																
Guyton	Vw	---	---	---	---	---	---	---	---	---	5.5	---	4.6	---	---	---
Iuka	Vw	---	---	---	---	---	---	---	---	---	5.5		4.6	---	---	---
GYA:																
Guyton	Vw	---	---	---	---	---	---	---	---	---	6.0	---	4.8	---	---	---
Ouachita	Vw	---	---	---	---	---	---	---	---	---	6.0	---	4.8	---	---	---
HaB----------------- Hainesville	IIIs	---	80	---	---	---	---	---	---	---	5.0	---	5.0	---	7.5	---
IUA:																
Iuka	Vw	---	---	---	---	---	---	---	---	---	7.4	---	5.0	---	---	---
Mantachie	Vw	---	---	---	---	---	---	---	---	---	7.4	---	6.2	---	---	---
KbB:																
Kirbyville	IIw	---	80	---	---	---	30	---	---	---	7.0	---	6.2	---	8.7	---
Niwana	IIw	---	80	---	---	---	30	---	---	---	7.0	---	6.2	---	8.7	---
KoB----------------- Kolin	IIe	---	75	---	---	---	30	---	75	---	8.5	---	5.5	---	10.0	---
KoC----------------- Kolin	IIIe	---	70	---	---	---	25	---	70	---	8.5	---	5.5	---	10.0	---
MbB, MbC------------ Malbis	IIe	---	95	---	---	---	30	---	---	---	8.5	---	6.0	---	9.5	---
MbD----------------- Malbis	IIIe	---	80	---	---	---	30	---	---	---	8.0	---	5.5	---	9.0	---

See footnote at end of table.

TABLE 5.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability		Corn		Rice		Soybeans		Grain sorghum		Bahiagrass		Common bermudagrass		Improved bermudagrass	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	AUM*	AUM*	AUM*	AUM*	AUM*	AUM*
MuA:																		
Merryville	IIIw	---	---	---	---	---	---	---	---	---	7.4	---	7.0	---	8.0	---
Bearhead	IIe	---	---	---	---	---	---	---	---	---	7.0	---	7.0	---	7.5	---
OsB----------------- Osier	Vw	---	---	---	---	---	---	---	---	---	5.0	---	---	---	---	---
Pg**---------------- Pits	VIIIs	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Rh**---------------- Riverwash	Vw	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RuB----------------- Ruston	IIe	---	80	---	---	---	30	---	70	---	9.5	---	5.5	---	10.0	---
RuC, RuD------------ Ruston	IIIe	---	75	---	---	---	25	---	65	---	9.5	---	5.5	---	10.0	---
SpC----------------- Spurger	IIIe	---	---	---	---	---	---	---	---	---	7.0	---	7.0	---	8.0	---
SuB----------------- Sugartown	IIe	---	70	---	---	---	28	---	65	---	7.5	---	5.0	---	10.0	---
SuC----------------- Sugartown	IIIe	---	65	---	---	---	25	---	60	---	7.5	---	5.0	---	10.0	---
SuD----------------- Sugartown	IVe	---	---	---	---	---	---	---	---	---	7.0	---	5.0	---	10.0	---
URA:																		
Urbo	Vw	---	---	---	---	---	---	---	---	---	6.0	---	5.0	---	---	---
Mantachie	Vw	---	---	---	---	---	---	---	---	---	6.0	---	5.0	---	---	---

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

** See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 6.--WOODLAND MANAGEMENT AND PRODUCTIVITY

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available)

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
AcB, AcC-------- Acadia	9W	Slight	Moderate	Slight	Severe	Loblolly pine-------	86	9	Loblolly pine, slash pine.
						Slash pine----------	86	11	
						Longleaf pine-------	70	6	
						Sweetgum------------	80	6	
						Water oak-----------	80	5	
BaB**:									
Bearhead-------	10A	Slight	Slight	Slight	Slight	Loblolly pine-------	93	10	Loblolly pine, slash pine.
						Shortleaf pine------	---	--	
						Sweetgum------------	---	--	
						Southern red oak----	---	--	
						Slash pine----------	109	13	
Merryville-----	12W	Slight	Severe	Moderate	Severe	Loblolly pine-------	109	12	Loblolly pine, water oak.
						Water oak-----------	80	5	
						Willow oak----------	80	5	
						Sweetgum------------	80	6	
						Slash pine----------	109	13	
BdB, BdC-------- Beauregard	12W	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	108	12	Loblolly pine, slash pine, Shumard oak.
						Slash pine----------	---	--	
						Longleaf pine-------	---	--	
						Sweetgum------------	---	--	
BkC, BkD-------- Betis	8S	Slight	Severe	Moderate	Moderate	Loblolly pine-------	83	8	Loblolly pine.
						Shortleaf pine------	80	9	
						Longleaf pine-------	---	--	
BmC------------- Bienville	10S	Slight	Severe	Moderate	Slight	Loblolly pine-------	96	10	Loblolly pine, shortleaf pine.
						Longleaf pine-------	88	8	
						Shortleaf pine------	75	8	
BnB**:									
Bienville------	10S	Slight	Severe	Moderate	Slight	Loblolly pine-------	96	10	Loblolly pine, shortleaf pine.
						Longleaf pine-------	88	8	
						Shortleaf pine------	75	8	
Guyton---------	8W	Slight	Severe	Moderate	Severe	Loblolly pine-------	85	8	Loblolly pine, water oak, slash pine, green ash.
						Slash pine----------	90	11	
						Sweetgum------------	---	--	
						Green ash-----------	---	--	
						Cherrybark oak------	---	--	
						Water oak-----------	---	--	
						Willow oak----------	78	5	
BpB, BpC, BpD--- Blevins	9A	Slight	Slight	Slight	Moderate	Loblolly pine-------	90	9	Loblolly pine, sweetgum, shortleaf pine.
						Shortleaf pine------	80	9	
						Sweetgum------------	90	7	
						Southern red oak----	---	--	
						White oak-----------	---	--	
ByC, ByD-------- Boykin	9S	Slight	Slight	Moderate	Moderate	Loblolly pine-------	90	9	Loblolly pine.
						Shortleaf pine------	80	9	
						Longleaf pine-------	80	7	
						Slash pine----------	---	--	

See footnotes at end of table.

TABLE 6.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
BzA------------- Brimstone	11T	Slight	Severe	Moderate	Moderate	Slash pine----------	85	11	Slash pine, loblolly pine.
						Loblolly pine-------	80	8	
CdA**:									
Caddo----------	10W	Slight	Severe	Moderate	Severe	Loblolly pine-------	98	10	Loblolly pine, slash pine, water oak.
						Slash pine----------	---	--	
						Sweetgum------------	---	--	
						Water oak-----------	---	--	
Messer---------	10W	Slight	Moderate	Slight	Moderate	Loblolly pine-------	95	10	Loblolly pine, slash pine, water oak, cherrybark oak, Shumard oak.
						Slash pine----------	95	12	
						Longleaf pine-------	75	6	
						Sweetgum------------	90	7	
ChB------------- Cahaba	9A	Slight	Slight	Slight	Moderate	Loblolly pine-------	87	9	Loblolly pine, slash pine, sweetgum, water oak.
						Slash pine----------	91	12	
						Shortleaf pine------	70	8	
						Sweetgum------------	90	7	
						Southern red oak----	---	--	
						Water oak-----------	---	--	
CYA------------- Cypress	3W	Slight	Severe	Severe	Severe	Baldcypress---------	78	3	Baldcypress.
						Water tupelo--------	---	--	
DoC, DoD-------- Doucette	9S	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	90	9	Loblolly pine.
						Shortleaf pine------	80	9	
						Longleaf pine-------	80	7	
DuC------------- Dubach	10A	Slight	Slight	Slight	Slight	Loblolly pine-------	94	10	Loblolly pine.
						Slash pine----------	94	12	
						Shortleaf pine------	---	--	
						Southern red oak----	---	--	
						White oak-----------	---	--	
						Sweetgum------------	---	--	
DxB**:									
Dubach---------	10A	Slight	Slight	Slight	Slight	Loblolly pine-------	94	10	Loblolly pine.
						Slash pine----------	94	12	
						Shortleaf pine------	---	--	
						Southern red oak----	---	--	
						White oak-----------	---	--	
						Sweetgum------------	---	--	
Bearhead-------	10A	Slight	Slight	Slight	Slight	Loblolly pine-------	93	10	Loblolly pine, slash pine.
						Shortleaf pine------	---	--	
						Sweetgum------------	---	--	
						Southern red oak----	---	--	
GnB------------- Glenmora	10A	Slight	Slight	Slight	Moderate	Loblolly pine-------	93	10	Loblolly pine, slash pine, cherrybark oak, Shumard oak.
						Slash pine----------	---	--	
						Longleaf pine-------	---	--	
						Sweetgum------------	---	--	
						Water oak-----------	---	--	
						Cherrybark oak------	---	--	
GrC, GRE-------- Gore	7C	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	76	7	Loblolly pine, slash pine.
						Shortleaf pine------	---	--	

See footnotes at end of table.

TABLE 6.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
GRF------------- Gore	8C	Moderate	Moderate	Moderate	Moderate	Loblolly pine------- Slash pine---------- Shortleaf pine------	78 --- ---	8 -- --	Loblolly pine, slash pine.
GtA------------- Guyton	8W	Slight	Severe	Moderate	Severe	Loblolly pine------- Slash pine---------- Sweetgum------------ Green ash----------- Cherrybark oak------ Water oak----------- Willow oak----------	85 90 --- --- --- --- 78	8 11 -- -- -- -- 5	Loblolly pine, water oak, slash pine, green ash.
GwA**: Guyton---------	8W	Slight	Severe	Moderate	Severe	Loblolly pine------- Slash pine---------- Sweetgum------------ Green ash----------- Cherrybark oak------ Water oak----------- Willow oak----------	85 90 --- --- --- --- 78	8 11 -- -- -- -- 5	Loblolly pine, water oak, slash pine, green ash.
Messer---------	10W	Slight	Moderate	Slight	Moderate	Loblolly pine------- Slash pine---------- Longleaf pine------- Sweetgum------------ Green ash----------- Water oak----------- Cherrybark oak------	95 95 75 90 --- --- ---	10 12 6 7 -- -- --	Loblolly pine, slash pine, water oak, cherrybark oak, Shumard oak.
GXA**: Guyton---------	6W	Slight	Severe	Severe	Severe	Green ash----------- Sweetgum------------ Black willow-------- Nuttall oak--------- Eastern cottonwood-- Sugarberry---------- Loblolly pine-------	100 --- --- --- --- --- 95	6 -- -- -- -- -- 10	Nuttall oak, green ash.
Iuka-----------	9W	Slight	Moderate	Moderate	Severe	Loblolly pine------- Sweetgum------------ Eastern cottonwood-- Water oak-----------	100 100 105 100	9 10 10 7	Loblolly pine, eastern cottonwood, yellow-poplar.
GYA**: Guyton---------	6W	Slight	Severe	Severe	Severe	Green ash----------- Sweetgum------------ Black willow-------- Nuttall oak--------- Eastern cottonwood-- Sugarberry---------- Loblolly pine-------	100 --- --- --- --- --- 95	6 -- -- -- -- -- 10	Nuttall oak, green ash.
Ouachita-------	11W	Slight	Slight	Moderate	Severe	Loblolly pine------- Sweetgum------------ Eastern cottonwood-- Cherrybark oak------	100 100 100 100	11 10 9 10	Loblolly pine, eastern cottonwood, cherrybark oak, Nuttall oak, shortleaf pine.

See footnotes at end of table.

TABLE 6.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
HaB------------- Hainesville	10S	Slight	Moderate	Moderate	Slight	Loblolly pine-------	96	10	Loblolly pine, shortleaf pine.
						Shortleaf pine------	88	10	
						Longleaf pine-------	---	--	
IUA**:									
Iuka-----------	9W	Slight	Moderate	Moderate	Severe	Loblolly pine-------	100	9	Loblolly pine, eastern cottonwood, green ash.
						Sweetgum------------	100	10	
						Eastern cottonwood--	105	10	
						Water oak-----------	100	7	
Mantachie------	10W	Slight	Severe	Severe	Severe	Loblolly pine-------	98	10	Loblolly pine, eastern cottonwood, green ash.
						Eastern cottonwood--	90	7	
						Cherrybark oak------	100	10	
						Green ash-----------	80	4	
						Sweetgum------------	95	8	
						Yellow-poplar-------	95	7	
KbB**:									
Kirbyville-----	11W	Slight	Moderate	Slight	Moderate	Loblolly pine-------	100	11	Loblolly pine, sweetgum, southern red oak.
						Shortleaf pine------	90	10	
						Longleaf pine-------	98	10	
Niwana---------	10A	Slight	Slight	Slight	Slight	Loblolly pine-------	96	10	Loblolly pine, slash pine, sweetgum.
						Longleaf pine-------	---	--	
						Sweetgum------------	---	--	
KoB, KoC-------- Kolin	8A	Slight	Slight	Slight	Severe	Loblolly pine-------	85	8	Loblolly pine, slash pine.
						Longleaf pine-------	---	--	
						Slash pine----------	---	--	
						Sweetgum------------	---	--	
						White oak-----------	---	--	
						Southern red oak----	---	--	
MbB, MbC, MbD--- Malbis	9A	Slight	Slight	Slight	Moderate	Loblolly pine-------	90	9	Loblolly pine, slash pine.
						Slash pine----------	90	11	
						Longleaf pine-------	80	7	
						White oak-----------	---	--	
						Southern red oak----	---	--	
MuA**:									
Merryville-----	12W	Slight	Severe	Moderate	Severe	Loblolly pine-------	109	12	Loblolly pine, water oak.
						Water oak-----------	80	5	
						Willow oak----------	80	5	
						Sweetgum------------	80	6	
Bearhead-------	10A	Slight	Slight	Slight	Slight	Loblolly pine-------	93	10	Loblolly pine, slash pine.
						Shortleaf pine------	---	--	
						Sweetgum------------	---	--	
						Southern red oak----	---	--	
OsB------------- Osier	11W	Slight	Severe	Severe	Severe	Slash pine----------	85	11	Green ash, nutall oak.
						Sweetgum------------	---	--	
						Red maple-----------	---	--	

See footnotes at end of table.

TABLE 6.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
RuB, RuC, RuD---Ruston	9A	Slight	Slight	Slight	Slight	Loblolly pine-------	91	9	Loblolly pine, slash pine, longleaf pine.
						Slash pine----------	91	12	
						Longleaf pine-------	76	6	
						Southern red oak----	---	--	
						Post oak------------	---	--	
						Sweetgum------------	---	--	
						Hickory-------------	---	--	
SpC-------------Spurger	12W	Slight	Moderate	Slight	Moderate	Loblolly pine-------	105	12	Loblolly pine, sweetgum, southern red oak.
						Shortleaf pine------	90	10	
						Southern red oak----	90	5	
						Sweetgum------------	105	11	
SuB, SuC, SuD---Sugartown	12W	Slight	Moderate	Slight	Severe	Loblolly pine-------	107	12	Loblolly pine, slash pine.
						Slash pine----------	---	--	
						Longleaf pine-------	---	--	
						Sweetgum------------	---	--	
URA**:									
Urbo-----------	10W	Slight	Severe	Severe	Moderate	Cherrybark oak------	99	10	Green ash, nutall oak.
						Green ash-----------	93	4	
						Eastern cottonwood--	108	11	
						Sweetgum------------	98	9	
Mantachie------	10W	Slight	Severe	Severe	Severe	Loblolly pine-------	98	10	Loblolly pine, cherrybark oak, green ash.
						Eastern cottonwood--	90	7	
						Cherrybark oak------	100	10	
						Green ash-----------	80	4	
						Sweetgum------------	95	8	
						Yellow-poplar-------	95	7	

* Productivity class is the yield in cubic meters per hectare per year calculated at the age of culmination of mean annual increment for fully stocked natural stands.

** See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 7.--RECREATIONAL DEVELOPMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe.") Absence of an entry indicates that the soil was not rated.

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
AcB, AcC: Acadia	Severe: wetness, percs slowly.	Severe: wetness, percs slowly.	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.
BaB*:					
Bearhead	Slight	Slight	Moderate: slope.	Slight	Slight.
Merryville	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
BdB, BdC: Beauregard	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness.	Moderate: wetness.	Moderate: wetness.
BkC: Betis	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty.
BkD: Betis	Severe: too sandy.	Severe: too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Moderate: droughty.
BmC: Bienville	Severe: flooding.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
BnB*:					
Bienville	Severe: flooding.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
Guyton	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
BpB, BpC: Blevins	Slight	Slight	Moderate: slope.	Slight	Slight.
BpD: Blevins	Slight	Slight	Severe: slope.	Slight	Slight.
ByC: Boykin	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
ByD: Boykin	Moderate: too sandy.	Moderate: too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty.
BzA: Brimstone	Severe: flooding, wetness, excess sodium.	Severe: wetness, excess sodium.	Severe: wetness, excess sodium.	Severe: wetness, excess sodium.	Severe: wetness, excess sodium.
CdA*:					
Caddo	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.

See footnote at end of table.

TABLE 7.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
CdA*:					
Messer	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Slight	Slight.
ChB Cahaba	Slight	Slight	Moderate: slope.	Slight	Slight.
CYA Cypress	Severe: flooding, ponding, percs slowly.	Severe: ponding, too acid.	Severe: ponding, flooding.	Severe: ponding.	Severe: too acid, ponding, flooding.
DoC Doucette	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
DoD Doucette	Moderate: too sandy.	Moderate: too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty.
DuC Dubach	Slight	Slight	Moderate: slope.	Slight	Slight.
DxB*:					
Dubach	Slight	Slight	Moderate: slope.	Slight	Slight.
Bearhead	Slight	Slight	Moderate: slope.	Slight	Slight.
GnB Glenmora	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Slight	Slight.
GrC Gore	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Severe: erodes easily.	Moderate: droughty.
GRE Gore	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Severe: erodes easily.	Moderate: slope, droughty.
GRF Gore	Severe: slope, percs slowly.	Severe: slope, percs slowly.	Severe: slope, percs slowly.	Severe: erodes easily.	Severe: slope.
GtA Guyton	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
GwA*:					
Guyton	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Messer	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Slight	Slight.

See footnote at end of table.

TABLE 7.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
GXA*:					
Guyton	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
Iuka	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: wetness, flooding.	Moderate: wetness, flooding.	Severe: flooding.
GYA*:					
Guyton	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
Ouachita	Severe: flooding.	Moderate: flooding, percs slowly.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
HaB Hainesville	Severe: flooding.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Severe: droughty.
IUA*:					
Iuka	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: wetness, flooding.	Moderate: wetness, flooding.	Severe: flooding.
Mantachie	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: wetness, flooding.	Moderate: wetness, flooding.	Severe: flooding.
KbB*:					
Kirbyville	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness.	Moderate: wetness.	Moderate: wetness.
Niwana	Slight	Slight	Moderate: slope.	Slight	Slight.
KoB, KoC Kolin	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Moderate: wetness.	Moderate: wetness.
MbB, MbC Malbis	Slight	Slight	Moderate: slope.	Slight	Slight.
MbD Malbis	Slight	Slight	Severe: slope.	Slight	Slight.
MuA*:					
Merryville	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Bearhead	Slight	Slight	Moderate: slope.	Slight	Slight.
OsB Osier	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
Pg* Pits	---	---	---	---	---

See footnote at end of table.

TABLE 7.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Rh*: Riverwash	Severe: flooding, small stones, wetness.	Severe: wetness, too sandy.	Severe: small stones, wetness, flooding.	Severe: wetness, too sandy.	Severe: wetness, droughty, flooding.
RuB, RuC: Ruston	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
RuD: Ruston	Slight	Slight	Severe: slope.	Slight	Slight.
SpC: Spurger	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Severe: erodes easily.	Slight.
SuB, SuC: Sugartown	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Severe: erodes easily.	Slight.
SuD: Sugartown	Moderate: percs slowly.	Moderate: percs slowly.	Severe: slope.	Severe: erodes easily.	Slight.
URA*:					
Urbo	Severe: flooding, wetness, percs slowly.	Severe: too clayey, percs slowly.	Severe: too clayey, wetness, flooding.	Severe: too clayey.	Severe: flooding, too clayey.
Mantachie	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: wetness, flooding.	Moderate: wetness, flooding.	Severe: flooding.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 8.--WILDLIFE HABITAT

(See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
AcB: Acadia	Fair	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
AcC: Acadia	Fair	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.
BaB*:											
Bearhead	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Merryville	Poor	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
BdB: Beauregard	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
BdC: Beauregard	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BkC, BkD: Betis	Poor	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
BmC: Bienville	Fair	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
BnB*:											
Bienville	Fair	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Guyton	Fair	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
BpB: Blevins	Good	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BpC, BpD: Blevins	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
ByC, ByD: Boykin	Poor	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
BzA: Brimstone	Fair	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
CdA*:											
Caddo	Fair	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Good	Good.
Messer	Good	Good	Good	Fair	Good	Fair	Poor	Poor	Good	Good	Poor.
ChB: Cahaba	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CYA: Cypress	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
DoC, DoD: Doucette	Poor	Fair	Good	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.

See footnote at end of table.

TABLE 8.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
DuC----------------- Dubach	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
DxB*:											
Dubach------------	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Bearhead----------	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
GnB----------------- Glenmora	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
GrC----------------- Gore	Fair	Fair	Good	Fair	Fair	Good	Poor	Poor	Fair	Fair	Poor.
GRE, GRF----------- Gore	Poor	Fair	Good	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
GtA----------------- Guyton	Fair	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
GwA*:											
Guyton------------	Fair	Fair	Fair	Fair	Fair	Good	Good	Good	Fair	Fair	Good.
Messer------------	Good	Good	Good	Fair	Good	Fair	Poor	Poor	Good	Good	Poor.
GXA*:											
Guyton------------	Poor	Fair	Fair	Fair	Fair	Poor	Good	Good	Poor	Fair	Good.
Iuka--------------	Poor	Fair	Fair	Good	Good	Fair	Poor	Poor	Fair	Good	Poor.
GYA*:											
Guyton------------	Poor	Fair	Fair	Fair	Fair	Poor	Good	Good	Poor	Fair	Good.
Ouachita----------	Poor	Fair	Fair	Good	Poor	Fair	Good	Fair	Fair	Good	Fair.
HaB----------------- Hainesville	Fair	Fair	Good	Poor	Poor	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
IUA*:											
Iuka--------------	Poor	Fair	Fair	Good	Good	Fair	Poor	Poor	Fair	Good	Poor.
Mantachie---------	Poor	Fair	Fair	Good	Fair	Fair	Fair	Fair	Fair	Good	Fair.
KbB*:											
Kirbyville--------	Fair	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Niwana------------	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
KoB----------------- Kolin	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
KoC----------------- Kolin	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MbB, MbC----------- Malbis	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

See footnote at end of table.

TABLE 8.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
MbD----------------- Malbis	Fair	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MuA*:											
Merryville--------	Poor	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Bearhead----------	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
OsB----------------- Osier	Very poor.	Poor	Fair	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair.
Pg*----------------- Pits	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
Rh*----------------- Riverwash	---	---	---	---	---	---	Very poor.	Very poor.	---	---	Very poor.
RuB, RuC----------- Ruston	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
RuD----------------- Ruston	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
SpC----------------- Spurger	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
SuB----------------- Sugartown	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
SuC----------------- Sugartown	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
SuD----------------- Sugartown	Fair	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
URA*:											
Urbo--------------	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Fair	Fair	Fair.
Mantachie---------	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Fair	Good	Fair.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 9.--BUILDING SITE DEVELOPMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Shallow excavations	Dwellings without basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
AcB, AcC---------- Acadia	Severe: wetness.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: low strength, wetness, shrink-swell.	Severe: wetness.
BaB*:					
Bearhead---------	Moderate: wetness.	Slight----------	Slight----------	Slight----------	Slight.
Merryville-------	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.
BdB--------------- Beauregard	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: low strength, wetness.	Moderate: wetness.
BdC--------------- Beauregard	Severe: wetness.	Moderate: wetness.	Moderate: wetness, slope.	Moderate: low strength, wetness.	Moderate: wetness.
BkC--------------- Betis	Severe: cutbanks cave.	Slight----------	Slight----------	Slight----------	Moderate: droughty.
BkD--------------- Betis	Severe: cutbanks cave.	Slight----------	Moderate: slope.	Slight----------	Moderate: droughty.
BmC--------------- Bienville	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Moderate: flooding.	Moderate: droughty.
BnB*:					
Bienville--------	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Moderate: flooding.	Moderate: droughty.
Guyton-----------	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness.
BpB--------------- Blevins	Slight----------	Slight----------	Slight----------	Moderate: low strength.	Slight.
BpC, BpD---------- Blevins	Slight----------	Slight----------	Moderate: slope.	Moderate: low strength.	Slight.
ByC--------------- Boykin	Severe: cutbanks cave.	Slight----------	Slight----------	Slight----------	Moderate: droughty.
ByD--------------- Boykin	Severe: cutbanks cave.	Slight----------	Moderate: slope.	Slight----------	Moderate: droughty.
BzA--------------- Brimstone	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, low strength.	Severe: wetness, excess sodium.

See footnote at end of table.

TABLE 9.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
CdA*:					
Caddo	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Messer	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: low strength, wetness.	Slight.
ChB Cahaba	Severe: cutbanks cave.	Slight	Slight	Slight	Slight.
CYA Cypress	Severe: ponding.	Severe: flooding, ponding.	Severe: flooding, ponding.	Severe: low strength, ponding, flooding.	Severe: too acid, ponding, flooding.
DoC Doucette	Severe: cutbanks cave.	Slight	Slight	Slight	Moderate: droughty.
DoD Doucette	Severe: cutbanks cave.	Slight	Moderate: slope.	Slight	Moderate: droughty.
DuC Dubach	Moderate: wetness.	Slight	Slight	Slight	Slight.
DxB*:					
Dubach	Moderate: wetness.	Slight	Slight	Slight	Slight.
Bearhead	Moderate: wetness.	Slight	Slight	Slight	Slight.
GnB Glenmora	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: low strength.	Slight.
GrC Gore	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Moderate: droughty.
GRE Gore	Moderate: too clayey, slope.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Moderate: slope, droughty.
GRF Gore	Severe: slope.	Severe: shrink-swell, slope.	Severe: shrink-swell, slope.	Severe: low strength, slope, shrink-swell.	Severe: slope.
GtA Guyton	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness.
GwA*:					
Guyton	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness.	Severe: wetness.
Messer	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: low strength, wetness.	Slight.

See footnote at end of table.

TABLE 9.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
GXA*:					
Guyton	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness, flooding.
Iuka	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.
GYA*:					
Guyton	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness, flooding.
Ouachita	Moderate: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.
HaB Hainesville	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Slight	Severe: droughty.
IUA*:					
Iuka	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.
Mantachie	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.
KbB*:					
Kirbyville	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: low strength, wetness.	Moderate: wetness.
Niwana	Moderate: wetness.	Slight	Slight	Slight	Slight.
KoB, KoC Kolin	Severe: wetness.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Moderate: wetness.
MbB Malbis	Moderate: wetness.	Slight	Slight	Slight	Slight.
MbC, MbD Malbis	Moderate: wetness.	Slight	Moderate: slope.	Slight	Slight.
MuA*:					
Merryville	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.
Bearhead	Moderate: wetness.	Slight	Slight	Slight	Slight.
OsB Osier	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.

See footnote at end of table.

TABLE 9.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Pg*. Pits	---	---	---	---	---
Rh*. Riverwash	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, droughty, flooding.
RuB. Ruston	Severe: cutbanks cave.	Slight	Slight	Slight	Slight.
RuC, RuD. Ruston	Severe: cutbanks cave.	Slight	Moderate: slope.	Slight	Slight.
SpC. Spurger	Moderate: too clayey, wetness.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Slight.
SuB, SuC, SuD. Sugartown	Moderate: too clayey, wetness.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, low strength.	Slight.
URA*:					
Urbo	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, flooding.	Severe: flooding, too clayey.
Mantachie	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 10.--SANITARY FACILITIES

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "good," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
AcB, AcC: Acadia	Severe: wetness, percs slowly.	Moderate: seepage, slope.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
BaB*:					
Bearhead	Moderate: wetness, percs slowly.	Severe: seepage.	Severe: seepage, wetness.	Moderate: wetness.	Good.
Merryville	Severe: wetness, percs slowly.	Severe: seepage.	Severe: seepage, wetness.	Severe: wetness.	Poor: wetness.
BdB, BdC: Beauregard	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness.	Severe: wetness.	Fair: too clayey, wetness.
BkC, BkD: Betis	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
BmC: Bienville	Moderate: flooding, wetness.	Severe: seepage.	Severe: seepage, wetness, too sandy.	Severe: seepage.	Poor: too sandy.
BnB*:					
Bienville	Moderate: flooding, wetness.	Severe: seepage.	Severe: seepage, wetness, too sandy.	Severe: seepage.	Poor: too sandy.
Guyton	Severe: flooding, wetness, percs slowly.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
BpB, BpC, BpD: Blevins	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
ByC, ByD: Boykin	Moderate: percs slowly.	Severe: seepage.	Slight	Severe: seepage.	Good.
BzA: Brimstone	Severe: wetness, percs slowly.	Moderate: seepage.	Severe: wetness.	Severe: wetness.	Poor: wetness, excess sodium.
CdA*:					
Caddo	Severe: wetness, percs slowly.	Moderate: seepage.	Severe: wetness.	Severe: wetness.	Poor: wetness.

See footnote at end of table.

TABLE 10.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
CdA*:					
Messer	Severe: wetness, percs slowly.	Moderate: slope.	Moderate: wetness, too clayey.	Moderate: wetness.	Fair: too clayey, wetness.
ChB Cahaba	Slight	Severe: seepage.	Severe: seepage.	Slight	Fair: thin layer.
CYA Cypress	Severe: flooding, ponding, percs slowly.	Severe: flooding, ponding.	Severe: flooding, ponding, too clayey.	Severe: flooding, ponding.	Poor: too clayey, hard to pack, ponding.
DoC, DoD Doucette	Moderate: percs slowly.	Severe: seepage.	Slight	Severe: seepage.	Good.
DuC Dubach	Severe: wetness.	Moderate: seepage, slope, wetness.	Moderate: wetness, too clayey.	Slight	Fair: too clayey.
DxB*:					
Dubach	Severe: wetness.	Moderate: seepage, slope, wetness.	Moderate: wetness, too clayey.	Slight	Fair: too clayey.
Bearhead	Moderate: wetness, percs slowly.	Severe: seepage.	Severe: seepage, wetness.	Moderate: wetness.	Good.
GnB Glenmora	Severe: wetness, percs slowly.	Moderate: seepage, slope.	Severe: wetness.	Severe: wetness.	Fair: too clayey, wetness, thin layer.
GrC Gore	Severe: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.
GRE Gore	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
GRF Gore	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
GtA Guyton	Severe: flooding, wetness, percs slowly.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
GwA*:					
Guyton	Severe: wetness, percs slowly.	Moderate: seepage.	Severe: wetness.	Severe: wetness.	Poor: wetness.

See footnote at end of table.

TABLE 10.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
GwA*:					
Messer	Severe: wetness, percs slowly.	Moderate: slope.	Moderate: wetness, too clayey.	Moderate: wetness.	Fair: too clayey, wetness.
GXA*:					
Guyton	Severe: flooding, wetness, percs slowly.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
Iuka	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: wetness.
GYA*:					
Guyton	Severe: flooding, wetness, percs slowly.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
Ouachita	Severe: flooding, percs slowly.	Severe: flooding.	Severe: flooding, seepage.	Severe: flooding.	Fair: too clayey.
HaB Hainesville	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy.
IUA*:					
Iuka	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: wetness.
Mantachie	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
KbB*:					
Kirbyville	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Moderate: wetness.	Fair: too clayey, small stones, wetness.
Niwana	Moderate: wetness, percs slowly.	Severe: seepage.	Severe: wetness.	Severe: seepage.	Good.
KoB, KoC Kolin	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.
MbB, MbC, MbD Malbis	Severe: wetness, percs slowly.	Moderate: seepage, slope.	Moderate: wetness.	Moderate: wetness.	Fair: wetness.
MuA*:					
Merryville	Severe: wetness, percs slowly.	Severe: seepage.	Severe: seepage, wetness.	Severe: wetness.	Poor: wetness.

See footnote at end of table.

TABLE 10.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
MuA*:					
Bearhead	Moderate: wetness, percs slowly.	Severe: seepage.	Severe: seepage, wetness.	Moderate: wetness.	Good.
OsB Osier	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Pg* Pits	---	---	---	---	---
Rh* Riverwash	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
RuB, RuC, RuD Ruston	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too sandy.	Slight	Fair: too sandy.
SpC Spurger	Severe: percs slowly.	Moderate: slope.	Severe: seepage, wetness, too clayey.	Slight	Poor: too clayey, hard to pack.
SuB, SuC, SuD Sugartown	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack.
URA*:					
Urbo	Severe: flooding, wetness, percs slowly.	Severe: flooding.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack, wetness.
Mantachie	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 11.--CONSTRUCTION MATERIALS

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Roadfill	Sand	Topsoil
AcB, AcC: Acadia	Poor: low strength, wetness, shrink-swell.	Improbable: excess fines.	Poor: too clayey, wetness.
BaB*:			
Bearhead	Good	Improbable: excess fines.	Good.
Merryville	Poor: wetness.	Probable	Poor: wetness.
BdB, BdC: Beauregard	Fair: low strength, wetness.	Improbable: excess fines.	Fair: too clayey.
BkC, BkD: Betis	Good	Improbable: thin layer.	Poor: too sandy.
BmC: Bienville	Good	Improbable: excess fines.	Poor: too sandy.
BnB*:			
Bienville	Good	Improbable: excess fines.	Poor: too sandy.
Guyton	Poor: wetness.	Improbable: excess fines.	Poor: wetness.
BpB, BpC, BpD: Blevins	Fair: low strength.	Improbable: excess fines.	Fair: too clayey.
ByC, ByD: Boykin	Good	Improbable: excess fines.	Fair: too sandy.
BzA: Brimstone	Poor: low strength, wetness.	Improbable: excess fines.	Poor: wetness, excess sodium.
CdA*:			
Caddo	Poor: low strength, wetness.	Improbable: excess fines.	Poor: wetness.
Messer	Poor: low strength.	Improbable: excess fines.	Good.
ChB: Cahaba	Good	Probable	Fair: too clayey.
CYA: Cypress	Poor: low strength, wetness.	Improbable: excess fines.	Poor: too clayey, wetness, too acid.

See footnote at end of table.

TABLE 11.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Topsoil
DoC, DoD: Doucette	Good	Improbable: excess fines.	Poor: thin layer.
DuC: Dubach	Good	Improbable: excess fines.	Fair: too clayey.
DxB*:			
Dubach	Good	Improbable: excess fines.	Fair: too clayey.
Bearhead	Good	Improbable: excess fines.	Good.
GnB: Glenmora	Poor: low strength.	Improbable: excess fines.	Fair: too clayey.
GrC, GRE: Gore	Poor: low strength, shrink-swell.	Improbable: excess fines.	Poor: too clayey.
GRF: Gore	Poor: low strength, shrink-swell.	Improbable: excess fines.	Poor: too clayey, slope.
GtA: Guyton	Poor: wetness.	Improbable: excess fines.	Poor: wetness.
GwA*:			
Guyton	Poor: wetness.	Improbable: excess fines.	Poor: wetness.
Messer	Poor: low strength.	Improbable: excess fines.	Good.
GXA*:			
Guyton	Poor: wetness.	Improbable: excess fines.	Poor: wetness.
Iuka	Fair: wetness.	Improbable: excess fines.	Good.
GYA*:			
Guyton	Poor: wetness.	Improbable: excess fines.	Poor: wetness.
Ouachita	Good	Improbable: excess fines.	Fair: too clayey.
HaB: Hainesville	Good	Improbable: excess fines.	Poor: too sandy.
IUA*:			
Iuka	Fair: wetness.	Improbable: excess fines.	Good.
Mantachie	Fair: wetness.	Improbable: excess fines.	Fair: too clayey, small stones.

See footnote at end of table.

TABLE 11.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Topsoil
KbB*:			
Kirbyville	Fair: low strength, wetness.	Improbable: excess fines.	Fair: too clayey, small stones, area reclaim.
Niwana	Fair: low strength.	Improbable: excess fines.	Good.
KoB, KoC Kolin	Poor: low strength, shrink-swell.	Improbable: excess fines.	Fair: thin layer, too clayey.
MbB, MbC, MbD Malbis	Fair: low strength, wetness.	Improbable: excess fines.	Fair: too clayey.
MuA*:			
Merryville	Poor: wetness.	Probable	Poor: wetness.
Bearhead	Good	Improbable: excess fines.	Good.
OsB Osier	Poor: wetness.	Probable	Poor: too sandy, wetness.
Pg* Pits	Variable	Variable	Variable.
Rh* Riverwash	Poor: wetness.	Probable	Poor: small stones, area reclaim, wetness.
RuB, RuC, RuD Ruston	Good	Improbable: excess fines.	Fair: too sandy, small stones.
SpC Spurger	Good	Probable	Poor: too clayey.
SuB, SuC, SuD Sugartown	Poor: shrink-swell, low strength.	Improbable: excess fines.	Poor: too clayey.
URA*:			
Urbo	Poor: low strength.	Improbable: excess fines.	Poor: too clayey.
Mantachie	Fair: wetness.	Improbable: excess fines.	Fair: too clayey, small stones.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 12.--WATER MANAGEMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Limitations for-- Pond reservoir areas	Limitations for-- Embankments, dikes, and levees	Features affecting-- Drainage	Features affecting-- Irrigation	Features affecting-- Terraces and diversions	Features affecting-- Grassed waterways
AcB--------------- Acadia	Slight---------	Severe: hard to pack, wetness.	Percs slowly---	Wetness, percs slowly.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
AcC--------------- Acadia	Moderate: slope.	Severe: hard to pack, wetness.	Percs slowly, slope.	Wetness, percs slowly, slope.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
BaB*:						
Bearhead---------	Moderate: seepage.	Severe: piping.	Deep to water	Soil blowing---	Soil blowing---	Favorable.
Merryville-------	Severe: seepage.	Severe: piping, wetness.	Percs slowly---	Wetness, percs slowly, erodes easily.	Erodes easily, wetness.	Wetness, erodes easily, percs slowly.
BdB--------------- Beauregard	Slight---------	Severe: piping, wetness.	Favorable------	Wetness--------	Erodes easily, wetness.	Erodes easily.
BdC--------------- Beauregard	Moderate: slope.	Severe: piping, wetness.	Slope----------	Slope, wetness.	Erodes easily, wetness.	Erodes easily.
BkC, BkD---------- Betis	Severe: seepage.	Severe: seepage, piping.	Deep to water	Slope, droughty, fast intake.	Too sandy, soil blowing.	Droughty.
BmC--------------- Bienville	Severe: seepage.	Severe: seepage, piping.	Deep to water	Slope, droughty, fast intake.	Too sandy, soil blowing.	Droughty.
BnB*:						
Bienville--------	Severe: seepage.	Severe: seepage, piping.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
Guyton-----------	Moderate: seepage.	Severe: piping, wetness.	Percs slowly, flooding.	Wetness, percs slowly, erodes easily.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
BpB--------------- Blevins	Moderate: seepage.	Severe: thin layer.	Deep to water	Erodes easily	Erodes easily	Erodes easily.
BpC, BpD---------- Blevins	Moderate: seepage, slope.	Severe: thin layer.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.
ByC, ByD---------- Boykin	Severe: seepage.	Moderate: piping.	Deep to water	Slope, droughty, fast intake.	Soil blowing---	Droughty.

See footnote at end of table.

TABLE 12.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
BzA--------------- Brimstone	Slight----------	Severe: wetness, excess sodium.	Percs slowly, excess sodium.	Wetness, percs slowly, erodes easily.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, excess sodium.
CdA*:						
Caddo------------	Moderate: seepage.	Severe: wetness.	Percs slowly---	Wetness, percs slowly, erodes easily.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
Messer-----------	Slight----------	Moderate: piping, wetness.	Percs slowly---	Wetness, soil blowing.	Erodes easily, wetness, soil blowing.	Erodes easily, percs slowly.
ChB--------------- Cahaba	Severe: seepage.	Moderate: thin layer, piping.	Deep to water	Favorable------	Favorable------	Favorable.
CYA--------------- Cypress	Slight----------	Severe: ponding.	Ponding, percs slowly, flooding.	Ponding, percs slowly.	Ponding, percs slowly.	Wetness, percs slowly.
DoC, DoD---------- Doucette	Severe: seepage.	Severe: piping.	Deep to water	Slope, droughty, fast intake.	Soil blowing---	Droughty.
DuC--------------- Dubach	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope, soil blowing.	Soil blowing---	Favorable.
DxB*:						
Dubach-----------	Moderate: seepage.	Severe: piping.	Deep to water	Soil blowing---	Soil blowing---	Favorable.
Bearhead---------	Moderate: seepage.	Severe: piping.	Deep to water	Soil blowing---	Soil blowing---	Favorable.
GnB--------------- Glenmora	Moderate: seepage.	Moderate: piping, wetness.	Percs slowly---	Wetness, percs slowly.	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
GrC--------------- Gore	Moderate: slope.	Moderate: thin layer, hard to pack.	Deep to water	Percs slowly, droughty, slope.	Erodes easily, percs slowly.	Erodes easily, droughty.
GRE, GRF---------- Gore	Severe: slope.	Moderate: thin layer, hard to pack.	Deep to water	Percs slowly, droughty, slope.	Slope, erodes easily, percs slowly.	Slope, erodes easily, droughty.
GtA--------------- Guyton	Moderate: seepage.	Severe: piping, wetness.	Percs slowly, flooding.	Wetness, percs slowly, erodes easily.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
GwA*:						
Guyton-----------	Moderate: seepage.	Severe: piping, wetness.	Percs slowly---	Wetness, percs slowly, erodes easily.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.

See footnote at end of table.

TABLE 12.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
Messer	Slight	Moderate: piping, wetness.	Percs slowly	Wetness, soil blowing.	Erodes easily, wetness, soil blowing.	Erodes easily, percs slowly.
GXA*: Guyton	Moderate: seepage.	Severe: piping, wetness.	Percs slowly, flooding.	Wetness, percs slowly, erodes easily.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
GXA*: Iuka	Moderate: seepage.	Severe: piping, wetness.	Flooding	Wetness, flooding.	Wetness	Wetness.
GYA*: Guyton	Moderate: seepage.	Severe: piping, wetness.	Percs slowly, flooding.	Wetness, percs slowly, erodes easily.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
Ouachita	Slight	Severe: piping.	Deep to water	Erodes easily, flooding.	Erodes easily	Erodes easily.
HaB Hainesville	Severe: seepage.	Severe: seepage, piping.	Deep to water	Droughty, fast intake, soil blowing.	Too sandy, soil blowing.	Droughty.
IUA*: Iuka	Moderate: seepage.	Severe: piping, wetness.	Flooding	Wetness, flooding.	Wetness	Wetness.
Mantachie	Moderate: seepage.	Severe: piping, wetness.	Flooding	Wetness, flooding.	Wetness	Wetness.
KbB*: Kirbyville	Moderate: seepage.	Moderate: piping, wetness.	Favorable	Wetness, soil blowing.	Wetness, soil blowing.	Favorable.
Niwana	Severe: seepage.	Moderate: piping.	Deep to water	Soil blowing	Soil blowing	Favorable.
KoB Kolin	Slight	Moderate: hard to pack, wetness.	Percs slowly	Wetness, percs slowly.	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
KoC Kolin	Moderate: slope.	Moderate: hard to pack, wetness.	Percs slowly, slope.	Wetness, percs slowly, slope.	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
MbB Malbis	Moderate: seepage.	Severe: piping.	Deep to water	Favorable	Favorable	Favorable.
MbC, MbD Malbis	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope	Favorable	Favorable.

See footnote at end of table.

TABLE 12.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
MuA*:						
Merryville	Severe: seepage.	Severe: piping, wetness.	Percs slowly	Wetness, percs slowly, erodes easily.	Erodes easily, wetness.	Wetness, erodes easily, percs slowly.
Bearhead	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope, soil blowing.	Soil blowing	Favorable.
OsB: Osier	Severe: seepage.	Severe: seepage, piping, wetness.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy.	Wetness, droughty.
Pg*: Pits	---	---	---	---	---	---
Rh*: Riverwash	Severe: seepage.	Severe: seepage, wetness.	Flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy.	Wetness, droughty.
RuB: Ruston	Moderate: seepage.	Severe: piping.	Deep to water	Soil blowing	Too sandy, soil blowing.	Favorable.
RuC, RuD: Ruston	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope, soil blowing.	Too sandy, soil blowing.	Favorable.
SpC: Spurger	Moderate: slope.	Severe: thin layer.	Deep to water	Slope, soil blowing, percs slowly.	Erodes easily, soil blowing.	Erodes easily, percs slowly.
SuB: Sugartown	Slight	Severe: hard to pack.	Deep to water	Percs slowly	Erodes easily, percs slowly.	Erodes easily, percs slowly.
SuC, SuD: Sugartown	Moderate: slope.	Severe: hard to pack.	Deep to water	Slope, percs slowly.	Erodes easily, percs slowly.	Erodes easily, percs slowly.
URA*:						
Urbo	Slight	Severe: wetness.	Percs slowly, flooding.	Wetness, slow intake, percs slowly.	Wetness, percs slowly.	Wetness, percs slowly.
Mantachie	Moderate: seepage.	Severe: piping, wetness.	Flooding	Wetness, flooding.	Wetness	Wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 13.--ENGINEERING INDEX PROPERTIES

(The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated)

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
AcB-------------- Acadia	0-6	Silt loam--------	ML, CL-ML	A-4	0	100	100	95-100	85-100	15-30	NP-7
	6-11	Silt loam, silty clay loam.	CL	A-6	0	100	100	95-100	85-100	30-40	11-18
	11-64	Clay, silty clay	CH, CL	A-7-6	0	100	100	95-100	90-100	42-70	20-43
	64-82	Clay, silty clay, silty clay loam.	CH, CL	A-7-6, A-6	0	100	100	95-100	85-100	35-65	15-38
AcC-------------- Acadia	0-13	Silt loam--------	ML, CL-ML	A-4	0	100	100	95-100	85-100	15-30	NP-7
	13-17	Silt loam, silty clay loam.	CL	A-6	0	100	100	95-100	85-100	30-40	11-18
	17-45	Clay, silty clay	CH, CL	A-7-6	0	100	100	95-100	90-100	42-70	20-43
	45-62	Clay, silty clay, silty clay loam.	CH, CL	A-7-6, A-6	0	100	100	95-100	85-100	35-65	15-38
BaB*:											
Bearhead--------	0-15	Very fine sandy loam.	ML, CL-ML	A-4	0	100	100	95-100	55-70	<25	NP-7
	15-89	Fine sandy loam, very fine sandy loam, loam.	CL-ML, ML	A-4	0	100	100	90-100	55-75	<25	NP-7
	89-98	Very fine sandy loam, very fine sand, fine sand.	SM, ML	A-2, A-4	0	100	100	85-95	20-65	<20	NP
Merryville------	0-9	Silt loam--------	ML, CL-ML	A-4	0	100	100	96-100	70-90	<25	NP-6
	9-35	Silt loam, loam, very fine sandy loam.	ML, CL, CL-ML	A-4	0	100	100	96-100	65-85	<30	NP-8
	35-55	Silt loam, very fine sandy loam, loam.	CL-ML, CL	A-6, A-4	0	100	100	96-100	65-85	13-40	5-20
	55-99	Loamy fine sand, very fine sand, sand, fine sandy loam.	SM, ML, SP-SM	A-2, A-4, A-3	0	95-100	95-100	65-100	8-70	<13	NP-3
BdB-------------- Beauregard	0-9	Silt loam--------	ML	A-4	0	100	100	90-100	70-95	<23	NP-3
	9-16	Silt loam, silty clay loam.	CL, CL-ML	A-6, A-4	0	100	100	95-100	70-95	25-35	7-15
	16-75	Silty clay loam, silt loam.	CL	A-6	0	100	100	85-100	70-95	30-40	12-19
	75-90	Silty clay, silty clay loam, silt loam.	CH, CL	A-7-6, A-6	0	100	100	85-100	70-95	30-60	12-33
BdC-------------- Beauregard	0-10	Silt loam--------	ML	A-4	0	100	100	90-100	70-95	<23	NP-3
	10-22	Silt loam, silty clay loam.	CL, CL-ML	A-6, A-4	0	100	100	95-100	70-95	25-35	7-15
	22-40	Silty clay loam, silt loam.	CL	A-6	0	100	100	85-100	70-95	30-40	12-19
	40-60	Silty clay, silty clay loam, silt loam.	CH, CL	A-7-6, A-6	0	100	100	85-100	70-95	30-60	12-33

See footnote at end of table.

TABLE 13.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
BkC-------------- Betis	0-29	Fine sand--------	SM, SP-SM	A-2	0	100	97-100	90-100	10-35	---	NP
	29-80	Fine sand, loamy fine sand.	SM, SP-SM	A-2	0	100	97-100	90-100	10-35	---	NP
	80-99	Fine sand, loamy fine sand.	SM	A-2, A-4	0	100	97-100	90-100	25-50	---	NP
BkD-------------- Betis	0-36	Fine sand--------	SM, SP-SM	A-2	0	100	97-100	90-100	10-35	---	NP
	36-60	Fine sand, loamy fine sand.	SM, SP-SM	A-2	0	100	97-100	90-100	10-35	---	NP
	60-99	Fine sand, loamy fine sand.	SM	A-2, A-4	0	100	97-100	90-100	25-50	---	NP
BmC-------------- Bienville	0-10	Loamy fine sand	SM, SC-SM	A-2-4, A-4	0	100	100	90-100	15-50	<25	NP-5
	10-36	Loamy fine sand, fine sand.	SM	A-2-4, A-4	0	100	100	90-100	15-50	<25	NP-3
	36-74	Loamy fine sand, fine sandy loam, fine sand.	SM, ML	A-2-4, A-4	0	100	100	90-100	20-55	<25	NP-3
BnB*:											
Bienville-------	0-7	Loamy fine sand	SM, SC-SM	A-2-4, A-4	0	100	100	90-100	15-50	<25	NP-5
	7-25	Loamy fine sand, fine sand.	SM	A-2-4, A-4	0	100	100	90-100	15-50	<25	NP-3
	25-66	Loamy fine sand, fine sandy loam, fine sand.	SM, ML	A-2-4, A-4	0	100	100	90-100	20-55	<25	NP-3
Guyton----------	0-26	Silt loam--------	ML, CL-ML	A-4	0	100	100	95-100	65-90	<27	NP-7
	26-41	Silt loam, silty clay loam, clay loam.	CL, CL-ML	A-6, A-4	0	100	100	94-100	75-95	22-40	6-18
	41-62	Silt loam, silty clay loam, sandy clay loam, clay loam.	CL, CL-ML, ML	A-6, A-4	0	100	100	95-100	50-95	<40	NP-18
BpB-------------- Blevins	0-5	Very fine sandy loam.	ML, CL-ML	A-4	0	100	95-100	85-100	50-90	<25	NP-7
	5-10	Silt loam, very fine sandy loam, loam.	ML, CL-ML	A-4	0	100	95-100	85-100	50-90	<25	NP-7
	10-50	Loam, silt loam, silty clay loam.	CL	A-6, A-4	0	100	95-100	85-100	60-95	25-35	8-13
	50-59	Silt loam, loam, very fine sandy loam.	ML, CL-ML, CL	A-4, A-6	0	100	95-100	85-95	50-90	<30	3-11
	59-72	Loam, silt loam, silty clay loam.	CL, CL-ML, ML	A-6, A-4	0	100	95-100	85-100	60-95	20-38	3-15

See footnote at end of table.

TABLE 13.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
BpC-------------- Blevins	0-6	Very fine sandy loam.	ML, CL-ML	A-4	0	100	95-100	85-100	50-90	<25	NP-7
	6-12	Silt loam, very fine sandy loam, loam.	ML, CL-ML	A-4	0	100	95-100	85-100	50-90	<25	NP-7
	12-50	Loam, silt loam, silty clay loam.	CL	A-6, A-4	0	100	95-100	85-100	60-95	25-35	8-13
	50-69	Silt loam, loam, very fine sandy loam.	ML, CL-ML, CL	A-4, A-6	0	100	95-100	85-95	50-90	<30	3-11
	69-95	Loam, silt loam, silty clay loam.	CL, CL-ML, ML	A-6, A-4	0	100	95-100	85-100	60-95	20-38	3-15
BpD-------------- Blevins	0-5	Very fine sandy loam.	ML, CL-ML	A-4	0	100	95-100	85-100	50-90	<25	NP-7
	5-11	Silt loam, very fine sandy loam, loam.	ML, CL-ML, SM, SC-SM	A-4	0	100	95-100	85-100	50-90	<25	NP-7
	11-46	Loam, silt loam, silty clay loam.	CL	A-6, A-4	0	100	95-100	85-100	60-95	25-35	8-13
	46-70	Silt loam, loam, very fine sandy loam.	ML, CL-ML, CL	A-4, A-6	0	100	95-100	85-95	50-90	<30	3-11
	70-85	Loam, silt loam, silty clay loam.	CL, CL-ML, ML	A-6, A-4	0	100	95-100	85-100	60-95	20-38	3-15
ByC-------------- Boykin	0-7	Loamy fine sand	SM, SC-SM	A-2-4, A-4	0	97-100	95-100	75-98	17-45	16-25	NP-5
	7-24	Loamy fine sand	SM, SC-SM	A-2-4, A-4	0	97-100	95-100	70-98	17-45	16-25	NP-5
	24-70	Fine sandy loam, sandy clay loam.	SC, CL	A-4, A-6, A-7-6	0	95-100	95-100	80-98	36-55	22-45	8-30
ByD-------------- Boykin	0-9	Loamy fine sand	SM, SC-SM	A-2-4, A-4	0	97-100	95-100	75-98	17-45	16-25	NP-5
	9-21	Loamy fine sand	SM, SC-SM	A-2-4, A-4	0	97-100	95-100	70-98	17-45	16-25	NP-5
	21-76	Fine sandy loam, sandy clay loam.	SC, CL	A-4, A-6, A-7-6	0	95-100	95-100	80-98	36-55	22-45	8-30
BzA-------------- Brimstone	0-16	Silt loam--------	CL-ML, CL	A-4, A-6	0	100	100	90-100	70-90	16-38	6-17
	16-45	Silt loam, silty clay loam.	CL	A-6, A-7-6	0	100	100	95-100	80-95	26-48	11-33
	45-90	Silty clay loam, silt loam.	CL	A-6, A-7-6	0	100	100	95-100	80-95	26-48	11-33
CdA*:											
Caddo-----------	0-30	Silt loam--------	ML, CL-ML	A-4	0	100	100	95-100	70-95	<27	NP-7
	30-87	Silt loam, silty clay loam.	CL	A-6	0	100	100	85-100	50-90	30-40	11-18

See footnote at end of table.

TABLE 13.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification Unified	Classification AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
Messer----------	0-8	Silt loam--------	ML, CL-ML	A-4	0	100	100	95-100	80-95	<27	NP-7
	8-17	Silt loam, loam, very fine sandy loam.	CL, CL-ML	A-6, A-4	0	100	100	95-100	80-95	25-33	5-12
	17-78	Silty clay loam, clay loam, loam, silt loam.	CL	A-6, A-7-6	0	100	100	95-100	80-95	32-45	11-21
	78-99	Silty clay loam, clay loam, clay.	CL, CH	A-7-6	0	100	100	95-100	80-95	41-70	22-50
ChB-------------- Cahaba	0-7	Fine sandy loam	SM	A-4, A-2-4	0	95-100	95-100	65-90	30-45	---	NP
	7-58	Sandy clay loam, loam, clay loam.	SC, CL	A-4, A-6	0	90-100	80-100	75-90	40-75	22-35	8-15
	58-89	Sand, loamy sand, sandy loam, fine sandy loam.	SM, SP-SM	A-2-4	0	95-100	90-100	60-85	10-35	---	NP
CYA-------------- Cypress	0-2	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	75-95	34-48	14-25
	2-60	Clay loam, clay, silty clay.	CL, CH	A-7-6	0	100	100	90-100	75-95	43-66	21-39
DoC-------------- Doucette	0-4	Loamy fine sand	SM	A-2-4, A-4	0	97-100	95-100	80-99	15-40	16-24	NP-4
	4-26	Loamy fine sand, fine sand.	SM	A-2-4, A-4	0	97-100	95-100	80-98	15-40	16-24	NP-4
	26-67	Sandy clay loam	SC, SC-SM, CL, CL-ML	A-4, A-6	0	95-100	95-100	85-98	36-55	25-39	6-18
DoD-------------- Doucette	0-10	Loamy fine sand	SM	A-2-4, A-4	0	97-100	95-100	80-99	15-40	16-24	NP-4
	10-30	Loamy fine sand, fine sand.	SM	A-2-4, A-4	0	97-100	95-100	80-98	15-40	16-24	NP-4
	30-80	Sandy clay loam	SC, SC-SM, CL, CL-ML	A-4, A-6	0	95-100	95-100	85-98	36-55	25-39	6-18
DuC-------------- Dubach	0-10	Fine sandy loam	SM, ML, CL-ML	A-4, A-6	0	100	97-100	91-97	40-62	10-30	NP-11
	10-45	Loam, sandy clay loam, clay loam.	CL-ML, CL	A-4, A-6	0	99-100	95-100	80-100	55-70	15-40	5-19
	45-70	Sandy clay loam, clay loam, loam.	CL, CL-ML	A-4, A-6	0	98-100	96-100	90-100	56-80	15-40	4-19
DxB*:											
Dubach----------	0-11	Fine sandy loam	SM, ML, CL-ML	A-4, A-6	0	100	97-100	91-97	40-62	10-30	NP-11
	11-34	Loam, sandy clay loam, clay loam.	CL-ML, CL	A-4, A-6	0	99-100	95-100	80-100	55-70	15-40	5-19
	34-72	Sandy clay loam, clay loam, loam.	CL, CL-ML	A-4, A-6	0	98-100	96-100	90-100	56-80	15-40	4-19
Bearhead--------	0-4	Fine sandy loam.	ML, CL-ML	A-4	0	100	100	95-100	55-70	<25	NP-7
	4-28	Fine sandy loam, very fine sandy loam, loam.	CL-ML, ML	A-4	0	100	100	90-100	55-75	<25	NP-7
	28-80	Very fine sandy loam, very fine sand, fine sand.	SM, ML	A-2, A-4	0	100	100	85-95	20-65	<20	NP

See footnote at end of table.

TABLE 13.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag-ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct					Pct	
GnB-------------- Glenmora	0-8	Silt loam--------	ML, CL-ML	A-4	0	100	100	90-100	75-85	<27	NP-7
	8-26	Silty clay loam, silt loam.	CL	A-6, A-4	0	100	100	95-100	80-95	25-38	8-16
	26-54	Silty clay loam	CL	A-6	0	100	100	95-100	80-95	30-40	12-18
	54-80	Silty clay loam.	CL	A-6,	0	100	100	95-100	80-95	30-40	12-18
GrC-------------- Gore	0-3	Very fine sandy loam.	ML, CL-ML	A-4	0	100	100	95-100	60-90	<27	NP-7
	3-46	Clay, silty clay, silty clay loam.	CH	A-7-6	0	100	100	95-100	85-100	53-65	28-40
	46-68	Clay, silty clay.	CH	A-7-6	0	100	100	95-100	85-100	51-83	25-53
GRE-------------- Gore	0-5	Very fine sandy loam.	ML, CL-ML	A-4	0	100	100	95-100	60-90	<27	NP-7
	5-50	Clay, silty clay, silty clay loam.	CH	A-7-6	0	100	100	95-100	85-100	53-65	28-40
	50-60	Clay, silty clay.	CH	A-7-6	0	100	100	95-100	85-100	51-83	25-53
GRF-------------- Gore	0-6	Very fine sandy loam.	ML, CL-ML	A-4	0	100	100	95-100	60-90	<27	NP-7
	6-43	Clay, silty clay, silty clay loam.	CH	A-7-6	0	100	100	95-100	85-100	53-65	28-40
	43-96	Clay, silty clay.	CH	A-7-6	0	100	100	95-100	85-100	51-83	25-53
GtA-------------- Guyton	0-30	Silt loam--------	ML, CL-ML	A-4	0	100	100	95-100	65-90	<27	NP-7
	30-42	Silt loam, silty clay loam, clay loam.	CL, CL-ML	A-6, A-4	0	100	100	94-100	75-95	22-40	6-18
	42-74	Silt loam, silty clay loam, sandy clay loam, clay loam.	CL, CL-ML, ML	A-6, A-4	0	100	100	95-100	50-95	<40	NP-18
GwA*:											
Guyton----------	0-36	Silt loam--------	ML, CL-ML	A-4	0	100	100	95-100	65-90	<27	NP-7
	36-48	Silt loam, silty clay loam, clay loam.	CL, CL-ML	A-6, A-4	0	100	100	94-100	75-95	22-40	6-18
	48-62	Silt loam, silty clay loam, sandy clay loam, clay loam.	CL, CL-ML, ML	A-6, A-4	0	100	100	95-100	50-95	<40	NP-18
Messer----------	0-11	Silt loam--------	ML, CL-ML	A-4	0	100	100	95-100	80-95	<27	NP-7
	11-26	Silt loam, loam, very fine sandy loam.	CL, CL-ML	A-6, A-4	0	100	100	95-100	80-95	25-33	5-12
	26-62	Silty clay loam, clay loam, loam, silt loam.	CL	A-6, A-7-6	0	100	100	95-100	80-95	32-45	11-21

See footnote at end of table.

TABLE 13.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
GXA*:											
Guyton----------	0-27	Silt loam--------	ML, CL-ML	A-4	0	100	100	95-100	65-90	<27	NP-7
	27-34	Silt loam, silty clay loam, clay loam.	CL, CL-ML	A-6, A-4	0	100	100	94-100	75-95	22-40	6-18
	34-60	Silt loam, silty clay loam, sandy clay loam, clay loam.	CL, CL-ML, ML	A-6, A-4	0	100	100	95-100	50-95	<40	NP-18
Iuka------------	0-8	Fine sandy loam	SM, SC-SM, ML, CL-ML	A-4, A-2	0	95-100	90-100	70-100	30-60	<20	NP-7
	8-16	Fine sandy loam, loam, sandy loam, silt loam.	SM, SC-SM, ML, CL-ML	A-4	0	95-100	85-100	65-100	36-75	<30	NP-7
	16-60	Sandy loam, fine sandy loam, loam, silt loam.	SM, ML	A-2, A-4	0	95-100	90-100	70-100	25-60	<30	NP-7
GYA*:											
Guyton----------	0-18	Silt loam--------	ML, CL-ML	A-4	0	100	100	95-100	65-90	<27	NP-7
	18-24	Silt loam, silty clay loam, clay loam.	CL, CL-ML	A-6, A-4	0	100	100	94-100	75-95	22-40	6-18
	24-92	Silt loam, silty clay loam, sandy clay loam, clay loam.	CL, CL-ML, ML	A-6, A-4	0	100	100	95-100	50-95	<40	NP-18
Ouachita--------	0-3	Silt loam--------	ML, CL-ML, CL	A-4	0	100	100	85-95	55-85	<30	2-10
	3-14	Silt loam, loam, very fine sandy loam.	ML, CL-ML, CL	A-4	0	100	100	85-95	55-85	<30	2-10
	14-72	Silt loam, loam, silty clay loam, very fine sandy loam.	CL, CL-ML	A-4, A-6	0	100	100	85-95	55-90	25-40	5-15
HaB-------------- Hainesville	0-6	Loamy fine sand	SM, SC-SM	A-2-4	0	98-100	95-100	85-100	15-35	<25	NP-7
	6-72	Fine sand, loamy fine sand.	SM, SC-SM	A-2-4, A-4	0	98-100	95-100	80-100	13-45	<25	NP-7
IUA*:											
Iuka------------	0-5	Fine sandy loam	SM, SC-SM, ML, CL-ML	A-4, A-2	0	95-100	90-100	70-100	30-60	<20	NP-7
	5-19	Fine sandy loam, loam, sandy loam, silt loam.	SM, SC-SM, ML, CL-ML	A-4	0	95-100	85-100	65-100	36-75	<30	NP-7
	19-74	Sandy loam, fine sandy loam, loam, silt loam.	SM, ML	A-2, A-4	0	95-100	90-100	70-100	25-60	<30	NP-7
Mantachie-------	0-14	Clay loam--------	CL-ML, CL	A-4, A-6	0	100	100	90-100	70-80	20-40	5-15
	14-60	Loam, clay loam, sandy clay loam.	CL, SC, SC-SM, CL-ML	A-4, A-6	0-5	95-100	90-100	80-95	45-80	20-40	5-15

See footnote at end of table.

TABLE 13.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
KbB*:											
Kirbyville------	0-11	Fine sandy loam	CL-ML, ML, CL, SM	A-4	0	95-100	95-100	85-100	48-78	16-27	NP-8
	11-85	Sandy clay loam, loam.	CL, SC	A-6, A-4, A-7-6	0	75-100	74-100	74-100	48-78	25-42	8-25
Niwana----------	0-22	Fine sandy loam	SM, ML, CL-ML, SC-SM	A-4	0	98-100	95-100	90-100	45-70	16-25	NP-7
	22-63	Loam, fine sandy loam.	CL-ML, CL	A-4	0	98-100	95-100	90-100	55-80	18-30	4-10
	63-80	Sandy clay loam, loam.	SC, CL	A-4, A-6	0	98-100	95-100	90-100	36-80	20-38	7-22
KoB-------------- Kolin	0-11	Silt loam--------	ML, CL-ML	A-4	0	100	100	85-100	60-85	<27	NP-7
	11-40	Silty clay loam, silt loam, clay loam.	CL	A-6, A-7-6	0	100	100	95-100	85-97	30-46	11-22
	40-82	Clay, silty clay	CH	A-7-6	0	100	100	90-100	75-95	50-63	25-35
KoC-------------- Kolin	0-11	Silt loam--------	ML, CL-ML	A-4	0	100	100	85-100	60-85	<27	NP-7
	11-41	Silty clay loam, silt loam, clay loam.	CL	A-6, A-7-6	0	100	100	95-100	85-97	30-46	11-22
	41-85	Clay, silty clay	CH	A-7-6	0	100	100	90-100	75-95	50-63	25-35
MbB-------------- Malbis	0-10	Fine sandy loam	SM, ML	A-4	0	100	97-100	91-97	40-62	<30	NP-5
	10-16	Loam, sandy clay loam, clay loam.	CL-ML, CL	A-4, A-6	0	99-100	95-100	80-100	55-70	21-35	5-11
	16-49	Sandy clay loam, clay loam, loam.	ML, CL	A-4, A-6, A-7	0	98-100	96-100	90-100	56-80	29-49	4-15
	49-76	Sandy clay loam, clay loam, loam.	ML, CL	A-4, A-5, A-6, A-7	0	98-100	96-100	90-100	56-80	30-49	4-15
MbC-------------- Malbis	0-8	Fine sandy loam	SM, ML	A-4	0	100	97-100	91-97	40-62	<30	NP-5
	8-18	Loam, sandy clay loam, clay loam.	CL-ML, CL	A-4, A-6	0	99-100	95-100	80-100	55-70	21-35	5-11
	18-50	Sandy clay loam, clay loam, loam.	ML, CL	A-4, A-6, A-7	0	98-100	96-100	90-100	56-80	29-49	4-15
	50-62	Sandy clay loam, clay loam, loam.	ML, CL	A-4, A-5, A-6, A-7	0	98-100	96-100	90-100	56-80	30-49	4-15
MbD-------------- Malbis	0-11	Fine sandy loam	SM, ML	A-4	0	100	97-100	91-97	40-62	<30	NP-5
	11-17	Loam, sandy clay loam, clay loam.	CL-ML, CL	A-4, A-6	0	99-100	95-100	80-100	55-70	21-35	5-11
	17-45	Sandy clay loam, clay loam, loam.	ML, CL	A-4, A-6, A-7	0	98-100	96-100	90-100	56-80	29-49	4-15
	45-83	Sandy clay loam, clay loam, loam.	ML, CL	A-4, A-5, A-6, A-7	0	98-100	96-100	90-100	56-80	30-49	4-15

See footnote at end of table.

TABLE 13.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification Unified	AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
MuA*:											
Merryville------	0-3	Silt loam--------	ML, CL-ML	A-4	0	100	100	96-100	70-90	<25	NP-6
	3-21	Silt loam, loam, very fine sandy loam.	ML, CL, CL-ML	A-4	0	100	100	96-100	65-85	<30	NP-8
	21-36	Silt loam, very fine sandy loam, loam.	CL-ML, CL	A-6, A-4	0	100	100	96-100	65-85	13-40	5-20
	36-85	Loamy fine sand, very fine sand, sand, fine sandy loam.	SM, ML, SP-SM	A-2, A-4, A-3	0	95-100	95-100	65-100	8-70	<13	NP-3
Bearhead--------	0-4	Very fine sandy loam.	ML, CL-ML	A-4	0	100	100	95-100	55-70	<25	NP-7
	4-18	Fine sandy loam, very fine sandy loam, loam.	CL-ML, ML	A-4	0	100	100	90-100	55-75	<25	NP-7
	18-80	Very fine sandy loam, very fine sand, fine sand.	SM, ML	A-2, A-4	0	100	100	85-95	20-65	<20	NP
OsB-------------- Osier	0-7	Sand-------------	SP-SM	A-2, A-3	0	100	98-100	60-85	5-12	---	NP
	7-20	Sand, loamy sand, loamy fine sand.	SP-SM, SM	A-2, A-3	0	100	95-100	65-96	5-20	---	NP
	20-60	Loamy sand, fine sand.	SM, SP-SM	A-3, A-2-4	0	100	90-100	50-70	15-30	---	NP
Pg*-------------- Pits	---	---	---	---	---	---	---	---	---	---	---
Rh*-------------- Riverwash	0-80	Sand-------------	SW-SM, SP, SP-SM	A-1-A, A-1-B	0-5	80-98	45-90	25-50	4-10	---	NP
RuB-------------- Ruston	0-13	Fine sandy loam	SM, ML, CL-ML	A-4, A-2-4	0	100	85-100	65-85	30-55	<20	NP-7
	13-65	Sandy clay loam, loam, clay loam.	SC, CL	A-6, A-7-6	0	100	85-100	80-95	36-75	25-45	11-20
	65-79	Fine sandy loam, sandy loam, clay loam.	SM, ML, CL-ML, SC-SM	A-4, A-2-4	0	100	85-100	65-85	30-75	<27	NP-7
	79-82	Sandy clay loam, loam, clay loam.	SC, CL	A-6, A-7-6	0	100	85-100	80-95	36-75	25-45	11-20
RuC-------------- Ruston	0-11	Fine sandy loam	SM, ML, CL-ML	A-4, A-2-4	0	100	85-100	65-85	30-55	<20	NP-7
	11-47	Sandy clay loam, loam, clay loam.	SC, CL	A-6, A-7-6	0	100	85-100	80-95	36-75	25-45	11-20
	47-61	Fine sandy loam, sandy loam, clay loam.	SM, ML, CL-ML, SC-SM	A-4, A-2-4	0	100	85-100	65-85	30-75	<27	NP-7
	61-92	Sandy clay loam, loam, clay loam.	SC, CL	A-6, A-7-6	0	100	85-100	80-95	36-75	25-45	11-20

See footnote at end of table.

TABLE 13.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments 3-10 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
RuD-------------- Ruston	0-10	Fine sandy loam	SM, ML, CL-ML	A-4, A-2-4	0	100	85-100	65-85	30-55	<20	NP-7
	10-46	Sandy clay loam, loam, clay loam.	SC, CL	A-6, A-7-6	0	100	85-100	80-95	36-75	25-45	11-20
	46-78	Fine sandy loam, sandy loam, clay loam.	SM, ML, CL-ML, SC-SM	A-4, A-2-4	0	100	85-100	65-85	30-75	<27	NP-7
	78-98	Sandy clay loam, loam, clay loam.	SC, CL	A-6, A-7-6	0	100	85-100	80-95	36-75	25-45	11-20
SpC-------------- Spurger	0-9	Fine sandy loam	SM, ML, CL-ML, SC-SM	A-4	0	95-100	90-100	70-99	36-65	16-25	NP-7
	9-27	Clay, clay loam	CH, CL	A-7-6	0	95-100	95-100	90-100	59-85	41-70	20-40
	27-47	Sandy clay loam, clay loam, loam.	CL, SC, SC-SM, CL-ML	A-4, A-6, A-2-4, A-2-6	0	95-100	90-100	80-100	25-55	20-40	4-20
	47-77	Stratified fine sandy loam to sand.	SC-SM, SM, SP-SM	A-2-4, A-4, A-3	0	95-100	90-100	50-95	5-50	16-25	NP-7
SuB-------------- Sugartown	0-3	Very fine sandy loam.	CL-ML, CL	A-4, A-6	0	100	100	90-100	60-90	15-38	5-22
	3-8	Very fine sandy loam, silt loam, fine sandy loam.	ML, CL-ML, CL, SM	A-4	0	100	100	70-100	40-90	10-28	NP-10
	8-15	Silty clay loam, sandy clay loam, clay loam.	CL, CH	A-7-6	0	100	100	90-100	55-95	41-55	18-29
	15-64	Clay loam, silty clay loam, silty clay.	CH, CL, ML, MH	A-7-6	0	100	100	90-100	75-98	41-60	15-30
	64-69	Clay loam, silty clay loam, silty clay.	CH, CL, ML, MH	A-7-6	0	100	100	90-100	75-98	41-60	15-30
SuC-------------- Sugartown	0-6	Very fine sandy loam.	CL-ML, CL	A-4, A-6	0	100	100	90-100	60-90	15-38	5-22
	6-10	Very fine sandy loam, silt loam, fine sandy loam.	ML, CL-ML, CL, SM	A-4	0	100	100	70-100	40-90	10-28	NP-10
	10-16	Silty clay loam, sandy clay loam, clay loam.	CL, CH	A-7-6	0	100	100	90-100	55-95	41-55	18-29
	16-62	Clay loam, silty clay loam, silty clay.	CH, CL, ML, MH	A-7-6	0	100	100	90-100	75-98	41-60	15-30
	62-80	Clay loam, silty clay loam, silty clay.	CH, CL, ML, MH	A-7-6	0	100	100	90-100	75-98	41-60	15-30

See footnote at end of table.

TABLE 13.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments 3-10 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
SuD-------------- Sugartown	0-6	Very fine sandy loam.	CL-ML, CL	A-4, A-6	0	100	100	90-100	60-90	15-38	5-22
	6-11	Very fine sandy loam, silt loam, fine sandy loam.	ML, CL-ML, CL, SM	A-4	0	100	100	70-100	40-90	10-28	NP-10
	11-19	Silty clay loam, sandy clay loam, clay loam.	CL, CH	A-7-6	0	100	100	90-100	55-95	41-55	18-29
	19-28	Clay loam, silty clay loam, silty clay.	CH, CL, ML, MH	A-7-6	0	100	100	90-100	75-98	41-60	15-30
	28-62	Clay loam, silty clay loam, silty clay.	CH, CL, ML, MH	A-7-6	0	100	100	90-100	75-98	41-60	15-30
URA*:											
Urbo------------	0-5	Silty clay-------	CL, CH	A-7	0	100	100	95-100	80-98	44-62	20-36
	5-90	Silty clay, clay loam, silty clay loam, clay.	CL, CH	A-7	0	100	100	95-100	80-98	44-62	20-36
Mantachie-------	0-3	Fine sandy loam	CL-ML, SC-SM, SM, ML	A-4	0-5	95-100	90-100	60-85	40-60	<20	NP-5
	3-60	Loam, clay loam, sandy clay loam.	CL, SC, SC-SM, CL-ML	A-4, A-6	0-5	95-100	90-100	80-95	45-80	20-40	5-15

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 14.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS

(The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated)

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
AcB: Acadia	0-6	14-27	1.35-1.70	0.6-2.0	0.16-0.23	4.5-6.0	Low	0.49	5	.5-3
	6-11	20-39	1.35-1.70	0.6-2.0	0.16-0.22	4.5-5.5	Moderate	0.32		
	11-64	40-55	1.20-1.60	<0.06	0.15-0.18	4.5-6.0	High	0.32		
	64-82	30-55	1.20-1.70	<0.2	0.15-0.20	4.5-7.8	High	0.32		
AcC: Acadia	0-13	14-27	1.35-1.70	0.6-2.0	0.16-0.23	4.5-6.0	Low	0.49	5	.5-3
	13-17	20-39	1.35-1.70	0.6-2.0	0.16-0.22	4.5-5.5	Moderate	0.32		
	17-45	40-55	1.20-1.60	<0.06	0.15-0.18	4.5-6.0	High	0.32		
	45-62	30-55	1.20-1.70	<0.2	0.15-0.20	4.5-7.8	High	0.32		
BaB*:										
Bearhead	0-15	1-6	1.30-1.50	2.0-6.0	0.11-0.15	4.5-6.5	Low	0.24	5	.5-2
	15-89	6-18	1.30-1.50	0.6-2.0	0.15-0.20	4.5-6.5	Low	0.32		
	89-98	3-10	1.30-1.50	0.6-6.0	0.05-0.15	4.5-6.5	Low	0.43		
Merryville	0-9	3-8	1.30-1.60	0.2-0.6	0.13-0.20	3.6-6.0	Low	0.37	5	.5-2
	9-35	4-14	1.50-1.69	0.2-0.6	0.12-0.17	3.6-6.0	Low	0.32		
	35-55	10-18	1.50-1.69	0.06-0.2	0.13-0.17	3.6-6.0	Low	0.32		
	55-99	3-10	1.50-1.65	2.0-6.0	0.06-0.17	3.6-6.0	Low	0.32		
BdB: Beauregard	0-9	5-15	1.35-1.65	0.6-2.0	0.20-0.22	4.5-6.5	Low	0.49	5	.5-5
	9-16	18-32	1.35-1.70	0.2-0.6	0.20-0.22	4.5-6.0	Low	0.37		
	16-75	15-32	1.35-1.70	0.06-0.2	0.20-0.22	4.5-6.0	Low	0.37		
	75-90	15-45	1.20-1.70	0.06-0.2	0.18-0.22	4.5-6.0	Moderate	0.37		
BdC: Beauregard	0-10	5-15	1.35-1.65	0.6-2.0	0.20-0.22	4.5-6.5	Low	0.49	5	.5-5
	10-22	18-32	1.35-1.70	0.2-0.6	0.20-0.22	4.5-6.0	Low	0.37		
	22-40	15-32	1.35-1.70	0.06-0.2	0.20-0.22	4.5-6.0	Low	0.37		
	40-60	15-45	1.20-1.70	0.06-0.2	0.18-0.22	4.5-6.0	Moderate	0.37		
BkC: Betis	0-29	2-10	1.20-1.50	6.0-20	0.05-0.10	4.5-6.0	Low	0.17	5	.5-2
	29-80	2-10	1.20-1.50	6.0-20	0.05-0.10	4.5-6.0	Low	0.17		
	80-99	5-15	1.20-1.50	6.0-20	0.08-0.11	4.5-6.0	Low	0.17		
BkD: Betis	0-36	2-10	1.20-1.50	6.0-20	0.05-0.10	4.5-6.0	Low	0.17	5	.5-2
	36-60	2-10	1.20-1.50	6.0-20	0.05-0.10	4.5-6.0	Low	0.17		
	60-99	5-15	1.20-1.50	6.0-20	0.08-0.11	4.5-6.0	Low	0.17		
BmC: Bienville	0-10	4-15	1.35-1.65	6.0-20	0.07-0.11	4.5-6.5	Low	0.20	5	<2
	10-36	2-15	1.35-1.60	2.0-6.0	0.08-0.11	4.5-6.5	Low	0.20		
	36-74	5-20	1.35-1.70	2.0-6.0	0.08-0.13	4.5-6.0	Low	0.20		
BnB*:										
Bienville	0-7	4-15	1.35-1.65	6.0-20	0.07-0.11	4.5-6.5	Low	0.20	5	<2
	7-25	2-15	1.35-1.60	2.0-6.0	0.08-0.11	4.5-6.5	Low	0.20		
	25-66	5-20	1.35-1.70	2.0-6.0	0.08-0.13	4.5-6.0	Low	0.20		
Guyton	0-26	7-25	1.35-1.65	0.6-2.0	0.20-0.23	3.6-6.0	Low	0.43	5	.5-4
	26-41	20-35	1.35-1.70	0.06-0.2	0.15-0.22	3.6-6.0	Low	0.37		
	41-62	20-35	1.35-1.70	0.06-0.2	0.15-0.22	3.6-8.4	Low	0.37		
BpB: Blevins	0-5	3-20	1.35-1.60	0.6-2.0	0.13-0.24	4.5-6.0	Low	0.37	5	1-3
	5-10	3-20	1.35-1.60	0.6-2.0	0.11-0.24	4.5-6.0	Low	0.37		
	10-50	18-30	1.35-1.60	0.6-2.0	0.15-0.24	4.5-6.0	Low	0.37		
	50-59	10-25	1.35-1.60	0.6-2.0	0.13-0.24	4.5-6.0	Low	0.37		
	59-72	10-35	1.35-1.60	0.6-2.0	0.13-0.24	4.5-6.0	Low	0.37		

See footnote at end of table.

TABLE 14.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
BpC--------------	0-6	3-20	1.35-1.60	0.6-2.0	0.13-0.24	4.5-6.0	Low----------	0.37	5	1-3
Blevins	6-12	3-20	1.35-1.60	0.6-2.0	0.11-0.24	4.5-6.0	Low----------	0.37		
	12-50	18-30	1.35-1.60	0.6-2.0	0.15-0.24	4.5-6.0	Low----------	0.37		
	50-69	10-25	1.35-1.60	0.6-2.0	0.13-0.24	4.5-6.0	Low----------	0.37		
	69-95	10-35	1.35-1.60	0.6-2.0	0.13-0.24	4.5-6.0	Low----------	0.37		
BpD--------------	0-5	3-20	1.35-1.60	0.6-2.0	0.13-0.24	4.5-6.0	Low----------	0.37	5	1-3
Blevins	5-11	3-20	1.35-1.60	0.6-2.0	0.11-0.24	4.5-6.0	Low----------	0.37		
	11-46	18-30	1.35-1.60	0.6-2.0	0.15-0.24	4.5-6.0	Low----------	0.37		
	46-70	10-25	1.35-1.60	0.6-2.0	0.13-0.24	4.5-6.0	Low----------	0.37		
	70-85	10-35	1.35-1.60	0.6-2.0	0.13-0.24	4.5-6.0	Low----------	0.37		
ByC--------------	0-7	3-10	1.40-1.60	6.0-20	0.05-0.09	4.5-6.5	Low----------	0.20	5	.5-2
Boykin	7-24	3-10	1.40-1.60	6.0-20	0.05-0.09	4.5-6.5	Low----------	0.20		
	24-70	18-30	1.45-1.70	0.6-2.0	0.10-0.16	4.5-6.0	Low----------	0.28		
ByD--------------	0-9	3-10	1.40-1.60	6.0-20	0.05-0.09	4.5-6.5	Low----------	0.20	5	.5-2
Boykin	9-21	3-10	1.40-1.60	6.0-20	0.05-0.09	4.5-6.5	Low----------	0.20		
	21-76	18-30	1.45-1.70	0.6-2.0	0.10-0.16	4.5-6.0	Low----------	0.28		
BzA--------------	0-16	5-14	1.35-1.65	0.6-2.0	0.13-0.20	5.1-9.0	Low----------	0.49	3	.5-2
Brimstone	16-45	17-32	1.35-1.70	0.06-0.2	0.10-0.16	5.6-9.0	Moderate-----	0.43		
	45-90	20-35	1.35-1.70	0.06-0.2	0.10-0.16	6.6-9.0	Moderate-----	0.43		
CdA*:										
Caddo-----------	0-30	14-27	1.35-1.70	0.6-2.0	0.18-0.23	4.5-6.0	Low----------	0.49	5	.5-2
	30-87	18-35	1.35-1.70	0.06-0.2	0.20-0.22	4.5-6.0	Low----------	0.37		
Messer----------	0-8	10-15	1.35-1.65	0.6-2.0	0.15-0.21	4.5-6.0	Low----------	0.49	5	.5-2
	8-17	10-18	1.35-1.70	0.2-0.6	0.20-0.22	4.5-6.0	Low----------	0.43		
	17-78	20-30	1.35-1.70	0.06-0.2	0.15-0.20	4.5-6.0	Low----------	0.37		
	78-99	30-60	1.20-1.65	0.06-0.2	0.12-0.20	4.5-6.0	High---------	0.32		
ChB--------------	0-7	7-17	1.35-1.60	2.0-6.0	0.10-0.14	4.5-6.0	Low----------	0.24	5	.5-2
Cahaba	7-58	18-35	1.35-1.60	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.28		
	58-89	4-20	1.40-1.70	2.0-20	0.05-0.10	4.5-6.0	Low----------	0.24		
CYA--------------	0-2	27-40	1.40-1.70	<0.06	0.15-0.20	3.5-5.0	Moderate-----	0.32	1	2-5
Cypress	2-60	35-60	1.10-1.50	<0.06	0.12-0.20	3.5-5.0	Moderate-----	0.32		
DoC--------------	0-4	3-10	1.45-1.60	6.0-20	0.05-0.09	4.5-6.0	Low----------	0.20	5	.5-2
Doucette	4-26	3-10	1.50-1.65	6.0-20	0.05-0.09	4.5-6.0	Low----------	0.20		
	26-67	20-35	1.35-1.55	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.24		
DoD--------------	0-10	3-10	1.45-1.60	6.0-20	0.05-0.09	4.5-6.0	Low----------	0.20	5	.5-2
Doucette	10-30	3-10	1.50-1.65	6.0-20	0.05-0.09	4.5-6.0	Low----------	0.20		
	30-80	20-35	1.35-1.55	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.24		
DuC--------------	0-10	3-20	1.30-1.60	0.6-2.0	0.10-0.15	5.5-6.5	Low----------	0.24	5	.5-3
Dubach	10-45	18-33	1.30-1.70	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.28		
	45-70	20-35	1.40-1.60	0.6-2.0	0.12-0.17	4.5-5.5	Low----------	0.28		
DxB*:										
Dubach----------	0-11	3-20	1.30-1.60	0.6-2.0	0.10-0.15	5.5-6.5	Low----------	0.24	5	.5-3
	11-34	18-33	1.30-1.70	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.28		
	34-72	20-35	1.45-1.70	0.2-0.6	0.06-0.12	4.5-5.5	Low----------	0.28		
Bearhead--------	0-4	1-6	1.30-1.50	2.0-6.0	0.11-0.15	4.5-6.5	Low----------	0.24	5	.5-2
	4-28	6-18	1.30-1.50	0.6-2.0	0.15-0.20	4.5-6.5	Low----------	0.32		
	28-80	3-10	1.30-1.50	0.6-6.0	0.05-0.15	4.5-6.5	Low----------	0.43		

See footnote at end of table.

TABLE 14.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
GnB-------------- Glenmora	0-8	8-22	1.35-1.65	0.6-2.0	0.20-0.23	4.5-6.0	Low-----------	0.49	5	.5-3
	8-26	18-35	1.35-1.65	0.6-2.0	0.18-0.20	4.5-6.0	Low-----------	0.43		
	26-54	27-35	1.35-1.70	0.06-0.2	0.18-0.20	4.5-6.0	Moderate-----	0.43		
	54-80	35-40	1.35-1.60	0.06-0.2	0.08-0.19	4.5-6.0	Moderate-----	0.43		
GrC-------------- Gore	0-3	5-15	1.35-1.60	0.6-2.0	0.18-0.22	4.5-6.0	Low-----------	0.49	5	.5-4
	3-46	38-60	1.20-1.65	<0.06	0.08-0.14	3.6-7.3	High----------	0.32		
	46-68	40-80	1.20-1.65	<0.06	0.08-0.14	3.6-8.4	High----------	0.32		
GRE-------------- Gore	0-5	5-15	1.35-1.60	0.6-2.0	0.18-0.22	4.5-6.0	Low-----------	0.49	5	.5-4
	5-50	38-60	1.20-1.65	<0.06	0.08-0.14	3.6-7.3	High----------	0.32		
	50-60	40-80	1.20-1.65	<0.06	0.08-0.14	3.6-8.4	High----------	0.32		
GRF-------------- Gore	0-6	5-15	1.35-1.60	0.6-2.0	0.18-0.22	4.5-6.0	Low-----------	0.49	5	.5-4
	6-43	40-60	1.20-1.65	<0.06	0.08-0.14	4.5-9.0	High----------	0.32		
	43-96	40-80	1.20-1.65	<0.06	0.08-0.14	4.5-9.0	High----------	0.32		
GtA-------------- Guyton	0-30	7-25	1.35-1.65	0.6-2.0	0.20-0.23	3.6-6.0	Low-----------	0.43	5	.5-4
	30-42	20-35	1.35-1.70	0.06-0.2	0.15-0.22	3.6-6.0	Low-----------	0.37		
	42-74	20-35	1.35-1.70	0.06-0.2	0.15-0.22	3.6-8.4	Low-----------	0.37		
GwA*:										
Guyton----------	0-36	7-25	1.35-1.65	0.6-2.0	0.20-0.23	3.6-6.0	Low-----------	0.43	5	.5-4
	36-48	20-35	1.35-1.70	0.06-0.2	0.15-0.22	3.6-6.0	Low-----------	0.37		
	48-62	20-35	1.35-1.70	0.06-0.2	0.15-0.22	3.6-8.4	Low-----------	0.37		
Messer----------	0-11	10-15	1.35-1.65	0.6-2.0	0.15-0.21	4.5-6.0	Low-----------	0.49	5	.5-2
	11-26	10-18	1.35-1.70	0.2-0.6	0.20-0.22	4.5-6.0	Low-----------	0.43		
	26-62	20-30	1.35-1.70	0.06-0.2	0.15-0.20	4.5-6.0	Low-----------	0.37		
GXA*:										
Guyton----------	0-27	7-25	1.35-1.65	0.6-2.0	0.20-0.23	3.6-6.0	Low-----------	0.43	5	.5-4
	27-34	20-35	1.35-1.70	0.06-0.2	0.15-0.22	3.6-6.0	Low-----------	0.37		
	34-60	20-35	1.35-1.70	0.06-0.2	0.15-0.22	3.6-8.4	Low-----------	0.37		
Iuka------------	0-8	6-15	---	2.0-6.0	0.10-0.15	5.1-6.0	Low-----------	0.24	5	.5-2
	8-16	8-18	---	0.6-2.0	0.10-0.20	4.5-5.5	Low-----------	0.28		
	16-60	5-15	---	0.6-2.0	0.10-0.20	4.5-5.5	Low-----------	0.20		
GYA*:										
Guyton----------	0-18	7-25	1.35-1.65	0.6-2.0	0.20-0.23	3.6-6.0	Low-----------	0.43	5	.5-4
	18-24	20-35	1.35-1.70	0.06-0.2	0.15-0.22	3.6-6.0	Low-----------	0.37		
	24-92	20-35	1.35-1.70	0.06-0.2	0.15-0.22	3.6-8.4	Low-----------	0.37		
Ouachita--------	0-3	8-25	1.35-1.60	0.6-2.0	0.15-0.22	4.5-6.0	Low-----------	0.37	5	1-5
	3-14	8-25	1.35-1.60	0.6-2.0	0.15-0.22	4.5-6.0	Low-----------	0.37		
	14-72	18-35	1.35-1.60	0.2-0.6	0.15-0.22	4.5-5.5	Low-----------	0.32		
HaB-------------- Hainesville	0-6	3-8	1.50-1.70	6.0-20	0.05-0.10	5.0-6.5	Low-----------	0.20	5	.5-2
	6-72	2-10	1.50-1.70	6.0-20	0.04-0.10	4.5-6.5	Low-----------	0.20		
IUA*:										
Iuka------------	0-5	6-15	---	2.0-6.0	0.10-0.15	4.5-5.5	Low-----------	0.24	5	.5-2
	5-19	8-18	---	0.6-2.0	0.10-0.20	4.5-5.5	Low-----------	0.28		
	19-74	5-15	---	0.6-2.0	0.10-0.20	4.5-5.5	Low-----------	0.20		
Mantachie-------	0-14	28-32	1.50-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low-----------	0.28	5	1-3
	14-60	18-34	1.50-1.60	0.6-2.0	0.14-0.20	4.5-5.5	Low-----------	0.28		

See footnote at end of table.

TABLE 14.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
KbB*:										
Kirbyville------	0-11	5-15	1.50-1.70	2.0-6.0	0.11-0.15	4.5-6.0	Low----------	0.32	5	.5-1
	11-85	18-30	1.50-1.70	0.6-2.0	0.15-0.20	4.5-5.5	Low----------	0.28		
Niwana----------	0-22	5-12	1.20-1.40	2.0-6.0	0.11-0.15	5.1-6.0	Low----------	0.24	5	.5-1
	22-63	8-15	1.40-1.60	0.6-2.0	0.15-0.20	4.5-5.5	Low----------	0.32		
	63-80	18-35	1.40-1.60	0.6-2.0	0.15-0.20	4.5-5.5	Low----------	0.32		
KoB------------- Kolin	0-11	10-27	1.35-1.65	0.6-2.0	0.18-0.22	4.5-6.5	Low----------	0.49	5	.5-4
	11-40	20-35	1.35-1.65	0.2-0.6	0.18-0.22	4.5-6.0	Moderate-----	0.37		
	40-82	40-55	1.20-1.50	<0.06	0.15-0.18	4.5-6.5	High---------	0.32		
KoC------------- Kolin	0-11	10-27	1.35-1.65	0.6-2.0	0.18-0.22	4.5-6.5	Low----------	0.49	5	.5-4
	11-41	20-35	1.35-1.65	0.2-0.6	0.18-0.22	4.5-6.0	Moderate-----	0.37		
	41-85	40-55	1.20-1.50	<0.06	0.15-0.18	4.5-6.5	High---------	0.32		
MbB------------- Malbis	0-10	10-25	1.30-1.60	0.6-2.0	0.10-0.15	4.5-6.0	Low----------	0.24	5	.5-1
	10-16	18-33	1.30-1.70	0.6-2.0	0.12-0.20	4.5-5.5	Low----------	0.28		
	16-49	20-35	1.40-1.60	0.6-2.0	0.12-0.17	4.5-5.5	Low----------	0.28		
	49-76	20-35	1.45-1.70	0.2-0.6	0.06-0.12	4.5-5.5	Low----------	0.28		
MbC------------- Malbis	0-8	10-25	1.30-1.60	0.6-2.0	0.10-0.15	4.5-6.0	Low----------	0.24	5	.5-3
	8-18	18-33	1.30-1.70	0.6-2.0	0.12-0.20	4.5-5.5	Low----------	0.28		
	18-50	20-35	1.40-1.60	0.6-2.0	0.12-0.17	4.5-5.5	Low----------	0.28		
	50-62	20-35	1.45-1.70	0.2-0.6	0.06-0.12	4.5-5.5	Low----------	0.28		
MbD------------- Malbis	0-11	10-25	1.30-1.60	0.6-2.0	0.10-0.15	4.5-6.0	Low----------	0.24	5	.5-3
	11-17	18-33	1.30-1.70	0.6-2.0	0.12-0.20	4.5-5.5	Low----------	0.28		
	17-45	20-35	1.40-1.60	0.6-2.0	0.12-0.17	4.5-5.5	Low----------	0.28		
	45-83	20-35	1.45-1.70	0.2-0.6	0.06-0.12	4.5-5.5	Low----------	0.28		
MuA*:										
Merryville------	0-3	3-8	1.30-1.60	0.2-0.6	0.13-0.20	3.6-6.0	Low----------	0.37	5	.5-3
	3-21	4-14	1.50-1.69	0.2-0.6	0.12-0.17	3.6-6.0	Low----------	0.32		
	21-36	10-18	1.50-1.69	0.06-0.2	0.13-0.17	3.6-6.0	Low----------	0.32		
	36-85	3-10	1.50-1.65	2.0-6.0	0.06-0.17	3.6-6.0	Low----------	0.32		
Bearhead--------	0-4	1-6	1.30-1.50	2.0-6.0	0.11-0.15	4.5-6.5	Low----------	0.24	5	.5-2
	4-18	6-18	1.30-1.50	0.6-2.0	0.15-0.20	4.5-6.5	Low----------	0.32		
	18-80	3-10	1.30-1.50	0.6-6.0	0.05-0.15	4.5-6.5	Low----------	0.43		
OsB------------- Osier	0-7	1-10	1.35-1.60	6.0-20	0.03-0.10	3.6-6.0	Low----------	0.10	5	2-5
	7-20	1-10	1.40-1.60	6.0-20	0.03-0.10	3.6-6.0	Low----------	0.10		
	20-60	2-5	1.40-1.60	>20	0.02-0.05	3.6-6.0	Low----------	0.05		
Pg*------------- Pits	---	---	---	---	---	---	-------------	----	---	---
Rh*------------- Riverwash	0-80	2-5	1.50-1.60	2.0-20	0.02-0.05	6.6-7.8	Low----------	0.10	5	<.5
RuB------------- Ruston	0-13	2-20	1.30-1.70	0.6-2.0	0.09-0.16	4.5-6.5	Low----------	0.28	5	.5-3
	13-65	18-35	1.40-1.70	0.6-2.0	0.12-0.17	4.5-6.5	Low----------	0.28		
	65-79	10-20	1.30-1.70	0.6-2.0	0.12-0.15	4.5-6.5	Low----------	0.28		
	79-82	15-38	1.40-1.70	0.6-2.0	0.12-0.17	4.5-6.5	Low----------	0.28		
RuC------------- Ruston	0-11	2-20	1.30-1.70	0.6-2.0	0.09-0.16	4.5-6.5	Low----------	0.28	5	.5-3
	11-47	18-35	1.40-1.70	0.6-2.0	0.12-0.17	4.5-6.5	Low----------	0.28		
	47-61	10-20	1.30-1.70	0.6-2.0	0.12-0.15	4.5-6.5	Low----------	0.28		
	61-92	15-38	1.40-1.70	0.6-2.0	0.12-0.17	4.5-6.5	Low----------	0.28		

See footnote at end of table.

TABLE 14.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
RuD-------------- Ruston	0-10	2-20	1.30-1.70	0.6-2.0	0.09-0.16	4.5-6.5	Low----------	0.28	5	.5-3
	10-46	18-35	1.40-1.70	0.6-2.0	0.12-0.17	4.5-6.5	Low----------	0.28		
	46-78	10-20	1.30-1.70	0.6-2.0	0.12-0.15	4.5-6.5	Low----------	0.28		
	78-98	15-38	1.40-1.70	0.6-2.0	0.12-0.17	4.5-6.5	Low----------	0.28		
SpC-------------- Spurger	0-9	6-15	1.20-1.35	0.6-2.0	0.11-0.17	4.5-7.3	Low----------	0.37	5	.5-3
	9-27	35-60	1.20-1.50	0.06-0.2	0.12-0.18	4.5-6.0	Moderate-----	0.32		
	27-47	18-35	1.20-1.50	0.2-0.6	0.12-0.17	4.5-6.0	Low----------	0.32		
	47-77	2-20	1.20-1.50	0.6-6.0	0.05-0.15	4.5-6.5	Low----------	0.32		
SuB-------------- Sugartown	0-3	4-18	1.35-1.65	0.6-2.0	0.18-0.24	4.5-6.5	Low----------	0.49	5	.1-4
	3-8	4-18	1.35-1.65	0.6-2.0	0.10-0.15	4.5-6.5	Low----------	0.32		
	8-15	27-40	1.35-1.55	0.2-0.6	0.16-0.22	4.5-6.5	Moderate-----	0.32		
	15-64	35-60	1.20-1.60	0.06-0.2	0.16-0.22	4.5-6.5	High---------	0.32		
	64-69	35-60	1.20-1.60	0.06-0.2	0.16-0.22	3.6-6.5	High---------	0.32		
SuC-------------- Sugartown	0-6	4-18	1.35-1.65	0.6-2.0	0.18-0.24	4.5-6.5	Low----------	0.49	5	.1-4
	6-10	4-18	1.35-1.65	0.6-2.0	0.10-0.15	4.5-6.5	Low----------	0.32		
	10-16	27-40	1.35-1.55	0.2-0.6	0.16-0.22	4.5-6.5	Moderate-----	0.32		
	16-62	35-60	1.20-1.60	0.06-0.2	0.16-0.22	4.5-6.5	High---------	0.32		
	62-80	35-60	1.20-1.60	0.06-0.2	0.16-0.22	3.6-6.5	High---------	0.32		
SuD-------------- Sugartown	0-6	4-18	1.35-1.65	0.6-2.0	0.18-0.24	4.5-6.5	Low----------	0.49	5	.1-4
	6-11	4-18	1.35-1.65	0.6-2.0	0.10-0.15	4.5-6.5	Low----------	0.32		
	11-19	27-40	1.35-1.55	0.2-0.6	0.16-0.22	4.5-6.5	Moderate-----	0.32		
	19-28	35-60	1.20-1.60	0.06-0.2	0.16-0.22	4.5-6.5	High---------	0.32		
	28-62	35-60	1.20-1.60	0.06-0.2	0.16-0.22	3.6-6.5	High---------	0.32		
URA*:										
Urbo------------	0-5	28-55	1.45-1.55	0.06-0.2	0.18-0.20	4.5-5.5	Moderate-----	0.28	5	1-3
	5-90	35-55	1.45-1.55	<0.06	0.18-0.20	4.5-5.5	Moderate-----	0.28		
Mantachie-------	0-3	8-20	1.50-1.60	0.6-2.0	0.16-0.20	4.5-5.5	Low----------	0.28	5	1-3
	3-60	18-34	1.50-1.60	0.6-2.0	0.14-0.20	4.5-5.5	Low----------	0.28		

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 15.--SOIL AND WATER FEATURES

("Flooding" and "water table" and terms such as "rare," "brief," "apparent," and "perched" are explained in the text. The symbol < means less than; > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Soil name and map symbol	Hydrologic group	Flooding			High water table			Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Uncoated steel	Concrete
					Ft				
AcB, AcC Acadia	D	None	---	---	0.5-1.5	Perched	Dec-Apr	High	High.
BaB*:									
Bearhead	B	None	---	---	4.0-6.0	Apparent	Jan-Feb	Low	Moderate.
Merryville	D	Rare	---	---	0-1.5	Apparent	Dec-Apr	Moderate	High.
BdB, BdC Beauregard	C	None	---	---	1.5-3.0	Apparent	Dec-Mar	High	High.
BkC, BkD Betis	A	None	---	---	>6.0	---	---	Low	Moderate.
BmC Bienville	A	Rare	---	---	4.0-6.0	Apparent	Dec-Apr	Low	High.
BnB*:									
Bienville	A	Rare	---	---	4.0-6.0	Apparent	Dec-Apr	Low	High.
Guyton	D	Occasional	Brief	Jan-Dec	0-1.5	Perched	Dec-May	High	High.
BpB, BpC, BpD Blevins	B	None	---	---	>6.0	---	---	Moderate	Moderate.
ByC, ByD Boykin	B	None	---	---	>6.0	---	---	Moderate	High.
BzA Brimstone	D	Rare	---	---	0-1.5	Perched	Dec-Apr	High	Low.
CdA*:									
Caddo	D	None	---	---	0-2.0	Apparent	Dec-Apr	High	Moderate.
Messer	C	None	---	---	2.0-4.0	Perched	Dec-May	High	Moderate.
ChB Cahaba	B	None	---	---	>6.0	---	---	Moderate	Moderate.
CYA Cypress	D	Frequent	Very long	Jan-Dec	+4-1.0	Apparent	Jan-Dec	Moderate	High.
DoC, DoD Doucette	B	None	---	---	>6.0	---	---	Moderate	High.
DuC Dubach	B	None	---	---	3.5-5.0	Perched	Dec-Mar	Moderate	Moderate.
DxB*:									
Dubach	B	None	---	---	3.5-5.0	Perched	Dec-Mar	Moderate	Moderate.
Bearhead	B	None	---	---	4.0-6.0	Apparent	Jan-Feb	Low	Moderate.
GnB Glenmora	C	None	---	---	2.0-3.0	Apparent	Dec-Apr	High	Moderate.

See footnote at end of table.

TABLE 15.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Uncoated steel	Concrete
					Ft				
GrC, GRE, GRF----- Gore	D	None--------	---	---	>6.0	---	---	High-----	Low.
GtA--------------- Guyton	D	Occasional	Very brief to long.	Jan-Dec	0-1.5	Perched	Dec-May	High-----	High.
GwA*:									
Guyton-----------	D	Rare--------	---	---	0-1.5	Perched	Dec-May	High-----	High.
Messer-----------	C	None--------	---	---	2.0-4.0	Perched	Dec-May	High-----	Moderate.
GXA*:									
Guyton-----------	D	Frequent----	Very brief to long.	Jan-Dec	0-1.5	Perched	Dec-May	High-----	High.
Iuka-------------	C	Frequent----	Very brief to brief.	Dec-Apr	1.0-3.0	Apparent	Dec-Apr	Moderate	High.
GYA*:									
Guyton-----------	D	Frequent----	Very brief to long.	Jan-Dec	0-1.5	Perched	Dec-May	High-----	High.
Ouachita---------	C	Frequent----	Very brief to long.	Dec-May	>6.0	---	---	Moderate	Moderate.
HaB--------------- Hainesville	A	Rare--------	---	---	>6.0	---	---	Low------	Moderate.
IUA*:									
Iuka-------------	C	Frequent----	Very brief to brief.	Dec-Apr	1.0-3.0	Apparent	Dec-Apr	Moderate	High.
Mantachie--------	C	Frequent----	Brief to long.	Jan-Mar	1.0-1.5	Apparent	Dec-Mar	High-----	High.
KbB*:									
Kirbyville-------	B	None--------	---	---	1.5-2.5	Perched	Jan-Mar	High-----	Moderate.
Niwana-----------	B	None--------	---	---	4.0-6.0	Apparent	Jan-Mar	Moderate	High.
KoB, KoC---------- Kolin	C	None--------	---	---	1.5-3.0	Perched	Dec-Apr	High-----	Moderate.
MbB, MbC, MbD----- Malbis	B	None--------	---	---	2.5-4.0	Perched	Dec-Mar	Moderate	Moderate.
MuA*:									
Merryville-------	D	Rare--------	---	---	0-1.5	Apparent	Dec-Apr	Moderate	High.
Bearhead---------	B	None--------	---	---	4.0-6.0	Apparent	Jan-Feb	Low------	Moderate.
OsB--------------- Osier	A/D	None--------	---	---	0-0.5	Apparent	Nov-Mar	High-----	High.
Pg*--------------- Pits	-	------------	---	---	---	---	---	---	---
Rh*--------------- Riverwash	A	Frequent----	Brief to long.	Jan-Dec	0.5-6.0	Apparent	Nov-Apr	High-----	Low.

See footnote at end of table.

TABLE 15.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Uncoated steel	Concrete
					Ft				
RuB, RuC, RuD----- Ruston	B	None--------	---	---	>6.0	---	---	Moderate	Moderate.
SpC--------------- Spurger	C	None--------	---	---	5.0-6.0	Apparent	Dec-Feb	High-----	High.
SuB, SuC, SuD----- Sugartown	D	None--------	---	---	3.0-5.0	Apparent	Dec-Apr	High-----	Moderate.
URA*:									
Urbo-------------	D	Frequent----	Brief to long.	Jan-Mar	1.0-2.0	Apparent	Jan-Mar	High-----	High.
Mantachie--------	C	Frequent----	Brief to long.	Jan-Mar	1.0-1.5	Apparent	Dec-Mar	High-----	High.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 16.--FERTILITY TEST DATA FOR SELECTED SOILS

(Analyses by the Soil Fertility Laboratory, Louisiana Agricultural Experiment Station. Dashes indicate analyses not made)

Soil name and sample number	Depth	Horizon	pH 1:1 H_2O	Organic carbon	Extract-able P	Exchangeable cations: Ca	Mg	K	Na	Al	H	Total acidity	Effective cation-exchange capacity	Cation-exchange capacity (sum)	Base saturation (sum)	Saturation: Effective cation-exchange capacity Al	Saturation: Sum of cation-exchange capacity Na	Ca/Mg
	In			Pct	Ppm	Milliequivalents/100 grams of soil									Pct	Pct	Pct	
Acadia silt loam[1]:	0-4	A	4.5	0.91	5	0.3	0.2	0.0	0.0	2.6	2.4	8.1	5.5	8.6	5.8	47.3	0.0	1.5
(S90LA-011-4)	4-6	E	4.8	0.58	6	0.6	0.3	0.0	0.0	1.6	2.0	8.1	4.5	9.0	10.0	35.6	0.0	2.0
	6-11	BE	4.7	0.35	7	1.0	0.9	0.1	0.1	3.6	1.4	8.9	7.1	11.0	19.1	50.7	0.9	1.1
	11-20	Bt	4.9	0.15	6	0.9	1.5	0.1	0.1	6.0	1.4	15.5	10.0	18.1	14.4	60.0	0.6	0.6
	20-45	Btg	5.6	0.04	8	1.9	3.3	0.2	0.5	7.6	0.0	16.3	13.5	22.2	26.6	56.3	2.3	0.6
	45-64	BCg	5.6	0.01	11	4.9	7.3	0.3	1.1	5.6	0.4	14.1	19.6	27.7	49.1	28.6	4.0	0.7
	64-82	C	5.4	0.00	13	9.1	12.2	0.5	1.9	4.0	1.0	13.1	28.7	36.8	64.4	13.9	5.2	0.7
Bearhead very fine sandy loam[2]:	0-4	A	5.3	1.17	6	0.4	0.1	0.0	0.0	0.0	1.0	3.7	1.5	4.2	11.9	0.0	0.0	4.0
(S91LA-011-9)	4-13	E1	5.5	0.42	4	0.4	0.1	0.0	0.0	0.0	0.6	2.2	1.1	2.7	18.5	0.0	0.0	4.0
	13-28	E2	5.4	0.15	4	0.5	0.2	0.0	0.0	0.0	0.6	2.2	1.3	2.9	24.1	0.0	0.0	2.5
	28-49	Bt	5.2	0.01	6	0.8	0.6	0.0	0.0	0.2	1.2	3.7	2.8	5.1	27.5	7.1	0.0	1.3
	49-73	B/E1	5.1	0.00	5	0.2	0.2	0.0	0.1	1.8	1.0	5.9	3.3	6.4	7.8	54.5	1.6	1.0
	73-81	B/E2	5.1	0.00	4	0.2	0.3	0.0	0.1	2.6	0.4	5.7	3.8	6.3	9.5	73.7	1.6	0.7
Bienville loamy fine sand[1]:	0-10	Ap	5.6	0.60	6	0.7	0.1	0.1	0.0	0.0	0.4	3.0	1.3	3.9	23.1	0.0	0.0	7.0
(S91LA-011-8)	10-36	E	5.9	0.11	6	0.6	0.2	0.1	0.0	0.0	0.4	1.5	1.3	2.4	37.5	0.0	0.0	3.0
	36-50	Bt/E	5.5	0.16	9	0.8	0.2	0.1	0.0	0.0	0.6	2.2	1.7	3.3	33.3	0.0	0.0	4.0
	50-56	Bt1	5.5	0.01	14	0.6	0.7	0.1	0.0	0.0	0.6	2.2	2.0	3.6	38.9	0.0	0.0	0.9
	56-74	Bt2	5.4	0.05	13	0.4	1.0	0.1	0.0	0.0	0.6	3.0	2.1	4.5	33.3	0.0	0.0	0.4
Bienville loamy fine sand[3]:	0-9	Ap	5.5	0.65	14	0.6	0.1	0.1	0.0	0.0	0.6	3.0	1.4	3.8	21.1	0.0	0.0	6.0
(S90LA-011-5)	9-20	E	5.8	0.14	6	0.6	0.1	0.0	0.0	0.0	0.6	2.8	1.3	3.5	20.0	0.0	0.0	6.0
	20-35	B/E	5.3	0.01	9	0.4	0.1	0.0	0.0	0.0	0.8	4.4	1.3	4.9	10.2	0.0	0.0	4.0
	35-75	Bt	5.4	0.03	10	0.5	0.2	0.0	0.0	0.0	0.4	3.0	1.1	3.7	18.9	0.0	0.0	2.5
Blevins very fine sandy loam[4]:	0-6	A	5.3	1.49	6	0.4	0.2	0.0	0.0	0.6	0.2	5.2	1.4	5.8	10.3	42.9	0.0	2.0
(S91LA-011-18)	6-12	E	5.5	0.43	4	0.4	0.1	0.0	0.0	0.2	0.4	3.7	1.1	4.2	11.9	18.2	0.0	4.0
	12-24	Bt1	5.4	0.23	9	1.8	1.3	0.0	0.1	0.0	1.2	6.6	4.4	9.8	32.7	0.0	1.0	1.4
	24-41	Bt2	5.3	0.02	8	0.5	0.6	0.0	0.1	1.0	2.0	6.7	4.2	7.9	15.2	23.8	1.3	0.8
	41-51	Bt3	5.2	0.09	8	0.5	0.9	0.0	0.1	1.6	1.6	5.9	4.7	7.4	20.3	34.0	1.4	0.6
	51-70	B/E	5.2	0.03	7	0.9	1.5	0.0	0.1	2.0	1.4	7.3	5.9	9.8	25.5	33.9	1.0	0.6
	70-96	B/C	5.1	0.02	8	1.3	1.9	0.1	0.1	4.2	0.4	8.1	8.0	11.5	29.6	52.5	0.9	0.7

See footnote at end of table.

TABLE 16.--FERTILITY TEST DATA FOR SELECTED SOILS--Continued

Soil name and sample number	Depth	Horizon	pH 1:1 H_2O	Organic carbon	Extractable P	Exchangeable cations Ca	Mg	K	Na	Al	H	Total acidity	Effective cation-exchange capacity	Cation-exchange capacity (sum)	Base saturation (sum)	Saturation: Effective cation-exchange capacity Al	Saturation: Sum of cation-exchange capacity Na	Ca/Mg
	In			Pct	Ppm	----------Milliequivalents/100 grams of soil----------									Pct	Pct	Pct	
Blevins very fine sandy loam[5]:	0-6	A	4.9	1.35	8	0.2	0.1	0.0	0.0	0.0	1.6	7.0	1.9	7.3	4.1	0.0	0.0	2.0
(S91LA-011-20)	6-14	E	5.6	0.47	6	0.5	0.2	0.0	0.0	0.0	0.8	3.0	1.5	3.7	18.9	0.0	0.0	2.5
	14-32	Bt1	5.2	0.14	7	0.9	1.2	0.1	0.1	4.2	1.2	9.1	7.7	11.4	20.2	54.5	0.9	0.7
	32-61	Bt2	5.1	0.08	7	0.4	1.4	0.1	0.1	2.2	0.6	8.1	4.8	10.1	19.8	45.8	1.0	0.3
	61-79	Bt/E	4.9	0.01	7	0.5	2.7	0.1	0.2	3.4	0.2	10.4	7.1	13.9	25.2	47.9	1.4	0.2
	79-89	Bt'	5.0	0.00	8	0.6	3.1	0.2	0.2	4.6	1.4	12.6	10.1	16.7	24.6	45.5	1.2	0.2
Boykin loamy fine sand[1]:	0-9	A	5.0	1.10	5	0.4	0.1	0.0	0.0	0.0	1.2	6.7	1.7	7.2	6.9	0.0	0.0	4.0
(S91LA-011-12)	9-21	E	5.6	0.34	4	0.3	0.1	0.0	0.0	0.0	0.6	3.7	1.0	4.1	9.8	0.0	0.0	3.0
	21-32	Bt1	5.6	0.23	5	0.9	0.4	0.0	0.0	0.0	1.0	2.2	2.3	3.5	37.1	0.0	0.0	2.3
	32-47	Bt2	5.4	0.05	6	0.7	0.5	0.0	0.0	0.8	0.6	3.0	2.6	4.2	28.6	30.8	0.0	1.4
	47-70	Bt3	5.3	0.00	6	0.2	0.3	0.0	0.0	0.4	1.2	3.0	2.1	3.5	14.3	19.0	0.0	0.7
	70-76	B/E	5.1	0.15	8	0.2	0.6	0.1	0.0	1.8	1.4	3.7	4.1	4.6	19.6	43.9	0.0	0.3
Brimstone silt loam[6]:	0-5	A	7.6	1.18	67	6.3	0.4	0.1	0.1	0.0	0.4	0.7	7.3	7.6	90.8	0.0	1.3	15.8
(S90LA-011-2)	5-13	Eg1	7.9	0.23	8	4.7	1.2	0.0	0.4	0.0	0.4	1.5	6.7	7.8	80.6	0.0	5.1	3.9
	13-22	Eg2	7.2	0.23	7	4.1	1.6	0.0	0.6	0.0	1.0	1.5	7.3	7.8	80.8	0.0	7.7	2.6
	22-38	Btng/E	7.3	0.19	7	5.2	2.2	0.0	1.0	0.0	0.4	1.5	8.8	9.9	84.8	0.0	10.1	2.4
	38-62	Btng1	7.2	0.16	8	6.9	3.0	0.1	1.1	0.0	0.4	1.5	11.5	12.6	88.1	0.0	8.7	2.3
	62-78	Btng2	7.5	0.03	9	8.4	3.7	0.1	0.9	0.0	0.4	2.2	13.5	15.3	85.6	0.0	5.9	2.3
	78-89	BCng	7.4	0.01	11	10.4	4.4	0.2	1.0	0.0	0.2	1.5	16.2	17.5	91.4	0.0	5.7	2.4
Brimstone silt loam[1]:	0-6	A	7.0	2.01	16	6.2	2.9	0.1	0.4	0.0	0.6	5.9	10.2	15.5	61.9	0.0	2.6	2.1
(S91LA-011-1)	6-16	Eng	9.0	0.62	15	6.9	4.3	0.1	2.6	0.0	0.6	3.0	14.5	16.9	82.2	0.0	15.4	1.6
	16-26	E/Btng	8.9	0.24	14	7.7	4.9	0.1	2.9	0.0	0.4	3.3	16.0	18.9	82.5	0.0	15.3	1.6
	26-45	Btng/E	8.7	0.03	17	10.3	6.0	0.2	2.4	0.0	0.2	4.4	19.1	23.3	81.1	0.0	10.3	1.7
	45-79	Btng	8.4	0.05	15	9.0	4.7	0.2	1.7	0.0	0.2	4.1	15.8	19.7	79.2	0.0	8.6	1.9
	79-90	BCng	8.0	0.08	14	9.0	4.6	0.3	1.1	0.0	0.2	4.4	15.2	19.4	77.3	0.0	5.7	2.0
Cahaba fine sandy loam[1]:	0-7	A	5.7	1.69	7	1.2	0.4	0.1	0.0	0.0	0.6	5.2	2.3	6.9	24.6	0.0	0.0	3.0
(S91LA-011-7)	7-15	E	5.5	0.49	6	0.3	0.1	0.0	0.0	0.0	1.2	3.0	1.6	3.4	11.8	0.0	0.0	3.0
	15-18	E/B	5.3	0.16	6	0.4	0.3	0.1	0.0	1.0	0.4	4.4	2.2	5.2	15.4	45.5	0.0	1.3
	18-32	Bt1	5.1	0.12	8	0.4	1.2	0.1	0.0	2.6	0.6	7.4	4.9	9.1	18.7	53.1	0.0	0.3
	32-40	Bt2	5.1	0.01	8	0.2	0.8	0.1	0.0	3.2	0.2	6.7	4.5	7.8	14.1	71.1	0.0	0.3
	40-58	Bt3	5.0	0.00	8	0.2	0.5	0.0	0.1	3.4	1.6	5.2	5.8	6.0	13.3	58.6	1.7	0.4
	58-68	BC1	5.2	0.00	8	0.1	0.6	0.0	0.1	3.4	0.6	7.4	4.8	8.2	9.8	70.8	1.2	0.2
	68-77	BC2	5.2	0.00	9	0.1	0.6	0.1	0.1	3.2	0.8	7.4	4.9	8.3	10.8	65.3	1.2	0.2
	77-89	C	5.3	0.00	11	0.1	0.6	0.0	0.0	3.4	0.4	5.2	4.5	5.9	11.9	75.6	0.0	0.2

See footnote at end of table.

TABLE 16.--FERTILITY TEST DATA FOR SELECTED SOILS--Continued

Soil name and sample number	Depth	Horizon	pH 1:1 H_2O	Organic carbon	Extract-able P	Exchangeable cations: Ca	Exchangeable cations: Mg	Exchangeable cations: K	Exchangeable cations: Na	Exchangeable cations: Al	Exchangeable cations: H	Total acidity	Effective cation-exchange capacity	Cation-exchange capacity (sum)	Base satura-tion (sum)	Saturation: Effective cation-exchange capacity Al	Saturation: Sum of cation-exchange capacity Na	Ca/Mg
	In			Pct	Ppm	Milliequivalents/100 grams of soil									Pct	Pct	Pct	
Cahaba fine sandy loam[7]: (S91LA-011-2)	0-4	A	5.8	0.83	84	1.3	0.3	0.1	0.0	0.0	0.6	5.1	2.3	6.8	25.0	0.0	0.0	4.3
	4-6	E	5.8	0.72	79	1.3	0.2	0.1	0.0	0.0	0.4	3.7	2.0	5.3	30.2	0.0	0.0	6.5
	6-9	B/E	5.9	0.28	19	2.1	0.4	0.1	0.0	0.0	0.4	4.4	3.0	7.0	37.1	0.0	0.0	5.2
	9-28	Bt1	5.1	0.20	10	2.0	0.8	0.1	0.0	0.6	0.8	6.1	4.3	9.0	32.2	14.0	0.0	2.5
	28-48	Bt2	5.5	0.05	8	1.8	0.8	0.0	0.1	0.8	0.2	5.2	3.7	7.9	34.2	21.6	1.3	2.3
	48-58	C1	5.2	0.01	8	1.9	0.8	0.1	0.1	0.8	0.4	6.7	4.1	9.6	30.2	19.5	1.0	2.4
	58-77	C2	4.5	0.00	8	1.0	0.5	0.1	0.0	2.2	0.8	7.4	4.6	8.1	17.8	47.8	0.0	2.0
Doucette loamy fine sand[1]: (S91LA-011-10)	0-4	A1	4.9	1.61	6	0.2	0.1	0.0	0.0	0.6	0.4	3.0	1.3	3.3	9.1	46.2	0.0	2.0
	4-10	A2	5.0	0.41	4	0.1	0.0	0.0	0.0	0.4	0.4	2.2	0.9	2.3	4.3	44.4	0.0	0.0
	10-30	E	5.3	0.13	3	0.1	0.1	0.0	0.0	0.0	0.4	1.5	0.6	1.7	11.8	0.0	0.0	1.0
	30-38	Bt	5.1	0.08	5	0.5	0.5	0.0	0.0	0.6	1.4	5.2	3.0	6.2	16.1	20.0	0.0	1.0
	38-48	Btv1	4.8	0.11	6	0.3	0.4	0.1	0.0	3.4	1.0	7.4	5.2	8.2	9.8	65.4	0.0	0.8
	48-64	Btv2	4.8	0.01	5	0.2	0.4	0.1	0.0	4.8	1.0	9.6	6.5	10.3	6.8	73.8	0.0	0.5
	64-80	B't	4.8	0.00	5	0.1	0.2	0.0	0.0	3.2	0.6	9.0	4.1	9.3	3.2	78.0	0.0	0.5
Glenmora silt loam[1]: (S90LA-011-1)	0-5	A	4.8	2.18	9	1.1	0.3	0.0	0.0	1.2	0.2	8.9	2.8	10.3	13.6	42.9	0.0	3.7
	5-8	E	5.4	0.25	4	0.8	0.3	0.0	0.0	0.0	1.0	2.2	2.1	3.3	33.3	0.0	0.0	2.7
	8-13	BE	5.1	0.15	5	1.0	0.7	0.0	0.1	5.2	0.2	8.0	7.2	9.8	18.4	72.2	1.0	1.4
	13-18	Bt1	4.5	0.29	7	1.0	1.2	0.0	0.1	5.4	0.4	8.1	8.1	10.4	22.1	66.7	1.0	0.8
	18-26	Bt2	5.1	0.15	7	1.0	1.3	0.1	0.2	4.0	1.2	7.4	7.8	10.0	26.0	51.3	2.0	0.8
	26-33	Bt/E	5.0	0.04	6	1.0	1.3	0.1	0.1	4.2	0.4	7.9	7.1	10.4	24.0	59.2	1.0	0.8
	33-54	Btg	5.0	0.03	7	2.4	2.3	0.1	0.3	4.6	0.8	7.4	10.5	12.5	40.8	43.8	2.4	1.0
	54-80	BCg	5.6	0.00	9	5.8	5.8	0.3	0.7	4.4	1.0	7.3	18.0	19.9	63.3	24.4	3.5	1.0
Gore silt loam[1]: (S91LA-011-5)	0-2	A	5.3	3.19	16	3.1	1.5	0.2	0.1	0.0	0.8	13.3	5.7	18.2	26.9	0.0	0.5	2.1
	2-3	E	5.3	1.28	11	2.1	1.4	0.1	0.1	0.8	0.6	9.6	5.1	13.3	27.8	15.7	0.8	1.5
	3-4	BE	5.0	0.93	12	3.2	3.2	0.3	0.1	3.6	0.8	11.5	11.2	18.3	37.2	32.1	0.5	1.0
	4-12	Bt1	4.6	0.85	14	5.1	7.0	0.7	0.3	12.4	0.0	22.2	25.5	35.3	37.1	48.6	0.8	0.7
	12-18	Bt2	4.5	0.36	17	4.6	8.3	0.8	0.6	16.0	0.0	28.1	30.3	42.4	33.7	52.8	1.4	0.6
	18-34	Btss1	4.2	0.07	19	5.8	13.6	0.8	2.3	8.0	0.0	16.3	30.5	38.8	58.0	26.2	5.9	0.4
	34-40	Btss2	4.4	0.01	22	6.8	16.0	0.8	2.7	6.4	0.2	14.8	32.9	41.1	64.0	19.5	6.6	0.4
	40-46	BCss1	4.4	0.08	33	7.4	17.1	0.9	2.9	5.0	0.0	10.4	33.3	38.7	73.1	15.0	7.5	0.4
	46-58	BCss2	4.5	0.08	70	8.9	19.8	0.9	3.4	4.0	0.0	11.8	37.0	44.8	73.7	10.8	7.6	0.4
	58-68	Css	4.6	0.03	76	7.4	16.5	0.8	2.8	3.0	0.2	10.4	30.7	37.9	72.6	9.8	7.4	0.4

See footnote at end of table.

TABLE 16.--FERTILITY TEST DATA FOR SELECTED SOILS--Continued

Soil name and sample number	Depth	Horizon	pH 1:1 H_2O	Organic carbon	Extractable P	Exchangeable cations Ca	Mg	K	Na	Al	H	Total acidity	Effective cation-exchange capacity	Cation-exchange capacity (sum)	Base saturation (sum)	Saturation: Effective cation-exchange capacity Al	Saturation: Sum of cation-exchange capacity Na	Ca/Mg
	In			Pct	Ppm	Milliequivalents/100 grams of soil									Pct	Pct	Pct	
Gore silt loam[8]: (S90LA-011-8)	0-4	A	4.9	0.42	11	0.5	0.2	0.1	0.0	1.2	0.4	4.4	2.4	5.2	15.4	50.0	0.0	2.5
	4-8	BE	4.6	0.20	10	1.2	1.6	0.3	0.1	5.0	0.2	3.7	8.4	6.9	46.4	59.5	1.4	0.8
	8-17	Bt1	4.6	0.12	11	1.1	3.6	0.2	0.1	10.0	0.6	14.8	15.6	19.8	25.3	64.1	0.5	0.3
	17-30	Bt2	4.5	0.00	8	1.0	2.5	0.3	0.1	10.2	0.2	17.8	14.3	21.7	18.0	71.3	0.5	0.4
	30-42	Bt3	4.5	0.00	7	0.5	2.8	0.3	0.1	11.0	0.2	16.5	14.9	20.2	18.3	73.8	0.5	0.2
	42-60	BC	4.4	0.00	8	0.3	2.7	0.3	0.1	7.8	0.2	14.8	11.4	18.2	18.7	68.4	0.5	0.1
	60-88	C	4.4	0.00	9	0.3	2.8	0.1	0.1	7.4	0.6	12.8	11.3	16.1	20.5	65.5	0.6	0.1
Guyton silt loam[1]: (S90LA-011-7)	0-5	A	4.5	1.57	21	0.3	0.3	0.0	0.1	0.0	0.6	8.1	1.3	8.8	8.0	0.0	1.1	1.0
	5-24	Eg1	4.5	0.46	15	0.2	0.3	0.0	0.1	1.8	1.2	5.9	3.6	6.5	9.2	50.0	1.5	0.7
	24-30	Eg2	4.4	0.43	16	0.3	0.4	0.0	0.1	3.2	0.8	11.1	4.8	11.9	6.7	66.7	0.8	0.8
	30-42	Bt/E	4.4	0.35	14	0.4	0.4	0.0	0.1	4.6	0.4	10.4	5.9	11.3	8.0	78.0	0.9	1.0
	42-54	Btg1	4.6	0.14	14	1.7	0.8	0.1	0.4	4.0	1.6	10.2	8.6	13.2	22.7	46.5	3.0	2.1
	54-69	Btg2	4.8	0.05	18	3.0	1.4	0.1	0.5	4.8	1.0	9.9	10.8	14.9	33.6	44.4	3.4	2.1
	69-74	Cg	4.9	0.01	22	5.3	2.6	0.1	0.7	4.6	1.0	9.6	14.3	18.3	47.5	32.2	3.8	2.0
Hainesville loamy fine sand[1]: (S91LA-011-14)	0-6	A	5.2	1.15	28	0.6	0.2	0.0	0.0	1.0	0.6	3.7	2.4	4.5	17.8	41.7	0.0	3.0
	6-24	Bw	5.4	0.25	49	0.2	0.1	0.0	0.0	0.6	0.8	4.4	1.7	4.7	6.4	35.3	0.0	2.0
	24-47	Bw/E1	5.0	0.08	38	0.1	0.0	0.0	0.0	0.2	0.8	1.8	1.1	1.9	5.3	18.2	0.0	0.0
	47-72	Bw/E2	5.0	0.00	27	0.1	0.0	0.0	0.0	0.0	1.0	1.5	1.1	1.6	6.3	0.0	0.0	0.0
Kolin silt loam[1]: (S91LA-011-17)	0-5	A	4.8	1.12	9	0.9	0.6	0.1	0.1	2.2	0.6	7.4	4.5	9.1	18.7	48.9	1.1	1.5
	5-11	E	4.9	0.53	7	1.0	1.1	0.0	0.1	3.0	1.0	6.7	6.2	8.9	24.7	48.4	1.1	0.9
	11-20	Bt	5.0	0.32	7	1.6	2.2	0.1	0.3	5.4	0.6	10.4	10.2	14.6	28.8	52.9	2.1	0.7
	20-30	Bt/E1	5.2	0.34	7	2.3	3.1	0.2	0.6	5.4	0.6	13.3	12.2	19.5	31.8	44.3	3.1	0.7
	30-40	Bt/E2	5.3	0.22	7	2.8	3.5	0.2	0.7	3.8	0.6	5.4	11.6	12.6	57.1	32.8	5.6	0.8
	40-60	2Btg1	5.1	0.01	10	8.5	9.2	0.5	1.6	1.0	0.8	5.4	21.6	25.2	78.6	4.6	6.3	0.9
	60-72	2Btg2	5.4	0.08	16	12.1	12.7	0.7	2.2	0.2	0.6	5.9	28.5	33.6	82.4	0.7	6.5	1.0
	72-82	2BCg	5.5	0.00	13	11.3	11.5	0.7	2.0	0.2	0.6	5.9	26.3	31.4	81.2	0.8	6.4	1.0
Malbis fine sandy loam[9]: (S91LA-011-3)	0-6	A	4.8	2.12	8	0.6	0.2	0.0	0.0	0.2	1.0	5.9	2.0	6.7	11.9	10.0	0.0	3.0
	6-12	E	5.2	0.24	5	0.2	0.1	0.0	0.0	0.6	0.4	2.2	1.3	2.5	12.0	46.2	0.0	2.0
	12-26	Bt1	5.4	0.20	8	1.1	1.1	0.1	0.0	2.8	0.4	6.7	5.5	9.0	25.6	50.9	0.0	1.0
	26-43	Bt2	5.3	0.08	8	0.6	0.9	0.0	0.0	3.0	0.4	5.9	4.9	7.4	20.3	61.2	0.0	0.7
	43-54	Bt3	5.1	0.14	6	0.5	1.1	0.0	0.1	3.6	0.8	9.6	6.1	11.3	15.0	59.0	0.9	0.5
	54-69	BC	5.1	0.00	6	0.4	1.1	0.0	0.1	4.6	2.6	9.6	8.8	11.2	14.3	52.3	0.9	0.4
	69-73	C	5.1	0.00	6	0.4	0.9	0.0	0.1	3.2	1.0	6.7	5.6	8.1	17.3	57.1	1.2	0.4

See footnote at end of table.

TABLE 16.--FERTILITY TEST DATA FOR SELECTED SOILS--Continued

Soil name and sample number	Depth	Horizon	pH 1:1 H_2O	Organic carbon	Extract- able P	Exchangeable cations Ca	Mg	K	Na	Al	H	Total acidity	Effective cation- exchange capacity	Cation- exchange capacity (sum)	Base satura- tion (sum)	Saturation Effective cation- exchange capacity Al	Saturation Sum of cation- exchange capacity Na	Ca/Mg
	In			Pct	Ppm	Milliequivalents/100 grams of soil									Pct	Pct	Pct	
Messer silt loam[10]:	0-4	A	5.1	1.84	5	0.7	0.2	0.0	0.0	0.8	0.4	4.7	2.1	5.6	16.1	38.1	0.0	3.5
(S90LA-011-3)	4-7	E	4.8	0.35	4	0.2	0.1	0.0	0.0	0.0	1.2	3.0	1.5	3.3	9.1	0.0	0.0	2.0
	7-35	Bw	5.0	0.05	5	0.3	0.5	0.0	0.1	1.4	0.4	6.0	2.7	6.9	13.0	51.9	1.4	0.6
	35-40	B/E	5.5	0.05	7	1.2	2.2	0.1	0.3	2.0	0.6	5.9	6.4	9.7	39.2	31.3	3.1	0.5
	40-58	Bt1	5.6	0.03	6	1.4	2.0	0.1	0.4	1.2	0.6	5.2	5.7	9.1	42.9	21.1	4.4	0.7
	58-96	Bt2	5.4	0.00	7	2.5	2.4	0.1	0.6	1.4	0.4	5.2	7.4	10.8	51.9	18.9	5.6	1.0
Merryville silt loam[11]:	0-3	A	4.6	2.35	9	0.6	0.2	0.1	0.1	2.0	1.0	7.4	4.0	8.4	11.9	50.1	1.2	3.0
(S91LA-011-19)	3-21	Eg	4.9	0.52	6	0.5	0.3	0.0	0.1	0.6	1.8	4.2	3.3	5.1	17.6	18.2	2.0	1.7
	21-27	E/Btg	4.8	0.16	7	1.0	0.9	0.0	0.4	0.0	1.4	5.2	3.7	7.5	30.7	0.0	5.3	1.1
	27-36	Bt/Eg	4.8	0.07	8	1.7	1.5	0.0	0.7	0.4	1.6	7.3	5.9	11.2	34.8	6.8	6.2	1.1
	36-66	Btg	4.9	0.05	8	1.9	1.6	0.0	0.6	2.0	1.0	5.6	7.1	9.7	42.3	28.2	6.2	1.2
	66-86	BCg	5.6	0.09	12	3.4	2.7	0.1	0.5	0.2	1.8	4.4	8.7	11.1	60.4	2.3	4.5	1.3
	86-91	2Cg	5.7	0.00	8	0.7	0.5	0.0	0.1	0.0	0.4	3.7	1.7	5.0	26.0	0.0	2.0	1.4
Osier sand loam[1]:	0-7	A	4.5	1.40	27	0.3	0.1	0.0	0.0	1.8	0.2	4.4	2.4	4.8	8.3	75.0	0.0	3.0
(S90LA-011-6)	7-20	Cg1	4.9	0.29	9	0.1	0.0	0.0	0.0	0.0	0.4	1.0	0.5	1.1	9.1	0.0	0.0	0.0
	20-60	Cg2	4.9	0.20	6	0.1	0.0	0.0	0.0	0.0	0.6	0.7	0.7	0.8	12.5	0.0	0.0	0.0
Ouachita silt loam[1]:	0-3	A1	4.6	4.45	27	2.7	1.0	0.2	0.1	2.6	1.0	19.2	7.6	23.2	17.2	34.2	0.4	2.7
(S91LA-011-15)	3-14	A2	4.5	1.34	16	0.4	0.3	0.1	0.1	5.0	0.6	17.8	6.5	18.7	4.8	76.9	0.5	1.3
	14-20	Bw1	4.5	0.81	19	0.3	0.3	0.0	0.1	6.8	0.2	15.5	7.7	16.2	4.3	88.3	0.6	1.0
	20-30	Bw2	4.5	0.68	21	0.4	0.4	0.1	0.1	8.2	0.0	17.8	9.2	18.8	5.3	89.1	0.5	1.0
	30-38	Bw3	4.6	0.24	18	0.2	0.3	0.1	0.1	7.6	0.4	14.1	8.7	14.8	4.7	87.4	0.7	0.7
	38-60	Bw4	4.6	0.15	9	0.1	0.3	0.1	0.6	8.4	0.2	13.4	9.7	14.5	7.6	86.6	4.1	0.3
	60-72	Bw5	4.5	0.12	7	0.2	0.6	0.1	1.2	7.0	0.6	13.3	9.7	15.4	13.6	72.2	7.8	0.3
Ruston fine sandy loam[1]:	0-4	A	5.7	1.51	7	1.2	0.3	0.0	0.0	0.0	0.6	5.2	2.1	6.7	22.4	0.0	0.0	4.0
(S91LA-011-16)	4-11	E	5.7	0.44	5	0.6	0.1	0.0	0.0	0.0	0.4	2.2	1.1	2.9	24.1	0.0	0.0	6.0
	11-19	Bt1	5.6	0.21	5	0.7	0.2	0.0	0.0	0.0	0.4	1.7	1.3	2.6	34.6	0.0	0.0	3.5
	19-36	Bt2	5.4	0.11	6	1.9	1.3	0.1	0.1	0.4	0.8	3.0	4.6	6.4	53.1	8.7	1.6	1.5
	36-47	Bt3	5.2	0.11	8	1.1	1.3	0.1	0.0	0.4	0.8	4.4	3.7	6.9	36.2	10.8	0.0	0.8
	47-61	Bt/E	5.0	0.03	6	0.6	1.1	0.1	0.1	1.6	0.4	3.7	3.9	5.6	33.9	41.0	1.8	0.5
	61-76	B't1	5.1	0.00	6	0.3	1.5	0.0	0.1	2.0	1.0	7.4	4.9	9.3	20.4	40.8	1.1	0.2
	76-92	B't2	5.1	0.00	5	0.3	2.0	0.1	0.1	2.4	0.4	8.1	5.3	10.6	23.6	45.3	0.9	0.2

See footnote at end of table.

TABLE 16.--FERTILITY TEST DATA FOR SELECTED SOILS--Continued

Soil name and sample number	Depth	Horizon	pH 1:1 H2O	Organic carbon	Extractable P	Exchangeable cations: Ca	Mg	K	Na	Al	H	Total acidity	Effective cation-exchange capacity	Cation-exchange capacity (sum)	Base saturation (sum)	Saturation: Effective cation-exchange capacity Al	Saturation: Sum of cation-exchange capacity Na	Ca/Mg
	In			Pct	Ppm	Milliequivalents/100 grams of soil									Pct	Pct	Pct	
Ruston fine sandy loam[12]: (S90LA-011-9)	0-5	A	4.9	0.84	9	0.3	0.1	0.0	0.0	0.8	0.4	3.7	1.6	4.1	9.8	50.0	0.0	3.0
	5-13	E	5.0	0.10	7	0.2	0.1	0.1	0.0	0.2	1.0	1.0	1.6	1.4	28.6	12.5	0.0	2.0
	13-30	Bt1	4.7	0.09	9	1.0	1.3	0.1	0.0	1.4	0.0	6.7	3.8	9.1	26.4	36.8	0.0	0.8
	30-47	Bt2	4.7	0.23	9	0.8	1.0	0.1	0.1	2.8	0.2	7.8	5.0	9.8	20.4	56.0	1.0	0.8
	47-66	Bt3	4.5	0.00	7	0.6	0.9	0.1	0.1	3.8	0.2	9.6	5.7	11.3	15.0	66.7	0.9	0.7
	66-80	B/E	4.5	0.00	10	0.5	0.9	0.0	0.0	2.6	1.0	7.5	5.0	8.9	15.7	52.0	0.0	0.6
Spurger fine sandy loam[1]: (S91LA-011-11)	0-6	A	6.7	2.62	19	6.9	1.0	0.1	0.0	0.0	1.4	4.4	9.4	12.4	64.5	0.0	0.0	6.9
	6-9	E	6.7	0.89	11	2.9	0.7	0.1	0.0	0.0	0.4	3.0	4.1	6.7	55.2	0.0	0.0	4.1
	9-20	Bt1	4.7	0.25	10	3.0	4.3	0.3	0.1	9.0	1.0	15.5	17.7	23.2	33.2	50.5	0.4	0.7
	20-27	Bt2	4.6	0.10	7	1.7	2.9	0.2	0.1	9.4	0.4	15.5	14.7	20.4	24.0	63.9	0.5	0.6
	27-36	Bt3	4.7	0.04	7	1.5	3.0	0.2	0.1	8.8	0.2	15.5	13.8	20.3	23.6	63.8	0.5	0.5
	36-47	BC	4.7	0.00	6	0.8	1.7	0.1	0.1	4.8	1.4	10.4	8.9	13.1	20.6	53.9	0.8	0.5
	47-77	C	4.8	0.00	6	0.3	0.8	0.0	0.0	2.8	1.0	4.4	4.9	5.5	20.0	57.1	0.0	0.4
Sugartown very fine sandy loam[1]: (S91LA-011-4)	0-3	A	5.0	1.98	8	1.1	0.4	0.1	0.0	1.2	0.0	0.9	2.8	10.5	15.2	42.9	0.0	2.8
	3-8	E	5.2	0.79	8	0.8	0.3	0.0	0.0	1.2	0.0	6.6	2.3	7.7	14.3	52.2	0.0	2.7
	8-15	BE	4.8	0.43	9	1.4	1.2	0.1	0.1	4.4	0.2	10.5	7.4	13.3	21.1	59.5	0.8	1.2
	15-25	Bt	5.0	0.20	12	1.4	4.0	0.3	0.3	8.0	0.0	17.8	14.0	23.8	25.2	57.1	1.3	0.4
	25-43	Btg	4.9	0.09	14	1.7	7.8	0.4	0.8	8.8	0.0	19.2	19.5	29.9	35.8	45.1	2.7	0.2
	43-64	Btg	4.6	0.00	17	2.3	13.7	0.5	1.7	5.0	0.8	14.9	24.5	33.6	55.7	20.4	5.1	0.2
	64-69	2Cg	4.6	0.00	15	2.1	9.7	0.3	1.6	4.8	0.2	10.9	18.7	24.6	55.7	25.7	6.5	0.2

See footnote at end of table.

TABLE 16.--FERTILITY TEST DATA FOR SELECTED SOILS--Continued

Soil name and sample number	Depth	Horizon	pH 1:1 H_2O	Organic carbon	Extract- able P	Exchangeable cations: Ca	Mg	K	Na	Al	H	Total acidity	Effective cation- exchange capacity	Cation- exchange capacity (sum)	Base satura- tion (sum)	Saturation: Effective cation- exchange capacity Al	Saturation: Sum of cation- exchange capacity Na	Ca/Mg
	In			Pct	Ppm	----------Milliequivalents/100 grams of soil----------									Pct	Pct	Pct	
Sugartown very fine sandy loam[13]: (S91LA-011-3)	0-5	A	5.1	3.78	9	1.8	0.4	0.1	0.0	1.6	1.0	14.8	4.9	17.1	13.5	32.7	0.0	4.5
	5-11	E	5.5	0.72	5	0.9	0.2	0.0	0.0	0.2	1.0	8.1	2.3	9.2	12.0	8.7	0.0	4.5
	11-23	Bt1	5.1	0.29	8	1.1	1.8	0.2	1.9	5.2	0.2	13.3	10.4	18.3	27.3	50.0	10.4	0.6
	23-34	Bt2	5.2	0.10	6	0.8	2.0	0.0	0.1	6.0	0.2	14.8	9.1	17.7	16.4	65.9	0.6	0.4
	34-49	Bt3	5.3	0.00	7	0.6	2.3	0.1	0.1	7.0	0.1	16.3	10.5	19.4	16.0	66.7	0.5	0.3
	49-75	BC	5.1	0.00	8	0.4	2.3	0.1	0.1	7.4	1.0	13.3	11.3	16.2	17.9	65.5	0.6	0.2
	75-85	C	5.1	0.00	6	0.2	1.2	0.0	0.1	6.2	0.8	8.7	8.5	10.2	14.7	72.9	1.0	0.2

1 This pedon is the same as the typical pedon for the series. For the description and location of the soil, see the section "Soils and Their Morphology".

2 This Bearhead pedon is located at 30° 48′ 34″ N. Latitude and 93° 27′ 30″ W. Longitude.

3 This Bienville pedon is an Ultisols rather than an Alfisols. It is mapped as a similar soil in map unit BmC, Bienville loamy fine sand, 1 to 5 percent slopes. The pedon is located at 30° 52′ 44″ N. Latitude and 93° 13′ 44″ W. Longitude.

4 This Blevins pedon is located at 30° 29′ 03″ N. Latitude and 93° 36′ 41″ W. Longitude. It is included in map unit BpC, Blevins very fine sandy loam, 3 to 5 percent slopes.

5 This Blevins pedon is located at 30° 50′ 48″ N. Latitude and 93° 01′ 22″ W. Longitude. It is included in map unit BpC, Blevins very fine sandy loam, 3 to 5 percent slopes.

6 This Brimstone pedon does not have a natric horizon. It is mapped as a similar soil in map unit BzA, Brimstone silt loam. The pedon is located at 30° 12′ 42″ N. Latitude and 93° 12′ 42″ W. Longitude.

7 This Cahaba pedon is located about 0.7 mile north on Highway 112, 1.5 miles east of Highway 399, about 300 feet east of timber company road; SE 1/4 NW 1/4 Sec. 23, T. 2 S., R. 7 W.; latitude 30° 54′ 01″ N. Longitude and 93° 05′ 05″ W.

8 This Gore pedon is an Ultisols rather than an Alfisols. It is mapped as a similar soil in map unit GRE, Gore very fine sandy loam, 5 to 12 percent slopes. The pedon is located at 30° 24′ 54″ N. Latitude and 93° 24′ 54″ W. Longitude.

9 This Malbis pedon is located in the NE 1/4 NW 1/4, Sec. 5, T. 4 S., R. 6 W. It is included in map unit SuC, Sugartown very fine sandy loam, 3 to 5 percent slopes.

10 This Messer pedon is located at 30° 31′ 49.5″ N. Latitude; 93° 13′ 26.7″ W. Longitude.

11 This Merryville pedon is located at 30° 46′ 37″ N. Latitude; 93° 30′ 55″ W. Longitude.

12 The Ruston pedon is located at 30° 35′ 29.4″ N. Latitude; 93° 23′ 40″ W. Longitude.

13 This Sugartown pedon is located in the NE 1/4 NW 1/4 Sec. 5, T. 4 S., R. 6 W.; 30° 44′ 10″ N. Latitude; 93° 00′ 19″ W. Longitude.

TABLE 17.--PHYSICAL TEST DATA FOR SELECTED SOILS

(The symbol TR means trace. Dashes indicate data were not available)

Soil name and sample number	Depth	Horizon	Particle-size Distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)	Fine clay (<0.0002 mm)	Water content: 1/3 bar	15 bar	WRD	Bulk density: 1/3 bar	oven dry	COLE
	In		Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	g/cm3	g/cm3	cm/cm
Acadia silt loam:[1] (S90LA-011-016)	0-4	A	1.0	0.6	0.3	9.1	47.5	58.5	36.4	5.1	2.8	12.3	4.8	0.10	1.39	1.40	0.0002
	4-12	E	0.3	0.3	0.2	5.4	34.7	40.9	37.5	21.6	17.0	22.5	11.3	0.16	1.48	1.62	0.030
	12-20	B/E	0.3	0.1	0.1	4.2	28.5	33.2	38.6	28.2	22.1	21.5	14.2	0.11	1.58	1.76	0.036
	20-37	Btg1	0.1	0.1	0.2	4.4	27.5	32.3	33.7	34.0	25.7	19.7	15.7	0.06	1.62	1.81	0.037
	37-55	Btg2	0.1	0.1	0.3	4.0	37.5	42.0	26.8	31.2	23.6	19.2	16.0	0.05	1.65	1.86	0.041
	55-76	BC1	TR	TR	TR	1.8	22.3	24.1	24.0	51.9	29.6	30.0	25.0	0.07	1.45	1.99	0.111
	76-110	BC2	--	TR	0.1	1.6	16.8	18.5	36.4	45.1	25.0	---	24.2	---	---	---	---
Bearhead very fine sandy loam:[2] (S90LA-011-017)	0-8	A	0.1	0.2	1.5	21.0	42.1	64.9	33.3	1.8	---	---	---	---	---	---	---
	8-15	E	TR	0.1	1.3	21.4	38.3	61.1	36.7	2.2	---	---	---	---	---	---	---
	15-21	B/E	0.1	0.2	1.3	20.6	34.0	56.2	35.2	8.6	---	---	---	---	---	---	---
	21-35	Bt1	0.1	0.1	1.2	21.7	32.9	56.0	34.0	10.0	---	---	---	---	---	---	---
	35-46	Bt2	TR	0.1	1.1	20.8	37.1	59.1	33.5	7.4	---	---	---	---	---	---	---
	46-59	Bt3	TR	0.1	1.2	21.8	36.0	59.1	34.5	6.4	---	---	---	---	---	---	---
	59-75	Btg	--	0.2	1.0	17.7	27.2	46.1	36.2	17.7	---	---	---	---	---	---	---
	75-89	B't	0.1	0.2	0.9	21.1	28.2	50.5	32.3	17.2	---	---	---	---	---	---	---
	89-98	2BCg1	0.4	0.3	0.6	28.6	40.4	70.3	20.5	9.2	---	---	---	---	---	---	---
	98-108	2BCg2	--	--	0.2	39.5	50.3	90.0	6.3	3.7	---	---	---	---	---	---	---
Beauregard silt loam:[2] (S90LA-011-015)	0-5	Ap	0.4	0.3	0.2	4.9	27.1	32.9	59.0	8.1	4.7	20.6	7.1	0.18	1.35	1.39	0.010
	5-9	E	0.2	0.4	0.2	5.1	25.7	31.6	56.4	12.0	8.8	16.1	6.8	0.15	1.58	1.60	0.004
	9-16	Bt	0.5	0.4	0.2	4.4	22.3	27.8	54.8	17.4	13.4	18.6	9.7	0.14	1.57	1.62	0.010
	16-22	Btv/E1	0.6	0.5	0.3	3.7	20.4	25.5	53.9	20.6	16.4	20.2	11.0	0.14	1.55	1.61	0.013
	22-32	Btv/E2	0.3	0.2	0.1	3.0	20.9	24.5	55.9	19.6	14.8	19.2	10.3	0.15	1.65	1.74	0.018
	32-49	Bt/E1	0.2	0.2	0.2	4.1	21.4	26.1	55.0	18.9	14.0	18.7	9.8	0.15	1.69	1.77	0.015
	49-62	Bt/E2	0.1	0.1	0.2	4.1	23.2	27.7	55.5	16.8	12.2	17.5	8.9	0.15	1.70	1.76	0.012
	62-75	B't	0.2	0.1	0.2	3.8	22.4	26.7	54.2	19.1	---	---	10.1	---	---	---	---
	75-90	Btg	TR	0.1	0.2	4.1	23.4	27.8	50.3	21.9	---	---	11.8	---	---	---	---

See footnotes at end of table.

TABLE 17.--PHYSICAL TEST DATA FOR SELECTED SOILS--Continued

Soil name and sample number	Depth	Horizon	Particle-size Distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)	Fine clay (<0.0002 mm)	Water content: 1/3 bar	Water content: 15 bar	WRD	Bulk density: 1/3 bar	Bulk density: oven dry	COLE
	In		Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	g/cm3	g/cm3	cm/cm
Beauregard silt loam:[3]	0-2	A	0.4	0.6	0.2	3.1	17.0	21.3	71.7	7.0	---	---	5.0	---	---	---	---
(S57LA-011-1)	2-6	E	0.5	0.6	0.2	2.5	16.1	19.9	71.0	9.1	---	---	4.3	---	---	---	---
	6-10	BE	0.8	0.4	0.2	2.2	14.8	18.4	65.5	16.1	---	---	7.2	---	---	---	---
	10-19	Bt1	0.7	0.8	0.2	1.8	13.3	16.8	63.3	19.9	---	---	8.4	---	---	---	---
	19-29	Btv/E1	0.5	0.6	0.2	1.8	12.3	15.4	63.1	21.5	---	---	8.7	---	---	---	---
	29-41	Btv/E2	0.2	0.5	0.2	1.9	13.0	15.8	61.8	22.4	---	---	9.1	---	---	---	---
	41-50	Bt2	0.1	0.2	0.1	1.4	10.3	12.1	52.8	35.1	---	---	14.0	---	---	---	---
	50-73	BC	0.1	0.1	--	0.5	4.8	5.5	54.6	39.9	---	---	16.7	---	---	---	---
Beauregard silt loam:[4]	0-3	A	0.8	0.9	0.2	3.8	29.2	34.9	60.2	4.9	---	---	3.6	---	---	---	---
(S57LA-011-2)	3-8	E	0.8	0.6	0.2	3.0	27.4	32.0	56.7	11.3	---	---	5.0	---	---	---	---
	8-16	Bt1	0.5	0.5	0.1	2.4	22.5	26.0	54.0	20.0	---	---	8.5	---	---	---	---
	16-27	Bt2	1.0	0.6	0.2	2.2	19.3	23.3	52.8	23.9	---	---	10.0	---	---	---	---
	27-40	Btvg	0.5	0.3	0.1	2.2	20.9	24.0	53.1	22.9	---	---	9.2	---	---	---	---
	40-60	BCg	0.4	0.3	0.1	1.8	17.1	19.7	48.1	32.2	---	---	13.0	---	---	---	---
Betis fine sand:[2]	0-9	A	0.1	1.2	18.1	55.6	12.4	87.4	10.4	2.2	---	---	2.7	---	---	---	---
(S90LA-011-11)	9-16	E	0.1	1.4	17.3	53.6	11.9	84.3	13.1	2.6	---	---	1.1	---	---	---	---
	16-26	E/B	0.1	1.1	16.2	53.6	11.8	82.8	13.8	3.4	---	---	1.3	---	---	---	---
	26-36	B/E	0.1	1.2	16.1	51.4	13.0	81.8	14.1	4.1	---	---	1.8	---	---	---	---
	36-50	Bt/E1	0.1	1.3	15.7	49.8	11.9	78.8	11.2	10.0	---	10.3	4.1	0.10	1.69	1.72	0.002
	50-60	Bt/E2	0.2	1.3	16.0	51.7	12.1	81.3	10.4	8.3	---	---	3.1	---	---	---	---
	60-73	Bt/E3	0.3	2.8	19.6	50.8	10.7	84.2	9.9	5.9	---	9.5	1.9	0.14	1.81	1.82	0.002
	73-85	Bt/E4	1.3	6.4	23.9	47.6	9.6	88.8	7.4	3.8	---	8.7	1.3	0.14	1.90	1.91	0.002
	73-85	Bt/E4	1.3	7.0	21.6	43.6	6.8	80.3	9.1	10.6	---	---	3.6	---	---	---	---
	85-109	Bt/E5	0.6	2.9	20.6	53.9	5.0	83.0	3.4	13.6	---	---	5.5	---	---	---	---
Blevins very fine sandy loam:[2]	0-5	A	0.7	0.6	0.8	16.1	39.6	57.6	39.5	2.9	2.1	6.7	2.6	0.06	1.54	1.54	---
(S80LA-011-1)	5-10	E	0.4	0.3	0.3	13.7	38.8	53.5	41.3	5.2	2.0	8.1	2.3	0.09	1.51	1.53	0.004
	10-17	Bt1	0.7	0.5	0.3	11.3	30.5	43.3	39.7	17.0	12.2	13.1	5.8	0.11	1.59	1.63	0.008
	17-24	Bt2	0.3	0.4	0.2	8.5	26.2	35.6	38.8	25.6	21.1	16.8	10.2	0.11	1.64	1.70	0.012
	24-33	Bt3	0.3	0.1	0.1	7.9	26.4	34.8	39.2	26.0	20.7	17.7	10.4	0.12	1.66	1.72	0.012
	33-39	Bt3	0.2	0.2	0.2	8.6	26.9	36.1	40.0	23.9	18.3	17.2	9.5	0.13	1.71	1.75	0.007
	39-50	Bt4	0.1	0.3	0.4	8.0	26.9	35.7	40.0	24.3	18.7	16.4	10.0	0.10	1.72	1.77	0.009
	50-59	Bt/E	0.6	0.9	0.7	7.8	24.0	34.0	38.4	27.6	21.1	17.2	11.9	0.09	1.77	1.81	0.007
	59-72	B't	0.2	0.3	0.4	6.0	26.4	33.3	36.3	30.4	22.3	17.7	12.4	0.09	1.72	1.77	0.009

See footnotes at end of table.

TABLE 17.--PHYSICAL TEST DATA FOR SELECTED SOILS--Continued

Soil name and sample number	Depth	Horizon	Particle-size Distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)	Fine clay (<0.0002 mm)	Water content: 1/3 bar	Water content: 15 bar	WRD	Bulk density: 1/3 bar	Bulk density: oven dry	COLE
	In		Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	g/cm3	g/cm3	cm/cm
Caddo silt loam:[5] (S90LA-011-19)	0-5	A	1.0	0.4	0.3	2.2	17.5	21.4	69.8	8.8	6.5	13.8	4.8	0.13	1.42	1.43	0.002
	5-9	Eg1	0.6	0.4	0.2	2.3	17.7	21.2	65.7	13.1	10.5	17.8	5.4	0.20	1.59	1.60	0.002
	9-18	Eg2	0.4	0.3	0.2	1.8	18.2	20.9	65.5	13.6	10.1	18.6	5.5	0.22	1.67	1.70	0.006
	18-30	E/Btg	0.5	0.3	0.3	2.3	17.7	21.1	65.5	13.4	10.0	18.4	5.2	0.21	1.59	1.61	0.004
	30-40	Btg/E1	0.4	0.3	0.2	1.7	15.5	18.1	59.9	22.0	17.2	18.9	9.4	0.16	1.68	1.70	0.004
	40-52	Btg/E2	0.3	0.3	0.3	2.2	15.7	18.8	58.8	22.4	17.3	20.3	9.5	0.17	1.61	1.71	0.020
	52-73	Btg1	0.3	0.2	0.1	1.9	15.6	18.1	57.5	24.4	19.9	19.0	10.1	0.15	1.63	1.70	0.014
	73-87	Btg2	0.2	TR	0.1	1.4	14.4	16.1	58.2	25.7	---	---	10.7	---	---	---	---
	87-95	BCg	--	0.1	0.1	0.8	13.0	14.0	53.8	32.2	---	---	13.6	---	---	---	---
Caddo silt loam:[2,6] (S81LA-011-001)	0-6	A	0.2	0.2	0.3	3.0	18.1	21.8	72.8	5.4	---	---	4.2	---	---	---	---
	6-16	Eg1	0.7	0.4	0.2	2.9	16.1	20.3	71.2	8.5	---	---	4.3	---	---	---	---
	16-30	Eg2	0.8	0.3	0.2	2.5	13.8	17.6	67.8	14.6	---	---	---	---	---	---	---
	30-60	Btg	0.2	0.2	0.2	1.9	14.2	16.7	66.2	17.1	---	---	8.2	---	---	---	---
	60-103	BCg	0.1	0.2	0.1	2.2	15.0	17.6	64.1	18.3	---	---	8.8	---	---	---	---
Caddo silt loam:[7] (S57LA-011-3)	0-3	A	0.3	0.3	0.2	2.1	15.5	18.4	74.1	7.5	---	---	4.6	---	---	---	---
	3-5	Eg	0.5	0.3	0.2	2.3	16.2	19.5	73.3	7.2	---	---	3.6	---	---	---	---
	5-12	E/Btg1	1.0	0.3	0.2	2.3	15.1	18.9	68.5	12.6	---	---	5.5	---	---	---	---
	12-18	E/Btg2	0.5	0.3	0.2	2.1	15.6	18.7	66.8	14.5	---	---	5.8	---	---	---	---
	18-26	E/Btg3	0.6	0.2	0.2	2.0	14.4	17.4	69.2	13.4	---	---	5.7	---	---	---	---
	26-39	E/Btg4	0.5	0.3	0.2	1.8	13.6	16.4	69.2	14.4	---	---	6.2	---	---	---	---
	39-60	Btg	0.4	0.3	0.2	1.6	12.1	14.6	61.2	24.2	---	---	10.3	---	---	---	---
	60-101	BCg	--	--	0.2	--	---	---	---	---	---	---	---	---	---	---	---
Caddo silt loam:8 (S57LA-011-4)	0-4	A	0.4	0.5	0.1	2.7	21.1	24.8	70.1	5.1	---	---	3.6	---	---	---	---
	4-10	Eg1	0.6	0.3	0.1	2.2	18.1	21.3	65.1	13.6	---	---	6.4	---	---	---	---
	10-16	Eg2	0.4	0.3	0.1	2.0	16.6	19.4	64.7	15.9	---	---	6.8	---	---	---	---
	16-27	Eg3	0.3	0.3	0.1	1.9	16.0	18.6	65.3	16.1	---	---	6.8	---	---	---	---
	27-50	Btg1	--	0.2	0.2	1.5	13.7	15.6	60.7	23.7	---	---	10.3	---	---	---	---
	50-60	Btg2	--	0.1	0.1	1.5	13.8	15.5	58.6	25.9	---	---	11.4	---	---	---	---

See footnotes at end of table.

TABLE 17.--PHYSICAL TEST DATA FOR SELECTED SOILS--Continued

Soil name and sample number	Depth	Horizon	Particle-size Distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)	Fine clay (<0.0002 mm)	Water content: 1/3 bar	Water content: 15 bar	WRD	Bulk density: 1/3 bar	Bulk density: oven dry	COLE
	In		Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	g/cm3	g/cm3	cm/cm
Glenmora silt	0-6	Ap1	1.0	0.3	0.1	6.2	35.7	43.3	50.9	5.8	0.8	18.2	3.9	0.20	1.40	1.42	0.005
loam:[9]	6-12	Ap2	0.9	0.4	0.3	3.9	30.2	35.7	52.1	12.2	6.9	18.3	6.0	0.19	1.55	1.59	0.008
(S88LA-011-1)	12-24	Bt	1.2	0.3	0.2	3.4	25.0	30.1	51.2	18.7	11.4	21.5	8.8	0.19	1.50	1.61	0.024
	24-43	E/Btv1	0.7	0.2	--	3.3	26.0	30.2	51.2	18.6	10.1	18.6	8.5	0.16	1.59	1.66	0.014
	43-59	E/Btv2	0.4	0.2	0.2	4.2	27.6	32.6	49.6	17.8	8.5	19.4	7.8	0.19	1.65	1.74	0.018
	59-72	E/Bt	0.4	0.3	0.4	3.6	27.7	32.4	49.9	20.7	11.4	---	9.5	---	---	---	---
	72-101	2C1	--	--	--	0.8	15.3	16.1	40.2	43.7	20.2	19.3	17.1	0.04	1.64	1.79	0.030
	101-144	2C2	--	--	--	0.3	5.7	6.0	25.1	68.9	29.0	---	24.0	---	---	---	---
	144-152	2C3	--	--	--	0.6	20.5	21.1	32.6	46.3	21.9	---	17.8	---	---	---	---
	152-165	3C	--	--	--	0.3	30.6	30.9	46.3	22.8	9.8	---	10.3	---	---	---	---
	165-169	4C	--	--	--	--	2.3	2.3	32.8	64.9	28.9	---	22.6	---	---	---	---
Kolin silt	0-5	A	0.5	0.3	0.3	9.4	41.3	51.8	42.1	6.1	3.6	14.4	2.6	0.17	1.46	1.47	0.002
loam:[10]	5-13	E1	0.1	0.2	0.2	9.1	38.1	47.7	41.5	10.8	1.4	---	4.3	---	---	---	---
(S90LA-011-14)	13-22	E2	0.6	0.2	0.2	7.0	33.6	41.6	40.0	18.4	13.6	18.6	7.9	0.17	1.60	1.70	0.020
	22-33	B/E	0.4	0.2	0.1	5.1	24.2	30.0	34.4	35.6	28.4	26.1	15.3	0.16	1.48	1.75	0.057
	33-41	Btg/E	0.3	0.1	0.1	4.8	23.0	28.3	35.9	35.8	27.1	---	15.4	---	---	---	---
	41-50	Btg1	0.1	0.1	0.1	6.0	25.9	32.2	35.5	32.3	22.8	---	14.3	---	---	---	---
	50-63	Btg2	--	TR	0.1	5.2	24.0	29.3	32.2	38.5	24.0	26.2	15.1	0.17	1.54	1.93	0.078
	63-80	Btg3	--	TR	0.1	4.9	22.9	27.9	33.9	38.2	23.3	---	15.0	---	---	---	---
	80-94	BCg1	0.1	0.1	0.1	2.8	14.5	17.6	37.2	45.2	28.3	---	17.0	---	---	---	---
	94-104	BCg2	--	0.1	0.1	2.6	14.8	17.6	37.1	45.3	28.6	---	16.2	---	---	---	---
Malbis fine	0-6	A	0.2	0.4	3.1	30.3	30.6	64.6	32.6	2.8	2.0	7.5	1.9	0.09	1.55	1.55	---
sandy loam:[11]	6-10	E	0.4	0.3	2.6	28.1	31.6	63.0	32.6	4.4	2.4	---	1.8	---	1.60	---	---
(S80LA-011-2)	10-16	Bt/E	0.2	0.3	2.1	25.1	27.4	55.1	31.1	13.8	9.7	11.8	4.6	0.12	1.65	1.69	0.008
	16-25	Bt1	0.3	0.3	1.6	19.3	23.5	45.0	31.0	24.0	19.9	15.2	9.2	0.10	1.67	1.73	0.011
	25-34	Bt2	0.3	0.3	1.6	19.5	22.6	44.3	31.4	24.3	15.4	15.9	9.7	0.10	1.70	1.76	0.011
	34-41	Bt2	0.4	0.4	1.7	18.9	22.8	44.2	33.1	22.7	18.6	16.1	9.2	0.11	1.68	1.74	0.011
	41-50	Bt3	0.5	1.3	2.0	18.9	22.0	44.7	30.6	24.7	15.4	15.6	9.9	0.10	1.78	1.82	0.007
	50-63	B'/E1	0.8	1.2	2.5	18.5	21.9	44.9	26.7	28.4	15.0	16.8	11.3	0.09	1.74	1.79	0.009
	63-77	B'/E2	0.3	0.5	1.7	19.8	24.4	46.7	26.1	27.2	18.3	17.6	11.1	0.11	1.68	1.72	0.008

See footnotes at end of table.

TABLE 17.--PHYSICAL TEST DATA FOR SELECTED SOILS--Continued

Soil name and sample number	Depth	Horizon	Particle-size Distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)	Fine clay (<0.0002 mm)	Water content: 1/3 bar	15 bar	WRD	Bulk density: 1/3 bar	oven dry	COLE
		In	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	g/cm3	g/cm3	cm/cm
Merryville silt loam:[1,2]	0-7	A	TR	0.2	0.6	11.2	27.7	39.7	57.3	3.0	---	14.8	2.5	0.19	1.57	1.58	0.002
(S90LA-011-12)	7-16	Eg1	--	0.1	0.6	11.2	26.8	38.7	56.0	5.3	---	---	2.6	---	---	---	---
	16-25	Eg2	TR	0.1	0.6	11.4	25.7	37.8	56.7	5.5	---	18.7	2.8	0.27	1.67	1.69	0.004
	25-32	Btgx1	TR	0.2	0.5	10.7	23.5	34.9	55.7	9.4	---	---	3.9	---	---	---	---
	32-47	Btgx2	0.2	0.3	0.7	8.6	22.0	31.8	55.9	12.3	---	19.0	5.6	0.23	1.69	1.82	0.025
	47-68	Btg	0.3	0.4	0.6	11.3	26.2	38.8	46.7	14.5	---	19.5	6.3	0.22	1.65	1.75	0.020
	68-86	Cg1	--	0.1	0.3	17.1	40.4	57.9	30.9	11.2	---	---	4.7	---	---	---	---
	86-93	C	--	0.1	0.1	26.3	46.1	72.6	21.6	5.8	---	---	2.8	---	---	---	---
	93-100	Cg2	--	TR	0.1	9.7	61.0	70.8	20.2	9.0	---	---	3.6	---	---	---	---
Merryville silt loam:[2]	0-4	A	TR	0.1	0.8	12.0	27.2	40.1	55.3	4.6	2.5	---	3.5	---	1.36	1.40	0.010
(S90LA-011-18)	4-9	Eg	--	0.2	0.7	13.6	29.6	44.1	52.0	3.9	2.1	---	2.6	---	---	---	---
	9-18	Btg/E1	0.1	0.1	0.7	10.4	27.4	38.7	56.8	4.5	2.4	15.2	3.0	0.19	1.58	1.58	---
	18-26	Btg/E2	0.1	0.3	0.8	10.9	27.1	39.2	54.6	6.2	3.9	15.5	3.3	0.21	1.69	1.69	---
	26-35	Btg/E3	0.1	0.1	0.7	12.3	28.5	41.7	44.4	13.9	11.4	16.9	7.4	0.16	1.65	1.70	0.010
	35-48	Btg1	0.1	0.2	0.6	13.4	34.7	49.0	34.9	16.1	12.4	16.6	9.6	0.12	1.65	1.74	0.018
	48-55	Btg2	0.3	0.3	0.5	14.8	46.5	62.4	25.3	12.3	10.0	---	7.7	---	---	---	---
	55-72	2BCg1	--	--	0.1	35.4	53.3	88.8	10.2	1.0	0.3	---	0.9	---	---	---	---
	72-85	2BCg2	0.2	5.7	18.1	17.6	40.7	82.3	16.2	1.5	---	---	1.1	---	---	---	---
	85-99	2Cg	0.7	14.4	60.2	14.2	6.1	95.6	1.5	2.9	---	---	1.9	---	---	---	---
Messer silt loam:[2]	0-5	A	1.5	0.6	0.3	5.4	32.7	40.5	56.4	3.1	1.4	16.8	3.3	0.17	1.25	1.25	---
(S90LA-011-20)	5-8	E	0.9	0.4	0.4	4.2	34.5	40.4	55.6	4.0	1.6	13.6	1.7	0.19	1.62	1.62	---
	8-17	BE	1.9	0.5	0.3	4.0	30.5	37.2	56.4	6.4	3.9	13.9	2.4	0.18	1.58	1.62	0.008
	17-22	Bt/E1	1.6	0.5	0.3	4.1	27.2	33.7	59.3	7.0	4.7	14.2	2.9	0.19	1.67	1.69	0.004
	22-28	Bt/E2	0.7	0.3	0.2	3.3	24.7	29.2	56.7	14.1	10.2	17.6	5.8	0.19	1.62	1.68	0.012
	28-37	Bt1	0.9	0.4	0.3	2.6	23.3	27.5	53.3	19.2	14.9	19.8	8.2	0.18	1.61	1.72	0.022
	37-46	Bt2	0.4	0.4	0.3	2.8	20.7	24.6	54.8	20.6	16.4	20.1	8.9	0.18	1.62	1.69	0.014
	46-62	Bt3	0.3	0.2	0.2	2.8	21.3	24.8	53.5	21.7	17.3	---	9.0	---	---	---	---
	62-78	Bt4	0.4	0.3	0.3	3.3	23.3	27.6	51.7	20.7	---	---	8.6	---	---	---	---
	78-95	BC	0.1	0.1	0.1	2.4	20.9	23.6	45.6	30.8	---	---	12.8	---	---	---	---
	95-113	BCg	--	TR	0.1	2.5	22.7	25.3	48.0	26.7	---	---	10.5	---	---	---	---

See footnotes at end of table.

TABLE 17.--PHYSICAL TEST DATA FOR SELECTED SOILS--Continued

Soil name and sample number	Depth	Horizon	Particle-size Distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)	Fine clay (<0.0002 mm)	Water content: 1/3 bar	15 bar	WRD	Bulk density: 1/3 bar	oven dry	COLE
		In	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	g/cm3	g/cm3	cm/cm
Ruston fine sandy loam:[13] (S90LA-011-13)	0-7	A	0.1	3.1	27.7	36.7	11.8	79.4	15.7	4.9	2.8	6.3	2.1	0.06	1.48	1.49	0.002
	7-13	E/B	0.1	2.1	23.1	31.8	9.7	66.8	16.8	16.4	11.7	---	5.7	---	---	---	---
	13-24	Bt1	0.2	1.9	18.2	27.5	8.8	56.6	17.3	26.1	21.0	12.9	9.0	0.07	1.72	1.76	0.008
	24-38	Bt2	0.2	1.6	17.3	25.1	8.2	52.4	14.3	33.3	26.6	16.0	11.0	0.09	1.71	1.79	0.015
	38-50	Bt3	0.1	1.4	18.2	25.2	7.8	52.7	14.5	32.8	28.1	---	11.6	---	---	---	---
	50-66	Bt4	0.2	1.5	20.5	28.6	8.0	58.8	12.6	28.6	23.5	---	9.9	---	---	---	---
	66-88	Bt5	0.1	1.6	21.0	31.5	8.8	63.0	10.7	26.3	21.4	13.8	8.9	0.09	1.74	1.76	0.004
	88-104	Bt6	0.1	1.9	24.1	33.1	9.0	68.2	10.4	21.4	16.9	---	7.8	---	---	---	---
	104-112	Bt7	0.2	1.9	24.8	35.2	9.6	71.7	9.7	18.6	14.4	---	6.4	---	---	---	---

[1] This Acadia pedon is located 5.8 miles southwest of U.S. Hwy 171 in Longville; NW 1/4, SE1/4, Sec. 31, T. 5 S., R. 9 W.;1,800 feet north and 2,400 feet west of SE corner of sec. 31; 30° 34′ 53″ N. Lat.; 93° 19′ 29″ W. Long. The surface texture of vfsl is within the range of the series.

[2] This pedon is the same as the typical pedon for the series. For the description and location of the soil, see the section, "Soil Series and Their Morphology."

[3] This Beauregard pedon is located about 1.5 miles south of Longville on Highway 171, 1.6 miles east on oilfield access road, 100 feet south of road; NW 1/4, SE 1/4, sec. 32, T .5 S., R. 8 W.

[4] This Beauregard pedon is located about 2 miles south of Longville on Highway 171, 2 miles west on access road, 1 mile south, 0.15 mile east, 100 feet south of road; NW 1/4 NW 1/4 Sec. 11, T. 6 S., R. 9 W.

[5] This Caddo pedon is located approximately 8,000 feet northeast of Ragley; about 1/2 mile west and 1,200 feet south of the NE corner of sec. 19: NW1/4, NE1/4, sec. 19, T. 6 S., R. 8 W. Longville La. 7.5′ quad; 30° 31′ 49″ N. Lat.; 93° 13′ 25″ W. Long.

[6] This pedon is described as typical for the official series. However, it falls slightly outside the taxonomic classification but the difference is within the normal error of observation.

[7] This Caddo pedon is coarse-silty. It is included as a similar soil in map unit CdA, Caddo-Messer silt loams. The pedon is located about 1.15 miles north of the junction of Highways 190 and 171 on Highway 171, 0.5 mile east on access road, 150 feet north of road opposite of east edge of grain storage facility; NW 1/4 NE 1/4 sec. 19, T. 6 S., R. 8 W.

[8] This Caddo pedon is located about 4 miles south of Longville on Highway 171, 1.2 miles east on access road, 100 feet south of road, SW 1/4 SW 1/4 sec. 8, T. 6 S., R. 8 W.

[9] This Glenmora pedon is located 30° 36′ 49″ N. Lat; 93° 13′ 53″ W. Long.

[10] This Kolin pedon is located 30° 42′ 03″ N. Lat; 93° 30′ 44″ W. Long.

[11] This Malbis pedon is located 30° 46′ 07″ N. Lat; 93° 29′ 15″ W. Long.

12 This Merryville pedon is located 30° 45′ 09″ N. Lat; 93° 31′ 06″ W. Long.

13 This Ruston pedon is located 30° 50′ 32.3″ N. Lat; 93° 27′ 17.09″ W. Long; SE 1/4, sec. 35, T. 2 S., R. 11 W.

TABLE 18.--CHEMICAL TEST DATA FOR SELECTED SOILS

(Dash indicates the determination was not made. TR means trace.)

Soil Name and sample number	Depth	Horizon	Extractable bases: Ca	Extractable bases: Mg	Extractable bases: K	Extractable bases: Na	Extractable acidity	Cation exchange capacity (NH_4OAc)	Base saturation (SUM)	Organic carbon	pH 1:1 H_2O	pH 1:1 KCl	pH 1:2 $CaCl_2$	Extractable iron	Extractable aluminum	Extractable manganese
	In		----------milliequivalents per 100 g----------						Pct	Pct				Pct	Meq/100g	ppm
Acadia silt loam:[1]	0-4	A	0.9	0.3	TR	---	6.5	6.3	16	1.42	4.5	3.6	3.9	0.7	1.2	0.6
(S90LA-011-016)	4-12	E	1.2	1.2	0.1	TR	8.2	9.0	23	0.36	4.8	3.7	4.1	1.5	3.9	0.0
	12-20	B/E	0.8	1.7	0.1	0.1	10.2	10.8	21	0.16	5.0	3.7	4.1	1.9	5.0	0.0
	20-37	Btg1	1.7	2.7	0.1	0.5	12.1	14.4	29	0.12	5.1	3.6	4.1	2.3	6.1	0.0
	37-55	Btg2	3.2	5.1	0.2	0.8	9.2	16.0	50	0.07	5.2	3.6	4.2	1.2	4.6	0.5
	55-76	BC1	10.5	11.4	0.5	1.9	8.8	28.3	73	0.04	4.8	3.4	4.1	1.4	2.9	2.6
	76-110	BC2	8.5	11.7	0.5	1.8	5.5	25.9	80	0.02	5.2	3.5	4.2	1.1	0.8	2.6
Bearhead very fine sandy loam:[2]	0-8	A	0.5	0.1	TR	---	2.4	2.9	20	0.49	4.9	4.1	4.4	0.2	0.4	0.6
(S90LA-011-017)	8-15	E	0.6	0.1	TR	---	1.1	1.5	39	0.14	5.5	4.4	4.8	0.2	TR	0.2
	15-21	B/E	1.6	0.9	TR	---	2.8	3.6	47	0.12	5.2	4.0	4.5	0.6	0.4	0.0
	21-35	Bt1	0.6	0.9	TR	---	4.1	4.4	27	0.06	4.9	3.9	4.3	0.6	1.7	0.1
	35-46	Bt2	---	0.4	TR	---	3.7	3.3	10	0.04	4.9	3.8	4.2	0.5	1.9	0.0
	46-59	Bt3	0.1	0.4	TR	---	2.6	3.2	16	0.02	4.9	3.8	4.2	0.5	1.8	0.0
	59-75	Btg	0.2	2.2	0.1	0.1	9.2	10.1	22	0.02	4.9	3.6	4.0	0.6	6.0	0.0
	75-89	B't	0.2	3.4	0.1	0.1	10.0	12.8	28	0.02	4.6	3.2	3.7	1.9	5.9	0.1
	89-98	2BCg1	0.1	1.4	0.1	0.1	4.3	5.4	28	0.01	4.7	3.4	4.0	0.1	2.8	0.0
	98-108	2BCg2	TR	0.6	TR	TR	1.3	2.5	32	TR	4.7	3.7	4.0	TR	1.3	0.0
Beauregard silt loam:[2]	0-5	Ap	7.8	1.5	0.1	TR	5.2	9.6	64	2.88	5.4	4.9	5.1	0.7	---	---
(S90LA-011-015)	5-9	E	1.2	0.4	---	---	4.3	4.2	27	0.43	4.8	3.9	4.3	0.9	1.6	0.0
	9-16	Bt	0.5	0.3	TR	0.1	7.6	5.8	11	0.29	4.5	3.8	4.2	1.4	3.5	0.0
	16-22	Btv/E1	0.8	0.5	TR	---	7.4	6.3	15	0.24	4.9	3.8	4.2	1.3	3.6	0.0
	22-32	Btv/E2	0.6	0.6	0.1	---	7.0	6.9	16	0.11	4.8	3.8	4.1	1.3	3.5	0.0
	32-49	Bt/E1	0.5	0.7	0.1	---	6.6	6.5	16	0.06	4.8	3.7	4.1	1.5	3.2	0.0
	49-62	Bt/E2	0.4	0.8	TR	TR	5.9	6.1	17	0.04	5.0	3.5	4.1	1.6	3.1	0.0
	62-75	B't	0.5	1.0	TR	0.1	6.2	6.8	21	0.03	5.1	3.5	4.1	2.1	3.2	0.0
	75-90	Btg	1.5	2.1	TR	0.4	5.0	8.4	44	0.02	5.0	3.4	4.1	2.3	2.6	0.0

See footnotes at end of table.

TABLE 18.--CHEMICAL TEST DATA FOR SELECTED SOILS--Continued

Soil Name and sample number	Depth	Horizon	Extractable bases				Extract-able acidity	Cation exchange capacity (NH_4OAc)	Base satura-tion (SUM)	Organic carbon	pH			Extract-able iron	Extract-able aluminum	Extract-able manganese
			Ca	Mg	K	Na					1:1 H_2O	1:1 KCl	1:2 $CaCl_2$			
	In		----------milliequivalents per 100 g----------						Pct	Pct				Pct	Meq/100g	ppm
Beauregard silt loam:[3]	0-2	A	2.4	0.8	0.1	0.1	7.3	9.6	32	2.10	5.6	---	---	---	---	---
(S57LA-011-1)	2-6	E	0.8	0.6	---	0.1	4.5	5.3	25	0.53	5.4	---	---	---	---	---
	6-10	BE	0.9	1.1	0.1	0.2	5.7	7.0	29	0.26	5.3	---	---	---	---	---
	10-19	Bt1	0.9	1.7	0.1	0.2	6.9	8.0	30	0.16	5.3	---	---	---	---	---
	19-29	Btv/E1	1.1	1.5	0.1	0.2	6.9	8.3	30	0.10	5.5	---	---	---	---	---
	29-41	Btv/E2	1.2	1.5	0.1	0.2	7.4	8.8	29	0.08	5.4	---	---	---	---	---
	41-50	Bt2	2.9	3.8	0.2	0.5	8.2	13.4	47	0.10	5.5	---	---	---	---	---
	50-73	BC	9.0	9.5	0.5	1.3	5.0	22.8	80	0.06	5.7	---	---	---	---	---
Beauregard silt loam:[4]	0-3	A	1.0	0.3	0.1	---	6.1	6.2	19	1.60	5.2	---	---	---	---	---
(S57LA-011-2)	3-86	E	0.5	0.3	---	0.1	4.9	5.2	16	0.46	5.1	---	---	---	---	---
	8-16	Bt1	0.2	0.4	0.1	0.1	8.1	7.3	9	0.20	5.1	---	---	---	---	---
	16-27	Bt2	0.5	0.7	0.1	0.1	9.0	9.3	13	0.14	5.2	---	---	---	---	---
	27-40	Btvg	0.4	0.9	0.1	0.1	8.2	8.4	15	0.05	5.4	---	---	---	---	---
	40-60	BCg	1.4	2.3	0.1	0.4	9.8	12.6	30	0.01	5.3	---	---	---	---	---
Betis fine sand:[2]	0-9	A	0.6	0.2	0.1	---	2.8	2.7	24	0.80	5.1	---	4.6	0.1	0.3	TR
(S90LA-011-11)	9-16	E	0.3	0.1	TR	---	0.8	0.9	33	0.21	5.3	---	4.7	0.2	0.1	TR
	16-26	E/B	0.3	0.1	---	---	0.6	1.0	40	0.06	5.1	---	4.7	0.2	TR	TR
	26-36	B/E	0.4	0.2	---	---	0.7	1.9	46	0.05	5.2	---	4.7	0.3	TR	---
	36-50	Bt/E1	0.8	0.7	TR	---	2.6	2.8	37	0.07	5.2	---	4.4	0.7	0.3	---
	50-60	Bt/E2	0.4	0.5	TR	---	1.7	2.1	35	0.04	5.1	---	4.3	0.7	0.4	---
	60-73	Bt/E3	0.2	0.2	---	---	1.1	1.5	27	0.03	5.1	---	4.4	0.4	0.3	---
	73-85	Bt/E4	0.1	0.1	---	---	0.4	0.5	33	0.01	5.0	---	4.5	0.2	0.1	---
	73-85	Bt/E4	0.5	0.6	TR	---	1.7	2.2	39	0.01	5.0	---	4.5	0.7	0.3	---
	85-109	Bt/E5	0.5	0.7	TR	---	2.5	3.7	32	0.02	5.1	---	4.3	1.0	0.9	---
Blevins very fine sandy loam:[2]	0-5	A	0.4	0.1	TR	TR	2.5	2.3	17	0.88	4.7	3.8	4.1	0.4	0.8	---
(S80LA-011-1)	5-10	E	0.6	0.2	TR	TR	1.0	1.2	44	0.21	5.3	4.2	4.6	0.5	0.3	---
	10-17	Bt1	1.3	0.8	TR	---	2.9	4.2	42	0.23	5.1	3.9	4.4	0.9	0.6	---
	17-24	Bt2	1.6	1.5	TR	TR	4.8	6.1	39	0.15	5.1	3.8	4.3	1.3	1.1	---
	24-33	Bt3	0.7	1.0	TR	---	5.4	5.9	24	0.09	4.9	3.7	4.2	1.4	1.9	---
	33-39	Bt3	0.4	1.0	TR	---	5.1	5.1	22	0.07	4.8	3.6	4.1	1.3	1.8	---
	39-50	Bt4	0.8	1.6	TR	---	3.8	5.4	39	0.04	4.9	3.6	4.3	1.4	1.0	---
	50-59	Bt/E	0.8	1.8	TR	---	5.4	6.7	32	0.05	4.9	3.5	4.2	1.2	1.4	---
	59-72	B't	0.8	2.0	TR	---	5.0	6.6	36	0.03	4.8	3.5	4.3	1.4	1.9	---

See footnotes at end of table.

TABLE 18.--CHEMICAL TEST DATA FOR SELECTED SOILS--Continued

Soil Name and sample number	Depth	Horizon	Extractable bases: Ca	Mg	K	Na	Extractable acidity	Cation exchange capacity (NH_4OAc)	Base saturation (SUM)	Organic carbon	pH 1:1 H_2O	pH 1:1 KCl	pH 1:2 $CaCl_2$	Extractable iron	Extractable aluminum	Extractable manganese
	In		----------milliequivalents per 100 g----------						Pct	Pct				Pct	Meq/100g	ppm
Caddo silt loam:[5] (S90LA-011-19)	0-5	A	0.5	0.2	TR	0.1	6.8	6.3	2.8	1.12	4.6	3.8	4.1	0.5	2.0	TR
	5-9	Eg1	0.3	0.2	---	TR	5.9	4.6	3.3	0.32	4.6	3.8	4.1	0.7	2.8	---
	9-18	Eg2	0.4	0.2	TR	TR	6.5	4.9	3.4	0.17	4.6	3.7	4.1	0.7	2.8	---
	18-30	E/Btg	0.2	0.2	---	---	5.0	4.0	3.0	0.07	4.8	3.7	4.2	0.7	2.6	---
	30-40	Btg/E1	0.2	0.4	TR	TR	9.5	4.9	5.0	0.08	4.8	3.6	4.1	1.6	4.4	---
	40-52	Btg/E2	0.5	0.6	TR	0.1	9.2	7.2	5.4	0.05	4.9	3.7	4.1	1.6	4.2	---
	52-73	Btg1	1.8	1.3	TR	0.1	8.4	8.0	6.5	0.03	5.0	3.5	4.1	1.8	3.3	---
	73-87	Btg2	2.0	1.9	TR	0.2	4.0	7.4	6.3	0.02	5.1	3.6	4.2	2.4	2.2	---
	87-95	BCg	5.5	4.5	0.2	0.4	5.0	13.7	12.1	0.01	5.1	3.6	4.3	2.3	1.5	---
Caddo silt loam:[6] (S81LA-011-001)	0-6	A	0.4	0.2	TR	TR	7.8	5.9	7	1.58	4.6	---	4.6	0.2	2.2	---
	6-16	Eg1	0.1	0.2	---	TR	5.8	4.6	5	0.33	4.7	---	4.6	0.5	3.1	---
	16-30	Eg2	0.2	0.4	TR	TR	6.7	6.5	8	0.24	4.7	---	4.5	0.5	4.3	---
	30-60	Btg	0.4	0.8	TR	0.1	7.2	8.0	15	0.19	4.9	---	4.6	0.9	4.6	---
	60-103	BCg	2.3	2.4	0.1	0.4	5.3	9.3	50	0.15	5.2	---	4.7	1.0	2.4	---
Caddo silt loam:[7] (S57LA-011-3)	0-3	A	0.6	0.1	---	---	7.7	7.2	8	1.77	4.8	---	---	---	---	---
	3-5	Eg	0.2	---	---	---	5.7	4.9	3	0.64	5.0	---	---	---	---	---
	5-12	E/Btg1	0.1	0.1	---	---	6.5	5.6	3	0.20	5.0	---	---	---	---	---
	12-18	E/Btg2	---	0.1	---	---	6.5	5.6	2	0.19	5.0	---	---	---	---	---
	18-26	E/Btg3	---	0.1	---	---	6.9	5.6	1	0.12	5.1	---	---	---	---	---
	26-39	E/Btg4	0.1	0.2	---	0.1	6.1	6.1	6	0.09	5.2	---	---	---	---	---
	39-60	Btg	0.5	1.7	0.1	0.3	8.6	10.7	30	0.08	5.2	---	---	---	---	---
	60-101	BCg	---	---	---	---	---	---	--	---	---	---	---	---	---	---
Caddo silt loam:[8] (S57LA-011-4)	0-4	A	0.9	0.5	---	---	6.1	6.3	19	1.40	4.8	---	---	---	---	---
	4-10	Eg1	0.7	0.9	0.1	---	6.5	6.9	21	0.25	4.8	---	---	---	---	---
	10-16	Eg2	0.4	0.9	0.1	0.1	7.3	7.4	17	0.17	4.9	---	---	---	---	---
	16-27	Eg3	---	0.9	0.1	0.1	7.3	7.0	13	0.11	5.2	---	---	---	---	---
	27-50	Btg1	1.5	2.5	0.1	0.4	8.6	10.8	34	0.09	5.3	---	---	---	---	---
	50-60	Btg2	3.6	3.8	0.2	0.7	4.9	12.6	63	0.04	5.2	---	---	---	---	---

See footnotes at end of table.

TABLE 18.--CHEMICAL TEST DATA FOR SELECTED SOILS--Continued

Soil Name and sample number	Depth	Horizon	Extractable bases				Extractable acidity	Cation exchange capacity (NH_4OAc)	Base saturation (SUM)	Organic carbon	pH			Extractable iron	Extractable aluminum	Extractable manganese
			Ca	Mg	K	Na					1:1 H_2O	1:1 KCl	1:2 $CaCl_2$			
	In		milliequivalents per 100 g						Pct	Pct				Pct	Meq/100g	ppm
Glenmora silt loam:[9] (S88LA-011-1)	0-6	Ap1	5.2	1.0	0.1	0.2	2.7	6.8	71	1.20	5.6	---	5.3	0.8	---	---
	6-12	Ap2	2.2	0.6	---	TR	4.7	6.6	37	0.52	4.7	---	4.2	0.9	1.0	---
	12-24	Bt	0.8	0.6	TR	TR	6.5	7.5	18	0.17	4.3	---	3.9	1.3	3.2	---
	24-43	E/Btv1	0.7	0.9	TR	TR	6.4	7.7	20	0.13	4.6	---	3.9	1.5	3.0	---
	43-59	E/Btv2	0.8	1.1	TR	0.1	5.6	7.4	26	0.08	4.4	---	3.9	1.8	2.4	---
	59-72	E/Bt	1.5	2.0	0.1	0.2	5.7	9.2	40	0.06	4.7	---	3.9	2.2	2.4	---
	72-101	2C1	8.2	9.1	0.4	0.9	5.6	23.1	77	0.01	4.0	---	4.0	0.9	1.3	---
	101-144	2C2	13.0	13.9	0.8	1.3	5.9	34.0	83	0.04	4.7	---	4.3	2.1	0.9	---
	144-152	2C3	9.8	10.3	0.6	1.0	3.8	24.6	85	0.02	5.0	---	4.3	0.8	0.3	---
	152-165	3C	5.4	5.5	0.3	0.6	1.8	13.4	87	0.02	5.4	---	4.5	0.2	---	---
	165-169	4C	13.5	13.4	0.7	1.3	5.1	32.2	85	0.02	4.7	---	4.6	1.3	0.3	---
Kolin silt loam:[10] (S90LA-011-14)	0-5	A	0.7	0.3	TR	---	5.0	4.2	17	0.96	4.6	3.8	4.1	0.8	1.0	---
	5-13	E1	0.7	0.5	TR	0.1	4.8	4.3	21	0.21	4.8	3.8	4.1	0.7	1.8	---
	13-22	E2	0.5	1.0	0.1	0.3	8.5	7.8	18	0.23	4.9	3.5	4.0	1.5	4.4	---
	22-33	B/E	1.4	3.2	0.2	1.0	14.2	15.5	29	0.31	5.9	3.6	4.0	1.8	6.9	---
	33-41	Btg/E	2.9	4.8	0.2	1.4	11.8	15.8	44	0.21	5.4	3.5	4.1	1.8	5.1	---
	41-50	Btg1	3.1	5.4	0.3	1.5	8.2	14.5	56	0.09	5.5	3.5	4.2	1.3	3.3	---
	50-63	Btg2	5.4	8.2	0.3	2.0	6.4	18.4	71	0.06	5.1	3.5	4.3	1.1	2.0	---
	63-80	Btg3	5.6	8.8	0.3	2.2	5.0	18.1	77	0.03	5.2	3.5	4.2	0.9	0.8	---
	80-94	BCg1	9.4	10.6	0.4	2.7	4.0	21.4	85	0.03	5.2	3.9	4.5	1.1	0.4	---
	94-104	BCg2	7.6	10.8	0.4	2.7	3.5	21.0	86	0.04	5.5	4.0	4.6	1.0	0.2	---
Malbis fine sandy loam:[11] (S80LA-011-2)	0-6	A	0.2	0.1	TR	---	2.2	1.8	12	0.59	4.6	4.0	4.2	0.2	0.6	---
	6-10	E	0.3	TR	---	---	2.0	1.3	13	0.30	5.1	4.2	4.5	0.2	0.3	---
	10-16	Bt/E	0.9	0.4	---	---	2.1	3.0	38	0.21	5.0	3.9	4.3	0.6	0.6	---
	16-25	Bt1	1.5	0.9	TR	TR	4.1	5.5	37	0.19	5.1	3.8	4.2	1.1	1.3	---
	25-34	Bt2	0.7	0.7	TR	TR	4.6	5.4	23	0.13	5.0	3.7	4.1	1.0	2.1	---
	34-41	Bt2	0.5	0.8	TR	---	4.8	5.3	21	0.07	4.9	3.6	4.1	1.0	2.0	---
	41-50	Bt3	0.7	1.1	TR	---	4.8	5.5	27	0.06	4.9	3.6	4.1	1.4	1.9	---
	50-63	B'/E1	0.8	1.3	TR	---	5.6	6.7	27	0.05	4.8	3.5	4.0	1.3	2.3	---
	63-77	B'/E2	0.9	1.5	TR	---	4.3	5.9	36	0.03	4.8	3.5	4.1	1.5	1.7	---

See footnotes at end of table.

TABLE 18.--CHEMICAL TEST DATA FOR SELECTED SOILS--Continued

Soil Name and sample number	Depth	Horizon	Extractable bases: Ca	Mg	K	Na	Extractable acidity	Cation exchange capacity (NH_4OAc)	Base saturation (SUM)	Organic carbon	pH 1:1 H_2O	pH 1:1 KCl	pH 1:2 $CaCl_2$	Extractable iron	Extractable aluminum	Extractable manganese
	In		----------milliequivalents per 100 g----------						Pct	Pct				Pct	Meq/100g	ppm
Merryville silt loam:[12]	0-7	A	1.0	0.4	---	0.1	2.0	4.1	43	1.22	4.7	---	4.3	0.1	0.2	---
(S90LA-011-12)	7-16	Eg1	2.1	1.1	---	0.5	0.7	4.1	84	0.23	6.4	---	5.5	0.1	---	---
	16-25	Eg2	1.7	1.0	TR	0.5	0.4	3.3	89	0.11	6.8	---	5.8	0.1	---	---
	25-32	Btgx1	2.5	1.6	TR	0.8	0.3	4.8	94	0.07	6.9	---	5.8	0.1	---	---
	32-47	Btgx2	3.7	2.5	0.1	1.0	0.8	7.1	90	0.06	7.0	---	6.1	0.5	---	TR
	47-68	Btg	4.9	3.4	0.1	0.7	1.2	9.3	88	0.02	6.0	---	4.9	0.5	0.1	---
	68-86	Cg1	3.7	2.4	0.1	0.3	0.7	6.4	90	0.05	6.4	---	5.9	TR	---	TR
	86-93	C	1.6	1.1	TR	0.1	1.2	3.2	70	0.01	5.5	---	4.6	0.7	TR	---
	93-100	Cg2	2.8	1.8	0.1	0.1	0.8	5.5	86	0.01	5.8	---	4.8	0.3	TR	---
Merryville silt loam:[2]	0-4	A	0.4	0.2	TR	---	3.9	3.3	13	0.86	4.1	3.7	4.0	0.1	1.0	---
(S90LA-011-18)	4-9	Eg	0.3	0.1	TR	TR	2.3	2.7	15	0.42	4.4	3.8	4.2	0.1	0.9	---
	9-18	Btg/E1	0.6	0.2	TR	TR	2.7	2.8	23	0.36	4.6	3.9	4.3	0.2	0.9	---
	18-26	Btg/E2	0.9	0.5	TR	TR	2.4	3.0	37	0.13	4.8	3.7	4.1	0.3	1.0	---
	26-35	Btg/E3	2.1	1.3	0.1	0.1	4.8	7.7	43	0.07	4.6	3.4	3.9	0.5	2.8	---
	35-48	Btg1	2.9	2.0	0.1	0.1	7.0	10.0	42	0.04	4.5	3.4	3.9	0.7	3.6	---
	48-55	Btg2	2.3	1.4	0.1	0.1	5.0	7.8	44	0.02	4.8	3.5	3.9	0.2	2.7	---
	55-72	2BCg1	0.2	0.2	---	TR	0.6	0.7	40	---	4.7	3.8	4.2	---	0.3	---
	72-85	2BCg2	0.3	0.2	TR	---	0.6	1.6	45	TR	4.7	3.8	4.2	TR	0.4	---
	85-99	2Cg	0.3	0.3	TR	---	0.6	1.2	50	---	4.9	3.8	4.1	TR	0.5	---
Messer silt loam:[2]	0-5	A	0.6	0.2	TR	TR	4.9	4.3	14	1.42	4.9	4.0	4.4	0.9	0.9	TR
(S90LA-011-20)	5-8	E	0.2	0.1	---	---	2.1	2.4	13	0.35	4.7	4.1	4.5	0.6	0.7	---
	8-17	BE	0.1	0.1	---	---	2.0	2.0	9	0.09	4.8	3.8	4.4	0.6	1.5	---
	17-22	Bt/E1	0.1	0.2	---	---	1.4	2.4	18	0.05	4.8	3.9	4.3	0.7	1.2	---
	22-28	Bt/E2	0.2	0.4	TR	TR	4.0	4.2	13	0.07	4.9	3.7	4.2	0.9	2.6	---
	28-37	Bt1	0.3	0.6	0.1	0.1	6.6	6.5	14	0.07	5.0	3.7	4.2	1.4	3.6	---
	37-46	Bt2	0.3	0.8	TR	0.1	6.7	6.9	15	0.08	5.1	3.7	4.1	1.6	3.7	---
	46-62	Bt3	0.7	1.1	TR	0.2	5.2	6.8	28	0.06	5.2	3.6	4.1	1.4	3.2	---
	62-78	Bt4	1.4	1.7	TR	0.3	6.0	6.5	36	0.06	5.2	3.6	4.3	1.5	1.7	---
	78-95	BC	3.6	3.6	0.1	0.5	5.5	10.7	59	0.04	5.2	3.7	4.3	2.7	1.5	---
	95-113	BCg	4.4	4.2	0.1	0.6	4.3	10.9	68	0.02	5.4	3.8	4.4	1.2	0.6	---

See footnotes at end of table.

TABLE 18.--CHEMICAL TEST DATA FOR SELECTED SOILS--Continued

Soil Name and sample number	Depth	Horizon	Extractable bases: Ca	Mg	K	Na	Extractable acidity	Cation exchange capacity (NH_4OAc)	Base saturation (SUM)	Organic carbon	pH 1:1 H_2O	pH 1:1 KCl	pH 1:2 $CaCl_2$	Extractable iron	Extractable aluminum	Extractable manganese
	In		milliequivalents per 100 g						Pct	Pct				Pct	Meq/100g	ppm
Ruston fine sandy loam:[13] (S90LA-011-13)	0-7	A	1.2	0.2	0.1	---	2.6	2.6	37	0.82	5.3	4.4	4.7	0.3	0.2	TR
	7-13	E/B	1.8	0.6	0.1	---	2.5	3.2	50	0.20	5.2	4.3	4.8	1.1	0.1	TR
	13-24	Bt1	2.8	1.2	TR	---	3.6	4.9	53	0.16	5.4	4.4	4.9	1.9	0.1	---
	24-38	Bt2	2.6	1.5	TR	---	4.3	5.6	49	0.07	5.2	4.2	4.7	2.4	0.3	---
	38-50	Bt3	2.2	1.2	TR	TR	5.4	5.4	39	0.03	5.2	4.0	4.5	2.5	0.5	---
	50-66	Bt4	1.9	0.9	TR	---	3.7	4.4	43	0.02	5.2	4.0	4.5	2.2	0.6	---
	66-88	Bt5	1.4	0.6	TR	---	3.5	3.1	36	0.02	5.2	3.9	4.5	2.0	0.5	---
	88-104	Bt6	1.5	0.6	---	---	2.9	3.3	42	0.02	5.2	3.9	4.5	1.6	0.4	---
	104-112	Bt7	1.1	0.5	---	---	2.7	2.6	37	0.01	5.2	3.9	4.5	1.5	0.3	---

[1] This Acadia pedon is located 5.8 miles southwest of U.S. Hwy 171 in Longville; NW 1/4, SE1/4, Sec. 31, T. 5 S., R. 9 W.;1,800 feet north and 2,400 feet west of SE corner of sec. 31; 30° 34' 53" N. Lat.; 93° 19' 29" W. Long.

[2] This pedon is the same as the typical pedon for the series. For the description and location of the soil, see the section, "Soil Series and Their Morphology."

[3] This Beauregard pedon is located about 1.5 miles south of Longville on Highway 171, 1.6 miles east on oilfield access road, 100 feet south of road; NW 1/4, SE 1/4, sec. 32, T .5 S., R. 8 W.

[4] This Beauregard pedon is located about 2 miles south of Longville on Highway 171, 2 miles west on access road, 1 mile south, 0.15 mile east, 100 feet south of road; NW 1/4 NW 1/4 Sec. 11, T. 6 S., R. 9 W.

[5] This Caddo pedon is located approximately 8,000 feet northeast of Ragley; about 1/2 mile west and 1,200 feet south of the NE corner of sec. 19: NW1/4, NE1/4, sec. 19, T. 6 S., R. 8 W. Longville La. 7.5' quad; 30° 31' 49" N. Lat.; 93° 13' 25" W. Long.

[6] This pedon is described as typical for the official series. However, the lab data is slightly outside the taxonomic classification, but the difference is within the normal error of observation.

[7] This Caddo pedon is coarse-silty. It is included as a similar soil in map unit CdA, Caddo-Messer silt loams. The pedon is located about 1.15 miles north of the junction of Highways 190 and 171 on Highway 171, 0.5 mile east on access road, 150 feet north of road opposite of east edge of grain storage facility; NW 1/4 NE 1/4 sec. 19, T. 6 S., R. 8 W.

[8] This Caddo pedon is located about 4 miles south of Longville on Highway 171, 1.2 miles east on access road, 100 feet south of road, SW 1/4 SW 1/4 sec. 8, T. 6 S., R. 8 W.

[9] This Glenmora pedon is located 30° 36' 49" N. Lat; 93° 13' 53" W. Long.

[10] This Kolin pedon is located 30° 42' 03" N. Lat; 93° 30' 44" W. Long.

[11] This Malbis pedon is located 30° 46' 07" N. Lat; 93° 29' 15" W. Long

[12] This Merryville pedon is located 30° 45' 09" N. Lat; 93° 31' 06" W. Long. The pH in the subsoil is outside the range of the series.

[13] This Ruston pedon is located 30° 50' 32.3" N. Lat; 93° 27' 17.09" W. Long; SE 1/4, sec. 35, T. 2 S., R. 11 W.

TABLE 19.--CLASSIFICATION OF THE SOILS

(An asterisk in the first column indicates that the soil is a taxadjunct to the series. See text for a description of those characteristics of the soil that are outside the range of the series)

Soil name	Family or higher taxonomic class
*Acadia	Fine, montmorillonitic, thermic Aeric Ochraqualfs
Bearhead	Coarse-loamy, siliceous, thermic Typic Hapludults
Beauregard	Fine-silty, siliceous, thermic Plinthaquic Paleudults
*Betis	Sandy, siliceous, thermic Psammentic Paleudults
Bienville	Sandy, siliceous, thermic Psammentic Paleudalfs
Blevins	Fine-silty, siliceous, thermic Typic Paleudults
Boykin	Loamy, siliceous, thermic Arenic Paleudults
Brimstone	Fine-silty, siliceous, thermic Glossic Natraqualfs
Caddo	Fine-silty, siliceous, thermic Typic Glossaqualfs
Cahaba	Fine-loamy, siliceous, thermic Typic Hapludults
Cypress	Fine, mixed, acid, thermic Typic Fluvaquents
Doucette	Loamy, siliceous, thermic Arenic Plinthic Paleudults
*Dubach	Fine-loamy, siliceous, thermic Typic Paleudults
Glenmora	Fine-silty, siliceous, thermic Glossaquic Paleudalfs
*Gore	Fine, mixed, thermic Vertic Paleudalfs
Guyton	Fine-silty, siliceous, thermic Typic Glossaqualfs
Hainesville	Thermic, coated Argic Quartzipsamments
Iuka	Coarse-loamy, siliceous, acid, thermic Aquic Udifluvents
Kirbyville	Fine-loamy, siliceous, thermic Plinthaquic Paleudults
Kolin	Fine-silty, siliceous, thermic Haplic Glossudalfs
Malbis	Fine-loamy, siliceous, thermic Plinthic Paleudults
Mantachie	Fine-loamy, siliceous, acid, thermic Aeric Fluvaquents
Merryville	Coarse-silty, siliceous, thermic Typic Glossaqualfs
Messer	Coarse-silty, siliceous, thermic Haplic Glossudalfs
Niwana	Coarse-loamy, siliceous, thermic Typic Paleudults
Osier	Siliceous, thermic Typic Psammaquents
Ouachita	Fine-silty, siliceous, thermic Fluventic Dystrochrepts
Ruston	Fine-loamy, siliceous, thermic Typic Paleudults
*Spurger	Fine, mixed, thermic Albaquultic Hapludults
Sugartown	Fine, mixed, thermic Ultic Hapludalfs
Urbo	Fine, mixed, acid, thermic Vertic Haplaquepts

TABLE 20.--PRIME FARMLAND

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland.)

Map symbol	Soil name
AcB	Acadia silt loam, 1 to 3 percent slopes
AcC	Acadia silt loam, 3 to 5 percent slopes
BaB	Bearhead-Merryville complex, gently undulating
BdB	Beauregard silt loam, 1 to 3 percent slopes
BdC	Beauregard silt loam, 3 to 5 percent slopes
BpB	Blevins very fine sandy loam, 1 to 3 percent slopes
BpC	Blevins very fine sandy loam, 3 to 5 percent slopes
CdA	Caddo-Messer silt loams
ChB	Cahaba fine sandy loam, 1 to 3 percent slopes
DuC	Dubach fine sandy loam, 1 to 5 percent slopes
DxB	Dubach-Bearhead fine sandy loams, gently undulating
GnB	Glenmora silt loam, 1 to 3 percent slopes
GwA	Guyton-Messer silt loams
KbB	Kirbyville-Niwana fine sandy loams, 1 to 3 percent slopes
KoB	Kolin silt loam, 1 to 3 percent slopes
KoC	Kolin silt loam, 3 to 5 percent slopes
MbB	Malbis fine sandy loam, 1 to 3 percent slopes
MbC	Malbis fine sandy loam, 3 to 5 percent slopes
MuA	Merryville-Bearhead complex
RuB	Ruston fine sandy loam, 1 to 3 percent slopes
RuC	Ruston fine sandy loam, 3 to 5 percent slopes
SuB	Sugartown very fine sandy loam, 1 to 3 percent slopes
SuC	Sugartown very fine sandy loam, 3 to 5 percent slopes

NRCS Accessibility Statement

This document is not accessible by screen-reader software. The Natural Resources Conservation Service (NRCS) is committed to making its information accessible to all of its customers and employees. If you are experiencing accessibility issues and need assistance, please contact our Helpdesk by phone at 1-800-457-3642 or by e-mail at ServiceDesk-FTC@ftc.usda.gov. For assistance with publications that include maps, graphs, or similar forms of information, you may also wish to contact our State or local office. You can locate the correct office and phone number at http://offices.sc.egov.usda.gov/locator/app.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.