United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with the
Arkansas Agricultural
Experiment Station

Soil Survey of Sevier County, Arkansas

How To Use This Soil Survey

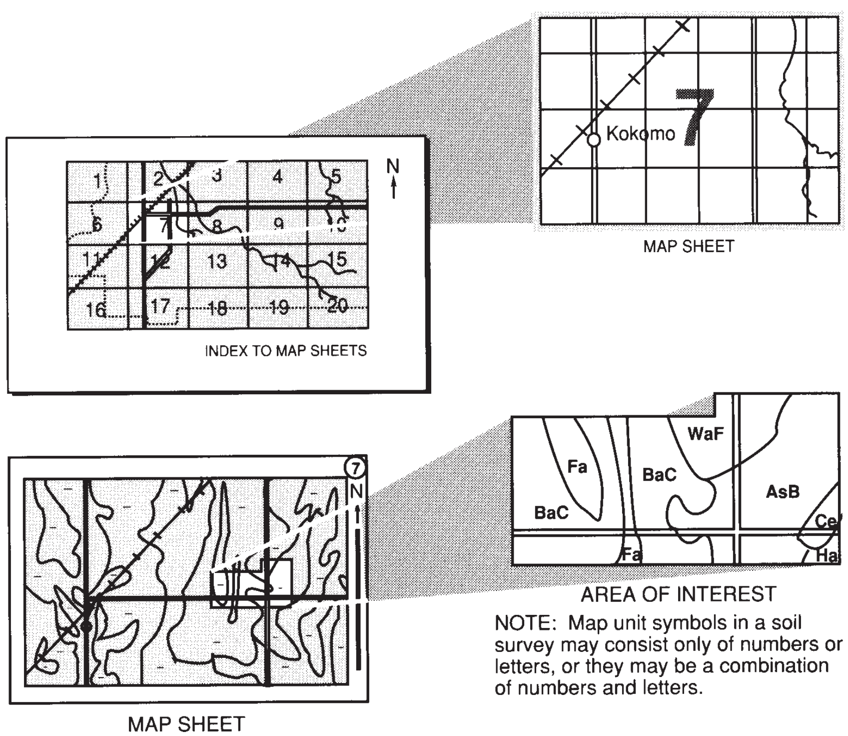
Detailed Soil Maps

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.



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 1996. Soil names and descriptions were approved in 2006. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2006. This survey was made cooperatively by the Natural Resources Conservation Service and the Arkansas Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Cossatot 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.

Cover: Pasture and pond reservoir in an area of Sacul very fine sandy loam, 8 to 15 percent slopes.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

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Issued 2009

Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, ranchers, foresters, and agronomists can use the surveys 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 surveys 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 surveys 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 on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency—nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. 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. The location of each map unit is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. 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.

Kalven L. Trice

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State Conservationist
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Where to Get Updated Information

The soil properties and interpretations included in this survey were current as of 2006. The most current information is available through the Natural Resources Conservation Service Soil Data Mart Website at http://soildatamart.nrcs.usda.gov/ and/or the Natural Resources Conservation Service Web Soil Survey at http://websoilsurvey.nrcs.usda.gov/app.

Additional information is available from the Natural Resources Conservation Service Field Office Technical Guide at DeQueen, Louisiana, or online at www.nrcs.usda.gov/technical/efotg. The data in the Field Office Technical Guide are updated periodically.

Additional information about soils and about the Natural Resources Conservation Service is available through the Louisiana Natural Resources Conservation Service Web page at www.ar.nrcs.usda.gov.

For further information please contact:

USDA, Natural Resources Conservation Service
USDA Service Center
309 W. Collin Raye Drive, Suite 2
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Soil Survey of
Sevier County, Arkansas

By Alex L. Winfrey, Natural Resources Conservation Service

Field work by Alex L. Winfrey and Jeff W. Olson, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
the Arkansas Agricultural Experiment Station

SEVIER COUNTY is in the southwestern part of Arkansas (fig. 1). Total area of the county is about 327,237 acres or about 511 square miles. The county is irregular in shape. It ranges from about 22 miles in width at the northern boundary to about 5 miles in width at the southern boundary. Its maximum length is about 30 miles.

Sevier County was organized on October 22, 1828, under legislative authority. It was formed from Hempstead and Miller Counties. Sevier County is bounded by Howard, Polk, and Little River Counties, Arkansas, as well as McCurtain County, Oklahoma, which is in the Choctaw nation in Indian territory.

The county seat has undergone several changes since Sevier County was organized. The first county seat was Paraclifta. In 1871, the Lockes donated 120 acres of land. As a result, the county seat was moved to Lockesburg. In 1905, the county seat was again moved to DeQueen.

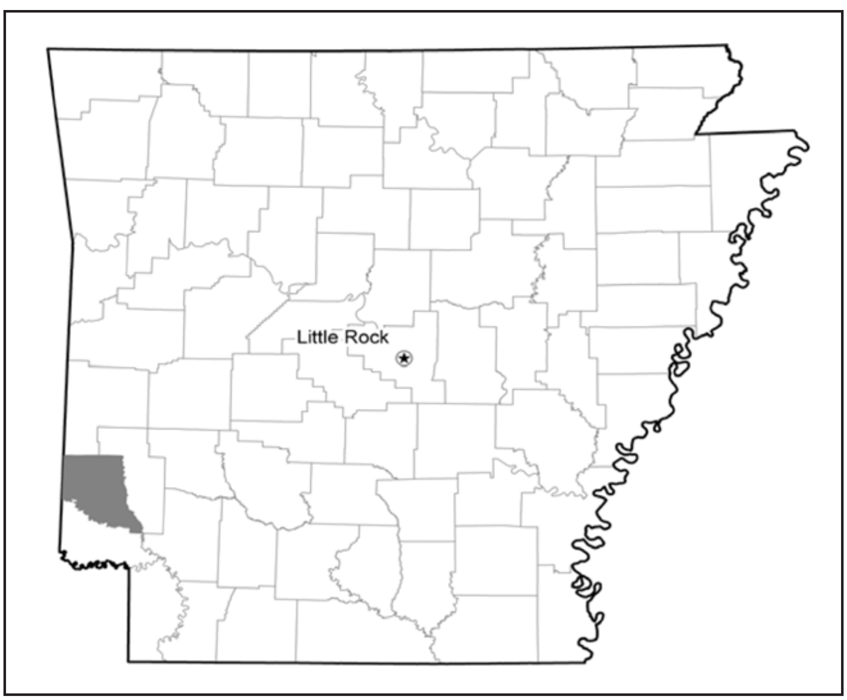

Figure 1.—Location of Sevier County in Arkansas.

Sevier County is known as “The Land of Lakes,” “The Land of Fruits and Flowers,” and “The Home of Friendly People.” The county has five lakes within a 35 mile radius, five rivers and mountain streams, and forests.

General Nature of the County

In this section, the physical and environmental factors that affect Sevier County are discussed. These factors include farming, physiography and drainage, and climate.

Farming

Farming in Sevier County began on soils that have good natural drainage. These soils were in high positions near the flood plains of the Cossatot, Little, and Saline Rivers and their tributaries. Most areas of the better soils along the flood plains were cleared for farming, and the areas of steep stony soils were left in woodland. Corn, oats, and wheat were grown for livestock feed, and vegetables were grown for farming use, as well as for sale at available markets. Cotton was also grown as a cash crop. Some of the soils used by the early farmers were inundated when DeQueen, Dierks, and Millwood Lakes were built.

Most recently, farming has become more diversified and generally less intensive. Dairy herds, beef cattle, hogs, poultry, and timber provide most of the farm income. Most the of the land is used for timber production, and the rest is used primarily for pasture and livestock production (fig. 2).

Figure 2.—An area of Sherless-Littlefir complex, 8 to 15 percent slopes, has high potential for use as pasture. Cattle production is among the chief sources of agriculture income in Sevier County.

Physiography and Drainage

The northern portion of Sevier County lies within the Ouachita Mountains Major Land Resource Area, which is characterized by tilted, folded, and fractured layers of shale, sandstone, and quartzite (fig. 3). The softer, less resistant shale and impure sandstone are more susceptible to erosion and form most of the basins, valley floors, and lower hills. The harder, more resistant relatively pure sandstone and quartzite form the larger hills and ridges.

The southern portion of Sevier County lies within the Cretaceous Western Coastal Plain Major Land Resource Area, which is characterized by heavily dissected areas of deep marine sediments that were deposited during the Cretaceous age (fig. 4). These sediments are unconsolidated and range from clayey to loamy in texture. Antoine, DeQueen, Peanutrock, and Pikecity soils dominate the upper portion of these sediments. The DeAnn, Japany, and Sumter soils dominate the clay, marl, and chalk areas.

Drainage in Sevier County is generally toward the south and east. In the northern half of the county, the natural drainage consists of many intermittent and perennial streams that drain into Lake DeQueen, either directly or through the Cossatot River. In the southern half of the county, the natural drainage system consists mainly of a series of intermittent and perennial streams that flow into the Little, Cossatot, and Saline Rivers that form Lake Millwood.

Figure 3.—Tilted, fractured, and folded soft shale with thin layers of sandstone, all interbedded in a random and unpredictable sequence, in the Ouachita Mountains in northern Sevier County.

Figure 4.—The characteristic stratification of marine sediments can readily be seen in this exposure of the Peanutrock and Pikecity series in the Cretaceous Western Gulf Coastal Plain in southern Sevier County.

Throughout most of the county, tributary streams in the hills are typically intermittent, although some flow throughout the year. Domestic water sources in the county include Lake DeQueen, Lake Dierks, Lake Millwood, and watershed lakes.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at DeQueen in the period 1971 to 2000. 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 winter, the average temperature is 62 degrees F and the average daily minimum temperature is 49.6 degrees. The lowest temperature on record, which occurred on February 2, 1951, is -3 degrees. In summer, the average temperature is 80 degrees and the average daily maximum temperature is 92 degrees. The highest recorded temperature, which occurred on August 31, 1954, is 108 degrees.

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 (40 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 about 55 inches. Of this, 25 inches, or 47 percent, usually falls in April through September. The growing season for most crops falls within this period.

The average seasonal snowfall is about 1.8 inches. The greatest snow depth at any one time during the period of record was 5 inches.

The average relative humidity in midafternoon is about 58 percent. Humidity is higher at night, and the average at dawn is about 87 percent. The sun shines 75 percent of the time possible in summer and 55 percent in winter. The prevailing wind is from the south to southeast. Average windspeed is highest, 10 miles per hour, in March.

How This Survey Was Made

This survey was made to provide information about the soils in the survey area. The information includes a description of the soils and their location and a discussion of the suitability, limitations, and management of the soils for specified uses. Soil scientists observed the steepness, length, and shape of slopes; the general pattern of drainage; the kinds of crops and native plants growing on the soils; 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 from 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 in the survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil is associated with a particular kind of landscape or with a segment of the landscape. By observing the soils in the survey area and relating their position to specific segments of the landscape, a soil scientist develops a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil 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-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 soil 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. 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 are generally 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 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 assure 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.

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

Map Unit Composition

A map unit delineation on a soil map represents an area dominated by one major kind of soil or an area dominated by two or three kinds of soil. A map unit is identified and named according to the taxonomic classification of the dominant soil or soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural objects. In common with other natural objects, they have a characteristic variability in their properties. 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 soils of other taxonomic classes. Consequently, every map unit is made up of the soil or soils for which it is named and some soils that belong to other taxonomic classes. In the detailed soil map units, these latter soils are called inclusions or included soils. In the general soil map units, they are called soils of minor extent.

Most inclusions have properties and behavioral patterns 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 (similar) inclusions. They may or may not be mentioned in the map unit descriptions. Other inclusions, however, have properties and behavior divergent enough to affect use or require different management. These are contrasting (dissimilar) inclusions. They generally occupy small areas and cannot be shown separately on the soil maps because of the scale used in mapping. The inclusions of contrasting soils are mentioned in the map unit descriptions. A few inclusions may not have been observed and consequently are not mentioned in the descriptions, especially where the soil pattern was so complex that it was impractical to make enough observations to identify all of the kinds of soils on the landscape.

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

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or 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.

A map unit delineation on a soil 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. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils 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 minor components that belong to taxonomic classes other than those of the major soils.

Most minor 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 similar components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting components. 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 contrasting components are mentioned in the map unit descriptions. A few areas of minor components 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 minor components 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. If intensive use of small areas is planned, however, 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*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given 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, Billstown silty clay, 3 to 8 percent slopes, is a phase of the Billstown series.

Some map units are made up of two or more major soils. These map units are complexes. 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. Bismarck-Littlefir-Nashoba complex, 8 to 15 percent slopes, is an example.

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

Table 4 gives the acreage and proportionate extent of each map unit in the survey area. 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. LEP stands for linear extensibility percent in the shrink-swell potential description. The “Use and Management of the Soils” section describes potentials and limitations of the soils for specific land uses.

Soil Descriptions

1C—Kullit fine sandy loam, 2 to 5 percent slopes

Map Unit Composition

Major components:
  Kullit and similar soils—90 percent
Contrasting inclusions:
  Sacul soils—5 percent
  Stelltown soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope and interfluve on inland dissected coastal plain
Parent material: Loamy marine sediment
Slope: 2 to 5 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.40 micrometers/sec)
Available water capacity: High (about 10.2 inches)
Shrink-swell potential: Moderate (about 4.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 36 inches, apparent
Runoff class: Medium
Non-irrigated land capability: 3e

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown fine sandy loam; moderately acid
Subsoil layer:
5 to 10 inches—brown fine sandy loam; strongly acid
10 to 22 inches—yellowish brown loam; very strongly acid

22 to 39 inches—yellowish brown sandy clay loam; very strongly acid
39 to 80 inches—light brownish gray and yellowish brown sandy clay loam; very strongly acid

2C—Billstown silty clay, 3 to 8 percent slopes

Map Unit Composition

Major components:
Billstown and similar soils—90 percent
Contrasting inclusions:
Japany soils—5 percent
Sumter soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Cretaceous clayey marine sediment derived from chalk and/or cretaceous clayey residuum
Slope: 3 to 8 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Very slow (about 0.01 micrometers/sec)
Available water capacity: Moderate (about 6.7 inches)
Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 48 inches, apparent
Runoff class: High
Non-irrigated land capability: 4e

Typical Profile

Surface layer:
0 to 5 inches—brown silty clay; strongly acid
Subsurface layer:
5 to 10 inches—yellowish brown silty clay loam; very strongly acid
10 to 20 inches—red clay; very strongly acid
20 to 30 inches—yellowish red clay; very strongly acid
30 to 40 inches—yellowish brown clay; very strongly acid
Substratum layer:
40 to 80 inches—light yellowish brown clay with grayish brown iron depletions; moderately alkaline, calcareous

2D—Billstown silty clay, 8 to 15 percent slopes

Map Unit Composition

Major components:
Billstown and similar soils—90 percent
Contrasting inclusions:
Japany soils—5 percent
Sumter soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Cretaceous clayey marine sediment derived from chalk and/or cretaceous clayey residuum
Slope: 8 to 15 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Very slow (about 0.01 micrometers/sec)
Available water capacity: Moderate (about 6.7 inches)
Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 48 inches, apparent
Runoff class: Very high
Non-irrigated land capability: 6e

Typical Profile

Surface layer:
0 to 5 inches—brown silty clay; strongly acid
Subsurface layer:
5 to 10 inches—yellowish brown silty clay loam; very strongly acid
Subsoil layer:
10 to 20 inches—red clay; very strongly acid
20 to 30 inches—yellowish red clay; very strongly acid
30 to 40 inches—yellowish brown clay; very strongly acid
Substratum layer:
40 to 80 inches—light yellowish brown clay with grayish brown iron depletions; moderately alkaline, calcareous

3D—Bismarck-Littlefir-Nashoba complex, 8 to 15 percent slopes

Map Unit Composition

Major components:
Bismarck and similar soils—45 percent
Littlefir and similar soils—25 percent
Nashoba and similar soils—20 percent
Contrasting inclusions:
Clebit soils—10 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Hillslope on hills
Parent material: Bismarck—gravelly residuum weathered from acid shale; Littlefir—clayey residuum weathered from acid shale; Nashoba—gravelly residuum weathered from sandstone
Slope: 8 to 15 percent
Surface fragments: None

Depth to restrictive feature: Bismarck—10 to 20 inches to bedrock, paralithic; Littlefir—20 to 50 inches to bedrock, paralithic; Nashoba—20 to 40 inches to bedrock, lithic
Drainage class: Bismarck—somewhat excessively drained; Littlefir and Nashoba—well drained
Slowest saturated hydraulic conductivity: Bismarck and Nashoba—moderate (about 4.00 micrometers/sec); Littlefir—slow (about 0.42 micrometers/sec)
Available water capacity: Bismarck—very low (about 1.6 inches); Littlefir—low (about 5.0 inches); Nashoba—very low (about 2.9 inches)
Shrink-swell potential: Bismarck and Nashoba—low (about 1.5 LEP); Littlefir—high (about 7.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Bismarck and Nashoba—greater than 6 feet; Littlefir—about 18 to 30 inches, apparent
Runoff class: Bismarck—medium; Littlefir—high; Nashoba—low
Non-irrigated land capability: Bismarck and Littlefir—6e; Nashoba—6s

Typical Profile

Bismarck
Surface layer:
0 to 2 inches—dark brown gravelly silt loam; moderately acid
Subsurface layer:
2 to 5 inches—dark yellowish brown gravelly silt loam; strongly acid
Subsoil layer:
5 to 12 inches—yellowish brown very channery silt loam; very strongly acid
Substratum layer:
12 to 20 inches—weathered bedrock

Littlefir
Surface layer:
0 to 4 inches—brown gravelly silt loam; moderately acid
Subsoil layer:
4 to 10 inches—yellowish red silty clay loam; strongly acid
10 to 20 inches—red silty clay; very strongly acid
20 to 26 inches—red channery clay with yellowish brown iron concentrations; very strongly acid
26 to 34 inches—red, yellowish brown, and gray very channery clay; very strongly acid
Substratum layer:
34 to 40 inches—weathered bedrock

Nashoba
Surface layer:
0 to 4 inches—dark brown cobbly fine sandy loam; strongly acid
Subsoil layer:
4 to 25 inches—yellowish brown very gravelly loam; strongly acid
Substratum/subsoil layer:
25 to 30 inches—soft sandstone bedrock and yellowish brown fine sandy loam; very strongly acid
Bedrock:
30 to 40 inches—hard sandstone

4E—Bismarck-Nashoba-Littlefir complex, 15 to 35 percent slopes

Map Unit Composition

Major components:
Bismarck and similar soils—40 percent
Nashoba and similar soils—35 percent
Littlefir and similar soils—15 percent
Contrasting inclusions:
Clebit soils—10 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Hillslope on hills
Parent material: Bismarck—gravelly residuum weathered from acid shale; Nashoba—gravelly residuum weathered from sandstone; Littlefir—clayey residuum weathered from acid shale
Slope: 15 to 35 percent
Surface fragments: None
Depth to restrictive feature: Bismarck—10 to 20 inches to bedrock, paralithic; Nashoba—20 to 40 inches to bedrock, lithic; Littlefir—20 to 50 inches to bedrock, paralithic
Drainage class: Bismarck—somewhat excessively drained; Nashoba and Littlefir—well drained
Slowest saturated hydraulic conductivity: Bismarck and Nashoba—moderate (about 4.00 micrometers/sec); Littlefir—slow (about 0.42 micrometers/sec)
Available water capacity: Bismarck—very low (about 1.6 inches); Nashoba—very low (about 2.9 inches); Littlefir—low (about 4.9 inches)
Shrink-swell potential: Bismarck and Nashoba—low (about 1.5 LEP); Littlefir—high (about 7.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Bismarck and Nashoba—greater than 6 feet; Littlefir—about 18 to 30 inches, apparent
Runoff class: Bismarck—high; Nashoba—medium; Littlefir—very high
Non-irrigated land capability: 7s

Typical Profile

Bismarck
Surface layer:
0 to 2 inches—dark brown gravelly silt loam; moderately acid
Subsurface layer:
2 to 5 inches—dark yellowish brown gravelly silt loam; strongly acid
Subsoil layer:
5 to 12 inches—yellowish brown very channery silt loam; very strongly acid
Substratum layer:
12 to 20 inches—weathered bedrock

Nashoba
Surface layer:
0 to 4 inches—dark brown cobbly fine sandy loam; strongly acid
Subsoil layer:
4 to 25 inches—yellowish brown very gravelly loam; strongly acid

Substratum/subsoil layer:
25 to 30 inches—soft sandstone bedrock and yellowish brown fine sandy loam; very strongly acid
Bedrock:
30 to 40 inches—hard sandstone

Littlefir
Surface layer:
0 to 4 inches—brown cobbly silt loam; moderately acid
Subsoil layer:
4 to 10 inches—yellowish red silty clay loam; strongly acid
10 to 20 inches—red silty clay; very strongly acid
20 to 26 inches—red channery clay with yellowish brown iron concentrations; very strongly acid
26 to 34 inches—red, yellowish brown, and gray very channery clay; very strongly acid
Substratum layer:
34 to 40 inches—weathered bedrock

5B—Cupco silt loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Composition

Major components:
Cupco and similar soils—90 percent
Contrasting inclusions:
Guyton soils—10 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Flood-plain step on hills
Landform position: Linear areas
Parent material: Loamy alluvium derived from sandstone and shale
Slope: 0 to 2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.40 micrometers/sec)
Available water capacity: High (about 11.3 inches)
Shrink-swell potential: Moderate (about 4.5 LEP)
Flooding hazard: Occasional
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 24 inches, apparent
Runoff class: Negligible
Non-irrigated land capability: 4w

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown silt loam with yellowish brown masses of oxidized iron; moderately acid
Subsurface layer:
6 to 11 inches—grayish brown silt loam with light brownish gray iron depletions; strongly acid

Subsoil layer:
11 to 35 inches—grayish brown silty clay loam with brown masses of oxidized iron; strongly acid
35 to 52 inches—grayish brown and brown silty clay loam; strongly acid
52 to 64 inches—brown silty clay loam with yellowish brown masses of oxidized iron and grayish brown iron depletions; strongly acid
64 to 82 inches—brown silty clay loam with gray iron depletions; strongly acid

6—Dam

Map Unit Composition

This map unit includes earthen and concrete dams. These areas are used to hold water for reservoirs.

7C—DeAnn clay, 3 to 8 percent slopes, eroded

Map Unit Composition

Major components:
DeAnn and similar soils—85 percent
Contrasting inclusions:
Billstown soils—5 percent
Japany soils—5 percent
Sumter soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Clayey residuum weathered from chalk or marl
Slope: 3 to 8 percent
Surface fragments: None
Depth to restrictive feature: Greater than 60 inches to bedrock
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Very slow (about 0.01 micrometers/sec)
Available water capacity: Moderate (about 8.4 inches)
Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 48 to 72 inches, apparent
Runoff class: High
Non-irrigated land capability: 4e

Typical Profile

Surface layer:
0 to 22 inches—very dark grayish brown clay; slightly alkaline
Subsurface layer:
22 to 38 inches—dark grayish brown clay; moderately alkaline
38 to 56 inches—light olive brown clay; moderately alkaline
56 to 80 inches—light yellowish brown clay; moderately alkaline

8B—Dela fine sandy loam, 0 to 3 percent slopes, frequently flooded

Map Unit Composition

Major components:
Dela and similar soils—95 percent
Contrasting inclusions:
Cupco soils—5 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Flood plain
Parent material: Loamy alluvium
Slope: 0 to 3 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately rapid (about 14.00 micrometers/sec)
Available water capacity: Moderate (about 8.5 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Frequent
Ponding hazard: None
Depth to seasonal water saturation: About 36 to 60 inches, apparent
Runoff class: Very low
Non-irrigated land capability: 5w

Typical Profile

Surface layer:
0 to 3 inches—dark grayish brown fine sandy loam; moderately acid
Substratum layer:
3 to 13 inches—yellowish brown stratified fine sandy loam; moderately acid
13 to 25 inches—yellowish brown fine sandy loam stratified with brown depletions; strongly acid
25 to 80 inches—yellowish brown and light brownish gray sandy loam stratified with brown iron concentrations; strongly acid

9B—Felker very fine sandy loam, 1 to 3 percent slopes

Map Unit Composition

Major components:
Felker and similar soils—95 percent
Contrasting inclusions:
Aquults soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Terraces on inland dissected coastal plain
Parent material: Loamy alluvium
Slope: 1 to 3 percent
Surface fragments: None

Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.40 micrometers/sec)
Available water capacity: High (about 11.8 inches)
Shrink-swell potential: Moderate (about 4.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 36 inches, apparent
Runoff class: Low
Non-irrigated land capability: 2e

Typical Profile

Surface layer:
0 to 4 inches—grayish brown very fine sandy loam; strongly acid
Subsoil layer:
4 to 15 inches—pale brown very fine sandy loam; very strongly acid
15 to 36 inches—pale brown loam with light brownish gray iron depletions; very strongly acid
36 to 80 inches—brown silty clay loam with light brownish gray iron depletions; very strongly acid

10B—Gurdon very fine sandy loam, 1 to 3 percent slopes

Map Unit Composition

Major components:
Gurdon and similar soils—90 percent
Contrasting inclusions:
Guyton soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Stream terrace on inland dissected coastal plain
Parent material: Loamy alluvium
Slope: 1 to 3 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderate (about 4.00 micrometers/sec)
Available water capacity: High (about 11.7 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 24 inches, perched; about 12 to 24 inches, apparent
Runoff class: Low
Non-irrigated land capability: 2e

Typical Profile

Surface layer:
0 to 5 inches—brown very fine sandy loam; very strongly acid

Subsoil layer:
5 to 17 inches—yellowish brown very fine sandy loam with brown iron depletions; very strongly acid
17 to 35 inches—brownish yellow loam with light brownish gray iron depletions; very strongly acid
35 to 80 inches—yellowish brown silty clay loam with light brownish gray iron depletions; very strongly acid

11A—Guyton silt loam, 0 to 1 percent slopes, occasionally flooded

Map Unit Composition

Major components:
Guyton and similar soils—95 percent
Contrasting inclusions:
Gurdon soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Flood-plain step on inland dissected coastal plain
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.40 micrometers/sec)
Available water capacity: High (about 11.7 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Occasional
Ponding hazard: None
Depth to seasonal water saturation: About 0 to 12 inches, apparent
Runoff class: Low
Non-irrigated land capability: 4w

Typical Profile

Surface layer:
0 to 4 inches—grayish brown silt loam; very strongly acid
Subsurface layer:
4 to 12 inches—light brownish gray silt loam with dark yellowish brown masses of oxidized iron and reddish yellow iron-manganese concretions; very strongly acid
12 to 22 inches—light brownish gray silt loam with yellowish brown and strong brown iron concentrations; very strongly acid
Subsoil layer:
22 to 34 inches—gray silty clay loam with strong brown and light brownish gray iron concentrations; very strongly acid
34 to 59 inches—gray silty clay loam with brown and light brownish gray iron concentrations; very strongly acid
Substratum layer:
59 to 80 inches—gray loam; very strongly acid

12A—Guyton silt loam, 0 to 1 percent slopes, frequently flooded

Map Unit Composition

Major components:
Guyton and similar soils—95 percent
Contrasting inclusions:
Gurdon soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Flood plain on inland dissected coastal plain
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.40 micrometers/sec)
Available water capacity: High (about 11.7 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Frequent
Ponding hazard: None
Depth to seasonal water saturation: About 0 to 12 inches, apparent
Runoff class: Low
Non-irrigated land capability: 5w

Typical Profile

Surface layer:
0 to 4 inches—grayish brown silt loam; very strongly acid
Subsurface layer:
4 to 12 inches—light brownish gray silt loam with dark yellowish brown masses of oxidized iron and reddish yellow iron-manganese concretions; very strongly acid
12 to 22 inches—light brownish gray silt loam with yellowish brown and strong brown iron concentrations; very strongly acid
Subsoil layer:
22 to 34 inches—gray silty clay loam with strong brown and light brownish gray iron concentrations; very strongly acid
34 to 59 inches—gray silty clay loam with brown and light brownish gray iron concentrations; very strongly acid
Substratum layer:
59 to 80 inches—gray loam; very strongly acid

13A—Guyton silt loam, 0 to 1 percent slopes, ponded

Map Unit Composition

Major components:
Guyton and similar soils—95 percent
Contrasting inclusions:
Gurdon soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Flood plain on inland dissected coastal plain
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.40 micrometers/sec)
Available water capacity: High (about 11.7 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: About +1 to 0 inches, apparent
Runoff class: Negligible
Non-irrigated land capability: 7w

Typical Profile

Surface layer:
0 to 4 inches—grayish brown silt loam; very strongly acid
Subsurface layer:
4 to 12 inches—light brownish gray silt loam with dark yellowish brown masses of oxidized iron and reddish yellow iron-manganese concretions; very strongly acid
12 to 22 inches—light brownish gray silt loam with yellowish brown and strong brown iron concentrations; very strongly acid
Subsoil layer:
22 to 34 inches—gray silty clay loam with strong brown and light brownish gray iron concentrations; very strongly acid
34 to 59 inches—gray silty clay loam with brown and light brownish gray iron concentrations; very strongly acid
Substratum layer:
59 to 80 inches—gray loam; very strongly acid

14C—Japany silty clay loam, 2 to 5 percent slopes

Map Unit Composition

Major components:
Japany and similar soils—90 percent
Contrasting inclusions:
Sumter soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Clayey marine sediment
Slope: 2 to 5 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Very slow (about 0.01 micrometers/sec)
Available water capacity: High (about 9.5 inches)

Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 18 inches, perched
Runoff class: High
Non-irrigated land capability: 3e

Typical Profile

Surface layer:
0 to 3 inches—dark grayish brown silty clay loam; strongly acid
Subsoil layer:
3 to 10 inches—yellowish brown silty clay; very strongly acid
10 to 22 inches—yellowish brown silty clay with brownish gray iron depletions; very strongly acid
22 to 36 inches—yellowish brown clay; very strongly acid
36 to 50 inches—yellowish brown and light brownish gray clay; very strongly acid
Substratum layer:
50 to 62 inches—light brownish gray marly clay; strongly acid
62 to 80 inches—light brownish gray and light olive brown marly clay; slightly acid

14D—Japany silty clay loam, 8 to 15 percent slopes

Map Unit Composition

Major components:
Japany and similar soils—90 percent
Contrasting inclusions:
Sumter soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Clayey marine sediment derived from chalk
Slope: 8 to 15 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Very slow (about 0.01 micrometers/sec)
Available water capacity: High (about 9.5 inches)
Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 18 inches, apparent
Runoff class: Very high
Non-irrigated land capability: 6e

Typical Profile

Surface layer:
0 to 3 inches—dark grayish brown silty clay loam; strongly acid
Subsoil layer:
3 to 10 inches—yellowish brown silty clay; very strongly acid
10 to 22 inches—yellowish brown silty clay with brownish gray iron depletions; very strongly acid

22 to 36 inches—yellowish brown clay; very strongly acid
36 to 50 inches—yellowish brown and light brownish gray clay; very strongly acid
Substratum layer:
50 to 62 inches—light brownish gray marly clay; strongly acid
62 to 80 inches—light brownish gray and light olive brown marly clay; slightly acid

15B—Kenn-Ceda complex, 0 to 3 percent slopes, frequently flooded

Map Unit Composition

Major components:
Kenn and similar soils—60 percent
Ceda and similar soils—30 percent
Contrasting inclusions:
Aquents soils—10 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Flood plain on hills
Landform position: Linear areas
Parent material: Kenn—loamy alluvium; Ceda—loamy alluvium
Slope: 0 to 3 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Kenn—moderate (about 4.00 micrometers/sec); Ceda—rapid (about 42.00 micrometers/sec)
Available water capacity: Kenn—low (about 4.4 inches); Ceda—low (about 6.0 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Frequent
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: Negligible
Non-irrigated land capability: 5w

Typical Profile

Kenn
Surface layer:
0 to 4 inches—brown gravelly fine sandy loam; moderately acid
Subsoil layer:
4 to 9 inches—brown gravelly loam; strongly acid
9 to 27 inches—brown gravelly sandy clay loam; strongly acid
27 to 32 inches—brown very gravelly clay loam; very strongly acid
Substratum layer:
32 to 80 inches—dark yellowish brown extremely cobbly fine sandy loam; very strongly acid

Ceda
Surface layer:
0 to 4 inches—dark brown very cobbly fine sandy loam; moderately acid

Substratum layer:
4 to 20 inches—strong brown stratified very gravelly loam; strongly acid
20 to 80 inches—dark yellowish brown stratified extremely gravelly loam; strongly acid

16B—Leeper silty clay, 0 to 3 percent slopes, occasionally flooded

Map Unit Composition

Major components:
Leeper and similar soils—90 percent
Contrasting inclusions:
Aquents soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Flood-plain step on inland dissected coastal plain
Parent material: Clayey alluvium
Slope: 0 to 3 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Very slow (about 0.01 micrometers/sec)
Available water capacity: High (about 11.4 inches)
Shrink-swell potential: High (about 7.5 LEP)
Flooding hazard: Occasional
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 24 inches, apparent
Runoff class: High
Non-irrigated land capability: 2w

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown silty clay; slightly acid
Subsoil layer:
4 to 12 inches—dark grayish brown silty clay; slightly acid
12 to 30 inches—dark grayish brown and gray clay; slightly acid
30 to 48 inches—gray clay; neutral
Substratum layer:
48 to 80 inches—dark grayish brown and olive gray clay; slightly alkaline

17C—Littlefir-Bismarck-Nashoba complex, 1 to 8 percent slopes

Map Unit Composition

Major components:
Littlefir and similar soils—40 percent
Bismarck and similar soils—35 percent
Nashoba and similar soils—15 percent
Contrasting inclusions:
Clebit soils—10 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Hillslope on hills
Parent material: Littlefir—clayey residuum weathered from acid shale; Bismarck—gravelly residuum weathered from acid shale; Nashoba—gravelly residuum weathered from sandstone
Slope: 1 to 8 percent
Surface fragments: None
Depth to restrictive feature: Littlefir—20 to 50 inches to bedrock, paralithic; Bismarck—10 to 20 inches to bedrock, paralithic; Nashoba—20 to 40 inches to bedrock, lithic
Drainage class: Littlefir and Nashoba—well drained; Bismarck—somewhat excessively drained
Slowest saturated hydraulic conductivity: Bismarck and Nashoba—moderate (about 4.00 micrometers/sec); Littlefir—slow (about 0.42 micrometers/sec)
Available water capacity: Littlefir—low (about 5.0 inches); Bismarck—very low (about 1.6 inches); Nashoba—very low (about 2.9 inches)
Shrink-swell potential: Littlefir—high (about 7.5 LEP); Bismarck and Nashoba—low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Littlefir—about 18 to 30 inches, apparent; Bismarck and Nashoba—greater than 6 feet
Runoff class: Littlefir—high; Bismarck—medium; Nashoba—low
Non-irrigated land capability: Littlefir—4e; Bismarck—6e; Nashoba—4s

Typical Profile

Littlefir
Surface layer:
0 to 4 inches—brown gravelly silt loam; moderately acid
Subsoil layer:
4 to 10 inches—yellowish red silty clay loam; strongly acid
10 to 20 inches—red silty clay; very strongly acid
20 to 26 inches—red channery clay with yellowish brown iron concentrations; very strongly acid
26 to 34 inches—red, yellowish brown, and gray very channery clay; very strongly acid
Substratum layer:
34 to 40 inches—weathered bedrock

Bismarck
Surface layer:
0 to 2 inches—dark brown gravelly silt loam; moderately acid
Subsurface layer:
2 to 5 inches—dark yellowish brown gravelly silt loam; strongly acid
Subsoil layer:
5 to 12 inches—yellowish brown very channery silt loam; very strongly acid
Substratum layer:
12 to 20 inches—weathered bedrock

Nashoba
Surface layer:
0 to 4 inches—dark brown cobbly fine sandy loam; strongly acid
Subsoil layer:
4 to 25 inches—yellowish brown very gravelly loam; strongly acid

Substratum/subsoil layer:
25 to 30 inches—soft sandstone bedrock and yellowish brown fine sandy loam; very strongly acid
Bedrock:
30 to 40 inches—hard sandstone

18B—Mazarn silt loam, 0 to 3 percent slopes

Map Unit Composition

Major components:
Mazarn and similar soils—90 percent
Contrasting inclusions:
Aquults soils—10 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Open depression on hillslope on hills
Parent material: Loamy slope alluvium derived from sandstone and shale
Slope: 0 to 3 percent
Surface fragments: None
Depth to restrictive feature: 20 to 40 inches to bedrock, paralithic
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.40 micrometers/sec)
Available water capacity: Moderate (about 6.7 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 24 inches, apparent
Runoff class: Medium
Non-irrigated land capability: 3w

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown silt loam; strongly acid
Subsurface layer:
4 to 9 inches—yellowish brown silt loam; strongly acid
Subsoil layer:
9 to 21 inches—yellowish brown silty clay loam with gray iron depletions; moderately acid
21 to 38 inches—gray and brownish yellow silty clay loam; strongly acid
Substratum layer:
38 to 40 inches—weathered bedrock

19B—McCaskill fine sandy loam, 0 to 2 percent slopes

Map Unit Composition

Major components:
McCaskill and similar soils—90 percent
Contrasting inclusions:
Smithton soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Loamy marine sediment
Slope: 0 to 2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderate (about 4.00 micrometers/sec)
Available water capacity: High (about 10.0 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 18 inches, apparent
Runoff class: Medium
Non-irrigated land capability: 2w

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown fine sandy loam; strongly acid
Subsoil layer:
4 to 10 inches—brown fine sandy loam; strongly acid
10 to 17 inches—light yellowish brown fine sandy loam; very strongly acid
17 to 46 inches—light yellowish brown loam; very strongly acid
46 to 80 inches—brownish yellow, light brownish gray, and yellowish brown loam; very strongly acid

19C—McCaskill fine sandy loam, 3 to 8 percent slopes

Map Unit Composition

Major components:
McCaskill and similar soils—90 percent
Contrasting inclusions:
Smithton soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Loamy marine sediment
Slope: 3 to 8 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderate (about 4.00 micrometers/sec)
Available water capacity: High (about 10.0 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 18 inches, apparent
Runoff class: Medium
Non-irrigated land capability: 3e

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown fine sandy loam; strongly acid
Subsoil layer:
4 to 10 inches—brown fine sandy loam; strongly acid
10 to 17 inches—light yellowish brown fine sandy loam; very strongly acid
17 to 46 inches—light yellowish brown loam; very strongly acid
46 to 80 inches—brownish yellow, light brownish gray, and yellowish brown loam; very strongly acid

20F—Nashoba-Bismarck-Clebit complex, 35 to 60 percent slopes

Map Unit Composition

Major components:
Nashoba and similar soils—45 percent
Bismarck and similar soils—30 percent
Clebit and similar soils—15 percent
Contrasting inclusions:
Rock outcrop—10 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Hillslope on hills
Parent material: Nashoba and Clebit—gravelly residuum weathered from sandstone; Bismarck—gravelly residuum weathered from acid shale
Slope: 35 to 60 percent
Surface fragments: About 15 to 35 percent stones and boulders
Depth to restrictive feature: Nashoba—20 to 40 inches to bedrock, lithic; Bismarck—10 to 20 inches to bedrock, paralithic; Clebit—10 to 20 inches to bedrock, lithic
Drainage class: Nashoba and Clebit—well drained; Bismarck—somewhat excessively drained
Slowest saturated hydraulic conductivity: Bismarck and Nashoba—moderate (about 4.00 micrometers/sec); Clebit—moderately rapid (about 14.00 micrometers/sec)
Available water capacity: Nashoba—very low (about 2.9 inches); Bismarck—very low (about 1.6 inches); Clebit—very low (about 1.1 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: High
Non-irrigated land capability: 7s

Typical Profile

Nashoba
Surface layer:
0 to 4 inches—dark brown cobbly fine sandy loam; strongly acid
Subsoil layer:
4 to 25 inches—yellowish brown very gravelly loam; strongly acid
Substratum/subsoil layer:
25 to 30 inches—soft sandstone bedrock and yellowish brown fine sandy loam; very strongly acid

Bedrock:
30 to 40 inches—hard sandstone

Bismarck
Surface layer:
0 to 2 inches—dark brown cobbly silt loam; moderately acid
Subsurface layer:
2 to 5 inches—dark yellowish brown gravelly silt loam; strongly acid
Subsoil layer:
5 to 12 inches—yellowish brown very channery silt loam; very strongly acid
Substratum layer:
12 to 20 inches—weathered bedrock

Clebit
Surface layer:
0 to 3 inches—dark brown very stony fine sandy loam; strongly acid
Subsoil layer:
3 to 15 inches—strong brown very gravelly loam; very strongly acid
Bedrock:
15 to 20 inches—hard sandstone

21B—Ouachita silt loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Composition

Major components:
Ouachita and similar soils—90 percent
Contrasting inclusions:
Gurdon soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Flood-plain step on inland dissected coastal plain
Landform position: Linear areas
Parent material: Loamy alluvium
Slope: 0 to 3 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.40 micrometers/sec)
Available water capacity: High (about 11.6 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Occasional
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: Low
Non-irrigated land capability: 2w

Typical Profile

Surface layer:
0 to 14 inches—brown silt loam; very strongly acid

Subsoil layer:
14 to 29 inches—brown and yellowish brown loam; very strongly acid
29 to 60 inches—yellowish brown silty clay loam with very pale brown iron depletions; very strongly acid
Substratum layer:
60 to 80 inches—yellowish brown silt loam with very pale brown iron depletions; very strongly acid

22B—Ouachita silt loam, 0 to 3 percent slopes, frequently flooded

Map Unit Composition

Major components:
Ouachita and similar soils—80 percent
Contrasting inclusions:
Gurdon soils—10 percent
Ouachita soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Flood-plain step on inland dissected coastal plain
Landform position: Linear areas
Parent material: Loamy alluvium
Slope: 0 to 3 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.40 micrometers/sec)
Available water capacity: High (about 11.6 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Frequent
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: Negligible
Non-irrigated land capability: 4w

Typical Profile

Surface layer:
0 to 14 inches—brown silt loam; very strongly acid
Subsoil layer:
14 to 29 inches—brown and yellowish brown loam; very strongly acid
29 to 60 inches—yellowish brown silty clay loam with very pale brown iron depletions; very strongly acid
Substratum layer:
60 to 80 inches—strong brown and very pale brown silt loam; very strongly acid

23D—Peanutrock gravelly fine sandy loam, 3 to 15 percent slopes

Map Unit Composition

Major components:
Peanutrock and similar soils—90 percent
Contrasting inclusions:
Sacul soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Gravelly marine sediment
Slope: 3 to 15 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderate (about 4.00 micrometers/sec)
Available water capacity: Low (about 5.7 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: Medium
Non-irrigated land capability: 4e

Typical Profile

Surface layer:
0 to 7 inches—brown gravelly fine sandy loam; strongly acid
Subsoil layer:
7 to 14 inches—yellowish brown gravelly fine sandy loam; very strongly acid
14 to 35 inches—strong brown very gravelly sandy loam; very strongly acid
35 to 52 inches—strong brown extremely gravelly sandy loam; very strongly acid
Substratum layer:
52 to 80 inches—strong brown extremely gravelly loam; very strongly acid

23E—Peanutrock gravelly fine sandy loam, 15 to 35 percent slopes

Map Unit Composition

Major components:
Peanutrock and similar soils—90 percent
Contrasting inclusions:
Sacul soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Gravelly marine sediment

Slope: 15 to 35 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderate (about 4.00 micrometers/sec)
Available water capacity: Low (about 5.7 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: Medium
Non-irrigated land capability: 7e

Typical Profile

Surface layer:
0 to 7 inches—brown gravelly fine sandy loam; strongly acid
Subsoil layer:
7 to 14 inches—yellowish brown gravelly fine sandy loam; very strongly acid
14 to 35 inches—strong brown very gravelly sandy loam; very strongly acid
35 to 52 inches—strong brown extremely gravelly sandy loam; very strongly acid
52 to 80 inches—strong brown extremely gravelly loam; very strongly acid

24C—Pikecity fine sandy loam, 1 to 8 percent slopes

Map Unit Composition

Major components:
Pikecity and similar soils—90 percent
Contrasting inclusions:
Peanutrock soils—5 percent
Sacul soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope and interfluve on inland dissected coastal plain
Parent material: Loamy marine sediment
Slope: 1 to 8 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderate (about 4.00 micrometers/sec)
Available water capacity: Moderate (about 8.1 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: Medium
Non-irrigated land capability: 3e

Typical Profile

Surface layer:
0 to 5 inches—brown fine sandy loam; strongly acid
Subsurface layer:
5 to 11 inches—yellowish brown loam; strongly acid

Subsoil layer:
11 to 30 inches—red sandy clay loam; strongly acid
30 to 48 inches—yellowish red gravelly sandy clay loam; strongly acid
48 to 80 inches—yellowish brown, yellowish red, and pale brown very gravelly sandy clay loam; strongly acid

25—Pits, gravel

This map unit includes gravel pits and mines. These areas also include spoil piles.

26C—Sacul very fine sandy loam, 1 to 8 percent slopes

Map Unit Composition

Major components:
Sacul and similar soils—85 percent
Contrasting inclusions:
Antoine soils—5 percent
Peanutrock soils—5 percent
Pikecity soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope and interfluve on inland dissected coastal plain
Parent material: Clayey marine sediment
Slope: 1 to 8 percent
Surface fragments: None
Depth to restrictive feature: Greater than 60 inches to bedrock
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Very slow (about 0.01 micrometers/sec)
Available water capacity: Moderate (about 7.0 inches)
Shrink-swell potential: High (about 7.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 48 inches, apparent
Runoff class: High
Non-irrigated land capability: 4e

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown very fine sandy loam; very strongly acid
Subsurface layer:
4 to 8 inches—brown very fine sandy loam; strongly acid
Subsoil layer:
8 to 20 inches—yellowish red clay; very strongly acid
20 to 30 inches—yellowish red clay with light brownish gray iron depletions; very strongly acid
30 to 52 inches—light brownish gray and reddish brown clay loam with yellowish brown iron concentrations and gray iron depletions; very strongly acid
Substratum layer:
52 to 72 inches—gray, brown, and red weathered shale bedrock

26D—Sacul very fine sandy loam, 8 to 15 percent slopes

Map Unit Composition

Major components:
Sacul and similar soils—85 percent
Contrasting inclusions:
Antoine soils—5 percent
Peanutrock soils—5 percent
Pikecity soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Clayey marine sediment
Slope: 8 to 15 percent
Surface fragments: None
Depth to restrictive feature: Greater than 60 inches to bedrock
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Very slow (about 0.01 micrometers/sec)
Available water capacity: Moderate (about 7.0 inches)
Shrink-swell potential: High (about 7.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 48 inches, apparent
Runoff class: Very high
Non-irrigated land capability: 6e

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown very fine sandy loam; very strongly acid
Subsurface layer:
4 to 8 inches—brown very fine sandy loam; strongly acid
Subsoil layer:
8 to 20 inches—yellowish red clay; very strongly acid
20 to 30 inches—yellowish red clay with light brownish gray iron depletions; very strongly acid
30 to 52 inches—light brownish gray and reddish brown clay loam with yellowish brown iron concentrations and gray iron depletions; very strongly acid
Substratum layer:
52 to 72 inches—gray, brown, and red weathered shale bedrock

27C—Sacul very gravelly loam, 3 to 8 percent slopes

Map Unit Composition

Major components:
Sacul and similar soils—85 percent
Contrasting inclusions:
Antoine soils—5 percent
Peanutrock soils—5 percent
Pikecity soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Clayey marine sediment
Slope: 3 to 8 percent
Surface fragments: None
Depth to restrictive feature: Greater than 60 inches to bedrock
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Very slow (about 0.01 micrometers/sec)
Available water capacity: Moderate (about 6.8 inches)
Shrink-swell potential: High (about 7.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 48 inches, apparent
Runoff class: High
Non-irrigated land capability: 4e

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown very gravelly loam; very strongly acid
Subsurface layer:
4 to 8 inches—brown very fine sandy loam; strongly acid
Subsoil layer:
8 to 20 inches—yellowish red clay; very strongly acid
20 to 30 inches—yellowish red clay with light brownish gray iron depletions; very strongly acid
30 to 52 inches—light brownish gray and reddish brown clay loam with yellowish brown iron concentrations and gray iron depletions; very strongly acid
Substratum layer:
52 to 72 inches—gray, brown, and red weathered shale bedrock

28B—Sardis silt loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Composition

Major components:
Sardis and similar soils—90 percent
Contrasting inclusions:
Guyton soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Flood-plain step on inland dissected coastal plain
Parent material: Loamy alluvium
Slope: 0 to 3 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.40 micrometers/sec)
Available water capacity: High (about 11.9 inches)
Shrink-swell potential: Low (about 1.5 LEP)

Flooding hazard: Occasional
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 36 inches, apparent
Runoff class: Low
Non-irrigated land capability: 2w

Typical Profile

Surface layer:
0 to 3 inches—brown silt loam; very strongly acid
Subsoil layer:
3 to 15 inches—yellowish brown silt loam; very strongly acid
15 to 32 inches—light yellowish brown and brown silty clay loam with gray iron depletions; very strongly acid
32 to 55 inches—brownish yellow and brown silty clay loam with gray iron depletions; very strongly acid
Substratum layer:
55 to 80 inches—light yellowish brown, yellowish brown, and light brownish gray loam; very strongly acid

29B—Sardis silt loam, 0 to 3 percent slopes, frequently flooded

Map Unit Composition

Major components:
Sardis and similar soils—90 percent
Contrasting inclusions:
Guyton soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Flood plain on inland dissected coastal plain
Parent material: Loamy alluvium
Slope: 0 to 3 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.40 micrometers/sec)
Available water capacity: High (about 11.9 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Frequent
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 36 inches, apparent
Runoff class: Negligible
Non-irrigated land capability: 4w

Typical Profile

Surface layer:
0 to 3 inches—brown silt loam; very strongly acid
Subsoil layer:
3 to 15 inches—yellowish brown silt loam; very strongly acid
15 to 32 inches—light yellowish brown and brown silty clay loam with gray iron depletions; very strongly acid

32 to 55 inches—brownish yellow and brown silty clay loam with gray iron depletions; very strongly acid
Substratum layer:
55 to 80 inches—light yellowish brown, yellowish brown, and light brownish gray loam; very strongly acid

30E—Sherless-Bismarck-Nashoba complex, 15 to 35 percent slopes

Map Unit Composition

Major components:
Sherless and similar soils—50 percent
Bismarck and similar soils—25 percent
Nashoba and similar soils—20 percent
Contrasting inclusions:
Clebit soils—5 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Hillslope on hills
Parent material: Sherless—loamy residuum weathered from sandstone and shale; Bismarck—gravelly residuum weathered from acid shale; Nashoba—gravelly residuum weathered from sandstone
Slope: 15 to 35 percent
Surface fragments: About 15 to 35 percent stones and boulders
Depth to restrictive feature: Sherless—20 to 40 inches to bedrock, paralithic; Bismarck—10 to 20 inches to bedrock, paralithic; Nashoba—20 to 40 inches to bedrock, lithic
Drainage class: Sherless and Nashoba—well drained; Bismarck—somewhat excessively drained
Slowest saturated hydraulic conductivity: Moderate (about 4.00 micrometers/sec)
Available water capacity: Sherless—low (about 5.5 inches); Bismarck—very low (about 1.6 inches); Nashoba—very low (about 2.9 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: High
Non-irrigated land capability: 7s

Typical Profile

Sherless
Surface layer:
0 to 3 inches—dark grayish brown stony fine sandy loam; moderately acid
Subsurface layer:
3 to 9 inches—light yellowish brown gravelly fine sandy loam; strongly acid
9 to 17 inches—brownish yellow gravelly loam; very strongly acid
Subsoil layer:
17 to 33 inches—yellowish red gravelly clay loam; very strongly acid
33 to 39 inches—yellowish red and strong brown very gravelly sandy clay loam with light brownish gray iron depletions; very strongly acid

Substratum layer:
39 to 40 inches—strong brown, yellowish brown, and light brownish gray soft, acid sandstone bedrock that is tilted and fractured

Bismarck
Surface layer:
0 to 2 inches—dark brown cobbly silt loam; moderately acid
Subsurface layer:
2 to 5 inches—dark yellowish brown gravelly silt loam; strongly acid
Subsoil layer:
5 to 12 inches—yellowish brown very channery silt loam; very strongly acid
Substratum layer:
12 to 20 inches—weathered bedrock

Nashoba
Surface layer:
0 to 4 inches—dark brown cobbly fine sandy loam; strongly acid
Subsoil layer:
4 to 25 inches—yellowish brown very gravelly loam; strongly acid
Substratum/subsoil layer:
25 to 30 inches—soft sandstone bedrock and yellowish brown fine sandy loam; very strongly acid
Bedrock:
30 to 40 inches—hard sandstone

31C—Sherless-Littlefir complex, 1 to 8 percent slopes

Map Unit Composition

Major components:
Sherless and similar soils—55 percent
Littlefir and similar soils—30 percent
Contrasting inclusions:
Bismarck soils—10 percent
Mazarn soils—5 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Sherless—hillslope and crest on hills; Littlefir—hillslope on hills
Parent material: Sherless—loamy residuum weathered from sandstone and shale; Littlefir—clayey residuum weathered from acid shale
Slope: 1 to 8 percent
Surface fragments: None
Depth to restrictive feature: Sherless—20 to 40 inches to bedrock, paralithic; Littlefir—20 to 50 inches to bedrock, paralithic
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Sherless—moderate (about 4.00 micrometers/sec); Littlefir—slow (about 0.42 micrometers/sec)
Available water capacity: Sherless—low (about 5.5 inches); Littlefir—low (about 4.9 inches)
Shrink-swell potential: Sherless—low (about 1.5 LEP); Littlefir—high (about 7.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Sherless—greater than 6 feet; Littlefir—about 18 to 30 inches

Runoff class: Sherless—medium; Littlefir—high
Non-irrigated land capability: Sherless—3e; Littlefir—4e

Typical Profile

Sherless
Surface layer:
0 to 3 inches—dark grayish brown gravelly fine sandy loam; moderately acid
Subsurface layer:
3 to 9 inches—light yellowish brown gravelly fine sandy loam; strongly acid
Subsoil layer:
9 to 17 inches—brownish yellow gravelly loam; very strongly acid
17 to 33 inches—yellowish red gravelly clay loam; very strongly acid
33 to 39 inches—yellowish red and strong brown very gravelly sandy clay loam with light brownish gray iron depletions; very strongly acid
Substratum layer:
39 to 40 inches—strong brown, yellowish brown, and light brownish gray soft, acid sandstone bedrock that is tilted and fractured

Littlefir
Surface layer:
0 to 4 inches—brown gravelly silt loam; moderately acid
Subsoil layer:
4 to 10 inches—yellowish red silty clay loam; strongly acid
10 to 20 inches—red silty clay; very strongly acid
20 to 26 inches—red channery clay with yellowish brown iron concentrations; very strongly acid
26 to 34 inches—red, yellowish brown, and gray very channery clay; very strongly acid
Substratum layer:
34 to 40 inches—red, brown, and gray weathered bedrock

31D—Sherless-Littlefir complex, 8 to 15 percent slopes

Map Unit Composition

Major components:
Sherless and similar soils—55 percent
Littlefir and similar soils—30 percent
Contrasting inclusions:
Bismarck soils—10 percent
Nashoba soils—5 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Hillslope on hills
Parent material: Sherless—loamy residuum weathered from sandstone and shale; Littlefir—clayey residuum weathered from acid shale
Slope: 8 to 15 percent
Surface fragments: None
Depth to restrictive feature: Sherless—20 to 40 inches to bedrock, paralithic; Littlefir—20 to 50 inches to bedrock, paralithic
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Sherless—moderate (about 4.00 micrometers/sec); Littlefir—slow (about 0.42 micrometers/sec)

Available water capacity: Sherless—low (about 5.5 inches); Littlefir—low (about 4.9 inches)
Shrink-swell potential: Sherless—low (about 1.5 LEP); Littlefir—high (about 7.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Sherless—greater than 6 feet; Littlefir—about 18 to 30 inches, apparent
Runoff class: Sherless—medium; Littlefir—high
Non-irrigated land capability: 6e

Typical Profile

Sherless
Surface layer:
0 to 3 inches—dark grayish brown gravelly fine sandy loam; moderately acid
Subsurface layer:
3 to 9 inches—light yellowish brown gravelly fine sandy loam; strongly acid
Subsoil layer:
9 to 17 inches—brownish yellow gravelly loam; very strongly acid
17 to 33 inches—yellowish red gravelly clay loam; very strongly acid
33 to 39 inches—yellowish red and strong brown very gravelly sandy clay loam with light brownish gray iron depletions; very strongly acid
Substratum layer:
39 to 40 inches—strong brown, yellowish brown, and light brownish gray soft, acid sandstone bedrock that is tilted and fractured

Littlefir
Surface layer:
0 to 4 inches—brown gravelly silt loam; moderately acid
Subsoil layer:
4 to 10 inches—yellowish red silty clay loam; strongly acid
10 to 20 inches—red silty clay; very strongly acid
20 to 26 inches—red channery clay with yellowish brown iron concentrations; very strongly acid
26 to 34 inches—red, yellowish brown, and gray very channery clay; very strongly acid
Substratum layer:
34 to 40 inches—red, brown, and gray weathered bedrock

32C—Sherless-Nashoba complex, 1 to 8 percent slopes

Map Unit Composition

Major components:
Sherless and similar soils—65 percent
Nashoba and similar soils—20 percent
Contrasting inclusions:
Clebit soils—10 percent
Rock outcrop—5 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Crest on hills

Parent material: Sherless—loamy residuum weathered from sandstone and shale; Nashoba—gravelly residuum weathered from sandstone
Slope: 1 to 8 percent
Surface fragments: None
Depth to restrictive feature: Sherless—20 to 40 inches to bedrock, paralithic; Nashoba—20 to 40 inches to bedrock, lithic
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Sherless—moderate (about 4.00 micrometers/sec); Nashoba—moderately slow (about 1.40 micrometers/sec)
Available water capacity: Sherless—low (about 5.5 inches); Nashoba—very low (about 2.9 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: Sherless—medium; Nashoba—low
Non-irrigated land capability: Sherless—4e; Nashoba—6s

Typical Profile

Sherless
Surface layer:
0 to 3 inches—dark grayish brown cobbly fine sandy loam; moderately acid
Subsurface layer:
3 to 9 inches—light yellowish brown gravelly fine sandy loam; strongly acid
Subsoil layer:
9 to 17 inches—brownish yellow gravelly loam; very strongly acid
17 to 33 inches—yellowish red gravelly clay loam; very strongly acid
33 to 39 inches—yellowish red and strong brown very gravelly sandy clay loam with light brownish gray iron depletions; very strongly acid
Substratum layer:
39 to 40 inches—strong brown, yellowish brown, and light brownish gray soft, acid sandstone bedrock that is tilted and fractured

Nashoba
Surface layer:
0 to 4 inches—dark brown cobbly fine sandy loam; strongly acid
Subsoil layer:
4 to 25 inches—yellowish brown very gravelly loam; strongly acid
Substratum/subsoil layer:
25 to 30 inches—soft sandstone bedrock and yellowish brown fine sandy loam; very strongly acid
Bedrock:
30 to 40 inches—hard sandstone

33C—Smithdale fine sandy loam, 3 to 8 percent slopes

Map Unit Composition

Major components:
Smithdale and similar soils—90 percent
Contrasting inclusions:
Sacul soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope and interfluve on inland dissected coastal plain
Parent material: Loamy marine sediment
Slope: 3 to 8 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderate (about 4.00 micrometers/sec)
Available water capacity: High (about 9.3 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: Medium
Non-irrigated land capability: 3e

Typical Profile

Surface layer:
0 to 5 inches—brown fine sandy loam; strongly acid
Subsurface layer:
5 to 20 inches—light yellowish brown fine sandy loam; strongly acid
Subsoil layer:
20 to 38 inches—yellowish red loam; very strongly acid
38 to 50 inches—red sandy clay loam; very strongly acid
50 to 80 inches—red and light yellowish brown loam; very strongly acid

34A—Smithton fine sandy loam, 0 to 1 percent slopes

Map Unit Composition

Major components:
Smithton and similar soils—90 percent
Contrasting inclusions:
Gurdon soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Stream terrace on inland dissected coastal plain
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderate (about 4.00 micrometers/sec)
Available water capacity: High (about 10.2 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 0 to 12 inches, apparent
Runoff class: Low
Non-irrigated land capability: 3w

Typical Profile

Surface layer:
0 to 3 inches—grayish brown fine sandy loam; strongly acid
Subsurface layer:
3 to 8 inches—light brownish gray fine sandy loam with strong brown masses of oxidized iron; very strongly acid
Subsoil layer:
8 to 27 inches—light brownish gray loam with strong brown masses of oxidized iron; very strongly acid
27 to 54 inches—light gray loam with strong brown and brownish yellow masses of oxidized iron; very strongly acid
54 to 80 inches—gray and reddish yellow loam; very strongly acid

35B—Speer loam, 0 to 2 percent slopes, rarely flooded

Map Unit Composition

Major components:
Speer and similar soils—95 percent
Contrasting inclusions:
Cupco soils—5 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Flood-plain step on hills
Landform position: Linear areas
Parent material: Loamy alluvium
Slope: 0 to 2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderate (about 4.00 micrometers/sec)
Available water capacity: High (about 9.5 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Rare
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: Negligible
Non-irrigated land capability: 2e

Typical Profile

Surface layer:
0 to 4 inches—brown loam; moderately acid
Subsoil layer:
4 to 13 inches—dark yellowish brown loam; moderately acid
13 to 25 inches—brown loam; moderately acid
25 to 51 inches—brown sandy clay loam; strongly acid
Substratum layer:
51 to 80 inches—yellowish brown and brown fine sandy loam; very strongly acid

36B—Speer loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Composition

Major components:
Speer and similar soils—95 percent
Contrasting inclusions:
Cupco soils—5 percent

Component Descriptions

MLRA: 119—Ouachita Mountains
Landform: Flood-plain step on hills
Landform position: Linear areas
Parent material: Loamy alluvium
Slope: 0 to 2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderate (about 4.00 micrometers/sec)
Available water capacity: High (about 9.5 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Occasional
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: Negligible
Non-irrigated land capability: 2w

Typical Profile

Surface layer:
0 to 4 inches—brown loam; moderately acid
Subsoil layer:
4 to 13 inches—dark yellowish brown loam; moderately acid
13 to 25 inches—brown loam; moderately acid
25 to 51 inches—brown sandy clay loam; strongly acid
Substratum layer:
51 to 80 inches—yellowish brown and brown fine sandy loam; very strongly acid

37B—Stelltown fine sandy loam, 1 to 3 percent slopes

Map Unit Composition

Major components:
Stelltown and similar soils—90 percent
Contrasting inclusions:
Antoine soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Loamy marine sediment
Slope: 1 to 3 percent
Surface fragments: None

Depth to restrictive feature: None
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderate (about 4.00 micrometers/sec)
Available water capacity: High (about 9.3 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 36 inches, apparent
Runoff class: Low
Non-irrigated land capability: 2e

Typical Profile

Surface layer:
0 to 4 inches—dark gray fine sandy loam; strongly acid
Subsurface layer:
4 to 12 inches—pale brown fine sandy loam; very strongly acid
Subsoil layer:
12 to 25 inches—light yellowish brown sandy loam; very strongly acid
25 to 48 inches—light yellowish brown loam with light brownish gray iron depletions; very strongly acid
48 to 80 inches—light yellowish brown, strong brown, and light brownish gray sandy clay loam; very strongly acid

38C—Sumter silty clay, 3 to 8 percent slopes, eroded

Map Unit Composition

Major components:
Sumter and similar soils—85 percent
Contrasting inclusions:
Billstown soils—5 percent
DeAnn soils—5 percent
Japany soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope and interfluve on inland dissected coastal plain
Parent material: Clayey residuum weathered from chalk
Slope: 3 to 8 percent
Surface fragments: None
Depth to restrictive feature: 20 to 40 inches to bedrock, paralithic
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Slow (about 0.42 micrometers/sec)
Available water capacity: Low (about 3.8 inches)
Shrink-swell potential: High (about 7.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: High
Non-irrigated land capability: 4e

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown silty clay; calcareous; slightly alkaline

Subsoil layer:
4 to 9 inches—light olive brown and dark grayish brown silty clay; calcareous; slightly alkaline
9 to 16 inches—olive silty clay; calcareous; moderately alkaline
16 to 32 inches—light olive brown, olive, and gray silty clay; calcareous; moderately alkaline
Substratum layer:
32 to 72 inches—grayish brown chalk; calcareous; moderately alkaline

38D—Sumter silty clay, 8 to 15 percent slopes, eroded

Map Unit Composition

Major components:
Sumter and similar soils—85 percent
Contrasting inclusions:
Billstown soils—5 percent
DeAnn soils—5 percent
Japany soils—5 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Hillslope on inland dissected coastal plain
Parent material: Clayey residuum weathered from chalk
Slope: 8 to 15 percent
Surface fragments: None
Depth to restrictive feature: 20 to 40 inches to bedrock, paralithic
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Slow (about 0.42 micrometers/sec)
Available water capacity: Low (about 3.8 inches)
Shrink-swell potential: High (about 7.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: Very high
Non-irrigated land capability: 6e

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown silty clay; calcareous; slightly alkaline
Subsoil layer:
4 to 9 inches—light olive brown and dark grayish brown silty clay; calcareous; slightly alkaline
9 to 16 inches—olive silty clay; calcareous; moderately alkaline
16 to 32 inches—light olive brown, olive, and gray silty clay; calcareous; moderately alkaline
Substratum layer:
32 to 72 inches—grayish brown chalk; calcareous; moderately alkaline

39B—Antoine silt loam, 1 to 3 percent slopes

Map Unit Composition

Major components:
Antoine and similar soils—90 percent
Contrasting inclusions:
Aquults soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Interfluve on inland dissected coastal plain
Parent material: Loamy marine sediment
Slope: 1 to 3 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Slow (about 0.42 micrometers/sec)
Available water capacity: High (about 10.3 inches)
Shrink-swell potential: High (about 7.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 24 inches, apparent
Runoff class: Low
Non-irrigated land capability: 2w

Typical Profile

Surface layer:
0 to 5 inches—brown silt loam; strongly acid
Subsoil layer:
5 to 12 inches—strong brown silty clay loam with pale brown iron depletions; very strongly acid
12 to 30 inches—strong brown and light brownish gray silty clay loam with black iron concentrations; very strongly acid
30 to 57 inches—gray silty clay loam with black and yellowish red iron concentrations; very strongly acid
57 to 80 inches—light brownish gray silty clay with black and yellowish red iron concentrations; very strongly acid

40A—Tuscumbia silty clay, 0 to 1 percent slopes, occasionally flooded

Map Unit Composition

Major components:
Tuscumbia and similar soils—90 percent
Contrasting inclusions:
Aquents soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Flood-plain step on inland dissected coastal plain

Landform position: Linear areas
Parent material: Clayey alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Very slow (about 0.01 micrometers/sec)
Available water capacity: Moderate (about 6.1 inches)
Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: Occasional
Ponding hazard: None
Depth to seasonal water saturation: About 0 to 12 inches, apparent
Runoff class: Low
Non-irrigated land capability: 3w

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown silty clay; moderately acid
Subsoil layer:
5 to 12 inches—grayish brown silty clay; moderately acid
12 to 23 inches—dark gray silty clay; moderately acid
23 to 34 inches—grayish brown clay; slightly acid
34 to 54 inches—gray clay; neutral
54 to 80 inches—gray clay; moderately alkaline

41B—Urbo silty clay loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Composition

Major components:
Urbo and similar soils—90 percent
Contrasting inclusions:
Aquents soils—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Flood-plain step on inland dissected coastal plain
Landform position: Linear areas
Parent material: Clayey alluvium
Slope: 0 to 3 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Very slow (about 0.01 micrometers/sec)
Available water capacity: High (about 9.7 inches)
Shrink-swell potential: High (about 7.5 LEP)
Flooding hazard: Occasional
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 24 inches, apparent
Runoff class: Medium
Non-irrigated land capability: 2w

Typical Profile

Surface layer:
0 to 5 inches—grayish brown silty clay loam; strongly acid
Subsoil layer:
5 to 10 inches—dark yellowish brown silty clay loam; very strongly acid
10 to 25 inches—grayish brown silty clay; very strongly acid
25 to 51 inches—gray silty clay; very strongly acid
51 to 80 inches—yellowish brown, gray, and grayish brown silty clay; very strongly acid

42B—Urbo silty clay loam, 0 to 3 percent slopes, frequently flooded

Map Unit Composition

Major components:
Urbo and similar soils—80 percent
Contrasting inclusions:
Guyton soils—10 percent
Similar soils flooded for long duration—10 percent

Component Descriptions

MLRA: 135B—Cretaceous Western Coastal Plain
Landform: Flood plain on inland dissected coastal plain
Landform position: Linear areas
Parent material: Clayey alluvium
Slope: 0 to 3 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Very slow (about 0.01 micrometers/sec)
Available water capacity: High (about 9.7 inches)
Shrink-swell potential: High (about 7.5 LEP)
Flooding hazard: Frequent
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 24 inches, apparent
Runoff class: High
Non-irrigated land capability: 4w

Typical Profile

Surface layer:
0 to 5 inches—grayish brown silty clay loam; strongly acid
Subsoil layer:
5 to 10 inches—dark yellowish brown silty clay loam; very strongly acid
10 to 25 inches—grayish brown silty clay; very strongly acid
25 to 51 inches—gray silty clay; very strongly acid
51 to 80 inches—yellowish brown, gray, and grayish brown silty clay; very strongly acid

43—Water

Major components:
Water—100 percent

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. The acreage of high-quality farmland is limited, and the U.S. Department of Agriculture recognizes that government at local, State, and Federal levels, as well as individuals, must 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 (fig. 5). It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, 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. The water supply is dependable and of adequate quality. Prime farmland is

Figure 5.—An area of Sardis silt loam, 0 to 3 percent slopes, occasionally flooded, has high potential for forage production.

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. Slope ranges mainly from 0 to 6 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 areas 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 below. This list does not constitute a recommendation for a particular land use.

For some soils identified as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described in the section “Use and Management of the Soils.”

The map units that are considered prime farmland in Sevier County are:

1C Kullit fine sandy loam, 2 to 5 percent slopes
5B Cupco silt loam, 0 to 2 percent slopes, occasionally flooded (where drained)
9B Felker very fine sandy loam, 1 to 3 percent slopes
10B Gurdon very fine sandy loam, 1 to 3 percent slopes
11A Guyton silt loam, 0 to 1 percent slopes, occasionally flooded (where drained)
14C Japany silty clay loam, 2 to 5 percent slopes
16B Leeper silty clay, 0 to 3 percent slopes, occasionally flooded
18B Mazarn silt loam, 0 to 3 percent slopes
19B McCaskill fine sandy loam, 0 to 2 percent slopes (where drained)
19C McCaskill fine sandy loam, 3 to 8 percent slopes
21B Ouachita silt loam, 0 to 3 percent slopes, occasionally flooded
28B Sardis silt loam, 0 to 3 percent slopes, occasionally flooded
34A Smithton fine sandy loam, 0 to 1 percent slopes (where drained)
35B Speer loam, 0 to 2 percent slopes, rarely flooded
36B Speer loam, 0 to 2 percent slopes, occasionally flooded
37B Stelltown fine sandy loam, 1 to 3 percent slopes
39B Antoine silt loam, 1 to 3 percent slopes
40A Tuscumbia silty clay, 0 to 1 percent slopes, occasionally flooded (where drained)
41B Urbo silty clay loam, 0 to 3 percent slopes, occasionally flooded

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 rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as 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 gravel, sand, reclamation material, 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.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, and the system of land capability classification used by the Natural Resources Conservation Service is explained.

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.

Yields per Acre

The average yields per acre shown in table 5 are those that can be expected of the principal crops and pasture plants under a high level of management. 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 map units in the survey area 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 also are considered.

The management needed to obtain the indicated yields of the various crops and pasture plants depends on the kind of soil and the crop or pasture plant (fig. 6).

Figure 6.—An area of Leeper silty clay, 0 to 3 percent slopes, occasionally flooded, is moderately suited for use as pasture and hayland.

Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop or pasture plant varieties; appropriate and timely pasture renovation; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop or pasture plant; effective use of crop residue and barnyard manure; and careful grazing management and harvesting that ensures the smallest possible loss (fig. 7).

The estimated yields reflect the productive capacity of each soil for each of the principal crops and pasture plants. 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.

Pasture plants and crops other than those shown in the yields table are grown in the survey area, but estimated yields are not listed because the acreage of such pasture plants and 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 pasture plants and 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

Figure 7.—Pasture plants in an area of Sacul very fine sandy loam, 1 to 8 percent slopes. Poultry production is among the leading sources of agriculture income in Sevier County.

substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961).

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

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, 2e. 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 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

The capability classification of the soils in this survey area is given in the section “Detailed Soil Map Units” and in the yields table.

Forest Productivity and Management

The tables described in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management.

Forest Productivity

In table 6, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings (fig. 8).

They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest (fig. 9).

Forest Management

In tables 7a through 7d, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forest management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable,

Figure 8.—Timber production in an area of Sherless-Bismarck-Nashoba complex, 15 to 35 percent slopes. Much of northern Sevier County is used as woodland.

Figure 9.—A young stand of loblolly pine behind colorful fall foliage in an area of Sherless-Littlefir complex, 8 to 15 percent slopes.

and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forest management (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for fire damage and seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Recreational Development

In tables 8a and 8b, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables 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 also are important. Soils that are 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.

The information in these tables can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

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 ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic (fig. 10). Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Figure 10.—Picnic area at DeQueen Lake in an area of Sherless-Littlefir complex, 1 to 8 percent slopes.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

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 tables 9a through 9d, 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 ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the element or kind of habitat. *Not limited* indicates that the soil has features that are very favorable for the element or kind of habitat. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Creating, improving, or maintaining habitat is impractical or impossible.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Ratings for *grain and seed crops* can be used in the selection of sites that have the soil properties and plant species necessary to sustain wildlife habitat. The ratings do not reflect the limitation for commercial agronomic production. The soil properties and features that affect the growth of grain and seed crops are soil texture, content of organic matter, the amount of rock fragments on or near the soil surface, available water capacity, depth to bedrock or a cemented pan, soil moisture and temperature regimes, depth to a high water table, ponding, flooding, permeability of the soil surface, slope, presence of excess salts in the soil, and susceptibility of the soil surface to water erosion and wind erosion. Examples of grain and seed crops are corn, wheat, oats, and soybeans.

Ratings for *domestic grasses and legumes for food and cover* can be used in the selection of sites that have the soil properties and plant species necessary to sustain wildlife habitat. The ratings do not reflect the limitations for commercial agronomic production. The soil properties and features that affect the growth of grasses and legumes are soil texture, content of organic matter, the amount of rock fragments on or near the soil surface, available water capacity, depth to bedrock or a cemented pan, soil moisture and temperature regimes, depth to a high water table, ponding, flooding, permeability of the soil surface, slope, presence of excess salts in the soil, and susceptibility of the soil surface to water erosion and wind erosion. Examples of grasses and legumes are fescue, lovegrass, bahiagrass, clover, and vetch.

Ratings for *irrigated grain and seed crops for food and cover* can be used in the selection of sites that have the soil properties and plant species necessary to sustain wildlife habitat. The ratings do not reflect the limitations for commercial agronomic production. The soil properties and features that affect the growth of grain and seed crops are soil texture, content of organic matter, the amount of rock fragments on or near the soil surface, available water capacity, depth to bedrock or a cemented pan, depth to a high water table, ponding, flooding, permeability of the soil surface, slope, presence of excess salts in the soil, and susceptibility of the soil surface to water erosion and wind erosion. Examples of grain and seed crops are corn, wheat, oats, and soybeans.

Ratings for *irrigated domestic grasses and legumes for food and cover* can be used in the selection of sites that have the soil properties and plant species necessary to sustain wildlife habitat. The ratings do not reflect the limitations for commercial agronomic production. The soil properties and features that affect the growth of grasses and legumes are soil texture, content of organic matter, the amount of rock fragments on or near the soil surface, available water capacity, depth to bedrock or a cemented pan, depth to a high water table, ponding, flooding, permeability of the soil surface, slope, presence of excess salts in the soil, and susceptibility of the soil surface to water erosion and wind erosion. Examples of grasses and legumes are fescue, lovegrass, bromegrass, and clover.

Ratings for *upland native herbaceous plants* indicate the limitation of the soils as a growth medium for a diverse upland herbaceous plant community. This community is adapted to soils that are drier than the common soils in moist riparian and wetland zones but that are not as dry as the soils in upland desert areas. The soil properties and features that affect the ability of these species to thrive include soil texture, available water capacity, the presence of excess salts in the soil, soil moisture and temperature regimes, depth to a high water table, and rock fragments on the soil surface. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, croton, and partridge pea.

Ratings for *upland shrubs and vines* indicate the limitation of the soils as a growth medium for a diverse upland shrub and vine community. This community is adapted to soils that are drier than those common in the moist riparian and wetland zones but that are not as dry as those in upland desert areas. The soil properties and features that affect the ability of these species to thrive include soil texture, content of organic matter, available water capacity, depth to bedrock or a cemented pan, the presence of excess salts in the soil, soil moisture and temperature regimes, depth to a high water table, and rock fragments on the soil surface. Examples of upland shrubs and vines are American beautyberry, yaupon, sumac, and greenbrier.

Ratings for *burrowing mammals and reptiles* indicate the limitation of the soil for maintaining or increasing local populations of specific burrowing animals. The soil properties and features that affect the preservation of these species are flooding, ponding, depth to bedrock or a cemented pan, depth to a high water table, sandy layers, clayey layers, a high content of organic matter, and high concentrations of rock fragments. Examples of burrowing mammals and reptiles are rabbits, skunks, armadillos, alligators, and rattlesnakes.

Ratings for *upland deciduous trees* indicate the limitation of the soils as a growth medium for a diverse upland deciduous tree community that meets specific local habitat requirements for targeted and nontargeted wildlife species. Typically, deciduous trees require better soil conditions than geographically related conifers. The soil properties and features that affect the ability of upland deciduous trees to thrive include available water capacity, depth to a high water table, depth to bedrock or a cemented pan, and soil moisture and temperature regimes. Examples of upland deciduous trees are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry.

Ratings for *upland coniferous trees* indicate the limitation of the soils as a growth medium for a diverse upland coniferous tree community that meets specific local habitat requirements for targeted and nontargeted wildlife species. Typically, coniferous trees can subsist under harsher soil conditions than geographically related hardwoods. The soil properties and features that affect the ability of upland coniferous trees to thrive include available water capacity, depth to a high water table, depth to bedrock or a cemented pan, and soil moisture and temperature regimes. Examples of upland coniferous trees are pine and eastern redcedar.

Ratings for *upland mixed deciduous and coniferous trees* indicate the limitation of the soils as a growth medium for a diverse upland deciduous-coniferous tree community that meets specific local habitat requirements for targeted and nontargeted wildlife species. A mixed deciduous-coniferous forest can subsist under a wide variety of soil conditions. Typically, better soil conditions are required to maintain the deciduous species, but many of these species adapt to harsher conditions. The soil properties and features that affect the ability of the deciduous and coniferous trees to thrive include available water capacity, depth to a high water table and its seasonal duration, depth to bedrock or a cemented pan, and soil moisture and temperature regimes.

Ratings for *riparian herbaceous plants* indicate the limitation of the soils as a growth medium for herbaceous plants that are adapted to soil conditions that are wetter than those common in the drier upland areas. The soils suitable for this habitat generally are on flood plains, in depressions, on bottom land, in drainageways adjacent to streams, or in any other area where the soil is either saturated for some period during the year or is subject to periodic overflow from ponding or flooding. The soil properties and features that affect the ability of riparian herbaceous plants to persist include soil texture, content of organic matter, depth to a high water table, the frequency and duration of ponding and flooding, the presence of excess salts in the soil, rock fragments, and the soil temperature regime. Examples of riparian herbaceous plants are eastern gamagrass, switchgrass, and white clover.

Ratings for *riparian shrubs, vines, and trees* indicate the limitation of the soils as a growth medium for shrubs, vines, and trees that are adapted to soil conditions that are wetter than those common in the drier upland areas. The soils suitable for this habitat generally are on flood plains, in depressions, on bottom land, in drainageways adjacent to streams, in areas of springs and seeps, or in any other area where the soil is either saturated for some period during the year or is subject to periodic overflow from ponding or flooding. The soil properties and features that affect the ability of riparian shrubs, vines, and trees to persist include available water capacity, depth to a high water table, the frequency and duration of ponding and flooding, the presence of excess salts in the soil, and the soil temperature regime. Examples of riparian shrubs, vines, and trees are cottonwood, green ash, and willow.

Ratings for *freshwater wetland plants* indicate the limitation of the soils as a growth medium for plants that are adapted to wet soil conditions. The soils suitable for this habitat generally are in marshes, in depressions, on bottom land, in backwater areas on flood plains, in drainageways adjacent to streams, in areas of springs and seeps, or in any other area where the soil is not directly affected by moving floodwater but may be ponded during some part of the year. The soil properties and features that affect the ability of freshwater wetland plants to persist include soil texture, content of organic matter, depth to a high water table, the frequency and duration of ponding, the presence of excess salts in the soil, and soil reaction (pH). Examples of freshwater wetland plants are smartweed, rushes, sedges, and reeds.

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 data in the tables described under the heading “Soil Properties.”

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 between the surface and a depth of 5 to 7 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 particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, 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, reclamation material, roadfill, and topsoil; plan structures for water management; 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

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 10a and 10b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

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 soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 11a and 11b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

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 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

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. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, 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. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid 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. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

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. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

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. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 12a and 12b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* 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 table 12a, only the likelihood 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 Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 12b, the rating class terms are *good, fair,* and *poor*. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, and topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In the 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 whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a 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 AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

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. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

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 13 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; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

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. Embankments that have zoned construction (core and shell) are not considered. In the 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.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey. 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 particle-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 are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 14 gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

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 15 percent or more, 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, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-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 particle-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. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in the table “Engineering Index Test Data.”

Rock fragments larger than 10 inches in diameter and 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.

Physical Soil Properties

Table 15 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and 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 $^{1}/_{3}$- or $^{1}/_{10}$-bar (33- or 10-kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each 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 linear extensibility, 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. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of in micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) 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 soil layer. The capacity varies, depending on soil properties that affect retention of water. 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.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar (33- or 10-kPa) moisture tension and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, 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 by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. 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) and the Revised Universal Soil Loss Equation (RUSLE) 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 and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

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.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Soil Properties

Table 16 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is 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. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of exchangeable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil 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.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Soil Features

Table 17 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes 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 or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete 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 also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

Table 18 gives estimates of various 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, 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 or 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.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding 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 ponding 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 ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area 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.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

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.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998 and 1999). 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. 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 Ultisol.

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 Udult (*Ud*, meaning humid, plus *ult*, from Ultisol).

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 Hapludults (*Hapl*, meaning minimal horizonation, plus *udult*, the suborder of the Ultisols that has a udic moisture regime).

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 *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludults.

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 class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, semiactive, thermic Typic Hapludults.

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.

The table “Taxonomic Classification of the Soils” indicates the order, suborder, great group, subgroup, and family of the soil series in the survey area.

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” (Soil Survey Division Staff, 1993) and in the “Field Book for Describing and Sampling Soils” (Schoeneberger and others, 2002). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 1998). 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.”

Antoine Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On hillslope on inland dissected coastal plain
Parent material: Loamy marine deposits
Drainage class: Moderately well drained
Saturated hydraulic conductivity class: Slow
Soil depth class: Very deep
Shrink-swell potential: High
Slope: 1 to 3 percent
Commonly associated soils: Felker, Kullit, and Stelltown
Taxonomic class: Fine-silty, mixed, semiactive, thermic Aquic Paleudults

Typical Pedon

Antoine silt loam in an area of Antoine silt loam, 1 to 3 percent slopes; located NW1/4SW1/4NE1/4 sec. 5, T. 10 S., R. 30 W.; latitude 33 degrees, 55 minutes, 33 seconds N.; longitude 94 degrees, 6 minutes, 51 seconds W.

Ap—0 to 5 inches; brown (10YR 5/3) silt loam; moderate medium granular structure; friable; many fine roots; about 5 percent, by volume, rounded gravel less than 3 inches in diameter; strongly acid; abrupt smooth boundary.

Bt1—5 to 12 inches; strong brown (7.5YR 5/6) silty clay loam; weak medium subangular blocky structure; friable; many fine roots; common distinct clay films on faces of peds; many coarse distinct pale brown (10YR 6/3) iron depletions; about 5 percent, by volume, rounded gravel less than 3 inches in diameter; very strongly acid; clear smooth boundary.

Bt2—12 to 30 inches; 55 percent strong brown (7.5YR 5/8) and 45 percent light brownish gray (10YR 6/2) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; common distinct clay films on faces of peds; few fine distinct black (10YR 2/1) iron-manganese concretions; about 5 percent, by volume, rounded gravel less than 3 inches in diameter; very strongly acid; clear smooth boundary.

Btg1—30 to 57 inches; gray (10YR 6/1) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds; common fine distinct black (10YR 2/1) iron-manganese concretions; common fine prominent yellowish red (5YR 5/8) masses of oxidized iron; about 5 percent, by volume, rounded gravel less than 3 inches in diameter; very strongly acid; clear wavy boundary.

Btg2—57 to 80 inches; light brownish gray (10YR 6/2) silty clay; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds; 30 percent fine distinct black (10YR 2/1) iron-manganese concretions; common medium prominent yellowish red (5YR 5/8) masses of oxidized iron; about 5 percent, by volume, rounded gravel less than 3 inches in diameter; very strongly acid.

Range in Characteristics

Solum thickness: 60 to 80 inches or more
Content of sandstone fragments: Less than 3 inches in diameter range from 0 to 10 percent throughout

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 to 4
Texture—silt loam, very fine sandy loam, fine sandy loam, or loam
Reaction—slightly acid to very strongly acid

E horizon (where present):
Color—hue of 10YR, value of 5 or 6, and chroma of 4 or 6
Texture—loam, silt loam, fine sandy loam, or very fine sandy loam
Reaction—slightly acid to very strongly acid

BE horizon (where present):
Color—hue of 10YR, value of 5 to 7, and chroma of 6 to 8
Texture—fine sandy loam, very fine sandy loam, silt loam, or loam
Reaction—strongly acid or very strongly acid

Bt horizon (upper part):
Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 6 or 8; or variegated shades of red, gray, and brown
Redoximorphic features—none to common iron depletions and concentrations in shades of gray, red, or brown
Texture—silt loam, loam, or silty clay loam
Reaction—strongly acid or very strongly acid

Bt horizon (lower part):
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 5 or 6, and chroma of 6 or 8; or variegated shades of gray, brown, and red
Redoximorphic features—none to common iron depletions and concentrations in shades of gray, brown, or red
Texture—silty clay loam, silty clay, or clay loam
Reaction—strongly acid or very strongly acid

Btg horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2; or variegated shades of gray, brown, red, and yellow
Redoximorphic features—iron concentrations in shades of gray, brown, and red
Texture—silty clay loam, silty clay, clay loam, or clay
Reaction—strongly acid or very strongly acid

Billstown Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On hillslope on inland dissected coastal plain
Parent material: Cretaceous clayey marine deposits derived from chalk and/or cretaceous clayey residuum
Drainage class: Moderately well drained

Saturated hydraulic conductivity class: Very slow
Soil depth class: Very deep
Shrink-swell potential: Very high
Slope: 3 to 15 percent
Commonly associated soils: DeAnn, Japany, Sacul, and Sumter
Taxonomic class: Fine, smectitic, thermic Vertic Paleudalfs

Typical Pedon

Billstown silty clay in an area of Billstown silty clay, 3 to 8 percent slopes; located NW^1/4SE^1/4SW^1/4 sec. 17, T. 11 S., R. 28 W.; latitude 33 degrees, 53 minutes, 26 seconds N.; longitude 94 degrees, 21 minutes, 52 seconds W.

A—0 to 5 inches; brown (10YR 4/3) silty clay; moderate medium subangular blocky structure; firm; strongly acid; clear wavy boundary.
E—5 to 10 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; very strongly acid; clear wavy boundary.
Bt1—10 to 20 inches; red (2.5YR 4/8) clay; moderate medium subangular blocky structure; firm; many distinct clay films on faces of peds; pressure faces on peds; very strongly acid; clear wavy boundary.
Bt2—20 to 30 inches; yellowish red (5YR 5/8) clay; moderate medium angular blocky structure; firm; many distinct clay films on faces of peds; common distinct pressure faces on faces of peds; 5 percent medium distinct gray (10YR 6/1) iron depletions; very strongly acid; gradual wavy boundary.
Btss—30 to 40 inches; yellowish brown (10YR 5/6) clay; moderate medium angular blocky structure; firm; many distinct clay films on faces of peds; common slickensides with polished and grooved surfaces; common medium distinct gray (10YR 6/1) iron depletions; very strongly acid; clear wavy boundary.
Bkss—40 to 80 inches; light yellowish brown (2.5Y 6/4) clay; weak medium angular blocky structure; firm; few slickensides with polished and grooved surfaces; common medium distinct grayish brown (2.5Y 5/2) iron depletions; few fine calcium carbonate nodules; about 10 percent, by volume, shale fragments less than 6 inches in length; calcareous; moderately alkaline.

Range in Characteristics

Solum thickness: Greater than 60 inches

A horizon:
Color—hue of 10YR, value of 3 to 6, and chroma of 2 to 4
Texture—silty clay
Reaction—moderately acid to very strongly acid

E horizon:
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—silty clay loam, clay loam, or loam
Reaction—moderately acid to very strongly acid

Bt horizon:
Color—hue of 2.5YR, 5YR, or 7.5YR, value of 4 to 6, and chroma of 4, 6, or 8; or variegated shades of red, brown, and gray
Texture—clay or silty clay
Redoximorphic features—none to common iron depletions in shades of brown or gray
Reaction—moderately acid to very strongly acid

Btss horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 to 6, and chroma of 4, 6, or 8; or variegated shades of red, brown, and gray

Texture—clay or silty clay
Redoximorphic features—none to common iron depletions in shades of brown or gray
Soil features—slickensides range from few to many
Reaction—moderately acid to very strongly acid

Bkss horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 or 6; or variegated shades of red, brown, and gray
Texture—clay or silty clay
Redoximorphic features—none to common iron depletions in shades of brown or gray
Soil features—slickensides range from few to many
Reaction—moderately alkaline to neutral

Bismarck Series

MLRA: 119—Ouachita Mountains
Geomorphic setting: On hillslope on hill
Parent material: Gravelly residuum weathered from acid shale
Drainage class: Somewhat excessively drained
Saturated hydraulic conductivity class: Moderate
Soil depth class: Shallow to a bedrock, paralithic layer
Shrink-swell potential: Low
Slope: 1 to 60 percent
Commonly associated soils: Clebit, Littlefir, Mazarn, Nashoba, and Sherless
Taxonomic class: Loamy-skeletal, mixed, semiactive, thermic, shallow Typic Dystrudepts

Typical Pedon

Bismarck gravelly silt loam in an area of Bismarck-Littlefir-Nashoba complex, 8 to 15 percent slopes (fig. 11); located NE$^1/_4$SE$^1/_4$NW$^1/_4$ sec. 23, T. 7 S., R. 32 W.; latitude 34 degrees, 9 minutes, 55 seconds N.; longitude 94 degrees, 16 minutes, 47 seconds W.

A—0 to 2 inches; dark brown (10YR 3/3) gravelly silt loam; weak fine granular structure; friable; about 15 percent, by volume, angular fragments less than 3 inches in diameter; moderately acid; abrupt smooth boundary.
E—2 to 5 inches; dark yellowish brown (10YR 4/4) gravelly silt loam; weak fine subangular blocky structure; friable; about 20 percent, by volume, angular sandstone fragments less than 3 inches in diameter and 10 percent, by volume, flat shale channers less than 6 inches in length; strongly acid; clear smooth boundary.
Bw—5 to 12 inches; yellowish brown (10YR 5/6) very channery silt loam; weak medium subangular blocky structure; friable; about 55 percent, by volume, flat acid shale fragments less than 6 inches in length; very strongly acid; clear wavy boundary.
Cr—12 to 20 inches; gray and yellowish brown, fractured and tilted, weakly cemented, soft, acid shale bedrock.

Range in Characteristics

Solum thickness and depth to shale bedrock: 10 to 20 inches

A horizon:
Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4

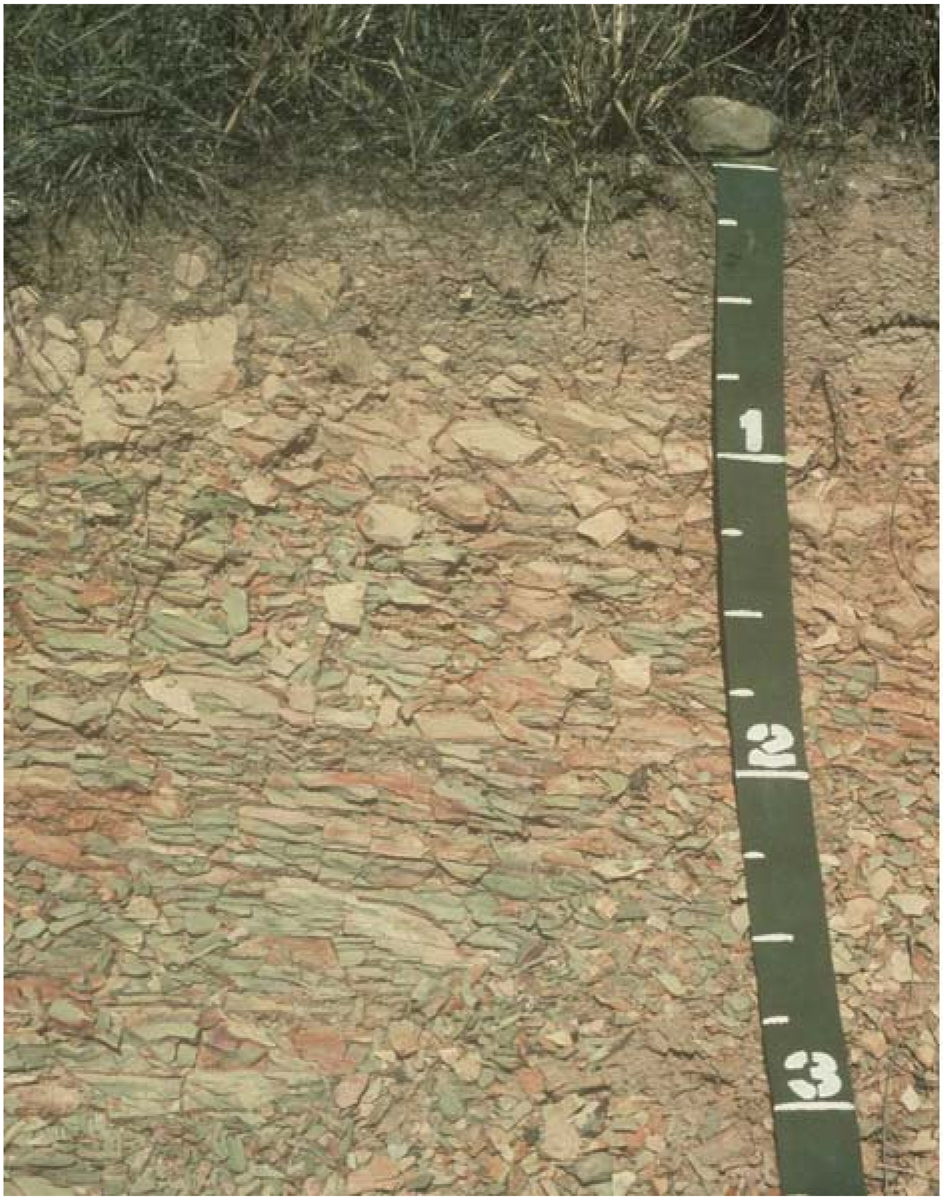

Figure 11.—Profile of Bismarck gravelly silt loam.

Texture—gravelly silt loam or cobbly silt loam
Content of shale and sandstone fragments—15 to 35 percent
Reaction—moderately acid to very strongly acid

E horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 4
Texture—channery silt loam or gravelly silt loam
Content of shale and sandstone fragments—15 to 35 percent
Reaction—moderately acid to very strongly acid

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 or 6
Texture—very channery silt loam
Content of shale and sandstone fragments—15 to 60 percent
Reaction—moderately acid to very strongly acid

Cr layer:
Color—gray, brown, yellow, and red
Texture—soft, weakly cemented, acid shale bedrock with few thin strata of interbedded sandstone and siltstone

Ceda Series

MLRA: 119—Ouachita Mountains
Geomorphic setting: On flood plain
Parent material: Loamy alluvium
Drainage class: Well drained
Saturated hydraulic conductivity class: Rapid
Soil depth class: Very deep
Shrink-swell potential: Low

Figure 12.—Profile of Ceda very cobbly fine sandy loam.

Slope: 0 to 3 percent
Commonly associated soils: Cupco, Dela, Kenn, and Speer
Taxonomic class: Loamy-skeletal, siliceous, semiactive, nonacid, thermic Typic Udifluvents

Typical Pedon

Ceda very cobbly fine sandy loam in an area of Kenn-Ceda complex, 0 to 3 percent slopes, frequently flooded (fig. 12); located NE1/4SE1/4SE1/4 sec. 10, T. 7 S., R. 31 W.; latitude 34 degrees, 11 minutes, 3 seconds N.; longitude 94 degrees, 25 minutes, 9 seconds W.

A—0 to 4 inches; dark brown (10YR 3/3) very cobbly fine sandy loam; weak fine granular structure; very friable; about 40 percent, by volume, well-rounded sandstone fragments up to 10 inches in diameter; moderately acid; clear smooth boundary.
C1—4 to 20 inches; strong brown (7.5YR 5/6) stratified very gravelly fine sandy loam; structureless, massive; friable; about 40 percent, by volume, well-rounded sandstone fragments less than 3 inches in diameter; strongly acid; clear wavy boundary.
C2—20 to 80 inches; dark yellowish brown (10YR 4/4) stratified extremely gravelly loam; structureless, massive; friable; about 60 percent, by volume, well-rounded sandstone fragments less than 3 inches in diameter; strongly acid.

Range in Characteristics

A horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 or 3
Texture—very cobbly fine sandy loam
Content of sandstone fragments—35 to 60 percent
Reaction—slightly acid to strongly acid

C horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2, 3, 4, or 6
Texture—very gravelly loam, very gravelly fine sandy loam, or their extremely gravelly, very cobbly, or extremely cobbly analogs
Content of sandstone fragments—35 to 85 percent
Reaction—slightly acid or moderately acid

Clebit Series

MLRA: 119—Ouachita Mountains
Geomorphic setting: On hillslope on hill
Parent material: Gravelly residuum weathered from sandstone
Drainage class: Well drained
Saturated hydraulic conductivity class: Moderately rapid
Soil depth class: Shallow to a bedrock, lithic layer
Shrink-swell potential: Low
Slope: 35 to 60 percent
Commonly associated soils: Bismarck, Littlefir, Nashoba, and Sherless
Taxonomic class: Loamy-skeletal, siliceous, semiactive, thermic Lithic Dystrudepts

Typical Pedon

Clebit very stony fine sandy loam in an area of Nashoba-Bismarck-Clebit complex, 35 to 60 percent slopes (fig. 13); located SE1/4SE1/4NE1/4 sec. 5, T. 7 S., R. 32 W.; latitude 34 degrees, 8 minutes, 55 seconds N.; longitude 94 degrees, 14 minutes, 50 seconds W.

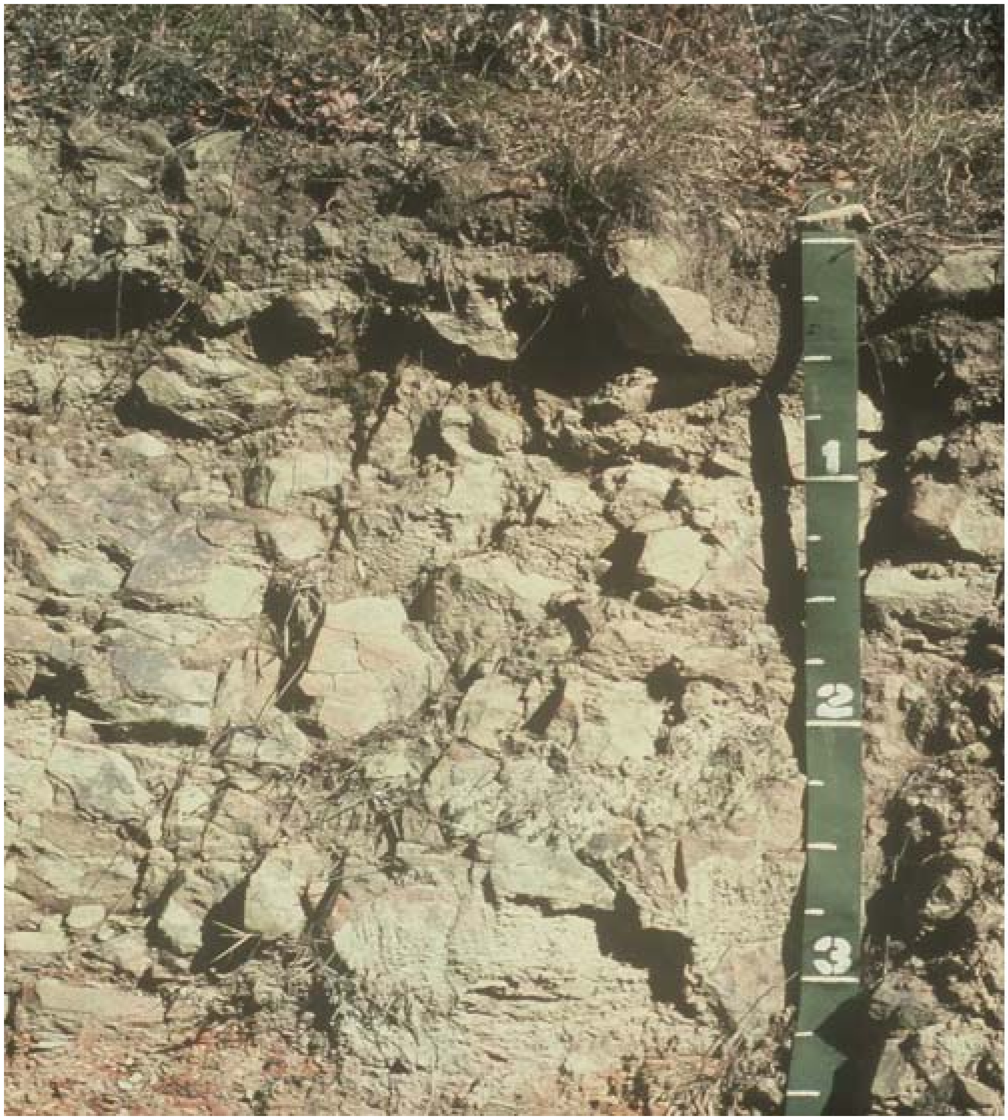

Figure 13.—Profile of Clebit very stony fine sandy loam.

A—0 to 3 inches; dark brown (10YR 3/3) very stony fine sandy loam; weak fine granular structure; friable; about 50 percent, by volume, sandstone fragments up to 24 inches in diameter; strongly acid; clear smooth boundary.

Bw—3 to 15 inches; strong brown (7.5YR 5/6) very gravelly loam; moderate fine and medium subangular blocky structure; friable; about 50 percent, by volume, sandstone fragments less than 3 inches in diameter; very strongly acid; clear irregular boundary.

R—15 to 20 inches; hard sandstone bedrock that is fractured and tilted and with an occasional seam of interbedded shale and/or soft sandstone.

Range in Characteristics

Solum thickness and depth to hard sandstone bedrock: 10 to 20 inches; may be extremely variable within short distances

A horizon:

Color—hue of 10YR, value of 3 to 5, and chroma of 2 or 3

Texture—very stony fine sandy loam

Content of sandstone fragments—35 to 60 percent
Reaction—slightly acid to strongly acid

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3, 4, or 6
Texture—very gravelly fine sandy loam, very gravelly loam, or their extremely gravelly analogs
Redoximorphic features—iron concentrations in shades of red, brown, or yellow in some pedons
Content of sandstone fragments—35 to 75 percent
Reaction—slightly acid to very strongly acid

R layer:
Color—gray, yellow, or brown
Texture—sandstone that is hard, fractured, and tilted more than 20 degrees from horizontal

Cupco Series

MLRA: 119—Ouachita Mountains
Geomorphic setting: On flood-plain step
Parent material: Loamy alluvium
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity class: Moderately slow
Soil depth class: Very deep
Shrink-swell potential: Moderate
Slope: 0 to 2 percent
Commonly associated soils: Ceda, Dela, Kenn, and Speer
Taxonomic class: Fine-silty, siliceous, active, thermic Typic Epiaqualfs

Typical Pedon

Cupco silt loam in an area of Cupco silt loam, 0 to 2 percent slopes, occasionally flooded; located SW1/4SE1/4SE1/4 sec. 13, T. 7 S., R. 31 W.; latitude 34 degrees, 9 minutes, 34 seconds N.; longitude 94 degrees, 7 minutes, 42 seconds W.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; few medium distinct yellowish brown (10YR 5/6) masses of oxidized iron along faces of peds; moderately acid; abrupt smooth boundary.
E—6 to 11 inches; grayish brown (10YR 5/2) silt loam; weak medium granular structure; friable; common medium faint light brownish gray (10YR 6/2) iron depletions along faces of peds; strongly acid; clear smooth boundary.
Bt1—11 to 35 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium subangular blocky structure; firm; common distinct clay films on faces of peds; common medium faint brown (10YR 4/3) masses of oxidized iron on faces of peds; strongly acid; clear smooth boundary.
Bt2—35 to 52 inches; brown (10YR 4/3) and grayish brown (10YR 5/2) silty clay loam; moderate medium subangular blocky structure; firm; common distinct clay films on faces of peds; strongly acid; clear smooth boundary.
Bt3—52 to 64 inches; brown (10YR 4/3) silty clay loam; moderate medium and coarse subangular blocky structure; firm; many distinct clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron along faces of peds; common medium faint grayish brown (10YR 5/2) iron depletions along faces of peds; strongly acid; diffuse wavy boundary.

BC—64 to 80 inches; brown (10YR 4/3) silty clay loam; weak medium and coarse subangular blocky structure; firm; common medium distinct gray (10YR 6/1) iron depletions along faces of peds; strongly acid.

Range in Characteristics

Solum thickness: Greater than 60 inches

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 or 3
Texture—silt loam
Redoximorphic features—iron depletions in shades of gray; iron concentrations in shades of brown
Reaction—slightly acid to very strongly acid

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2
Texture—silt loam or silty clay loam
Redoximorphic features—iron depletions in shades of gray; iron concentrations in shades of brown
Reaction—strongly acid or very strongly acid

Bt horizon (upper part):
Color—hue of 10YR, value of 3 to 6, and chroma of 2 or 3
Texture—silty clay loam or clay loam
Redoximorphic features—iron depletions in shades of gray; iron concentrations in shades of brown
Reaction—slightly acid to very strongly acid

Bt horizon (lower part):
Color—hue of 10YR, value of 4 to 6, and chroma of 2 to 4
Texture—silty clay loam or clay loam
Redoximorphic features—iron depletions in shades of gray; iron concentrations in shades of brown
Reaction—neutral to very strongly acid

BC horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 2 or 3
Texture—silt loam, silty clay loam, or clay loam
Redoximorphic features—iron depletions in shades of gray; iron concentrations in shades of brown
Reaction—neutral to strongly acid

DeAnn Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On hillslope on inland dissected coastal plain
Parent material: Clayey residuum weathered from chalk and marl
Drainage class: Moderately well drained
Saturated hydraulic conductivity class: Very slow
Soil depth class: Deep to a bedrock, paralithic layer
Shrink-swell potential: Very high
Slope: 3 to 8 percent
Commonly associated soils: Billstown, Japany, and Sumter
Taxonomic class: Very-fine, smectitic, thermic Oxyaquic Hapluderts

Typical Pedon

DeAnn clay in an area of DeAnn clay, 3 to 8 percent slopes, eroded; located SW1/4SW1/4NW1/4 sec. 17, T. 11 S., R. 29 W.

Ap—0 to 5 inches; very dark grayish brown (2.5Y 3/2) clay; moderate fine granular structure; firm; few fine calcium carbonate concretions; calcareous; slightly alkaline; clear smooth boundary.
A—5 to 22 inches; very dark grayish brown (2.5Y 3/2) clay; moderate fine angular blocky structure; firm; few fine calcium carbonate concretions; calcareous; slightly alkaline; clear irregular boundary.
Bssk1—22 to 38 inches; dark grayish brown (2.5Y 4/2) clay; moderate fine angular blocky structure; firm; common intersecting slickensides; common fine calcium carbonate concretions; calcareous; moderately alkaline; gradual wavy boundary.
Bssk2—38 to 56 inches; light olive brown (2.5Y 5/4) clay; moderate fine angular blocky structure; very firm; common slickensides; many medium calcium carbonate concretions; calcareous; moderately alkaline; gradual wavy boundary.
Bssk3—56 to 80 inches; light yellowish brown (2.5Y 6/4) clay; moderate fine angular blocky structure; very firm; common slickensides; many medium calcium carbonate concretions; calcareous; moderately alkaline.

Range in Characteristics

Solum thickness: 48 to more than 80 inches
Depth to bedrock: 4 to 9 feet
Clay content: 60 to 80 percent throughout, with 60 to 70 percent being most common

Ap and A horizons:
Color—hue of 10YR, 2.5Y, or 5Y, value of 2 or 3, and chroma of 1 or 2
Texture—clay
Reaction—moderately alkaline to slightly acid

Bssk horizon:
Color—hue of 10YR, 2.5Y, or 5Y, value of 4 to 6, and chroma of 2 to 4
Texture—clay
Reaction—moderately alkaline to slightly acid

C horizon (where present):
Color—hue of 10YR, 2.5Y, or 5Y, value of 4 or 5, and chroma of 3, 4, or 6
Texture—clay
Redoximorphic features—iron depletions and concentrations in shades of brown, yellow, or gray
Reaction—moderately alkaline to neutral

Dela Series

MLRA: 119—Ouachita Mountains
Geomorphic setting: On flood plain
Parent material: Loamy alluvium
Drainage class: Moderately well drained
Saturated hydraulic conductivity class: Moderately rapid
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0 to 3 percent
Commonly associated soils: Ceda, Cupco, Kenn, and Speer
Taxonomic class: Coarse-loamy, siliceous, active, nonacid, thermic Typic Udifluvents

Typical Pedon

Dela fine sandy loam in an area of Dela fine sandy loam, 0 to 3 percent slopes, frequently flooded; located SW1/4NW1/4NE1/4 sec. 18, T. 7 S., R. 29 W.; latitude 33 degrees, 59 minutes, 46 seconds N.; longitude 94 degrees, 23 minutes, 39 seconds W.

A—0 to 3 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak medium granular structure; friable; moderately acid; clear smooth boundary.

C1—3 to 13 inches; yellowish brown (10YR 5/4) fine sandy loam with thin strata of brown (10YR 4/3) fine sandy loam; structureless, massive; very friable; moderately acid; clear smooth boundary.

C2—13 to 25 inches; yellowish brown (10YR 5/4) fine sandy loam with thin strata of brown (10YR 4/3) sandy loam; structureless, massive; very friable; common medium faint brown (10YR 5/3) iron depletions on faces of peds; strongly acid; clear smooth boundary.

C3—25 to 80 inches; yellowish brown (10YR 5/4) and light brownish gray (10YR 6/2) sandy loam with thin strata of brown (10YR 4/3) sandy loam; structureless, massive; very friable; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron on faces of peds; strongly acid.

Range in Characteristics

A horizon:

Color—hue of 10YR, value of 3 or 4, and chroma of 2 or 3
Texture—fine sandy loam
Reaction—neutral to strongly acid

C horizon:

Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2, 3, 4, or 6; horizons with chroma of 2 or less occur at depths of 40 to 60 inches
Texture—fine sandy loam, sandy loam, or loam
Redoximorphic features—iron depletions and concentrations in shades of brown, yellow, or gray
Reaction—neutral to strongly acid

Felker Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On terrace
Parent material: Loamy alluvium
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity class: Moderately slow
Soil depth class: Very deep
Shrink-swell potential: Moderate
Slope: 1 to 3 percent
Commonly associated soils: Antoine, Kullit, McCaskill, Smithton, and Stelltown
Taxonomic class: Fine-silty, siliceous, active, thermic Aquic Paleudults

Typical Pedon

Felker very fine sandy loam in an area of Felker very fine sandy loam, 1 to 3 percent slopes; located SE1/4SE1/4SW1/4 sec. 10, T. 9 S., R. 32 W.; latitude 33 degrees, 52 minutes, 53 seconds N.; longitude 94 degrees, 14 minutes, 39 seconds W.

A—0 to 4 inches; grayish brown (10YR 5/2) very fine sandy loam; weak medium granular structure; very friable; strongly acid; clear smooth boundary.

E—4 to 15 inches; pale brown (10YR 6/3) very fine sandy loam; moderate medium granular structure; very friable; very strongly acid; clear smooth boundary.

Bt1—15 to 36 inches; pale brown (10YR 6/3) loam; weak medium subangular blocky structure; friable; few faint clay films on surfaces along root channels; few fine faint light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual smooth boundary.

Bt2—36 to 80 inches; brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; few fine faint light brownish gray (10YR 6/2) iron depletions; very strongly acid.

Range in Characteristics

Solum thickness: Greater than 60 to more than 80 inches

A horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 or 3
Texture—very fine sandy loam
Reaction—moderately acid to very strongly acid

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—very fine sandy loam
Reaction—moderately acid to very strongly acid

Bt horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3, 4, 6, or 8
Texture—is loam, silt loam, or silty clay loam
Redoximorphic features—iron depletions and concentrations in shades of gray, red, brown, or yellow
Reaction—moderately acid to very strongly acid

Gurdon Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On stream terrace
Parent material: Loamy alluvium
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity class: Moderate
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 1 to 3 percent
Commonly associated soils: Billstown, Guyton, and Kullit
Taxonomic class: Coarse-silty, siliceous, semiactive, thermic Aquic Paleudults

Typical Pedon

Gurdon very fine sandy loam in an area of Gurdon very fine sandy loam, 1 to 3 percent slopes; located NE1/4NW1/4SW1/4 sec. 19, T. 10 S., R. 30 W.; latitude 33 degrees, 52 minutes, 19 seconds N.; longitude 94 degrees, 14 minutes, 9 seconds W.

A—0 to 5 inches; brown (10YR 5/3) very fine sandy loam; weak medium granular structure; very friable; very strongly acid; clear smooth boundary.

BA—5 to 17 inches; yellowish brown (10YR 5/4) very fine sandy loam; weak fine subangular blocky structure; very friable; few fine faint brown (10YR 4/3) iron depletions; very strongly acid; clear smooth boundary.

Bt1—17 to 35 inches; brownish yellow (10YR 6/6) loam; moderate medium subangular blocky structure; friable; common faint clay films on faces of peds; few fine distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual smooth boundary.

Bt2—35 to 56 inches; yellowish brown (10YR 5/6) silty clay loam; weak medium subangular blocky structure; friable; common distinct clay films on faces of peds; common medium distinct light brownish gray (10YR 6/2) iron depletions; common iron-manganese concretions; very strongly acid; gradual smooth boundary.

Bt3—56 to 80 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; common distinct clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions; few iron-manganese concretions; very strongly acid.

Range in Characteristics

Solum thickness: Greater than 60 to more than 80 inches

A horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 2 or 3
Texture—silt loam, very fine sandy loam, or loam
Reaction—strongly acid or very strongly acid

BA horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—very fine sandy loam
Redoximorphic features—iron depletions and concentrations in shades of gray and brown
Reaction—strongly acid or very strongly acid

Bt horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 4, 6, or 8
Texture—silt loam, loam, or silty clay loam
Redoximorphic features—iron depletions and concentrations in shades of gray and brown
Reaction—strongly acid or very strongly acid

Guyton Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On flood-plain step
Parent material: Loamy alluvium
Drainage class: Poorly drained and very poorly drained
Saturated hydraulic conductivity class: Moderately slow
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0 to 1 percent
Commonly associated soils: Billstown, Gurdon, Ouachita, and Sardis
Taxonomic class: Fine-silty, siliceous, active, thermic Typic Glossaqualfs

Typical Pedon

Guyton silt loam in an area of Guyton silt loam, 0 to 1 percent slopes, occasionally flooded; located SE1/4NW1/4NE1/4 sec. 30, T. 10 S., R. 30 W.; latitude 34 degrees, 5 minutes, 2 seconds N.; longitude 94 degrees, 10 minutes, 20 seconds W.

A—0 to 4 inches; grayish brown (10YR 5/2) silt loam; moderate medium granular structure; friable; few fine iron-manganese concretions; very strongly acid; clear smooth boundary.

Eg1—4 to 12 inches; light brownish gray (10YR 6/2) silt loam; moderate medium granular structure; friable; few fine iron-manganese concretions; few medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron; very strongly acid; clear wavy boundary.

Eg2—12 to 22 inches; light brownish gray (10YR 6/2) silt loam; moderate medium granular structure; firm; few fine iron-manganese concretions; few medium distinct yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) masses of oxidized iron; very strongly acid; clear irregular boundary.

B/E—22 to 34 inches; gray (10YR 6/1) silty clay loam; weak medium subangular blocky structure; firm; 15 percent, by volume, albic tongues; few faint clay films on bottom faces of peds; common medium distinct strong brown (7.5YR 5/8) masses of oxidized iron; few fine light brownish gray (10YR 6/2) iron-manganese concretions; very strongly acid; clear smooth boundary.

Btg—34 to 59 inches; gray (10YR 6/1) silty clay loam; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; common medium distinct brown (7.5YR 4/4) masses of oxidized iron; few fine light brownish gray (10YR 6/2) iron-manganese concretions; very strongly acid; clear wavy boundary.

Cg—59 to 80 inches; gray (10YR 6/1) loam; structureless, massive; friable; very strongly acid.

Range in Characteristics

Solum thickness: 50 to more than 80 inches

A horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 2 or 3
Texture—silt loam
Reaction—moderately acid to very strongly acid

Eg horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2
Texture—silt loam or loam
Redoximorphic features—iron concentrations in shades of brown
Reaction—moderately acid to very strongly acid

B/E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2
Texture—silt loam, silty clay loam, or loam
Redoximorphic features—iron concentrations in shades of brown
Tongues of albic material—15 to 30 percent
Reaction—moderately acid to very strongly acid

Btg horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2
Texture—silt loam, silty clay loam, loam, or clay loam
Redoximorphic features—iron concentrations in shades of brown
Reaction—moderately alkaline to very strongly acid

Cg horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2
Texture—silt loam or loam
Reaction—moderately alkaline to very strongly acid

Japany Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On hillslope on inland dissected coastal plain
Parent material: Clayey marine deposits
Drainage class: Somewhat poorly drained

Saturated hydraulic conductivity class: Very slow
Soil depth class: Very deep
Shrink-swell potential: Very high
Slope: 2 to 15 percent
Commonly associated soils: Billstown, DeAnn, and Sumter
Taxonomic class: Fine, mixed, active, thermic Aquic Dystruderts

Typical Pedon

Japany silty clay loam in an area of Japany silty clay loam, 2 to 5 percent slopes; located SW1/4SW1/4NE1/4 sec. 20, T. 11 S., R. 28 W.; latitude 33 degrees, 54 minutes, 25 seconds N.; longitude 94 degrees, 15 minutes, 39 seconds W.

A—0 to 3 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine granular structure; friable; strongly acid; abrupt smooth boundary.

Btss1—3 to 10 inches; yellowish brown (10YR 5/4) silty clay; moderate medium subangular blocky structure; firm; common distinct clay films on faces of peds; common intersecting slickensides; very strongly acid; clear wavy boundary.

Btss2—10 to 22 inches; yellowish brown (10YR 5/6) silty clay; moderate medium subangular blocky structure; firm; many distinct clay films on faces of peds; common intersecting slickensides; few fine distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.

Btss3—22 to 36 inches; yellowish brown (10YR 5/4) clay; moderate medium angular blocky structure; firm; many distinct clay films on faces of peds; common intersecting slickensides; common medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual wavy boundary.

Btss4—36 to 50 inches; yellowish brown (10YR 5/4) and light brownish gray (10YR 6/2) clay; moderate medium angular blocky structure; firm; many distinct clay films on faces of peds; common intersecting slickensides; very strongly acid; gradual wavy boundary.

C1—50 to 62 inches; light brownish gray (10YR 6/2) marly clay; structureless, massive; firm; moderately sticky, moderately plastic; common medium distinct yellowish brown (10YR 5/4) masses of oxidized iron; strongly acid; clear wavy boundary.

C2—62 to 80 inches; light brownish gray (10YR 6/2) and light olive brown (2.5Y 5/4) marly clay; structureless, massive; firm; slightly acid.

Range in Characteristics

Solum thickness: 30 to more than 60 inches

A horizon:
- Color—hue of 10YR; value of 3 to 5, and chroma of 2 or 3
- Texture—very fine sandy loam, fine sandy loam, loam, silt loam, silty clay loam, or clay loam
- Redoximorphic features—none to common iron-manganese masses and iron accumulations
- Reaction—slightly alkaline to very strongly acid

Btss horizon:
- Color—hue of 5YR, 7.5YR, 10YR, or 2.5Y, value of 4 to 6, and chroma of 4, 6, or 8; or variegated shades of yellow, brown, gray, and red
- Texture—silty clay loam, silty clay, or clay
- Redoximorphic features—none to many iron depletions
- Percent sandstone gravel—0 to 5 percent
- Reaction—slightly alkaline to very strongly acid

Bt horizon (where present):

Color—hue of 5YR, 7.5YR, 10YR, or 2.5Y, value of 5 or 6, and chroma of 3, 4, or 6; or variegated shades of yellow, red, brown, and gray
Texture—silty clay loam, silty clay, clay loam, or clay
Soil features—irregularly underlain by marl and partially weathered chalk at a depth that varies from 30 to 80 inches or more
Redoximorphic features—iron accumulations in shades of brown, gray, and yellow
Percent sandstone gravel—less than 15 percent
Reaction—slightly alkaline to very strongly acid

BC horizon (where present) and C horizon:

Color—hue of 5YR, 7.5YR, 10YR, or 2.5Y, value of 5 or 6, and chroma of 2, 3, 4, or 6; or variegated shades of yellow, red, brown, and gray
Texture—silty clay loam, silty clay, clay loam, or clay
Content of chalk fragments—0 to 5 percent
Reaction—slightly alkaline to very strongly acid

Kenn Series

MLRA: 119—Ouachita Mountains
Geomorphic setting: On flood plain
Parent material: Loamy alluvium
Drainage class: Well drained
Saturated hydraulic conductivity class: Moderate
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0 to 3 percent
Commonly associated soils: Ceda, Cupco, Dela, and Speer
Taxonomic class: Fine-loamy, siliceous, active, thermic Ultic Hapludalfs

Typical Pedon

Kenn gravelly fine sandy loam in an area of Kenn-Ceda complex, 0 to 3 percent slopes, frequently flooded (fig. 14); located NW^1/4NW^1/4NE^1/4 sec. 14, T. 7 S., R. 31 W.; latitude 33 degrees, 47 minutes, 24 seconds N.; longitude 94 degrees, 0 minutes, 47 seconds W.

A—0 to 4 inches; brown (10YR 4/3) gravelly fine sandy loam; weak fine granular structure; friable; many fine roots throughout; common fine pores; about 15 percent, by volume, well-rounded sandstone fragments less than 3 inches in diameter; moderately acid; clear smooth boundary.
BA—4 to 9 inches; brown (7.5YR 4/4) gravelly loam; weak fine subangular blocky structure; friable; common fine roots throughout; common pores; about 20 percent, by volume, well-rounded sandstone fragments less than 3 inches in diameter; strongly acid; clear smooth boundary.
Bt—9 to 27 inches; brown (7.5YR 4/4) gravelly sandy clay loam; weak fine and medium subangular blocky structure; friable; common fine roots throughout; common faint clay films on faces of peds; about 15 percent, by volume, well-rounded sandstone fragments less than 3 inches in diameter; strongly acid; clear irregular boundary.
BC—27 to 32 inches; brown (7.5YR 4/4) very gravelly clay loam; weak fine subangular blocky structure; friable; about 40 percent, by volume, well-rounded sandstone fragments less than 3 inches in diameter; very strongly acid; gradual wavy boundary.

Figure 14.—Profile of Kenn gravelly fine sandy loam.

C—32 to 80 inches; dark yellowish brown (10YR 4/4) extremely cobbly fine sandy loam; structureless, massive; friable; about 60 percent, by volume, well-rounded sandstone fragments up to 10 inches in diameter; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to bedrock: Greater than 60 inches

A horizon:
Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4
Texture—gravelly fine sandy loam
Percent sandstone gravel—15 to 35 percent
Reaction—slightly acid to strongly acid

BA horizon:
Color—hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 4 or 6
Texture—fine sandy loam, loam, or their gravelly analogs
Percent sandstone gravel—5 to 35 percent
Reaction—moderately acid or strongly acid

Bt horizon:
Color—hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 4, 6, or 8
Texture—loam, clay loam, sandy clay loam, or their gravelly analogs
Percent sandstone gravel—5 to 35 percent
Reaction—strongly acid or very strongly acid

BC horizon:
Color—hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 4, 6, or 8
Texture—very gravelly clay loam or very gravelly sandy clay loam
Percent sandstone gravel—35 to 60 percent
Reaction—strongly acid or very strongly acid

C horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 or 6
Texture—extremely gravelly loam, extremely gravelly fine sandy loam, extremely gravelly sandy clay loam, or their extremely cobbly analogs
Percent sandstone gravel and cobbles—60 to 90 percent
Reaction—strongly acid or very strongly acid

Kullit Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On hillslope on inland dissected coastal plain
Parent material: Loamy marine deposits
Drainage class: Moderately well drained
Saturated hydraulic conductivity class: Moderately slow
Soil depth class: Very deep
Shrink-swell potential: Moderate
Slope: 2 to 5 percent
Commonly associated soils: Antoine, Felker, Gurdon, and Smithton
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Aquic Paleudults

Typical Pedon

Kullit fine sandy loam in an area of Kullit fine sandy loam, 2 to 5 percent slopes; located NE1/4SW1/4SW1/4 sec. 12, T. 10 S., R. 31 W.; latitude 33 degrees, 54 minutes, 25 seconds N.; longitude 94 degrees, 15 minutes, 39 seconds W.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) fine sandy loam; moderate medium granular structure; friable; moderately acid; abrupt smooth boundary.
E—5 to 10 inches; brown (10YR 5/3) fine sandy loam; moderate medium granular structure; friable; strongly acid; clear smooth boundary.
Bt1—10 to 22 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.
Bt2—22 to 39 inches; yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; common distinct clay films on faces of peds; common medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual smooth boundary.

Bt3—39 to 80 inches; light brownish gray (10YR 6/2) and yellowish brown (10YR 5/4) sandy clay loam; moderate medium subangular blocky structure; firm; common distinct clay films on faces of peds; very strongly acid.

Range in Characteristics

Solum thickness: Greater than 80 inches

A or Ap horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 2 or 3
Texture—fine sandy loam
Reaction—moderately acid or strongly acid

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3, 4, or 6
Texture—fine sandy loam
Reaction—moderately acid to very strongly acid

Bt horizon (upper part):
Color—hue of 5YR, 7.5YR, or 10YR, value of 4 to 6, and chroma of 4, 6, or 8
Redoximorphic features—few to common iron depletions in shades of brown or gray occur within 30 inches of the surface
Texture—loam, sandy clay loam, or clay loam
Reaction—moderately acid to very strongly acid

Bt horizon (lower part):
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 2, 3, 4, 6, or 8; or variegated shades of red, brown, or gray
Redoximorphic features—none to common iron depletions in shades of brown or gray
Texture—loam, sandy clay loam, or clay loam
Reaction—moderately acid to very strongly acid

Leeper Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On flood-plain step on inland dissected coastal plain
Parent material: Clayey alluvium
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity class: Very slow
Soil depth class: Very deep
Shrink-swell potential: High
Slope: 0 to 3 percent
Commonly associated soils: Tuscumbia and Urbo
Taxonomic class: Fine, smectitic, nonacid, thermic Vertic Epiaquepts

Typical Pedon

Leeper silty clay in an area of Leeper silty clay, 0 to 3 percent slopes, occasionally flooded; located SW^1/4SW^1/4SW^1/4 sec. 6, T. 11 S., R. 29 W.; latitude 34 degrees, 9 minutes, 23 seconds N.; longitude 94 degrees, 15 minutes, 46 seconds W.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) silty clay; moderate medium granular structure; friable; slightly acid; abrupt smooth boundary.

Bg1—4 to 12 inches; dark grayish brown (10YR 4/2) silty clay; moderate medium subangular blocky structure; firm; common pressure faces on some peds; common fine iron-manganese concretions; slightly acid; clear wavy boundary.

Bg2—12 to 30 inches; gray (10YR 5/1) and dark grayish brown (10YR 4/2) clay; moderate medium angular blocky structure; firm; common pressure faces on some peds; common fine iron-manganese concretions; slightly acid; clear wavy boundary.

Bg3—30 to 48 inches; gray (10YR 5/1) clay; moderate medium angular blocky structure; firm; common pressure faces on some peds; common fine iron-manganese concretions; neutral; gradual wavy boundary.

Cg—48 to 80 inches; dark grayish brown (2.5Y 4/2) and olive gray (5Y 5/2) clay; structureless, massive; firm; common pressure faces on some peds and few patchy slickensides; common fine iron-manganese concretions; slightly alkaline.

Range in Characteristics

Solum thickness: 40 to more than 60 inches

A or Ap horizon:
Color—hue of 10YR, value of 4, and chroma of 2
Texture—silty clay
Reaction—moderately alkaline to slightly acid

Bg horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 1 or 2; or variegated shades of gray and brown
Texture—silty clay or clay
Redoximorphic features—few to common iron concentrations in shades of black and brown; none to common iron depletions in shades of gray
Reaction—moderately alkaline to slightly acid

Cg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2; or variegated shades of gray, yellow, and brown
Texture—clay or silty clay
Redoximorphic features—few to common iron concentrations in shades of brown or yellow
Reaction—moderately alkaline to slightly acid

Littlefir Series

MLRA: 119—Ouachita Mountains
Geomorphic setting: On hillslope on hill
Parent material: Clayey residuum weathered from acid shale
Drainage class: Well drained
Saturated hydraulic conductivity class: Slow
Soil depth class: Moderately deep to deep to a bedrock, paralithic layer
Shrink-swell potential: High
Slope: 1 to 35 percent
Commonly associated soils: Bismarck, Clebit, Mazarn, Nashoba, and Sherless
Taxonomic class: Fine, mixed, semiactive, thermic Oxyaquic Hapludults

Typical Pedon

Littlefir gravelly silt loam in an area of Bismarck-Littlefir-Nashoba complex, 8 to 15 percent slopes (fig. 15); located SE^1/4SE^1/4NE^1/4 sec. 14, T. 7 S., R. 31 W.; latitude 34 degrees, 11 minutes, 11 seconds N.; longitude 94 degrees, 19 minutes, 5 seconds W.

A—0 to 4 inches; brown (10YR 4/3) gravelly silt loam; weak fine granular structure; friable; about 15 percent, by volume, angular sandstone fragments; moderately acid; abrupt smooth boundary.

Figure 15.—Profile of Littlefir gravelly silt loam.

Bt1—4 to 10 inches; yellowish red (5YR 5/8) silty clay loam; moderate medium subangular blocky structure; firm; many distinct clay films on faces of peds; about 5 percent, by volume, sandstone fragments less than 3 inches in diameter; strongly acid; clear wavy boundary.

Bt2—10 to 20 inches; red (2.5YR 5/6) silty clay; moderate medium subangular blocky structure; firm; many distinct clay films on faces of peds; about 5 percent shale fragments less than 6 inches in length; very strongly acid; clear smooth boundary.

Bt3—20 to 26 inches; red (2.5YR 4/6) channery clay; strong medium and coarse angular blocky structure; firm; many prominent clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron; about 15 percent, by volume, shale fragments less than 6 inches in length; very strongly acid; diffuse wavy boundary.

BC—26 to 34 inches; red (2.5YR 4/6), yellowish brown (10YR 5/6), and gray (10YR 6/1) very channery clay; moderate coarse angular blocky structure; firm; about 50 percent, by volume, shale fragments less than 6 inches thick; very strongly acid; diffuse irregular boundary.

Cr—34 to 40 inches; weathered bedrock; red (2.5YR 4/6), yellowish brown (10YR 5/6), and gray (10YR 6/1) soft, acid shale bedrock that is fractured and tilted.

Range in Characteristics

Solum thickness and depth to shale or interbedded shale and sandstone bedrock: 20 to 50 inches; extremely variable within short distances

A horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 2 to 4
Texture—gravelly loam, gravelly silt loam, or cobbly loam
Content of sandstone and shale fragments—0 to 35 percent
Reaction—slightly acid to strongly acid

E horizon (where present):
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—gravelly loam, gravelly silt loam, or cobbly loam
Reaction—slightly acid to strongly acid

Bt horizon:
Color—hue of 2.5YR, 5YR, or 7.5YR, value of 4 or 5, and chroma of 4, 6, or 8
Texture—silty clay loam, clay loam, silty clay, clay, or their gravelly or channery analogs
Redoximorphic features—none to common iron concentrations in shades of red; none to common iron depletions in shades of brown and yellow
Content of sandstone and shale fragments—5 to 35 percent
Reaction—strongly acid or very strongly acid

BC horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 6 or 8
Texture—channery silty clay, channery clay, channery silty clay loam, channery clay loam, or their very channery analogs
Redoximorphic features—none to common iron concentrations in shades of red; few to common iron depletions in shades of brown, yellow, and gray
Content of sandstone and shale fragments—15 to 60 percent
Reaction—strongly acid to extremely acid

Cr layer:
Color—shades of black, olive, gray, brown, red, and yellow
Texture—soft, weathered shale bedrock, interbedded shale and sandstone, or siltstone bedrock
Soil features—lenses or fragments of quartzite that are interbedded between shale and sandstone beds or plates in some pedons

Mazarn Series

MLRA: 119—Ouachita Mountains
Geomorphic setting: On open depression on hillslope on hill
Parent material: Loamy slope alluvium derived from sandstone and shale
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity class: Moderately slow
Soil depth class: Moderately deep to a bedrock, paralithic layer
Shrink-swell potential: Low
Slope: 0 to 3 percent

Commonly associated soils: Bismarck, Littlefir, Nashoba, and Sherless
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Aquic Hapludults

Typical Pedon

Mazarn silt loam in an area of Mazarn silt loam, 0 to 3 percent slopes (fig. 16); located; NW1/4SE1/4NE1/4 sec. 5, T. 7 S., R. 31 W.; latitude 34 degrees, 11 minutes, 7 seconds N.; longitude 94 degrees, 16 minutes, 7 seconds W.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; strongly acid; abrupt smooth boundary.

E—4 to 9 inches; yellowish brown (10YR 5/4) silt loam; weak fine subangular blocky structure; strongly acid; clear smooth boundary.

Bt1—9 to 21 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; common patchy faint clay films on faces of

Figure 16.—Profile of Mazarn silt loam.

peds; few medium prominent irregular gray (10YR 6/1) iron depletions on faces of peds; moderately acid; clear smooth boundary.

Bt2—21 to 38 inches; gray (10YR 6/1) and brownish yellow (10YR 6/6) silty clay loam; moderate medium subangular blocky structure; common discontinuous distinct clay films on faces of peds; about 10 percent, by volume, shale fragments less than 6 inches in length; strongly acid; abrupt wavy boundary.

2Cr—38 to 40 inches; weathered bedrock; soft, acid shale that is tilted and fractured and laminated with seams of loamy and clayey material between the plates.

Range in Characteristics

Solum thickness and depth to weathered shale bedrock: 20 to 40 inches

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 to 4
Texture—silt loam
Reaction—strongly acid or very strongly acid

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—silt loam or loam
Reaction—strongly acid or very strongly acid

BE horizon (where present):
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—silt loam, loam, or silty clay loam
Redoximorphic features—none to common iron concentrations in shades of brown or yellow; few to common iron depletions in shades of gray
Reaction—strongly acid or very strongly acid

Bt horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 1, 2, 3, 4, or 6; or variegated shades of brown, gray, or yellow
Texture—silty clay loam, silt loam, loam, or their gravelly analogs
Redoximorphic features—none to common iron concentrations in shades of brown or yellow; few to common iron depletions in shades of gray
Content of sandstone and shale fragments—0 to 30 percent
Reaction—strongly acid or very strongly acid

2BC horizon (where present):
Color—hue of 10YR, value of 5 or 6, and chroma of 2; or variegated shades of brown, gray, or yellow
Texture—silty clay loam, silty clay, clay, or their channery or very channery analogs
Redoximorphic features—few to common iron concentrations in shades of brown and yellow; few to common iron depletions in shades of gray
Content of sandstone and shale fragments—10 to 50 percent
Reaction—strongly acid or very strongly acid

2Cr layer:
Texture—weathered, tilted shale bedrock
Soil features—beds are fractured and have a dip of more than 20 degrees

McCaskill Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On hillslope on inland dissected coastal plain
Parent material: Loamy marine deposits

Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity class: Moderate
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0 to 8 percent
Commonly associated soils: Felker, Smithton, and Stelltown
Taxonomic class: Coarse-loamy, mixed, semiactive, thermic Aquic Paleudults

Typical Pedon

McCaskill fine sandy loam in an area of McCaskill fine sandy loam, 0 to 2 percent slopes; located NE1/4SW1/4SE1/4 sec. 9, T. 9 S., R. 32 W.; latitude 33 degrees, 49 minutes, 13 seconds N.; longitude 94 degrees, 4 minutes, 25 seconds W.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) fine sandy loam; moderate medium granular structure; very friable; many fine and medium roots; strongly acid; abrupt smooth boundary.

E—4 to 10 inches; brown (10YR 5/3) fine sandy loam; moderate medium granular structure; very friable; strongly acid; clear smooth boundary.

Bt1—10 to 17 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; few fine faint light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.

Bt2—17 to 46 inches; light yellowish brown (10YR 6/4) loam; moderate medium subangular blocky structure; firm; common faint clay films on bottom faces of peds; few fine distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual wavy boundary.

Bt3—46 to 80 inches; brownish yellow (10YR 6/6), light brownish gray (10YR 6/2), and yellowish brown (10YR 5/4) loam; moderate medium subangular blocky structure; firm; common faint clay films on bottom faces of peds; very strongly acid.

Range in Characteristics

Solum thickness: Greater than 60 inches

A or Ap horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 2 or 3
Texture—fine sandy loam
Reaction—slightly acid to strongly acid

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 2 to 4
Texture—fine sandy loam or sandy loam
Reaction—slightly acid to strongly acid

Bt horizon (upper part):
Color—hue of 10YR, value of 5 or 6, and chroma of 4 or 6; or variegated shades of brown, yellow, and gray
Texture—fine sandy loam, loam, or sandy loam
Redoximorphic features—none to common iron concentrations in shades of brown and yellow; few to common iron depletions in shades of gray
Reaction—slightly acid to very strongly acid

Bt horizon (lower part):
Color—hue of 10YR, value of 5 or 6, and chroma of 4 or 6; or variegated shades of brown, yellow, and gray
Redoximorphic features—none to common iron concentrations in shades of brown and yellow; few to common iron depletions in shades of gray

Texture—loam or fine sandy loam
Reaction—slightly acid to very strongly acid

Nashoba Series

MLRA: 119—Ouachita Mountains
Geomorphic setting: On hillslope on hill
Parent material: Gravelly residuum weathered from sandstone
Drainage class: Well drained
Saturated hydraulic conductivity class: Moderate
Soil depth class: Moderately deep to a bedrock, lithic layer
Shrink-swell potential: Low

Figure 17.—Profile of Nashoba cobbly fine sandy loam.

Slope: 1 to 60 percent
Commonly associated soils: Bismarck, Clebit, Littlefir, Mazarn, and Sherless
Taxonomic class: Loamy-skeletal, siliceous, semiactive, thermic Typic Dystrudepts

Typical Pedon

Nashoba cobbly fine sandy loam in an area of Sherless-Bismarck-Nashoba complex, 15 to 35 percent slopes (fig. 17); located SW1/4SW1/4NE1/4 sec. 2, T. 7 S., R. 31 W.; latitude 33 degrees, 47 minutes, 56 seconds N.; longitude 94 degrees, 1 minute, 2 seconds W.

A—0 to 4 inches; dark brown (10YR 3/3) cobbly fine sandy loam; weak fine granular structure; friable; about 25 percent, by volume, sandstone fragments up to 10 inches in diameter; strongly acid; clear smooth boundary.
Bw—4 to 25 inches; yellowish brown (10YR 5/6) very gravelly loam; weak fine subangular blocky structure; friable; about 40 percent, by volume, sandstone fragments less than 3 inches in diameter; strongly acid; clear wavy boundary.
Cr/Bw—25 to 30 inches; about 90 percent soft, acid sandstone with thin layers of shale and siltstone and about 10 percent yellowish brown (10YR 5/6) fine sandy loam in the seams between the layers of bedrock; very strongly acid; abrupt irregular boundary.
R—30 to 40 inches; brown hard sandstone bedrock that is tilted and fractured.

Range in Characteristics

Solum thickness: 20 to 40 inches; extremely variable within short distances

A horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 or 3
Texture—cobbly fine sandy loam, very cobbly fine sandy loam, or stony fine sandy loam
Content of sandstone fragments—up to 24 inches in diameter range from 15 to 60 percent
Reaction—moderately acid or strongly acid

Bw horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3, 4, or 6
Texture—very gravelly loam, very gravelly fine sandy loam, or their very cobbly analogs
Content of sandstone fragments—35 to 60 percent
Reaction—moderately acid or strongly acid

Cr/Bw layer:
Color—brown, red, or yellow; and hue of 10YR, value of 5 or 6, and chroma of 3, 4, or 6
Texture—soft, fine-grained sandstone that is fractured and tilted 20 to 90 degrees from horizontal; and fine sandy loam
Reaction—moderately acid to very strongly acid

R layer:
Color—brown, red, or yellow
Texture—hard, fine-grained sandstone that is fractured and tilted 20 to 90 degrees from horizontal

Ouachita Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On flood-plain step on inland dissected coastal plain

Parent material: Loamy alluvium derived from sandstone and shale
Drainage class: Well drained
Saturated hydraulic conductivity class: Moderately slow
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0 to 3 percent
Commonly associated soils: Guyton, Sardis, and Urbo
Taxonomic class: Fine-silty, siliceous, active, thermic Fluventic Dystrudepts

Typical Pedon

Ouachita silt loam in an area of Ouachita silt loam, 0 to 3 percent slopes, occasionally flooded; located SE1/4NE1/4NW1/4 sec. 24, T. 10 S., R. 32 W.; latitude 33 degrees, 52 minutes, 54 seconds N.; longitude 94 degrees, 8 minutes, 57 seconds W.

Ap—0 to 5 inches; brown (10YR 4/3) silt loam; weak medium granular structure; friable; very strongly acid; clear smooth boundary.
A—5 to 14 inches; brown (10YR 4/3) silt loam; weak medium granular structure; friable; very strongly acid; clear smooth boundary.
Bw1—14 to 29 inches; yellowish brown (10YR 5/4) and brown (10YR 4/3) loam; weak medium subangular blocky structure; friable; very strongly acid; clear wavy boundary.
Bw2—29 to 60 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; common medium distinct very pale brown (10YR 7/3) iron depletions in matrix; very strongly acid; gradual wavy boundary.
C—60 to 80 inches; yellowish brown (10YR 5/6) silt loam; structureless, massive; friable; many medium distinct very pale brown (10YR 7/3) iron depletions in matrix; very strongly acid.

Range in Characteristics

Solum thickness: 40 to more than 80 inches

Ap and A horizons:
Color—hue of 10YR, value of 4, and chroma of 2 or 3
Texture—silt loam
Reaction—moderately acid to very strongly acid

Bw horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4, or value of 5 and chroma of 6
Texture—loam, silt loam, or silty clay loam
Redoximorphic features—none to common iron depletions in shades of brown or gray
Reaction—moderately acid to very strongly acid

C horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 2, 3, 4, or 6
Redoximorphic features—none to common iron depletions in shades of brown or gray
Texture—silt loam
Reaction—moderately acid to very strongly acid

Peanutrock Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On hillslope on inland dissected coastal plain
Parent material: Gravelly marine deposits

Drainage class: Well drained
Saturated hydraulic conductivity class: Moderate
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 3 to 35 percent
Commonly associated soils: Pikecity, Sacul, and Smithdale
Taxonomic class: Loamy-skeletal, siliceous, semiactive, thermic Typic Hapludults

Typical Pedon

Peanutrock gravelly fine sandy loam in an area of Peanutrock gravelly fine sandy loam, 3 to 15 percent slopes (fig. 18); located NE$^1/4$NW$^1/4$NW$^1/4$ sec. 31, T. 10 S., R. 29 W.; latitude 33 degrees, 47 minutes, 36 seconds N.; longitude 94 degrees, 8 minutes, 36 seconds W.

Figure 18.—Profile of Peanutrock gravelly fine sandy loam.

A—0 to 7 inches; brown (10YR 4/3) gravelly fine sandy loam; weak medium granular structure; friable; common medium roots throughout; about 15 percent, by volume, subrounded sandstone fragments less than 3 inches in diameter; strongly acid; clear smooth boundary.
BE—7 to 14 inches; yellowish brown (10YR 5/6) gravelly fine sandy loam; weak medium granular structure; friable; few fine and many very fine roots throughout; about 25 percent, by volume, subrounded sandstone fragments less than 3 inches in diameter; very strongly acid; gradual smooth boundary.
Bt—14 to 35 inches; strong brown (7.5YR 5/6) very gravelly sandy loam; weak medium subangular blocky structure; friable; few medium roots throughout; few faint clay films on faces of peds; about 50 percent, by volume, subrounded sandstone fragments less than 3 inches in diameter; very strongly acid; gradual smooth boundary.
Bt2—35 to 52 inches; strong brown (7.5YR 5/8) extremely gravelly sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; about 70 percent, by volume, subrounded sandstone fragments less than 3 inches in diameter; very strongly acid; gradual smooth boundary.
BC—52 to 80 inches; strong brown (7.5YR 5/6) extremely gravelly loam; weak medium subangular blocky structure; friable; about 70 percent, by volume, subrounded sandstone fragments less than 3 inches in diameter; very strongly acid.

Range in Characteristics

Solum thickness: 35 to 60 inches

A horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 2 to 4
Texture—gravelly fine sandy loam
Content of sandstone fragments—15 to 35 percent
Reaction—strongly acid or very strongly

BE horizon:
Color—hue of 10YR, value of 5, and chroma of 2, 3, 4, or 6
Texture—gravelly fine sandy loam, gravelly sandy loam, gravelly loam, or their very gravelly analogs
Content of sandstone fragments—15 to 60 percent
Reaction—strongly acid or very strongly

Bt horizon:
Color—hue of 2.5YR, 5YR, or 7.5YR, value of 4 or 5, and chroma of 6 or 8; or variegated shades of red, brown, and gray in the lower part
Texture—very gravelly sandy loam, very gravelly sandy clay loam, very gravelly loam, very gravelly clay loam, or their extremely gravelly analogs
Redoximorphic features—none to common iron concentrations in shades of red and brown; none to common iron depletions in shades of brown, yellow, and gray
Content of sandstone fragments—35 to 80 percent
Reaction—strongly acid or very strongly acid

BC horizon:
Color—hue of 2.5YR, 5YR, or 7.5YR, value of 4 or 5, and chroma of 6 or 8; or variegated shades of red, brown, and gray in the lower part
Texture—very gravelly loam, very gravelly sandy loam, very gravelly sandy clay loam, or their extremely gravelly analogs

Redoximorphic features—none to common iron concentrations in shades of red and brown; none to common iron depletions in shades of brown, yellow, and gray
Content of sandstone fragments—35 to 80 percent
Reaction—strongly acid or very strongly acid

Pikecity Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On hillslope on inland dissected coastal plain
Parent material: Loamy marine deposits
Drainage class: Well drained
Saturated hydraulic conductivity class: Moderate
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 1 to 8 percent
Commonly associated soils: Peanutrock, Sacul, and Smithdale
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Typic Hapludults

Typical Pedon

Pikecity fine sandy loam in an area of Pikecity fine sandy loam, 1 to 8 percent slopes; located SW1/4NE1/4SE1/4 sec. 24, T. 10 S., R. 30 W.; latitude 33 degrees, 54 minutes, 21 seconds N.; longitude 94 degrees, 8 minutes, 1 second W.

A—0 to 5 inches; brown (10YR 4/3) fine sandy loam; moderate medium granular structure; friable; about 2 percent, by volume, rounded sandstone fragments less than 3 inches in diameter; strongly acid; clear smooth boundary.
E—5 to 11 inches; yellowish brown (10YR 5/4) loam; moderate medium granular structure; friable; about 2 percent, by volume, rounded sandstone fragments less than 3 inches in diameter; strongly acid; clear smooth boundary.
Bt1—11 to 30 inches; red (2.5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; friable; few faint red (2.5YR 4/6) clay films on bottom faces of peds; about 5 percent, by volume, rounded sandstone fragments less than 3 inches in diameter; strongly acid; clear wavy boundary.
Bt2—30 to 48 inches; yellowish red (5YR 5/6) gravelly sandy clay loam; moderate medium subangular blocky structure; firm; common distinct red (2.5YR 4/6) clay films on faces of peds; few fine distinct pale brown (10YR 6/3) iron depletions; about 15 percent, by volume, rounded sandstone fragments less than 3 inches in diameter; strongly acid; gradual wavy boundary.
Bt3—48 to 80 inches; yellowish brown (10YR 5/8), yellowish red (5YR 5/8), and pale brown (10YR 6/3) very gravelly sandy clay loam; weak medium subangular blocky structure; friable; common distinct red (2.5YR 4/6) clay films on faces of peds; about 50 percent, by volume, rounded sandstone fragments less than 3 inches in diameter; strongly acid.

Range in Characteristics

Solum thickness: Greater than 80 inches

A horizon:
Color—hue of 10YR, value of 4, and chroma of 2 or 3, or value of 5 and chroma of 3 or 4
Texture—fine sandy loam
Content of sandstone fragments—0 to 15 percent
Reaction—strongly acid or very strongly acid

E horizon:
Color—hue of 10YR, value of 5, and chroma of 3 or 4
Texture—loam, sandy loam, or fine sandy loam
Content of sandstone fragments—0 to 15 percent
Reaction—strongly acid or very strongly acid

Bt horizon (upper part):
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 4, 6, or 8
Texture—sandy clay loam, loam, or their gravelly analogs
Content of sandstone fragments—0 to 35 percent
Reaction—strongly acid or very strongly acid

Bt horizon (lower part):
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4, 6, or 8; or variegated shades of brown, red, and gray
Texture—gravelly sandy clay loam, gravelly loam, gravelly clay loam, or their very gravelly analogs
Content of sandstone fragments—15 to 60 percent
Reaction—strongly acid or very strongly acid

Sacul Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On hillslope on inland dissected coastal plain
Parent material: Clayey marine deposits
Drainage class: Moderately well drained
Saturated hydraulic conductivity class: Very slow
Soil depth class: Deep to a bedrock, paralithic layer
Shrink-swell potential: High
Slope: 1 to 15 percent
Commonly associated soils: Billstown, Peanutrock, Pikecity, and Smithdale
Taxonomic class: Fine, mixed, active, thermic Aquic Hapludults

Typical Pedon

Sacul very fine sandy loam in an area of Sacul very fine sandy loam, 1 to 8 percent slopes; located SE1/4NE1/4SW1/4 sec. 7, T. 10 S., R. 29 W.; latitude 33 degrees, 51 minutes, 23 seconds N.; longitude 94 degrees, 8 minutes, 23 seconds W.

A—0 to 4 inches; dark grayish brown (10YR 4/2) very fine sandy loam; moderate medium granular structure; friable; very strongly acid; clear smooth boundary.
E—4 to 8 inches; brown (10YR 5/3) very fine sandy loam; weak medium granular structure; friable; strongly acid; clear smooth boundary.
Bt1—8 to 20 inches; yellowish red (5YR 5/6) clay; moderate medium angular blocky structure; firm; many distinct clay films on faces of peds; very strongly acid; clear smooth boundary.
Bt2—20 to 30 inches; yellowish red (5YR 4/6) clay; moderate medium angular blocky structure; very firm; many distinct clay films on faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual smooth boundary.
BC—30 to 52 inches; light brownish gray (10YR 6/2) and reddish brown (5YR 5/4) clay loam; weak medium subangular blocky structure; firm; common fine prominent irregular yellowish brown (10YR 5/6) masses of oxidized iron; few fine prominent irregular gray (10YR 6/1) iron depletions; about 10 percent, by volume, flat shale fragments less than 6 inches in length; very strongly acid; abrupt smooth boundary.

Cr—52 to 72 inches; light brownish gray (2.5Y 6/2), strong brown (7.5YR 5/6), and dark red (2.5YR 3/6) soft, clayey, platy, weathered shale.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to clay shale: 40 to 80 inches

A horizon:
Color—hue of 10YR, value of 4, and chroma of 2 or 3
Texture—very fine sandy loam or very gravelly loam
Rock fragments—0 to 50 percent, predominantly gravel size
Reaction—moderately acid to very strongly acid

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—very fine sandy loam or very gravelly loam
Rock fragments—0 to 50 percent, predominantly gravel size
Reaction—moderately acid to very strongly acid

Bt horizon:
Color—hue of 5YR, value of 4, and chroma of 4 or 6, or value of 5 and chroma of 6 or 8
Texture—clay or clay loam
Redoximorphic features—few to common iron depletions in shades of brown and gray
Rock fragments—0 to 10 percent, predominantly gravel size
Reaction—strongly acid or very strongly acid

BC horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 5 to 7, and chroma of 1 to 4; or variegated shades of gray, red, and brown
Texture—clay loam or silty clay loam
Content of shale fragments—0 to 10 percent
Reaction—strongly acid or very strongly acid

Cr layer:
Color—hue of 5YR, 7.5YR, 10YR, or 2.5Y, value of 3 to 7, and chroma of 2, 3, 4, or 6
Texture—soft, acid, clayey shale with lenses of sandstone and siltstone that can easily be cut with a spade

Sardis Series

MLRA: 135—Cretaceous Western Coastal Plain
Geomorphic setting: On flood-plain step on inland dissected coastal plain
Parent material: Loamy alluvium
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity class: Moderately slow
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0 to 3 percent
Commonly associated soils: Guyton, Ouachita, and Urbo
Taxonomic class: Fine-silty, siliceous, active, thermic Fluvaquentic Dystrudepts

Typical Pedon

Sardis silt loam in an area of Sardis silt loam, 0 to 3 percent slopes, occasionally flooded; located SW1/4SW1/4NW1/4 sec. 19, T. 11 S., R. 29 W.; latitude 34 degrees, 4 minutes, 48 seconds N.; longitude 94 degrees, 7 minutes, 56 seconds W.

A—0 to 3 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; friable; very strongly acid; abrupt smooth boundary.

Bw1—3 to 15 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; common fine distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear smooth boundary.

Bw2—15 to 32 inches; light yellowish brown (10YR 6/4) and brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; friable; common fine distinct gray (10YR 6/1) iron depletions; very strongly acid; clear smooth boundary.

Bw3—32 to 55 inches; brownish yellow (10YR 6/6) and brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; friable; common fine distinct gray (10YR 6/1) iron depletions; very strongly acid; gradual wavy boundary.

C—55 to 80 inches; light yellowish brown (10YR 6/4), yellowish brown (10YR 5/8), and light brownish gray (10YR 6/2) loam; structureless, massive; friable; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 70 inches

A horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 4
Texture—silt loam
Reaction—moderately acid to very strongly acid

Bw horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 3, 4, or 6; or variegated shades of gray and brown
Redoximorphic features—few to common iron depletions in shades of gray occurring at depths of 8 to 24 inches
Texture—loam, silt loam, silty clay loam, sandy loam, or fine sandy loam
Reaction—moderately acid to very strongly acid

C horizon:
Color—variegated shades of brown and gray
Redoximorphic features—few to common iron depletions in shades of gray and iron accumulations in shades of brown
Texture—loam, silt loam, sandy loam, or fine sandy loam
Reaction—moderately acid to very strongly acid

Sherless Series

MLRA: 119—Ouachita Mountains
Geomorphic setting: On hillslope on hill
Parent material: Loamy residuum weathered from sandstone and shale
Drainage class: Well drained
Saturated hydraulic conductivity class: Moderate
Soil depth class: Moderately deep to a bedrock, paralithic layer
Shrink-swell potential: Low
Slope: 1 to 35 percent

Commonly associated soils: Bismarck, Clebit, Littlefir, Mazarn, and Nashoba
Taxonomic class: Fine-loamy, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Sherless stony fine sandy loam in an area of Sherless-Bismarck-Nashoba complex, 15 to 35 percent slopes (fig. 19); located NE1/4NW1/4NW1/4 sec. 15, T. 7 S., R. 30 W.; latitude 33 degrees, 52 minutes, 30 seconds N.; longitude 94 degrees, 4 minutes, 59 seconds W.

A—0 to 3 inches; dark grayish brown (10YR 4/2) stony fine sandy loam; weak fine granular structure; friable; about 15 percent, by volume, sandstone fragments more than 10 inches in diameter; moderately acid; clear smooth boundary.

E—3 to 9 inches; light yellowish brown (10YR 6/4) gravelly fine sandy loam; weak medium granular structure; friable; about 15 percent, by volume, angular

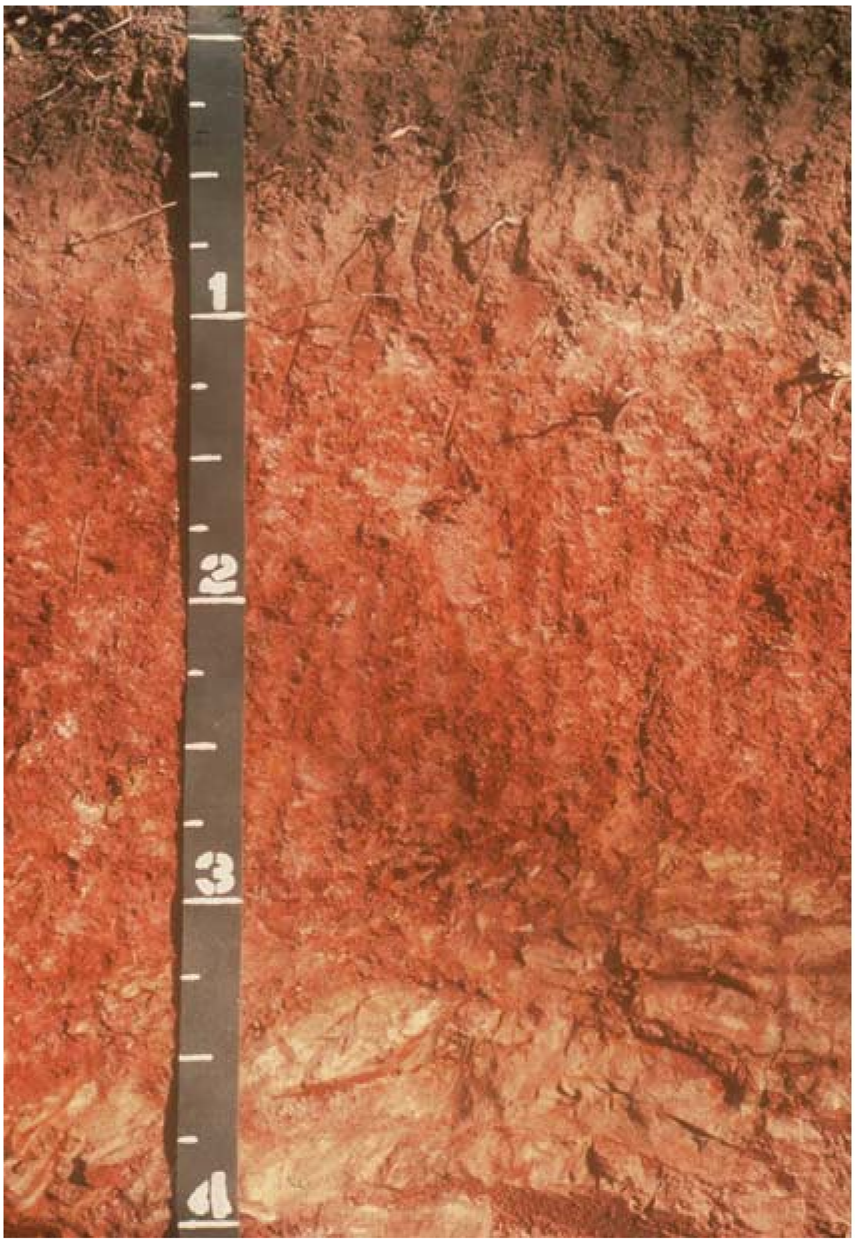

Figure 19.—Profile of Sherless stony fine sandy loam.

sandstone fragments less than 3 inches in diameter; strongly acid; clear smooth boundary.

BE—9 to 17 inches; brownish yellow (10YR 6/6) gravelly loam; weak fine subangular blocky structure; friable; 15 percent, by volume, angular sandstone fragments less than 3 inches in diameter; very strongly acid; clear smooth boundary.

Bt1—17 to 33 inches; yellowish red (5YR 5/8) gravelly clay loam; moderate medium subangular blocky structure; firm; common distinct clay films on faces of peds; about 20 percent, by volume, angular sandstone fragments less than 3 inches in diameter; very strongly acid; clear wavy boundary.

Bt2—33 to 39 inches; yellowish red (5YR 5/8) and strong brown (7.5YR 5/8) very gravelly sandy clay loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; few fine distinct light brownish gray (10YR 6/2) iron depletions; about 40 percent, by volume, angular sandstone fragments less than 3 inches in diameter; very strongly acid; clear irregular boundary.

Cr—39 to 40 inches; strong brown, yellowish brown, and light brownish gray soft, acid sandstone that is tilted and fractured.

Range in Characteristics

Solum thickness and depth to bedrock: 22 to 50 inches

A horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 1 to 3
Texture—gravelly fine sandy loam or their cobbly or stony analogs
Content of sandstone fragments—5 to 35 percent
Reaction—moderately acid to very strongly acid

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—fine sandy loam or their gravelly or cobbly analogs
Content of sandstone fragments—5 to 35 percent
Reaction—moderately acid to very strongly acid

BE horizon:
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 6 or 8
Texture—fine sandy loam, loam, or their gravelly or cobbly analogs
Content of sandstone fragments—5 to 35 percent
Reaction—moderately acid to very strongly acid

Bt horizon:
Color—hue of 5YR or 7.5YR, value of 5 or 6, and chroma of 6 or 8
Texture—sandy clay loam, clay loam, gravelly sandy clay loam, gravelly clay loam, or their very gravelly or cobbly analogs
Content of sandstone fragments—5 to 35 percent
Reaction—moderately acid to very strongly acid

Cr layer:
Color—gray, brown, and yellow
Texture—soft, fractured, and tilted sandstone or shale

Smithdale Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On hillslope on inland dissected coastal plain
Parent material: Loamy marine deposits
Drainage class: Well drained
Saturated hydraulic conductivity class: Moderate

Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 3 to 8 percent
Commonly associated soils: Peanutrock, Pikecity, and Sacul
Taxonomic class: Fine-loamy, siliceous, subactive, thermic Typic Hapludults

Typical Pedon

Smithdale fine sandy loam in an area of Smithdale fine sandy loam, 3 to 8 percent slopes; located SE^1/4NE^1/4SW^1/4 sec. 22, T. 10 S., R. 29 W.; latitude 33 degrees, 54 minutes, 40 seconds N.; longitude 94 degrees, 16 minutes, 50 seconds W.

A—0 to 5 inches; brown (10YR 5/3) fine sandy loam; moderate medium granular structure; very friable; about 10 percent rounded 0.1- to 3.0-inch sandstone fragments; strongly acid; clear smooth boundary.

E—5 to 20 inches; light yellowish brown (10YR 6/4) fine sandy loam; moderate medium granular structure; very friable; about 10 percent rounded 0.1- to 3.0-inch sandstone fragments; strongly acid; clear smooth boundary.

Bt1—20 to 38 inches; yellowish red (5YR 5/6) loam; weak medium subangular blocky structure; friable; common faint clay films on faces of peds; about 5 percent rounded 0.1- to 3.0-inch sandstone fragments; very strongly acid; clear wavy boundary.

Bt2—38 to 50 inches; red (2.5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; friable; common faint red clay films on faces of peds; common sand coats on faces of peds; few medium prominent yellowish brown (10YR 5/4) iron depletions; about 15 percent rounded 0.1- to 3.0-inch sandstone fragments; very strongly acid; gradual wavy boundary.

Bt3—50 to 80 inches; red (2.5YR 5/6) and light yellowish brown (10YR 6/4) loam; weak medium subangular blocky structure; friable; few faint red clay films on faces of peds; common sand coats on faces of peds; many medium and coarse prominent light yellowish brown (10YR 6/4) and few fine prominent light brownish gray (10YR 6/2) iron depletions; about 5 percent rounded 3.0- to 7.9-inch sandstone fragments and about 20 percent rounded 0.1- to 3.0-inch sandstone fragments; very strongly acid.

Range in Characteristics

Solum thickness: 60 to 80 inches or more
Content of sandstone fragments—0 to 10 percent throughout

A horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 2 or 3
Texture—fine sandy loam
Reaction—strongly acid or very strongly acid

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—fine sandy loam or sandy loam
Reaction—strongly acid or very strongly acid

Bt horizon (upper part):
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8
Texture—clay loam, sandy clay loam, or loam
Reaction—strongly acid or very strongly acid

Bt horizon (lower part):
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8
Texture—loam or sandy loam

Redoximorphic features—few to many iron depletions in shades of brown, yellow, and gray
Reaction—strongly acid or very strongly acid

Smithton Series

MLRA: 133B—Western Coastal Plain
Geomorphic setting: On stream terrace on inland dissected coastal plain
Parent material: Loamy alluvium
Drainage class: Poorly drained
Saturated hydraulic conductivity class: Moderate
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0 to 1 percent
Commonly associated soils: Felker, Kullit, McCaskill, and Stelltown
Taxonomic class: Coarse-loamy, siliceous, semiactive, thermic Typic Paleaquults

Typical Pedon

Smithton fine sandy loam in an area of Smithton fine sandy loam, 0 to 1 percent slopes; located NW^1/4NW^1/4SW^1/4 sec. 11, T. 10 S., R. 31 W.; latitude 34 degrees, 9 minutes, 16 seconds N.; longitude 94 degrees, 13 minutes, 38 seconds W.

A—0 to 3 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium granular structure; friable; strongly acid; abrupt smooth boundary.
Eg—3 to 8 inches; light brownish gray (10YR 6/2) fine sandy loam; weak medium granular structure; friable; common medium distinct strong brown (7.5YR 5/6) masses of oxidized iron; very strongly acid; clear smooth boundary.
Btg1—8 to 27 inches; light brownish gray (10YR 6/2) loam; weak medium subangular blocky structure; friable; few faint clay films on surfaces along root channels; common medium distinct strong brown (7.5YR 5/6) masses of oxidized iron; very strongly acid; gradual smooth boundary.
Btg2—27 to 54 inches; light gray (10YR 7/2) loam; weak medium subangular blocky structure; friable; few faint clay films on surfaces along root channels; common medium distinct strong brown (7.5YR 5/6) and common medium distinct brownish yellow (10YR 6/6) masses of oxidized iron; very strongly acid; gradual smooth boundary.
Btg3—54 to 80 inches; gray (10YR 5/1) and reddish yellow (7.5YR 6/8) loam; weak medium subangular blocky structure; firm; few faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Solum thickness: 60 to more than 72 inches

A horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2
Texture—fine sandy loam
Reaction—strongly acid or very strongly acid

Eg horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2
Texture—fine sandy loam, sandy loam, or loam
Redoximorphic features—few to common iron concentrations in shades of brown
Reaction—strongly acid or very strongly acid

Btg horizon:
Color—hue of 7.5YR, 10YR, or 2.5Y, value of 5 to 7, and chroma of 1, 2, 3, 4, 6, or 8; or variegated shades of gray, brown, and yellow
Texture—fine sandy loam, loam, or sandy clay loam
Redoximorphic features—few to common iron concentrations in shades of brown and yellow
Reaction—strongly acid or very strongly acid

Speer Series

MLRA: 119—Ouachita Mountains
Geomorphic setting: On flood-plain step on hill
Parent material: Loamy alluvium derived from sandstone and shale
Drainage class: Well drained
Saturated hydraulic conductivity class: Moderate
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0 to 2 percent
Commonly associated soils: Ceda, Cupco, Dela, and Kenn
Taxonomic class: Fine-loamy, siliceous, active, thermic Ultic Hapludalfs

Typical Pedon

Speer loam in an area of Speer loam, 0 to 2 percent slopes, occasionally flooded (fig. 20); located NE^1/4NE^1/4SE^1/4 sec. 18, T. 7 S., R. 30 W.; latitude 33 degrees, 59 minutes, 55 seconds N.; longitude 94 degrees, 24 minutes, 24 seconds W.

A—0 to 4 inches; brown (10YR 4/3) loam; weak fine granular structure; friable; moderately acid; abrupt smooth boundary.
BA—4 to 13 inches; dark yellowish brown (10YR 4/4) loam; weak fine subangular blocky structure; friable; moderately acid; clear smooth boundary.
Bt1—13 to 25 inches; brown (7.5YR 4/4) loam; weak fine and medium subangular blocky structure; friable; few faint clay films on faces of peds; moderately acid; clear smooth boundary.
Bt2—25 to 51 inches; brown (7.5YR 4/4) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid; gradual smooth boundary.
C—51 to 80 inches; yellowish brown (10YR 5/6) and brown (10YR 5/3) fine sandy loam; structureless, massive; friable; very strongly acid.

Range in Characteristics

Solum thickness: 40 to more than 60 inches

A horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 2, 3, 4, or 6
Texture—loam
Reaction—neutral to strongly acid

BA horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 3, 4, 6, or 8
Texture—loam or fine sandy loam
Reaction—moderately acid to very strongly

Bt horizon:
Color—hue of 2.5YR, 5YR, or 7.5YR, value of 4 to 6, and chroma of 3, 4, 6, or 8
Texture—sandy clay loam, loam, or clay loam
Reaction—moderately acid to very strongly

Figure 20.—Profile of Speer loam.

BC horizon (where present):

Color—hue of 5YR, 7.5YR, or 10YR, value of 4 to 6, and chroma of 1, 2, 3, 4, 6, or 8
Texture—fine sandy loam or loam
Redoximorphic features—none to common iron concentrations in shades of red and brown; none to common iron depletions in shades of gray
Reaction—slightly acid to very strongly

C horizon:

Color—hue of 5YR, 7.5YR, or 10YR, value of 4 to 7, and chroma of 1, 2, 3, 4, or 6
Texture—fine sandy loam or loam
Redoximorphic features—none to common iron concentrations in shades of red and brown; none to common iron depletions in shades of gray
Reaction—moderately acid to very strongly acid

Stelltown Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On hillslope on inland dissected coastal plain
Parent material: Loamy marine deposits
Drainage class: Moderately well drained
Saturated hydraulic conductivity class: Moderate
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 1 to 3 percent
Commonly associated soils: Antoine, Felker, and Smithton
Taxonomic class: Coarse-loamy, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Stelltown fine sandy loam in an area of Stelltown fine sandy loam, 1 to 3 percent slopes; located SW^1/4SW^1/4NW^1/4 sec. 11, T. 8 S., R. 30 W.; latitude 34 degrees, 9 minutes, 41 seconds N.; longitude 94 degrees, 16 minutes, 5 seconds W.

Ap—0 to 4 inches; dark gray (10YR 4/1) fine sandy loam; moderate medium granular structure; very friable; few fine distinct pale brown (10YR 6/3) iron concentrations; strongly acid; abrupt smooth boundary.

E—4 to 12 inches; pale brown (10YR 6/3) fine sandy loam; weak medium granular structure; friable; few fine sandstone fragments; very strongly acid; gradual smooth boundary.

Bt1—12 to 25 inches; light yellowish brown (10YR 6/4) sandy loam; weak medium subangular blocky structure; friable; sand grains bridged and coated with clay; very strongly acid; clear smooth boundary.

Bt2—25 to 48 inches; light yellowish brown (10YR 6/4) loam; weak medium subangular blocky structure; friable; sand grains bridged and coated with clay; few medium faint light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear smooth boundary.

Bt3—48 to 80 inches; light yellowish brown (10YR 6/4), strong brown (7.5YR 5/6), and light brownish gray (10YR 6/2) sandy clay loam; moderate medium subangular blocky structure; friable; sand grains bridged and coated with clay; common fine iron-manganese concretions; very strongly acid.

Range in Characteristics

Solum thickness: Greater than 60 inches

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 1 to 3
Texture—loam, sandy loam, fine sandy loam, or loamy sand
Reaction—slightly acid to strongly acid

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 2 to 4
Texture—loam, sandy loam, fine sandy loam, or loamy sand
Reaction—slightly acid to very strongly acid

Bt1 horizon:
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4, 6, or 8; or variegated shades of brown and gray
Texture—fine sandy loam, loam, or sandy loam
Reaction—slightly acid to very strongly acid

Bt2 horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 5 or 6, and chroma of 4, 6, or 8

Texture—loamy sand, fine sandy loam, sandy loam, or loam
Redoximorphic features—none to common iron depletions
Reaction—slightly acid to very strongly acid

Bt3 horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 5 or 6, and chroma of 4, 6, or 8; or variegated shades of brown, red, and gray
Texture—very fine sandy loam, fine sandy loam, sandy clay loam, sandy loam, or their gravelly analogs
Redoximorphic features—none to common iron concentrations
Reaction—slightly acid to very strongly acid

Sumter Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On hillslope on inland dissected coastal plain
Parent material: Clayey residuum weathered from chalk
Drainage class: Well drained
Saturated hydraulic conductivity class: Slow
Soil depth class: Moderately deep to a bedrock, paralithic layer
Shrink-swell potential: High
Slope: 3 to 15 percent
Commonly associated soils: Billstown, DeAnn, and Japany
Taxonomic class: Fine-silty, carbonatic, thermic Rendollic Eutrudepts

Typical Pedon

Sumter silty clay in an area of Sumter silty clay, 3 to 8 percent slopes, eroded; located SW1/4SW1/4NW1/4 sec. 11, T. 11 S., R. 29 W.; latitude 33 degrees, 47 minutes, 1 second N.; longitude 94 degrees, 4 minutes, 6 seconds W.

Ap—0 to 4 inches; dark grayish brown (2.5Y 4/2) silty clay; moderate medium granular structure; friable; calcareous; slightly alkaline; abrupt smooth boundary.
BA—4 to 9 inches; light olive brown (2.5Y 5/4) and dark grayish brown (2.5Y 4/2) silty clay; moderate medium granular structure; friable; calcareous; slightly alkaline; gradual wavy boundary.
Bw—9 to 16 inches; olive (5Y 5/4) silty clay; moderate medium subangular blocky structure; friable; few fine weakly cemented carbonate concretions; calcareous; moderately alkaline; gradual wavy boundary.
BC—16 to 32 inches; light olive brown (2.5Y 5/6), olive (5Y 5/3), and gray (10YR 6/1) silty clay; moderate medium subangular blocky structure; firm; few fine weakly cemented carbonate concretions; about 5 percent soft, weathered chalk fragments; calcareous; moderately alkaline; gradual wavy boundary.
Cr—32 to 72 inches; grayish brown (2.5Y 5/2) chalk; yellow (2.5Y 7/6) and very dark grayish brown (2.5Y 3/2) streaks along cracks and seams; calcareous; moderately alkaline.

Range in Characteristics

Solum thickness: 20 to 40 inches
Chalk fragments: 0 to 10 percent throughout
Soil feature: Calcareous throughout

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 or 2
Texture—silty clay
Reaction—moderately alkaline or slightly alkaline

BA horizon:
Color—hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 2 to 4
Texture—silty clay loam or silty clay
Reaction—moderately alkaline or slightly alkaline

Bw horizon:
Color—hue of 2.5Y or 5Y, value of 5 to 7, and chroma of 3, 4, or 6
Texture—silty clay or clay
Redoximorphic features—none to common iron concentrations in shades of yellow, olive, and brown
Reaction—moderately alkaline or slightly alkaline

BC horizon:
Color—hue of 2.5Y or 5Y, value of 5 to 7, and chroma of 3, 4, or 6; or variegated shades of yellow, brown, and gray
Texture—silty clay or clay
Lithochromic features—none to common mottles in shades of yellow, olive, and brown along cracks and seams
Reaction—moderately alkaline or slightly alkaline

Cr layer:
Color—hue of 2.5Y or 5Y, value of 5 to 7, and chroma of 1, 2, 3, 4, or 6
Lithochromic features—none to common mottles in shades of yellow, gray, and brown along cracks and seams
Reaction—moderately alkaline or slightly alkaline

Tuscumbia Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On flood-plain step on inland dissected coastal plain
Parent material: Clayey alluvium
Drainage class: Poorly drained
Saturated hydraulic conductivity class: Very slow
Soil depth class: Very deep
Shrink-swell potential: Very high
Slope: 0 to 1 percent
Commonly associated soils: Leeper and Urbo
Taxonomic class: Fine, mixed, active, nonacid, thermic Vertic Epiaquepts

Typical Pedon

Tuscumbia silty clay in an area of Tuscumbia silty clay, 0 to 1 percent slopes, occasionally flooded; located NE^1/4SE^1/4SW^1/4 sec. 23, T. 11 S., R. 29 W.; latitude 33 degrees, 47 minutes, 10 seconds N.; longitude 94 degrees, 4 minutes, 51 seconds W.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silty clay; moderate medium granular structure; firm; moderately acid; clear smooth boundary.
Bg1—5 to 12 inches; grayish brown (10YR 5/2) silty clay; moderate medium subangular blocky structure; firm; moderately acid; clear smooth boundary.
Bg2—12 to 23 inches; dark gray (10YR 4/1) silty clay; moderate medium subangular blocky structure; firm; moderately sticky, moderately plastic; 2 percent patchy faint clay films; 15 percent medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron in matrix; moderately acid; clear wavy boundary.
Bg3—23 to 34 inches; grayish brown (10YR 5/2) clay; moderate medium angular blocky structure; very firm; common medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron in matrix; slightly acid; clear wavy boundary.

Bg4—34 to 54 inches; gray (10YR 5/1) clay; moderate medium angular blocky structure; firm; common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in matrix; neutral; gradual wavy boundary.
Bg5—54 to 80 inches; gray (10YR 5/1) clay; moderate medium angular blocky structure; firm; common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in matrix; moderately alkaline.

Range in Characteristics

Solum thickness: Greater than 50 inches

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 1 to 4, and chroma of 1 or 2
Texture—silty clay
Reaction—moderately alkaline to moderately acid

Bg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2
Texture—silty clay or clay
Redoximorphic features—few to common iron concentrations in shades of yellow and brown
Reaction—moderately alkaline to moderately acid

Urbo Series

MLRA: 135B—Cretaceous Western Coastal Plain
Geomorphic setting: On flood-plain step on inland dissected coastal plain
Parent material: Clayey alluvium
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity class: Very slow
Soil depth class: Very deep
Shrink-swell potential: High
Slope: 0 to 3 percent
Commonly associated soils: Leeper, Ouachita, Sardis, and Tuscumbia
Taxonomic class: Fine, mixed, active, acid, thermic Vertic Epiaquepts

Typical Pedon

Urbo silty clay loam in an area of Urbo silty clay loam, 0 to 3 percent slopes, occasionally flooded; located SE$^1/_4$SE$^1/_4$SW$^1/_4$ sec. 23, T. 11 S., R. 29 W.; latitude 33 degrees, 47 minutes, 2 seconds N.; longitude 94 degrees, 4 minutes, 6 seconds W.

Ap—0 to 5 inches; grayish brown (10YR 5/2) silty clay loam; weak fine granular structure; friable; strongly acid; abrupt smooth boundary.
Bw—5 to 10 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium granular structure; firm; few fine iron-manganese concretions; few fine distinct pale brown (10YR 6/3) iron depletions; very strongly acid; clear smooth boundary.
Bg1—10 to 25 inches; grayish brown (10YR 5/2) silty clay; moderate medium subangular blocky structure; firm; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in matrix; few fine iron-manganese concretions; very strongly acid; clear smooth boundary.
Bg2—25 to 51 inches; gray (10YR 6/1) silty clay; moderate medium subangular blocky structure; firm; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in matrix; common fine iron-manganese concretions; very strongly acid; clear wavy boundary.

Bg3—51 to 80 inches; grayish brown (10YR 5/2), gray (10YR 6/1), and yellowish brown (10YR 5/6) silty clay; moderate medium subangular blocky structure; firm; common fine iron-manganese concretions; very strongly acid.

Range in Characteristics

Solum thickness: Greater than 60 inches

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 or 3
Texture—silty clay loam
Reaction—strongly acid or very strongly acid

Bw horizon:
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 to 4
Texture—silty clay loam
Redoximorphic features—few to common iron concentrations in shades of brown and yellow; few to common iron depletions in shades of gray
Reaction—strongly acid or very strongly acid

Bg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2
Texture—silty clay, clay or silty clay loam
Redoximorphic features—few to common iron concentrations in shades of brown and yellow
Reaction—strongly acid or very strongly acid

Formation of the Soils

This section relates the soils in the survey area to the major factors of soil formation. Also, this section discusses the processes of soil formation.

Factors of Soil Formation

Soil forms through processes acting on geologic material over time. The characteristics of a soil at any given point are determined by the physical and mineral composition of the parent material; the climate under which the parent material accumulated and has existed since accumulation; the plant and animal life on and in the soil; the relief, or lay of the land; and the length of time that the forces of soil formation have acted on the soil material. All of these factors are important in the formation of any soil, but the influence of each varies from place to place.

Parent Material

Parent material is the unconsolidated mass from which soil is formed. The soils of Sevier County formed in many different types of geologic materials. They range in age from the Ordovician Period of the Paleozoic Era to the Quaternary Period of the Cenozoic Era.

The northern part of Sevier County is in the Ouachita Mountains (fig. 21)). The formations that made up these mountains are of the Ordovician through Pennsylvanian Periods. The formations are mainly interbedded shale and sandstone. The shale formation in this area is the Stanley Formation. The shale is generally acid, highly fractured, and is dipping from 20 degrees to as much as 90 degrees from the horizontal. Bismarck and Littlefir soils developed from this shale formation.

The sandstone formation of the Ouachita Mountains is the Jackfork Formation. The sandstone varies from fine grained to coarse grained, is typically acid, highly fractured, and is dipping from 20 degrees to as much as 90 degrees from the horizontal. Clebit, Nashoba, and Sherless soils developed from this sandstone formation.

The Cretaceous Western Coastal Plain is in the southern part of Sevier County. These formations are of the Cretaceous Period of the Mesozoic Era. The dominate formations are the Tokio Formation, Woodbine Formation, DeQueen Limestone, Dierks Limestone, Annona Chalk, Ozan Formation, and the Brownstown Marl. These marl or chalk formations contain many fossils. The DeAnn and Sumter soils formed from these formations. Some of the soils of the Cretaceous Western Coastal Plain developed from a combination of marl or chalk and a thin mantle of more acid marine sediments. The Billstown soils formed in these areas. Soils that developed entirely in the more acid sediments are the Peanutrock, Pikecity, and Smithdale soils.

Bottomlands and stream terraces are scattered throughout all parts of Sevier County. These are the youngest geologic formations in the county. The bottomlands and stream terraces are of the Quaternary Period of the Cenozoic Era. The bottomlands are mainly Holocene Epoch-aged material, and the stream terraces are Pleistocene Epoch-aged material. The main soils are the Ouachita and Sardis soils on the flood plains and the Gurdon, Felker, and Smithton soils on the adjacent

Figure 21.—Tilted and fractured soft shale and sandstone and hard sandstone, all interbedded in a random and unpredictable sequence, in the Ouachita Mountains in northern Sevier County.

terraces. Bottomland soils of the Cretaceous Western Coastal Plain include the Leeper, Tuscumbia, and Urbo soils. The main bottomland soils of the Ouachita Mountains are the Ceda, Cupco, Dela, and Speer soils.

Climate

The climate of Sevier County is characterized by relatively short, cool winters and long, hot summers with adequate rainfall. The present climate probably is similar to the climate under which the soil in the county has formed. The average daily maximum temperature is about 92 degrees F during the summer and about 56 degrees F during the winter. The average annual rainfall is about 52 inches and generally is well distributed throughout the year. For additional information about the climate of Sevier County, refer to the section “General Nature of the County.”

The warm, moist climate in the survey area promotes rapid soil formation and encourages rapid chemical reaction. The large amount of water that moves through the soil is instrumental in moving dissolved or suspended materials downward in the soil profile. Plant remains decompose rapidly, and the organic acid that forms hastens the removal of carbonates and the formation of clay. Because the soil is frozen only to a shallow depth and for a relatively short period, soil development continues almost year round. The climate throughout the county is relatively uniform. Its effect is modified locally by elevation and slope aspect. Climate alone does not account for the differences in the soils in the survey area.

Living Organisms

The vegetation under which a soil forms influences soil properties, such as color, structure, reaction, and content and distribution of organic matter. Vegetation extracts water from the soil, recycles nutrients, and adds organic matter to the soil. Gases derived from root respiration combine with water to form acids that influence the weathering of minerals. Because of a lower content of organic matter, soils that formed under forest vegetation are generally lighter colored than those formed under grasses.

Bacteria, fungi, and many other microorganisms decompose organic matter and release nutrients to growing plants. They influence the formation of soil structure. Soil properties, such as drainage, temperature, and reaction, influence the type of microorganism that lives in the soil. Fungi are generally more active in acid soils, while bacteria are more active in less acid and more alkaline soils.

Earthworms, insects, and small burrowing animals mix the soil and create small channels that aid in the soil aeration and water movement. Earthworms help to incorporate crop residue or other organic matter into the soil. The organic matter improves tilth. In areas that are well populated with earthworms, the leaf litter that accumulates is generally incorporated into the soil by the following spring. If the earthworm population is low, part of the leaf can remain on the surface for several years.

Human activity can significantly influence soil formation. The clearing of native forests followed by continuous farming may drastically change activities within the soil. Cultivation generally accelerates erosion on sloping soils, affects soil structure and compacting, and lowers the content of organic matter. Drainage of wet soil changes soil formation. Fertilizer, lime, and pesticide also affect soil formation. Developing land for urban uses or for mining significantly influences soil development.

Before Sevier County was settled, the native vegetation had more influence on soil formation. The survey area was covered with forests of mixed stands of loblolly pines and hardwoods in the Cretaceous Western Coastal Plain, mixed shortleaf pine and hardwoods in the Ouachita Mountains, and prairie grasses mixed with a few hardwoods in the marl and chalk areas of the Western Cretaceous Coastal Plain. The bottomlands in all parts of the county were covered mainly with forests of mixed hardwoods.

Relief

The relief in Sevier County varies greatly. In the Ouachita Mountains, relief primarily is the result of repeated uplifts and downthrows of Paleozoic rocks and the subsequent geologic erosion and entrenchment of streams and drainage channels into the land surface. In the Cretaceous Western Coastal Plain, the relief primarily is the result of geologic erosion and entrenchment of streams and drainage channels into the land surface.

The highest point in the survey area, which is about 800 feet above sea level, is in the extreme northwest corner of the county. The lowest point is about 265 feet above sea level at Millwood Lake.

Some of the greatest differences in the soils of Sevier County are caused by differences in relief through its effect on drainage, runoff, erosion, and movement of water through the soil. Relief ranges from level flood plains to nearly vertical escarpments.

Some soils on the steeper slopes, narrow ridges, and hilltops, such as Bismarck and Clebit soils, are shallow because they have lost so much material through geologic erosion. Soils that are on gently sloping interfluves, such as Sherless and Smithdale soils, have lost little soil material.

Ceda and Kenn soils that are on nearly level flood plains formed in deep, loamy and gravelly material that washed from the hills of the Ouachita Mountains and deposited on stream flood plains. Progressive stream entrenchment has left the Kenn soils in slightly higher positions than the Ceda soils.

The soils on the flood plains along streams in the survey area are level to nearly level and are subject to flooding, unless they are protected by upstream flood-retarding structures. Typical soils on the flood plains include Guyton, Ouachita, Sardis, Tuscumbia, and Urbo soils. These soils formed in deep, sandy, loamy, and clayey alluvium.

Time

The length of time that climate, living organisms, and relief act upon the parent material affects the kind of soil that forms. The effects of time are modified by the other four factors of soil formation. In general, however, soils that do not have definite horizons are young or immature. Soils that have well-defined horizons are old or mature.

In terms of geologic time, most of the soils in Sevier County are old regardless of whether they are on mountaintops, hillsides, or stream terraces. The young soils formed either in alluvium along streams or in residuum where geologic erosion has nearly kept pace with weathering of the bedrock.

The soils on hills in the Ouachita Mountains formed in material that weathered from rocks of the Ordovician or Pennsylvanian Period. Most of the cations have been leached out, and the reaction is strongly acid. There has been considerable weathering and translocation of clay, and the horizons are clearly expressed. Because iron, as well as clay, has been translocated from the A horizon to the B horizon and then oxidized, the B horizon has stronger red, brown, and yellow colors than the A horizon. In addition, some organic matter has accumulated in the A horizon, and this has resulted in dark colors in the horizon. Littlefir and Sherless soils are typical of the Ouachita Mountain soils and clearly show the effect of time acting with other soil-forming factors on parent material.

Soils on hillsides and interfluves in the Cretaceous Western Coastal Plain formed in material that weathered from marine sediments. These soils are old; however, they are younger than the Ouachita Mountain soils. The soils that developed in the clay, marls, and chalks were originally very high in cations, and although they have been subject to leaching, they are still fairly high in cations. The reaction is generally slightly acid to moderately alkaline. Most horizons are weakly expressed. Because some iron, as well as clay, has been translocated from the A horizon to the B horizon and then oxidized, the B horizon has somewhat stronger colors of red, brown, and yellow than the A horizon. Some organic matter has accumulated in the A horizon and, to a minor extent, in the B horizon and has resulted in the darker colors in these horizons. Billstown and DeAnn soils are typical of this area and clearly show the effect of time acting with other soil-forming factors on parent material. Other soils that formed in more acid marine sediments were not high in cations. Most of the cations have been leached out, and the reaction is strongly acid or very strongly acid. There has been considerable weathering and translocation of clay, and the horizons are clearly expressed. Because iron, as well as clay, has been translocated from the A horizon to the B horizon and then oxidized, the B horizon has stronger red, brown, and yellow colors that the A horizon. In addition, some organic matter has accumulated in the A horizon and has resulted in dark colors.

The youngest soils in Sevier County are on flood plains in the Ouachita Mountains and the Cretaceous Western Coastal Plain. These soils formed in recent alluvium on the flood plains of the major streams. No definite horizons have formed below the A horizon; instead, these soils still have depositional bedding plains. They have no soil structure other than in the A horizon. Base saturation is generally higher in these soils than in the surrounding upland soils. The organic matter generally decreases irregularly with depth. Ceda soils are typical of the young soils that are on the flood plains.

Processes of Soil Formation

Soil forms through complex processes that are grouped into four general categories. These are additions, removals, transfers, and transformations. These processes affect soil formation in differing degrees and account for the presence of soil layers or horizons.

Most soil profiles in Sevier County contain three to five master horizons or layers. The master layers or horizons are designated A, E, B, C, and R. Young soils generally do not have E and B horizons.

The horizon of maximum accumulation of humified organic matter is called the A horizon or the surface layer. The horizon of maximum leaching of dissolved or suspended materials is called the E horizon or the subsurface layer.

The B horizon lies immediately below the E horizon and is called the subsoil. The B horizon is the horizon of maximum accumulation of dissolved or suspended materials, such as iron and silicate clay. Generally, this horizon has blocky structure and is firmer than the horizons immediately above or below it.

The C horizon lies below the B horizon. Typically, it has been little affected by the soil-forming processes, but in some places it is materially modified by weathering. In some young soils, the C horizon has been only slightly modified by living organisms and by weathering. It is immediately below the A horizon.

The R layer generally lies below the C horizon, but it may lie immediately below an A horizon or a B horizon. It is bedrock that is sufficiently coherent when moist to make hand digging with a spade impractical.

In Sevier County, several processes have been active in the formation of soil horizons. Among these processes are the accumulation of organic matter, the leaching of carbonates and bases, the oxidation and/or reduction of iron, and the formation and translocation of silicate clay minerals. In most of the soils in Sevier County, more than one of these processes was involved.

The physical weathering of rocks through heating and cooling and wetting and drying slowly breaks them into small pieces that form the parent material from the residual soils. This is most evident in the Nashoba soils.

The accumulation of organic matter in the upper part of the profile (A horizon) is readily evident in the undisturbed areas of the Sherless soils. These soils have a light colored subsurface layer from which organic matter, clay, and iron oxides have been removed.

Leaching of carbonates and bases has occurred in nearly all of the soils in Sevier County. Generally, bases are leached downward in soils before silicate clay minerals begin to move. Most of the upland soils in the survey area have been strongly leached, with the exception of the soils that developed in clay, marl, and chalk in the Cretaceous Western Coastal Plain.

Oxidation of iron is evident in moderately well drained soils and well drained soils. Soils such as Sherless and Smithdale show evidence of red or brown B horizons, or subsoil layers, which indicate oxidation of iron.

The translocation of silicate clay minerals has contributed to horizon development in most of the soils in Sevier County. In areas where the soils are or have been cultivated, most of the eluviated E horizon has been destroyed. Where it remains, the E horizon has weak granular or platy structure, has less clay than the lower horizons, and is lighter colored than the rest of the soil. Clay films generally have accumulated in pores and on faces of peds in the B horizon. Most of the soils were probably leached of carbonates and soluble salts before the translocation of silicate clay occurred. In Sevier County, leaching of bases and translocation of silicate clay are among important processes of horizon differentiation in the soils.

The effects of the soil-forming factors are reflected in the soil profile, which is a succession of layers or horizons from the surface downward and includes at least the upper part of the parent material. The parent material has been little altered by soil-forming processes. The horizons differ in one or more properties, such as color, texture, structure, consistence, porosity, or reaction.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

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.

Alkali (sodic) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial fan. A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo. The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in unconsolidated material. It is usually dry but can be transformed into a temporary watercourse or short-lived torrent after heavy rain within the watershed.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

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

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.
Backswamp. A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.
Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.
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 plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.
Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.
Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
Bottom land. An informal term loosely applied to various portions of a flood plain.
Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.
Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.
Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.
Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

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.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

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. See Redoximorphic features.

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.

Claypan. A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

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. See Redoximorphic features.

Conglomerate. A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

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.”

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.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

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.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw. A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

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.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

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.

Erosion pavement. A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan remnant. A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

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.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

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.

Gilgai. Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

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.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. 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.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

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.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

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.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

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.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

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.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

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.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. See Redoximorphic features.

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.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

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.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Masses. See Redoximorphic features.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

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).

Mountain. A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mudstone. A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

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.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

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

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

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.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

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.

Percolation. The movement of water through the soil.

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:

Impermeable	less than 0.0015 inch
Very slow	0.0015 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

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains 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.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

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.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as 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

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:

   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*

B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*

C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.

2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:

A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*

B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).

3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

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.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

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.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (K_{sat}). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike. All the soils of a given series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

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.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

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.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

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 (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

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, classes for simple slopes are as follows:

Nearly Level .... 0 to 1 percent
Very gently sloping .... 1 to 3 percent

Gently sloping	3 to 5 percent
Moderately sloping	5 to 8 percent
Strongly sloping	8 to 12 percent
Moderately steep	12 to 20 percent
Steep	20 to 45 percent
Very steep	45 percent and higher

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^+ to Ca^{++} + Mg^{++}. The degrees of sodicity and their respective ratios are:

Slight	less than 13:1
Moderate	13-30:1
Strong	more than 30:1

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

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 and by the passage 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.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

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. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

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.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus. Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

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 (conservation). 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 (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

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.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

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.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth’s surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1971-2000 at DeQueen, Arkansas)

Month	Temperature						Precipitation				
				2 yrs in 10 will have--				2 yrs in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number days with 0.10 inch or more	Average total snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January	52.8	29.2	41.0	75	8	133	3.53	1.35	5.76	6	1.2
February	59.1	33.0	46.0	82	11	222	3.66	2.25	4.98	5	0.3
March	67.2	40.6	53.9	86	20	439	5.16	2.56	7.53	6	0.0
April	75.0	47.9	61.4	89	29	633	4.85	2.37	7.25	6	0.0
May	81.7	57.8	69.7	92	40	917	6.15	3.51	8.85	7	0.0
June	88.8	65.7	77.2	98	49	1,115	4.65	2.07	6.84	6	0.0
July	93.1	69.4	81.3	103	58	1,280	4.07	1.47	6.64	5	0.0
August	93.4	68.3	80.9	105	56	1,253	2.32	0.60	4.01	4	0.0
September	86.7	61.6	74.2	102	40	1,026	4.47	1.83	6.50	5	0.0
October	76.9	49.6	63.3	92	29	702	5.25	1.58	9.13	5	0.0
November	64.1	39.4	51.8	83	20	363	5.70	2.39	8.67	6	0.1
December	55.2	32.1	43.6	76	11	178	5.22	2.38	8.02	5	0.2
Yearly :											
Average	74.5	49.6	62.0	---	---	---	---	---	---	---	---
Extreme	108.0	-3.0	---	105	5	---	---	---	---	---	---
Total	---	---	---	---	---	8,259	55.04	46.23	63.10	66	1.8

*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 (Threshold: 40 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1961-1990 at DeQueen, Arkansas)

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--	March 20	April 5	April 14
2 years in 10 later than--	March 14	March 30	April 9
5 years in 10 later than--	March 1	March 17	March 31
First freezing temperature in fall:			
1 year in 10 earlier than--	November 5	October 28	October 18
2 years in 10 earlier than--	November 11	November 2	October 22
5 years in 10 earlier than--	November 24	November 12	November 1

Table 3.--Growing Season

(Recorded in the period 1971-2000 at DeQueen, Arkansas)

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	246	214	197
8 years in 10	256	224	204
5 years in 10	275	244	218
2 years in 10	294	263	231
1 year in 10	305	273	238

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1C	Kullit fine sandy loam, 2 to 5 percent slopes	9,129	2.5
2C	Billstown silty clay, 3 to 8 percent slopes	5,656	1.5
2D	Billstown silty clay, 8 to 15 percent slopes	3,491	0.9
3D	Bismarck-Littlefir-Nashoba complex, 8 to 15 percent slopes	11,155	3.0
4E	Bismarck-Nashoba-Littlefir complex, 15 to 35 percent slopes	5,316	1.4
5B	Cupco silt loam, 0 to 2 percent slopes, occasionally flooded	633	0.2
6	Dam	45	*
7C	DeAnn clay, 3 to 8 percent slopes, eroded	1,305	0.4
8B	Dela fine sandy loam, 0 to 3 percent slopes, frequently flooded	3,241	0.9
9B	Felker very fine sandy loam, 1 to 3 percent slopes	2,395	0.6
10B	Gurdon very fine sandy loam, 1 to 3 percent slopes	7,035	1.9
11A	Guyton silt loam, 0 to 1 percent slopes, occasionally flooded	17,376	4.7
12A	Guyton silt loam, 0 to 1 percent slopes, frequently flooded	1,374	0.4
13A	Guyton silt loam, 0 to 1 percent slopes, ponded	4,335	1.2
14C	Japany silty clay loam, 2 to 5 percent slopes	2,403	0.6
14D	Japany silty clay loam, 8 to 15 percent slopes	2,341	0.6
15B	Kenn-Ceda complex, 0 to 3 percent slopes, frequently flooded	3,371	0.9
16B	Leeper silty clay, 0 to 3 percent slopes, occasionally flooded	4,443	1.2
17C	Littlefir-Bismarck-Nashoba complex, 1 to 8 percent slopes	4,867	1.3
18B	Mazarn silt loam, 0 to 3 percent slopes	2,065	0.6
19B	McCaskill fine sandy loam, 0 to 2 percent slopes	11,960	3.2
19C	McCaskill fine sandy loam, 3 to 8 percent slopes	9,967	2.7
20F	Nashoba-Bismarck-Clebit complex, 35 to 60 percent slopes	1,128	0.3
21B	Ouachita silt loam, 0 to 3 percent slopes, occasionally flooded	11,684	3.1
22B	Ouachita silt loam, 0 to 3 percent slopes, frequently flooded	6,082	1.6
23D	Peanutrock gravelly fine sandy loam, 3 to 15 percent slopes	16,861	4.5
23E	Peanutrock gravelly fine sandy loam, 15 to 35 percent slopes	2,119	0.6
24C	Pikecity fine sandy loam, 1 to 8 percent slopes	21,275	5.7
25	Pits, gravel	569	0.2
26C	Sacul very fine sandy loam, 1 to 8 percent slopes	9,081	2.4
26D	Sacul very fine sandy loam, 8 to 15 percent slopes	47,323	12.7
27C	Sacul very gravelly loam, 3 to 8 percent slopes	3,005	0.8
28B	Sardis silt loam, 0 to 3 percent slopes, occasionally flooded	39,354	10.6
29B	Sardis silt loam, 0 to 3 percent slopes, frequently flooded	2,412	0.6
30E	Sherless-Bismarck-Nashoba complex, 15 to 35 percent slopes	21,280	5.7
31C	Sherless-Littlefir complex, 1 to 8 percent slopes	3,165	0.9
31D	Sherless-Littlefir complex, 8 to 15 percent slopes	16,041	4.3
32C	Sherless-Nashoba complex, 1 to 8 percent slopes	9,035	2.4
33C	Smithdale fine sandy loam, 3 to 8 percent slopes	10,217	2.7
34A	Smithton fine sandy loam, 0 to 1 percent slopes	3,155	0.8
35B	Speer loam, 0 to 2 percent slopes, rarely flooded	808	0.2
36B	Speer loam, 0 to 2 percent slopes, occasionally flooded	464	0.1
37B	Stelltown fine sandy loam, 1 to 3 percent slopes	1,365	0.4
38C	Sumter silty clay, 3 to 8 percent slopes, eroded	1,792	0.5
38D	Sumter silty clay, 8 to 15 percent slopes, eroded	5,651	1.5
39B	Antoine silt loam, 1 to 3 percent slopes	6,134	1.6
40A	Tuscumbia silty clay, 0 to 1 percent slopes, occasionally flooded	1,099	0.3
41B	Urbo silty clay loam, 0 to 3 percent slopes, occasionally flooded	3,063	0.8
42B	Urbo silty clay loam, 0 to 3 percent slopes, frequently flooded	451	0.1
43	Water	13,721	3.7
	Total	372,237	100.0

* Less than 0.1 percent.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Bahiagrass	Common bermudagrass	Improved bermudagrass	Soybeans	Wheat
		AUM*	AUM*	AUM*	Bu	Bu
1C:						
Kullit	3e	5.00	7.00	9.00	---	---
2C:						
Billstown	4e	6.00	6.00	7.00	---	---
2D:						
Billstown	6e	3.00	3.00	4.00	---	---
3D:						
Bismarck	6e	3.00	3.00	4.00	---	---
Littlefir	6e	3.00	3.00	4.00	---	---
Nashoba	6s	3.00	4.00	5.00	---	---
4E:						
Bismarck	7s	3.00	3.00	---	---	---
Nashoba	7s	3.00	3.00	---	---	---
Littlefir	7s	3.00	3.00	---	---	---
5B:						
Cupco	4w	6.50	6.00	7.50	25.00	30.00
6:						
Dam.						
7C:						
DeAnn	4e	4.00	4.00	5.00	---	---
8B:						
Dela	5w	6.00	7.00	8.00	---	---
9B:						
Felker	2e	4.00	4.00	6.00	20.00	---
10B:						
Gurdon	2e	8.00	7.00	8.50	25.00	40.00
11A:						
Guyton	4w	4.00	6.00	7.00	---	---
12A:						
Guyton	5w	4.00	4.00	6.00	---	---
13A:						
Guyton	7w	3.00	3.00	---	---	---
14C:						
Japany	3e	7.00	6.50	8.50	25.00	35.00
14D:						
Japany	6e	6.00	5.00	7.50	---	---

See footnote at end of table.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Bahiagrass	Common bermudagrass	Improved bermudagrass	Soybeans	Wheat
		AUM*	AUM*	AUM*	Bu	Bu
15B:						
Kenn	5w	6.00	5.00	7.00	---	---
Ceda	5w	3.00	3.00	---	---	---
16B:						
Leeper	2w	4.00	8.00	12.00	30.00	35.00
17C:						
Littlefir	4e	---	3.50	4.50	---	---
Bismarck	6e	3.00	3.00	4.00	---	---
Nashoba	4s	4.50	4.50	6.00	---	---
18B:						
Mazarn	3w	3.00	6.00	7.00	25.00	---
19B:						
McCaskill	2w	6.00	6.00	8.00	25.00	35.00
19C:						
McCaskill	3e	6.00	6.00	8.00	20.00	35.00
20F:						
Nashoba	7s	5.00	4.50	---	---	---
Bismarck	7s	3.00	3.00	---	---	---
Clebit	7s	3.00	3.00	---	---	---
21B:						
Ouachita	2w	7.00	7.00	9.00	30.00	---
22B:						
Ouachita	4w	7.00	7.00	9.00	30.00	---
23D:						
Peanutrock	4e	4.50	5.50	6.00	---	---
23E:						
Peanutrock	7e	4.00	5.00	---	---	---
24C:						
Pikecity	3e	7.50	6.00	7.50	---	---
25:						
Pits, gravel	8s	---	---	---	---	---
26C:						
Sacul	4e	7.50	6.50	7.50	---	---
26D:						
Sacul	6e	6.50	5.50	7.00	---	---
27C:						
Sacul	4e	7.50	6.50	7.50	---	---
28B:						
Sardis	2w	6.00	7.00	9.00	30.00	---

See footnote at end of table.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Bahiagrass	Common bermudagrass	Improved bermudagrass	Soybeans	Wheat
		AUM*	AUM*	AUM*	Bu	Bu
29B:						
Sardis	4w	3.00	5.00	7.00	30.00	---
30E:						
Sherless	7s	3.00	3.00	---	---	---
Bismarck	7s	3.00	3.00	---	---	---
Nashoba	7s	3.00	3.00	---	---	---
31C:						
Sherless	3e	4.00	4.00	5.00	---	---
Littlefir	4e	3.50	3.50	4.50	---	30.00
31D:						
Sherless	6e	3.00	3.00	4.00	---	---
Littlefir	6e	3.00	3.00	4.00	---	---
32C:						
Sherless	4e	4.00	4.00	4.50	---	---
Nashoba	6s	4.00	4.00	4.50	---	---
33C:						
Smithdale	3e	7.00	5.00	9.00	20.00	35.00
34A:						
Smithton	3w	7.50	7.00	8.00	25.00	35.00
35B:						
Speer	2e	6.00	7.00	8.00	25.00	30.00
36B:						
Speer	2w	5.00	7.00	8.00	25.00	30.00
37B:						
Stelltown	2e	7.00	8.00	9.00	25.00	35.00
38C:						
Sumter	4e	2.00	2.00	---	---	---
38D:						
Sumter	6e	2.00	2.00	---	---	---
39B:						
Antoine	2w	3.00	4.00	6.00	---	---
40A:						
Tuscumbia	3w	5.00	7.00	8.00	30.00	30.00
41B:						
Urbo	2w	6.00	7.00	9.00	30.00	35.00
42B:						
Urbo	4w	5.00	7.00	9.00	---	---
43:						
Water.						

* 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 10 days.

Table 6.--Forest Productivity

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available.)

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
1C:				
Kullit	loblolly pine	90	131	loblolly pine, sweetgum, cherrybark oak
	shortleaf pine	80	130	
	white oak	---	---	
	southern red oak	---	---	
	sweetgum	---	---	
2C, 2D:				
Billstown	loblolly pine	90	131	loblolly pine, eastern redcedar
	shortleaf pine	80	130	
	southern red oak	70	52	
	eastern redcedar	45	---	
3D:				
Bismarck	shortleaf pine	45	57	loblolly pine, shortleaf pine
	loblolly pine	50	---	
	eastern redcedar	30	---	
	post oak	---	---	
	blackjack oak	---	---	
Littlefir	loblolly pine	74	100	loblolly pine, shortleaf pine, southern red oak
	shortleaf pine	60	88	
	post oak	---	---	
	blackjack oak	---	---	
Nashoba	shortleaf pine	60	88	loblolly pine, shortleaf pine
	post oak	---	---	
4E:				
Bismarck	shortleaf pine	45	57	loblolly pine, shortleaf pine
	loblolly pine	50	---	
	eastern redcedar	30	---	
	post oak	---	---	
	blackjack oak	---	---	
Nashoba	shortleaf pine	60	88	loblolly pine, shortleaf pine
	post oak	---	---	
Littlefir	loblolly pine	74	100	loblolly pine, shortleaf pine, southern red oak
	shortleaf pine	60	88	
	post oak	---	---	
	blackjack oak	---	---	
5B:				
Cupco	loblolly pine	90	131	loblolly pine, shortleaf pine
	shortleaf pine	80	130	
	water oak	75	72	
	willow oak	---	---	
7C:				
DeAnn	eastern redcedar	47	57	eastern redcedar

Table 6.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
8B:				
Dela	loblolly pine	95	142	loblolly pine, shortleaf pine, black walnut
	shortleaf pine	85	140	
	eastern cottonwood	100	128	
	sweetgum	90	106	
	southern red oak	80	62	
	green ash	---	---	
9B:				
Felker	loblolly pine	90	131	loblolly pine, shortleaf pine
	shortleaf pine	80	130	
	water oak	85	---	
	sweetgum	95	---	
10B:				
Gurdon	loblolly pine	95	142	loblolly pine, shortleaf pine, cherrybark oak
	shortleaf pine	85	140	
	sweetgum	95	122	
	willow oak	---	---	
	Shumard's oak	---	---	
11A:				
Guyton	loblolly pine	82	114	loblolly pine, green ash, water oak
	green ash	100	82	
	willow oak	78	71	
	water oak	---	---	
	cherrybark oak	---	---	
	sweetgum	---	---	
12A:				
Guyton	loblolly pine	82	114	green ash, Nuttall oak
	green ash	100	82	
	willow oak	78	71	
	eastern cottonwood	---	---	
	sweetgum	---	---	
13A:				
Guyton	willow oak	80	74	baldcypress
	green ash	100	82	
	water oak	---	---	
	overcup oak	---	---	
	black willow	---	---	
	baldcypress	---	---	
14C, 14D:				
Japany	loblolly pine	74	100	loblolly pine, sweetgum, cherrybark oak, Shumard's oak
	shortleaf pine	66	101	
	sweetgum	---	---	
	white oak	---	---	
	water oak	---	---	
	cherrybark oak	---	---	
	Shumard's oak	---	---	
15B:				
Kenn	shortleaf pine	70	110	loblolly pine, shortleaf pine
	loblolly pine	80	110	
	sweetgum	80	79	
	southern red oak	70	52	
Ceda	shortleaf pine	65	99	loblolly pine, shortleaf pine, sweetgum, American sycamore
	American sycamore	80	78	
	sweetgum	80	79	
	southern red oak	---	---	

Table 6.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
16B:				
Leeper	American sycamore	87	92	sweetgum, green ash, eastern cottonwood, American sycamore
	eastern cottonwood	110	157	
	sweetgum	95	122	
17C:				
Littlefir	loblolly pine	74	100	loblolly pine, shortleaf pine
	shortleaf pine	65	99	
	post oak	---	---	
Bismarck	shortleaf pine	45	57	loblolly pine, shortleaf pine
	loblolly pine	50	---	
	eastern redcedar	30	---	
	post oak	---	---	
	blackjack oak	---	---	
Nashoba	post oak	---	---	loblolly pine, shortleaf pine
	shortleaf pine	60	88	
18B:				
Mazarn	shortleaf pine	70	110	loblolly pine, shortleaf pine
	white oak	60	43	
	sweetgum	65	55	
19B:				
McCaskill	loblolly pine	90	131	loblolly pine, sweetgum
	shortleaf pine	80	130	
	cherrybark oak	85	101	
	sweetgum	85	93	
	water oak	80	74	
19C:				
McCaskill	loblolly pine	84	118	loblolly pine, sweetgum
	shortleaf pine	74	118	
	sweetgum	85	93	
	southern red oak	75	57	
20F:				
Nashoba	shortleaf pine	60	88	loblolly pine, shortleaf pine
	post oak	---	---	
Bismarck	shortleaf pine	45	57	loblolly pine, shortleaf pine
	loblolly pine	50	---	
	eastern redcedar	30	---	
	blackjack oak	---	---	
	post oak	---	---	
Clebit	shortleaf pine	40	47	shortleaf pine, loblolly pine
21B:				
Ouachita	loblolly pine	95	142	loblolly pine, shortleaf pine, cherrybark oak, Nuttall oak, eastern cottonwood
	shortleaf pine	85	140	
	sweetgum	100	138	
	eastern cottonwood	100	128	
	cherrybark oak	100	151	

Table 6.--Forest Productivity--Continued

Map symbol and soil name	Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
22B:				
Ouachita	loblolly pine	100	154	loblolly pine, shortleaf pine, cherrybark oak, Nuttall oak, eastern cottonwood
	shortleaf pine	85	140	
	sweetgum	100	138	
	eastern cottonwood	100	128	
	cherrybark oak	100	151	
23D, 23E:				
Peanutrock	loblolly pine	74	100	loblolly pine, shortleaf pine
	shortleaf pine	65	99	
	white oak	---	---	
24C:				
Pikecity	loblolly pine	82	114	loblolly pine, shortleaf pine
	shortleaf pine	72	114	
26C, 26D, 27C:				
Sacul	loblolly pine	82	114	loblolly pine, shortleaf pine
	shortleaf pine	72	114	
28B, 29B:				
Sardis	loblolly pine	95	142	loblolly pine, shortleaf pine, sweetgum, cherrybark oak
	shortleaf pine	85	140	
	sweetgum	100	138	
	water oak	96	93	
	cherrybark oak	95	133	
30E:				
Sherless	loblolly pine	74	100	loblolly pine, shortleaf pine
	shortleaf pine	65	99	
	white oak	---	---	
	southern red oak	---	---	
	sweetgum	---	---	
Bismarck	shortleaf pine	45	57	loblolly pine, shortleaf pine
	loblolly pine	50	---	
	eastern redcedar	30	---	
	post oak	---	---	
	blackjack oak	---	---	
Nashoba	loblolly pine	74	100	loblolly pine, shortleaf pine
	shortleaf pine	60	88	
	post oak	---	---	
31C, 31D:				
Sherless	loblolly pine	74	100	loblolly pine, shortleaf pine
	shortleaf pine	65	99	
	white oak	---	---	
	southern red oak	---	---	
	sweetgum	---	---	
	blackgum	---	---	
Littlefir	loblolly pine	74	100	loblolly pine, shortleaf pine
	shortleaf pine	65	99	
	post oak	---	---	
32C:				
Sherless	loblolly pine	74	100	loblolly pine, shortleaf pine
	shortleaf pine	65	99	
	sweetgum	---	---	
	white oak	---	---	
	southern red oak	---	---	

Table 6.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
32C:				
Nashoba	loblolly pine	74	100	loblolly pine, shortleaf pine
	shortleaf pine	60	88	
	post oak	---	---	
33C:				
Smithdale	loblolly pine	82	114	loblolly pine, shortleaf pine
	shortleaf pine	72	114	
34A:				
Smithton	loblolly pine	82	114	loblolly pine, shortleaf pine, cherrybark oak, Shumard's oak
	shortleaf pine	72	114	
	sweetgum	86	95	
	water oak	85	80	
	cherrybark oak	85	101	
35B, 36B:				
Speer	loblolly pine	95	142	loblolly pine, shortleaf pine, black walnut
	shortleaf pine	85	140	
	sweetgum	90	106	
	southern red oak	80	62	
37B:				
Stelltown	loblolly pine	90	131	loblolly pine, loblolly pine, shortleaf pine
	shortleaf pine	80	130	
	sweetgum	75	68	
38C, 38D:				
Sumter	eastern redcedar	40	43	eastern redcedar
39B:				
Antoine	loblolly pine	90	131	loblolly pine, sweetgum, cherrybark oak
	shortleaf pine	80	130	
	sweetgum	90	106	
40A:				
Tuscumbia	eastern cottonwood	100	129	sweetgum, eastern cottonwood, green ash
	green ash	95	74	
	sweetgum	85	93	
41B, 42B:				
Urbo	eastern cottonwood	108	150	American sycamore, eastern cottonwood, green ash, Nuttall oak
	cherrybark oak	99	147	
	sweetgum	98	132	
	green ash	93	70	

Table 7a.--Forest Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
1C:							
Kullit------------	90	Slight		Moderately suited		Severe	
				Low strength	0.50	Low strength	1.00
2C, 2D:							
Billstown---------	90	Slight		Moderately suited		Severe	
				Low strength	0.50	Low strength	1.00
				Slope	0.50		
				Stickiness; high plasticity index	0.50		
3D:							
Bismarck----------	45	Slight		Moderately suited		Severe	
				Slope	0.50	Low strength	1.00
				Low strength	0.50		
Littlefir---------	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Nashoba-----------	20	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
4E:							
Bismarck----------	40	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
				Low strength	0.50		
Nashoba-----------	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
Littlefir---------	15	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
				Low strength	0.50		
5B:							
Cupco-------------	90	Severe		Poorly suited		Severe	
		Wetness	1.00	Wetness	1.00	Low strength	1.00
		Flooding	0.50	Flooding	0.50		
		Low strength	0.50	Low strength	0.50		
6:							
Dam---------------	100	Not rated		Not rated		Not rated	
7C:							
DeAnn-------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Slope	0.50		
				Stickiness; high plasticity index	0.50		

Table 7a.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8B:							
Dela	95	Severe		Poorly suited		Moderate	
		Flooding	1.00	Flooding	1.00	Low strength	0.50
		Wetness	1.00				
9B:							
Felker	95	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
10B:							
Gurdon	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
11A:							
Guyton	95	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
12A:							
Guyton	100	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
13A:							
Guyton	100	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Low strength	0.50	Flooding	1.00		
				Wetness	1.00		
				Low strength	0.50		
14C:							
Japany	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Wetness	0.50		
14D:							
Japany	90	Moderate		Moderately suited		Severe	
		Stickiness/slope	0.50	Slope	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
				Wetness	0.50		
15B:							
Kenn	60	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
				Low strength	0.50		
Ceda	30	Severe		Poorly suited		Slight	
		Flooding	1.00	Flooding	1.00	Strength	0.10
16B:							
Leeper	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Stickiness/slope	0.50	Stickiness; high plasticity index	0.50		
				Wetness	0.50		

Table 7a.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
17C:							
Littlefir----------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Bismarck----------	35	Slight		Moderately suited		Severe	
				Low strength	0.50	Low strength	1.00
Nashoba-----------	15	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Low strength	0.50	Low strength	1.00
18B:							
Mazarn------------	90	Slight		Moderately suited		Severe	
				Low strength	0.50	Low strength	1.00
				Wetness	0.50		
19B:							
McCaskill---------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
19C:							
McCaskill---------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
20F:							
Nashoba-----------	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Stoniness	1.00	Rock fragments	1.00		
				Low strength	0.50		
Bismarck----------	30	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Stoniness	1.00	Rock fragments	1.00		
				Low strength	0.50		
Clebit------------	15	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
		Stoniness	1.00	Rock fragments	1.00		
21B:							
Ouachita----------	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
22B:							
Ouachita----------	80	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
23D:							
Peanutrock--------	90	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
23E:							
Peanutrock--------	90	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
24C:							
Pikecity----------	90	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50

Table 7a.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
25:							
Pits, gravel------	100	Not rated		Not rated		Not rated	
26C:							
Sacul-------------	85	Slight		Well suited		Moderate	
						Low strength	0.50
26D:							
Sacul-------------	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
27C:							
Sacul-------------	85	Slight		Moderately suited		Severe	
				Low strength	0.50	Low strength	1.00
				Slope	0.50		
28B, 29B:							
Sardis------------	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
30E:							
Sherless----------	50	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
		Stoniness	0.50	Rock fragments	0.50		
Bismarck----------	25	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Stoniness	0.50	Rock fragments	0.50		
				Low strength	0.50		
Nashoba-----------	20	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Rock fragments	0.50		
		Stoniness	0.50	Low strength	0.50		
31C:							
Sherless----------	55	Slight		Well suited		Moderate	
						Low strength	0.50
Littlefir---------	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
31D:							
Sherless----------	55	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Littlefir---------	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
32C:							
Sherless----------	65	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Nashoba-----------	20	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		

Table 7a.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33C:							
Smithdale---------	90	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
34A:							
Smithton----------	90	Slight		Poorly suited		Moderate	
				Wetness	1.00	Low strength	0.50
35B:							
Speer-------------	95	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
36B:							
Speer-------------	95	Moderate		Moderately suited		Severe	
		Flooding	0.50	Flooding	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
37B:							
Stelltown---------	90	Slight		Well suited		Moderate	
						Low strength	0.50
38C, 38D:							
Sumter------------	85	Slight		Moderately suited		Severe	
				Low strength	0.50	Low strength	1.00
				Slope	0.50		
				Stickiness; high plasticity index	0.50		
39B:							
Antoine-----------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
40A:							
Tuscumbia---------	90	Moderate		Poorly suited		Severe	
		Flooding	0.50	Wetness	1.00	Low strength	1.00
		Low strength	0.50	Flooding	0.50		
		Stickiness/slope	0.50	Low strength	0.50		
				Stickiness; high plasticity index	0.50		
41B:							
Urbo--------------	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
				Low strength	0.50		
				Wetness	0.50		
42B:							
Urbo--------------	80	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
				Low strength	0.50		
				Wetness	0.50		
43:							
Water-------------	100	Not rated		Not rated		Not rated	

Table 7b.--Forest Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
1C:							
Kullit	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
2C:							
Billstown	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Stickiness; high plasticity index	0.50
2D:							
Billstown	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Stickiness; high plasticity index	0.50
3D:							
Bismarck	45	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Littlefir	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Nashoba	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Low strength	0.50
4E:							
Bismarck	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Nashoba	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Littlefir	15	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
5B:							
Cupco	90	Slight		Slight		Poorly suited	
						Wetness	1.00
						Flooding	0.50
						Low strength	0.50
6:							
Dam	100	Not rated		Not rated		Not rated	

Table 7b.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
7C:							
DeAnn-------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Stickiness; high plasticity index	0.50
8B:							
Dela--------------	95	Slight		Slight		Poorly suited	
						Flooding	1.00
9B:							
Felker------------	95	Slight		Slight		Moderately suited	
						Low strength	0.50
10B:							
Gurdon------------	90	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
11A:							
Guyton------------	95	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
12A:							
Guyton------------	100	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
13A:							
Guyton------------	100	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
14C:							
Japany------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
14D:							
Japany------------	90	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
15B:							
Kenn--------------	60	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
Ceda--------------	30	Slight		Slight		Poorly suited	
						Flooding	1.00
16B:							
Leeper------------	90	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
						Stickiness; high plasticity index	0.50
						Wetness	0.50

Table 7b.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
17C:							
Littlefir----------	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Bismarck-----------	35	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Nashoba------------	15	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
18B:							
Mazarn-------------	90	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
19B:							
McCaskill----------	90	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
19C:							
McCaskill----------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
20F:							
Nashoba------------	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	1.00
						Low strength	0.50
Bismarck-----------	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	1.00
						Low strength	0.50
Clebit-------------	15	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	1.00
21B:							
Ouachita-----------	90	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
22B:							
Ouachita-----------	80	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
23D:							
Peanutrock---------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
23E:							
Peanutrock---------	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
24C:							
Pikecity-----------	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		

Table 7b.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
25:							
Pits, gravel------	100	Not rated		Not rated		Not rated	
26C:							
Sacul-------------	85	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
26D:							
Sacul-------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
27C:							
Sacul-------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
28B, 29B:							
Sardis------------	90	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
30E:							
Sherless----------	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	0.50
Bismarck----------	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	0.50
						Low strength	0.50
Nashoba-----------	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	0.50
						Low strength	0.50
31C:							
Sherless----------	55	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Littlefir---------	30	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
31D:							
Sherless----------	55	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Littlefir---------	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
32C:							
Sherless----------	65	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Nashoba-----------	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
33C:							
Smithdale---------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50

Table 7b.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
34A:							
Smithton----------	90	Slight		Slight		Poorly suited	
						Wetness	1.00
35B:							
Speer-------------	95	Slight		Slight		Moderately suited	
						Low strength	0.50
36B:							
Speer-------------	95	Slight		Slight		Moderately suited	
						Flooding	0.50
						Low strength	0.50
37B:							
Stelltown---------	90	Slight		Slight		Well suited	
38C:							
Sumter------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Stickiness; high plasticity index	0.50
38D:							
Sumter------------	85	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Stickiness; high plasticity index	0.50
39B:							
Antoine-----------	90	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
40A:							
Tuscumbia---------	90	Slight		Slight		Poorly suited	
						Wetness	1.00
						Flooding	0.50
						Low strength	0.50
						Stickiness; high plasticity index	0.50
41B:							
Urbo--------------	90	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
						Wetness	0.50
42B:							
Urbo--------------	80	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
						Wetness	0.50
43:							
Water-------------	100	Not rated		Not rated		Not rated	

Table 7c.--Forest Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
1C:							
Kullit	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
2C, 2D:							
Billstown	90	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50	Stickiness; high plasticity index	0.50
3D:							
Bismarck	45	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Rock fragments	0.75	Low strength	0.50
		Restrictive layer	0.50	Slope	0.50		
Littlefir	25	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
Nashoba	20	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Rock fragments	0.75	Low strength	0.50
				Slope	0.50		
4E:							
Bismarck	40	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Low strength	0.50
		Restrictive layer	0.50	Rock fragments	0.75	Slope	0.50
Nashoba	35	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Low strength	0.50
				Rock fragments	0.75	Slope	0.50
Littlefir	15	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Rock fragments	0.75	Slope	0.50
		Rock fragments	0.50	Stickiness; high plasticity index	0.50		
5B:							
Cupco	90	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
6:							
Dam	100	Not rated		Not rated		Not rated	
7C:							
DeAnn	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50	Stickiness; high plasticity index	0.50
8B:							
Dela	95	Well suited		Well suited		Poorly suited	
						Wetness	1.00

Table 7c.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
9B:							
Felker	95	Well suited		Well suited		Moderately suited	
						Low strength	0.50
10B:							
Gurdon	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
11A:							
Guyton	95	Well suited		Well suited		Moderately suited	
						Low strength	0.50
12A, 13A:							
Guyton	100	Well suited		Well suited		Moderately suited	
						Low strength	0.50
14C:							
Japany	90	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
14D:							
Japany	90	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
15B:							
Kenn	60	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Low strength	0.50
Ceda	30	Moderately suited		Unsuited		Well suited	
		Rock fragments	0.50	Rock fragments	1.00		
16B:							
Leeper	90	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
						Stickiness; high plasticity index	0.50
17C:							
Littlefir	40	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
Bismarck	35	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Rock fragments	0.75	Low strength	0.50
		Restrictive layer	0.50	Slope	0.50		
Nashoba	15	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Rock fragments	0.75	Low strength	0.50
				Slope	0.50		
18B:							
Mazarn	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
19B:							
McCaskill	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 7c.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
19C:							
McCaskill-----------	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
20F:							
Nashoba-------------	45	Poorly suited		Unsuited		Poorly suited	
		Rock fragments	0.75	Slope	1.00	Rock fragments	1.00
		Slope	0.50	Rock fragments	1.00	Slope	1.00
						Low strength	0.50
Bismarck------------	30	Poorly suited		Unsuited		Poorly suited	
		Rock fragments	0.75	Slope	1.00	Rock fragments	1.00
		Slope	0.50	Rock fragments	1.00	Slope	1.00
		Restrictive layer	0.50			Low strength	0.50
Clebit--------------	15	Poorly suited		Unsuited		Poorly suited	
		Rock fragments	0.75	Slope	1.00	Rock fragments	1.00
		Slope	0.50	Rock fragments	1.00	Slope	1.00
21B:							
Ouachita------------	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
22B:							
Ouachita------------	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
23D:							
Peanutrock----------	90	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
23E:							
Peanutrock----------	90	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
24C:							
Pikecity------------	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
25:							
Pits, gravel--------	100	Not rated		Not rated		Not rated	
26C, 26D:							
Sacul---------------	85	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
27C:							
Sacul---------------	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
28B, 29B:							
Sardis--------------	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 7c.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
30E:							
Sherless-----------	50	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Rock fragments	0.50
				Rock fragments	0.75	Slope	0.50
Bismarck------------	25	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Rock fragments	0.50
		Restrictive layer	0.50	Rock fragments	0.75	Low strength	0.50
						Slope	0.50
Nashoba-------------	20	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Rock fragments	0.50
				Rock fragments	0.75	Low strength	0.50
						Slope	0.50
31C, 31D:							
Sherless-----------	55	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
Littlefir----------	30	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
32C:							
Sherless-----------	65	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
Nashoba-------------	20	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Rock fragments	0.75	Low strength	0.50
				Slope	0.50		
33C:							
Smithdale----------	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
34A:							
Smithton------------	90	Well suited		Well suited		Well suited	
35B, 36B:							
Speer---------------	95	Well suited		Well suited		Moderately suited	
						Low strength	0.50
37B:							
Stelltown----------	90	Well suited		Well suited		Well suited	
38C, 38D:							
Sumter--------------	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50	Stickiness; high plasticity index	0.50
39B:							
Antoine-------------	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50

Table 7c.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
40A:							
Tuscumbia----------	90	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
						Stickiness; high plasticity index	0.50
41B:							
Urbo----------------	90	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
42B:							
Urbo----------------	80	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
43:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 7d.--Forest Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)		Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1C:									
Kullit	90	Well suited		Well suited		Moderate		Low	
						Texture; rock fragments	0.50		
2C, 2D:									
Billstown	90	Poorly suited		Well suited		High		Low	
		Stickiness; high plasticity index	0.50			Texture; rock fragments	1.00		
3D:									
Bismarck	45	Poorly suited		Well suited		High		Low	
		Rock fragments	0.50			Texture; surface depth; rock fragments	1.00		
Littlefir	25	Well suited		Well suited		High		Low	
						Texture; surface depth; rock fragments	1.00		
Nashoba	20	Poorly suited		Well suited		High		Low	
		Rock fragments	0.50			Texture; surface depth; rock fragments	1.00		
4E:									
Bismarck	40	Poorly suited		Poorly suited		High		Moderate	
		Slope	0.50	Slope	0.50	Texture; surface depth; rock fragments	1.00	Available water	0.50
		Rock fragments	0.50						
Nashoba	35	Poorly suited		Poorly suited		High		Moderate	
		Slope	0.50	Slope	0.50	Texture; surface depth; rock fragments	1.00	Available water	0.50
		Rock fragments	0.50						

Table 7d.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
4E:									
Littlefir	15	Poorly suited		Poorly suited		High		Moderate	
		Slope	0.50	Slope	0.50	Texture; surface depth; rock fragments	1.00	Available water	0.50
		Rock fragments	0.50						
5B:									
Cupco	90	Well suited		Unsuited		Moderate		High	
				Wetness	1.00	Texture; rock fragments	0.50	Wetness	1.00
6:									
Dam	100	Not rated		Not rated		Not rated		Not rated	
7C:									
DeAnn	85	Poorly suited		Well suited		Moderate		Low	
		Stickiness; high plasticity index	0.50			Texture; rock fragments	0.50		
8B:									
Dela	95	Well suited		Unsuited		High		High	
				Wetness	1.00	Texture; surface depth; rock fragments	1.00	Wetness	1.00
9B:									
Felker	95	Well suited		Well suited		High		Low	
						Texture; surface depth; rock fragments	1.00		
10B:									
Gurdon	90	Well suited		Well suited		Low		High	
						Texture; rock fragments	0.10	Wetness	1.00
11A:									
Guyton	95	Well suited		Well suited		High		High	
						Texture; surface depth; rock fragments	1.00	Wetness	1.00

Table 7d.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
12A, 13A:									
Guyton	100	Well suited		Well suited		High		High	
						Texture; surface depth; rock fragments	1.00	Wetness	1.00
14C, 14D:									
Japany	90	Poorly suited		Well suited		High		High	
		Stickiness; high plasticity index	0.50			Texture; surface depth; rock fragments	1.00	Wetness	1.00
15B:									
Kenn	60	Well suited		Well suited		High		Low	
						Texture; surface depth; rock fragments	1.00		
Ceda	30	Poorly suited		Poorly suited		High		Low	
		Rock fragments	0.50	Rock fragments	0.50	Texture; surface depth; rock fragments	1.00		
16B:									
Leeper	90	Poorly suited		Well suited		Moderate		Low	
		Stickiness; high plasticity index	0.50			Texture; surface depth; rock fragments	0.50		
17C:									
Littlefir	40	Well suited		Well suited		High		Low	
						Texture; surface depth; rock fragments	1.00		
Bismarck	35	Poorly suited		Well suited		High		Low	
		Rock fragments	0.50			Texture; surface depth; rock fragments	1.00		
Nashoba	15	Poorly suited		Well suited		High		Low	
		Rock fragments	0.50			Texture; surface depth; rock fragments	1.00		

Table 7d.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
18B:									
Mazarn	90	Well suited		Well suited		Moderate		Low	
						Texture; surface depth; rock fragments	0.50		
19B:									
McCaskill	90	Well suited		Well suited		High		High	
						Texture; surface depth; rock fragments	1.00	Wetness	1.00
19C:									
McCaskill	90	Well suited		Well suited		High		Low	
						Texture; surface depth; rock fragments	1.00		
20F:									
Nashoba	45	Unsuited		Unsuited		High		Moderate	
		Slope	1.00	Slope	1.00	Texture; slope; surface depth; rock fragments	1.00	Available water	0.50
		Rock fragments	1.00	Rock fragments	1.00				
Bismarck	30	Unsuited		Unsuited		High		Moderate	
		Slope	1.00	Slope	1.00	Texture; slope; surface depth; rock fragments	1.00	Available water	0.50
		Rock fragments	1.00	Rock fragments	1.00				
Clebit	15	Unsuited		Unsuited		High		Moderate	
		Slope	1.00	Slope	1.00	Texture; slope; surface depth; rock fragments	1.00	Available water	0.50
		Rock fragments	1.00	Rock fragments	1.00				
21B:									
Ouachita	90	Well suited		Well suited		Moderate		Low	
						Texture; rock fragments	0.50		
22B:									
Ouachita	80	Well suited		Well suited		Moderate		Low	
						Texture; rock fragments	0.50		

Table 7d.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
23D:									
Peanutrock----------	90	Well suited		Well suited		Moderate		Low	
						Texture; rock fragments	0.50		
23E:									
Peanutrock----------	90	Poorly suited		Poorly suited		Moderate		Moderate	
		Slope	0.50	Slope	0.50	Texture; rock fragments	0.50	Available water	0.50
24C:									
Pikecity------------	90	Well suited		Well suited		Moderate		Low	
						Texture; rock fragments	0.50		
25:									
Pits, gravel--------	100	Not rated		Not rated		Not rated		Not rated	
26C, 26D:									
Sacul---------------	85	Poorly suited		Well suited		High		Low	
		Stickiness; high plasticity index	0.50			Texture; surface depth; rock fragments	1.00		
27C:									
Sacul---------------	85	Poorly suited		Well suited		Moderate		Low	
		Stickiness; high plasticity index	0.50			Texture; surface depth; rock fragments	0.50		
28B, 29B:									
Sardis--------------	90	Well suited		Well suited		Moderate		Low	
						Texture; surface depth; rock fragments	0.50		
30E:									
Sherless------------	50	Poorly suited		Poorly suited		High		Moderate	
		Slope	0.50	Slope	0.50	Texture; surface depth; rock fragments	1.00	Available water	0.50
		Rock fragments	0.50	Rock fragments	0.50				

Table 7d.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
30E:									
Bismarck------------	25	Poorly suited		Poorly suited		High		Moderate	
		Slope	0.50	Slope	0.50	Texture; surface depth; rock fragments	1.00	Available water	0.50
		Rock fragments	0.50	Rock fragments	0.50				
Nashoba-------------	20	Poorly suited		Poorly suited		High		Moderate	
		Slope	0.50	Slope	0.50	Texture; surface depth; rock fragments	1.00	Available water	0.50
		Rock fragments	0.50	Rock fragments	0.50				
31C, 31D:									
Sherless------------	55	Well suited		Well suited		High		Low	
						Texture; surface depth; rock fragments	1.00		
Littlefir-----------	30	Well suited		Well suited		High		Low	
						Texture; surface depth; rock fragments	1.00		
32C:									
Sherless------------	65	Well suited		Well suited		High		Low	
						Texture; surface depth; rock fragments	1.00		
Nashoba-------------	20	Poorly suited		Well suited		High		Low	
		Rock fragments	0.50			Texture; surface depth; rock fragments	1.00		
33C:									
Smithdale-----------	90	Well suited		Well suited		Moderate		Low	
						Texture; rock fragments	0.50		
34A:									
Smithton------------	90	Well suited		Well suited		Moderate		High	
						Texture; surface depth; rock fragments	0.50	Wetness	1.00

Table 7d.--Forest Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
35B, 36B:									
Speer	95	Well suited		Well suited		High		Low	
						Texture; surface depth; rock fragments	1.00		
37B:									
Stelltown	90	Well suited		Well suited		High		Low	
						Texture; surface depth; rock fragments	1.00		
38C, 38D:									
Sumter	85	Poorly suited		Well suited		Moderate		Low	
		Stickiness; high plasticity index	0.50			Texture; surface depth; rock fragments	0.50		
39B:									
Antoine	90	Well suited		Well suited		Moderate		Low	
						Texture; rock fragments	0.50		
40A:									
Tuscumbia	90	Poorly suited		Well suited		Moderate		High	
		Stickiness; high plasticity index	0.50			Texture; rock fragments	0.50	Wetness	1.00
41B:									
Urbo	90	Poorly suited		Well suited		Low		Low	
		Stickiness; high plasticity index	0.50			Texture; rock fragments	0.10		
42B:									
Urbo	80	Poorly suited		Well suited		Low		High	
		Stickiness; high plasticity index	0.50			Texture; rock fragments	0.10	Wetness	1.00
43:									
Water	100	Not rated		Not rated		Not rated		Not rated	

Table 8a.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
1C:							
Kullit	90	Not limited		Not limited		Somewhat limited	
						Slope	0.50
2C:							
Billstown	90	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Too clayey	1.00	Too clayey	1.00	Slope	1.00
						Too clayey	1.00
2D:							
Billstown	90	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
		Too clayey	1.00	Too clayey	1.00	Slow water movement	1.00
		Slope	0.63	Slope	0.63	Too clayey	1.00
3D:							
Bismarck	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to bedrock	1.00
		Gravel content	0.52	Gravel content	0.52	Gravel content	1.00
Littlefir	25	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Slope	0.63	Slope	0.63	Gravel content	1.00
		Gravel content	0.52	Gravel content	0.52	Slow water movement	0.94
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
						Depth to bedrock	0.16
Nashoba	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	0.82
						Depth to bedrock	0.46
4E:							
Bismarck	40	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones content	0.02	Large stones content	0.02	Gravel content	0.10
						Large stones content	0.02
Nashoba	35	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
						Gravel content	0.82
						Depth to bedrock	0.46
Littlefir	15	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
		Large stones content	0.02	Large stones content	0.02	Gravel content	0.20
						Depth to bedrock	0.16

Table 8a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
5B:							
Cupco	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	0.26	Flooding	0.60
		Slow water movement	0.26			Slow water movement	0.26
6:							
Dam	100	Not rated		Not rated		Not rated	
7C:							
DeAnn	85	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Slope	1.00
8B:							
Dela	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
9B:							
Felker	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26
10B:							
Gurdon	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.83	Depth to saturated zone	1.00
11A:							
Guyton	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	0.26	Flooding	0.60
		Slow water movement	0.26			Slow water movement	0.26
12A:							
Guyton	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26
13A:							
Guyton	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26

Table 8a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
14C:							
Japany--------------	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.50
14D:							
Japany--------------	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.63	Slope	0.63	Slow water movement	0.96
15B:							
Kenn----------------	60	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
						Gravel content	0.21
Ceda----------------	30	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Large stones content	0.68	Flooding	1.00
		Large stones content	0.68	Flooding	0.40	Large stones content	0.68
						Gravel content	0.29
16B:							
Leeper--------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Slow water movement	1.00	Slow water movement	1.00
		Slow water movement	1.00	Too clayey	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98			Flooding	0.60
17C:							
Littlefir-----------	40	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Gravel content	1.00
		Gravel content	0.52	Gravel content	0.52	Slow water movement	0.94
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.88
						Depth to saturated zone	0.39
						Depth to bedrock	0.16
Bismarck------------	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	0.52	Gravel content	0.52	Depth to bedrock	1.00
						Slope	0.88
Nashoba-------------	15	Not limited		Not limited		Somewhat limited	
						Slope	0.88
						Gravel content	0.82
						Depth to bedrock	0.46
18B:							
Mazarn--------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26

Table 8a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
19B:							
McCaskill-----------	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
19C:							
McCaskill-----------	90	Not limited		Not limited		Very limited	
						Slope	1.00
20F:							
Nashoba-------------	45	Very limited		Very limited		Very limited	
		Too steep	1.00	Large stones content	1.00	Large stones content	1.00
		Large stones content	1.00	Too steep	1.00	Slope	1.00
						Gravel content	0.82
						Depth to bedrock	0.46
Bismarck------------	30	Very limited		Very limited		Very limited	
		Too steep	1.00	Large stones content	1.00	Large stones content	1.00
		Large stones content	1.00	Too steep	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.10
Clebit--------------	15	Very limited		Very limited		Very limited	
		Too steep	1.00	Large stones content	1.00	Large stones content	1.00
		Large stones content	1.00	Too steep	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
21B:							
Ouachita------------	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Slow water movement	0.26	Flooding	0.60
		Slow water movement	0.26			Slow water movement	0.26
22B:							
Ouachita------------	80	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26
23D:							
Peanutrock----------	90	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.78	Gravel content	0.78	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
23E:							
Peanutrock----------	90	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Gravel content	0.78	Gravel content	0.78	Gravel content	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
24C:							
Pikecity------------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
25:							
Pits, gravel--------	100	Not rated		Not rated		Not rated	

Table 8a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
26C:							
Sacul	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
						Slope	0.88
						Gravel content	0.04
26D:							
Sacul	85	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Slope	0.63	Slope	0.63	Slow water movement	0.94
						Gravel content	0.04
27C:							
Sacul	85	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.98	Gravel content	0.98	Gravel content	1.00
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
						Slow water movement	0.94
28B:							
Sardis	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Slow water movement	0.26	Flooding	0.60
		Slow water movement	0.26			Slow water movement	0.26
29B:							
Sardis	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26
30E:							
Sherless	50	Very limited		Very limited		Very limited	
		Too steep	1.00	Large stones content	1.00	Large stones content	1.00
		Large stones content	1.00	Too steep	1.00	Slope	1.00
						Depth to bedrock	0.01
Bismarck	25	Very limited		Very limited		Very limited	
		Too steep	1.00	Large stones content	1.00	Large stones content	1.00
		Large stones content	1.00	Too steep	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.10
Nashoba	20	Very limited		Very limited		Very limited	
		Too steep	1.00	Large stones content	1.00	Large stones content	1.00
		Large stones content	1.00	Too steep	1.00	Slope	1.00
						Gravel content	0.82
						Depth to bedrock	0.46
31C:							
Sherless	55	Not limited		Not limited		Somewhat limited	
						Slope	0.88
						Gravel content	0.30
						Depth to bedrock	0.01

Table 8a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
31C:							
Littlefir-----------	30	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Gravel content	1.00
		Gravel content	0.41	Gravel content	0.41	Slow water movement	0.94
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.88
						Depth to saturated zone	0.39
						Depth to bedrock	0.16
31D:							
Sherless------------	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	0.30
						Depth to bedrock	0.01
Littlefir-----------	30	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Slope	0.63	Slope	0.63	Gravel content	1.00
		Gravel content	0.41	Gravel content	0.41	Slow water movement	0.94
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
						Depth to bedrock	0.16
32C:							
Sherless------------	65	Not limited		Not limited		Very limited	
						Slope	1.00
						Depth to bedrock	0.01
Nashoba-------------	20	Not limited		Not limited		Very limited	
						Slope	1.00
						Gravel content	0.82
						Depth to bedrock	0.46
33C:							
Smithdale-----------	90	Not limited		Not limited		Very limited	
						Slope	1.00
34A:							
Smithton------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
35B:							
Speer---------------	95	Very limited		Not limited		Not limited	
		Flooding	1.00				
36B:							
Speer---------------	95	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
37B:							
Stelltown-----------	90	Not limited		Not limited		Somewhat limited	
						Gravel content	0.08
38C:							
Sumter--------------	85	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Too clayey	1.00
						Slow water movement	0.96
						Depth to bedrock	0.29

Table 8a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
38D:							
Sumter--------------	85	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Too clayey	1.00
		Slope	0.63	Slope	0.63	Slow water movement	0.96
						Depth to bedrock	0.29
39B:							
Antoine-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
		Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96
40A:							
Tuscumbia-----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Too clayey	1.00	Too clayey	1.00
		Too clayey	1.00	Slow water movement	0.96	Slow water movement	0.96
		Slow water movement	0.96			Flooding	0.60
41B:							
Urbo----------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Slow water movement	1.00	Slow water movement	1.00
		Slow water movement	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98			Flooding	0.60
42B:							
Urbo----------------	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Slow water movement	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	0.75	Slow water movement	1.00
		Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
43:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 8b.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
1C:							
Kullit	90	Not limited		Not limited		Not limited	
2C:							
Billstown	90	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
2D:							
Billstown	90	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
						Slope	0.63
3D:							
Bismarck	45	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	1.00
						Slope	0.63
						Gravel content	0.52
Littlefir	25	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Gravel content	0.52
						Depth to saturated zone	0.19
						Depth to bedrock	0.16
Nashoba	20	Not limited		Not limited		Somewhat limited	
						Large stones content	0.88
						Slope	0.63
						Droughty	0.61
						Depth to bedrock	0.46
4E:							
Bismarck	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Large stones content	0.02	Too steep	1.00
		Large stones content	0.02			Depth to bedrock	1.00
						Droughty	1.00
						Large stones content	0.99
Nashoba	35	Very limited		Not limited		Very limited	
		Slope	1.00			Too steep	1.00
						Large stones content	0.88
						Droughty	0.61
						Depth to bedrock	0.46
Littlefir	15	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Large stones content	0.02	Too steep	1.00
		Large stones content	0.02			Large stones content	0.99
						Depth to saturated zone	0.19
						Depth to bedrock	0.16

Table 8b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
5B:							
Cupco----------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
6:							
Dam------------------	100	Not rated		Not rated		Not rated	
7C:							
DeAnn----------------	85	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
8B:							
Dela-----------------	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
9B:							
Felker---------------	95	Not limited		Not limited		Not limited	
10B:							
Gurdon---------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to saturated zone	0.83
11A:							
Guyton---------------	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
12A:							
Guyton---------------	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
13A:							
Guyton---------------	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
14C:							
Japany---------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.92	Depth to saturated zone	0.92	Depth to saturated zone	0.96
14D:							
Japany---------------	90	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.92	Depth to saturated zone	0.92	Slope	0.63
15B:							
Kenn-----------------	60	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Droughty	0.08
						Large stones content	0.01

Table 8b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
15B:							
Ceda----------------	30	Somewhat limited		Somewhat limited		Very limited	
		Large stones content	0.68	Large stones content	0.68	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Large stones content	1.00
						Droughty	0.01
16B:							
Leeper--------------	90	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Flooding	0.60
17C:							
Littlefir-----------	40	Not limited		Not limited		Somewhat limited	
						Gravel content	0.52
						Depth to saturated zone	0.19
						Depth to bedrock	0.16
Bismarck------------	35	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	1.00
						Gravel content	0.52
Nashoba-------------	15	Not limited		Not limited		Somewhat limited	
						Large stones content	0.88
						Droughty	0.61
						Depth to bedrock	0.46
18B:							
Mazarn--------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Depth to bedrock	0.01
19B:							
McCaskill-----------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
19C:							
McCaskill-----------	90	Not limited		Not limited		Not limited	
20F:							
Nashoba-------------	45	Very limited		Very limited		Very limited	
		Large stones content	1.00	Large stones content	1.00	Too steep	1.00
		Slope	1.00	Slope	1.00	Large stones content	0.88
						Droughty	0.61
						Depth to bedrock	0.46
Bismarck------------	30	Very limited		Very limited		Very limited	
		Large stones content	1.00	Large stones content	1.00	Too steep	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
						Droughty	1.00
						Large stones content	0.99

Table 8b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
20F:							
Clebit	15	Very limited		Very limited		Very limited	
		Large stones content	1.00	Large stones content	1.00	Too steep	1.00
		Slope	1.00	Slope	1.00	Large stones content	1.00
						Droughty	1.00
						Depth to bedrock	1.00
21B:							
Ouachita	90	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
22B:							
Ouachita	80	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
23D:							
Peanutrock	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Gravel content	0.78
						Slope	0.04
						Droughty	0.01
23E:							
Peanutrock	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too sandy	0.01	Too steep	1.00
		Too sandy	0.01			Gravel content	0.78
						Droughty	0.01
24C:							
Pikecity	90	Not limited		Not limited		Not limited	
25:							
Pits, gravel	100	Not rated		Not rated		Not rated	
26C:							
Sacul	85	Not limited		Not limited		Not limited	
26D:							
Sacul	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
27C:							
Sacul	85	Not limited		Not limited		Somewhat limited	
						Gravel content	0.98
28B:							
Sardis	90	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
29B:							
Sardis	90	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
30E:							
Sherless	50	Very limited		Very limited		Very limited	
		Large stones content	1.00	Large stones content	1.00	Too steep	1.00
		Slope	1.00			Large stones content	0.26
						Depth to bedrock	0.01

Table 8b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
30E:							
Bismarck	25	Very limited		Very limited		Very limited	
		Large stones content	1.00	Large stones content	1.00	Too steep	1.00
		Slope	1.00			Depth to bedrock	1.00
						Droughty	1.00
						Large stones content	0.99
Nashoba	20	Very limited		Very limited		Very limited	
		Large stones content	1.00	Large stones content	1.00	Too steep	1.00
		Slope	1.00			Large stones content	0.88
						Droughty	0.61
						Depth to bedrock	0.46
31C:							
Sherless	55	Not limited		Not limited		Somewhat limited	
						Large stones content	0.01
						Depth to bedrock	0.01
Littlefir	30	Not limited		Not limited		Somewhat limited	
						Gravel content	0.41
						Depth to saturated zone	0.19
						Depth to bedrock	0.16
31D:							
Sherless	55	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Large stones content	0.01
						Depth to bedrock	0.01
Littlefir	30	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Gravel content	0.41
						Depth to saturated zone	0.19
						Depth to bedrock	0.16
32C:							
Sherless	65	Not limited		Not limited		Somewhat limited	
						Large stones content	0.26
						Depth to bedrock	0.01
Nashoba	20	Not limited		Not limited		Somewhat limited	
						Large stones content	0.88
						Droughty	0.61
						Depth to bedrock	0.46
33C:							
Smithdale	90	Not limited		Not limited		Not limited	
34A:							
Smithton	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
35B:							
Speer	95	Not limited		Not limited		Not limited	

Table 8b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
36B:							
Speer	95	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
37B:							
Stelltown	90	Not limited		Not limited		Not limited	
38C:							
Sumter	85	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
						Depth to bedrock	0.29
						Droughty	0.01
38D:							
Sumter	85	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Water erosion	1.00	Water erosion	1.00	Slope	0.63
						Depth to bedrock	0.29
						Droughty	0.01
39B:							
Antoine	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
40A:							
Tuscumbia	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
						Flooding	0.60
41B:							
Urbo	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Flooding	0.60
42B:							
Urbo	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
43:							
Water	100	Not rated		Not rated		Not rated	

Table 9a.--Wildlife Habitat

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover: Rating class and limiting features	Value	Domestic grasses and legumes for food and cover: Rating class and limiting features	Value	Irrigated grain and seed crops for food and cover: Rating class and limiting features	Value	Irrigated domestic grasses and legumes for food and cover: Rating class and limiting features	Value
1C:									
Kullit-----------	90	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Wetness	0.19	Wetness	0.19	Wetness	0.19	Wetness	0.19
2C:									
Billstown--------	90	Very limited		Very limited		Very limited		Very limited	
		Too clayey	1.00	Potentially or highly erodible	1.00	Too clayey	1.00	Potentially or highly erodible	1.00
		Potentially or highly erodible	1.00	Too clayey	1.00	Potentially or highly erodible	1.00	Too clayey	1.00
		Droughty	0.76	Percs slowly	0.50	Droughty	0.76	Slope	0.50
		Percs slowly	0.50			Slope	0.50	Percs slowly	0.50
						Percs slowly	0.50		
2D:									
Billstown--------	90	Very limited		Very limited		Very limited		Very limited	
		Too clayey	1.00	Potentially or highly erodible	1.00	Slope	1.00	Slope	1.00
		Potentially or highly erodible	1.00	Too clayey	1.00	Too clayey	1.00	Potentially or highly erodible	1.00
		Droughty	0.76	Percs slowly	0.50	Potentially or highly erodible	1.00	Too clayey	1.00
		Percs slowly	0.50			Droughty	0.76	Percs slowly	0.50
						Percs slowly	0.50		
3D:									
Bismarck---------	45	Very limited		Very limited		Very limited		Very limited	
		Droughty	1.00	Potentially or highly erodible	1.00	Droughty	1.00	Slope	1.00
		Bedrock	1.00	Bedrock	1.00	Slope	1.00	Potentially or highly erodible	1.00
		Potentially or highly erodible	1.00	Droughty	1.00	Bedrock	1.00	Bedrock	1.00
		Too gravelly, cobbly, or stony	0.73	Too gravelly, cobbly, or stony	0.73	Potentially or highly erodible	1.00	Droughty	1.00
						Too gravelly, cobbly, or stony	0.73	Too gravelly, cobbly, or stony	0.73

Table 9a.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover: Rating class and limiting features	Value	Domestic grasses and legumes for food and cover: Rating class and limiting features	Value	Irrigated grain and seed crops for food and cover: Rating class and limiting features	Value	Irrigated domestic grasses and legumes for food and cover: Rating class and limiting features	Value
3D:									
Littlefir	25	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Slope	1.00	Slope	1.00
		Wetness	0.75	Wetness	0.75	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Too gravelly, cobbly, or stony	0.73	Too gravelly, cobbly, or stony	0.73	Wetness	0.75	Wetness	0.75
		Droughty	0.45	Percs slowly	0.33	Too gravelly, cobbly, or stony	0.73	Too gravelly, cobbly, or stony	0.73
		Percs slowly	0.33	Bedrock	0.16	Droughty	0.45	Percs slowly	0.33
Nashoba	20	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Slope	1.00	Slope	1.00
		Droughty	1.00	Too gravelly, cobbly, or stony	0.90	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Too gravelly, cobbly, or stony	0.90	Droughty	0.60	Droughty	1.00	Too gravelly, cobbly, or stony	0.90
		Bedrock	0.46	Bedrock	0.46	Too gravelly, cobbly, or stony	0.90	Droughty	0.60
						Bedrock	0.46	Bedrock	0.46
4E:									
Bismarck	40	Very limited		Very limited		Very limited		Very limited	
		Droughty	1.00	Potentially or highly erodible	1.00	Droughty	1.00	Slope	1.00
		Bedrock	1.00	Bedrock	1.00	Slope	1.00	Potentially or highly erodible	1.00
		Potentially or highly erodible	1.00	Droughty	1.00	Bedrock	1.00	Bedrock	1.00
		Too gravelly, cobbly, or stony	0.86	Too gravelly, cobbly, or stony	0.86	Potentially or highly erodible	1.00	Droughty	1.00
		Slope	0.78	Slope	0.78	Too gravelly, cobbly, or stony	0.86	Too gravelly, cobbly, or stony	0.86
Nashoba	35	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Slope	1.00	Slope	1.00
		Droughty	1.00	Too gravelly, cobbly, or stony	0.90	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Too gravelly, cobbly, or stony	0.90	Slope	0.78	Droughty	1.00	Too gravelly, cobbly, or stony	0.90
		Slope	0.78	Droughty	0.60	Too gravelly, cobbly, or stony	0.90	Droughty	0.60
		Bedrock	0.46	Bedrock	0.46	Bedrock	0.46	Bedrock	0.46
Littlefir	15	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Slope	1.00	Slope	1.00
		Too gravelly, cobbly, or stony	0.91	Too gravelly, cobbly, or stony	0.91	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Slope	0.78	Slope	0.78	Too gravelly, cobbly, or stony	0.91	Too gravelly, cobbly, or stony	0.91
		Wetness	0.75	Wetness	0.75	Wetness	0.75	Wetness	0.75
		Droughty	0.53	Percs slowly	0.33	Droughty	0.53	Percs slowly	0.33

Table 9a.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover: Rating class and limiting features	Value	Domestic grasses and legumes for food and cover: Rating class and limiting features	Value	Irrigated grain and seed crops for food and cover: Rating class and limiting features	Value	Irrigated domestic grasses and legumes for food and cover: Rating class and limiting features	Value
5B:									
Cupco	90	Very limited		Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00	Wetness	1.00
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Flooding	0.50	Flooding	0.50	Flooding	0.50	Flooding	0.50
6:									
Dam	100	Not rated		Not rated		Not rated		Not rated	
7C:									
DeAnn	85	Very limited		Very limited		Very limited		Very limited	
		Too clayey	1.00	Potentially or highly erodible	1.00	Too clayey	1.00	Potentially or highly erodible	1.00
		Potentially or highly erodible	1.00	Too clayey	1.00	Potentially or highly erodible	1.00	Too clayey	1.00
		Percs slowly	0.50	Percs slowly	0.50	Slope	0.50	Slope	0.50
		Droughty	0.08			Percs slowly	0.50	Percs slowly	0.50
						Droughty	0.08		
8B:									
Dela	95	Very limited		Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Flooding	1.00	Flooding	1.00
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Wetness	1.00	Wetness	1.00
		Flooding	0.50	Flooding	0.50	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Droughty	0.01			Droughty	0.01		
9B:									
Felker	95	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Wetness	0.19	Wetness	0.19	Wetness	0.19	Wetness	0.19
10B:									
Gurdon	90	Very limited		Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00	Wetness	1.00
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
11A:									
Guyton	95	Very limited		Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Wetness	1.00	Wetness	1.00
		Wetness	1.00	Wetness	1.00	Flooding	0.50	Flooding	0.50

Table 9a.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover: Rating class and limiting features	Value	Domestic grasses and legumes for food and cover: Rating class and limiting features	Value	Irrigated grain and seed crops for food and cover: Rating class and limiting features	Value	Irrigated domestic grasses and legumes for food and cover: Rating class and limiting features	Value
12A:									
Guyton	100	Very limited		Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Flooding	1.00	Flooding	1.00
		Flooding	1.00	Flooding	1.00	Wetness	1.00	Wetness	1.00
13A:									
Guyton	100	Very limited		Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Flooding	1.00	Flooding	1.00
		Ponding	1.00	Ponding	1.00	Wetness	1.00	Wetness	1.00
		Flooding	1.00	Flooding	1.00	Ponding	1.00	Ponding	1.00
14C:									
Japany	90	Very limited		Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00	Wetness	1.00
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Percs slowly	0.52	Percs slowly	0.52	Percs slowly	0.52	Percs slowly	0.52
		Too clayey	0.11	Too clayey	0.11	Too clayey	0.11	Too clayey	0.11
14D:									
Japany	90	Very limited		Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00	Wetness	1.00
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Slope	1.00	Slope	1.00
		Percs slowly	0.52	Percs slowly	0.52	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Too clayey	0.11	Too clayey	0.11	Percs slowly	0.52	Percs slowly	0.52
						Too clayey	0.11	Too clayey	0.11
15B:									
Kenn	60	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Flooding	1.00	Flooding	1.00
		Droughty	1.00	Flooding	0.50	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Flooding	0.50	Droughty	0.07	Droughty	1.00	Droughty	0.07
Ceda	30	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Flooding	1.00	Flooding	1.00
		Too gravelly, cobbly, or stony	1.00	Too gravelly, cobbly, or stony	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Droughty	0.99	Flooding	0.50	Too gravelly, cobbly, or stony	1.00	Too gravelly, cobbly, or stony	1.00
		Flooding	0.50			Droughty	0.99		

Table 9a.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover: Rating class and limiting features	Value	Domestic grasses and legumes for food and cover: Rating class and limiting features	Value	Irrigated grain and seed crops for food and cover: Rating class and limiting features	Value	Irrigated domestic grasses and legumes for food and cover: Rating class and limiting features	Value
16B:									
Leeper-----------	90	Very limited		Very limited		Very limited		Very limited	
		Too clayey	1.00	Potentially or highly erodible	1.00	Too clayey	1.00	Potentially or highly erodible	1.00
		Potentially or highly erodible	1.00	Too clayey	1.00	Potentially or highly erodible	1.00	Too clayey	1.00
		Wetness	0.99	Wetness	0.99	Wetness	0.99	Wetness	0.99
		Flooding	0.50	Flooding	0.50	Flooding	0.50	Flooding	0.50
		Percs slowly	0.50	Percs slowly	0.50	Percs slowly	0.50	Percs slowly	0.50
17C:									
Littlefir--------	40	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Wetness	0.75	Wetness	0.75	Wetness	0.75	Wetness	0.75
		Too gravelly, cobbly, or stony	0.73	Too gravelly, cobbly, or stony	0.73	Too gravelly, cobbly, or stony	0.73	Too gravelly, cobbly, or stony	0.73
		Droughty	0.45	Percs slowly	0.33	Droughty	0.45	Percs slowly	0.33
		Percs slowly	0.33	Bedrock	0.16	Percs slowly	0.33	Bedrock	0.16
Bismarck---------	35	Very limited		Very limited		Very limited		Very limited	
		Droughty	1.00	Potentially or highly erodible	1.00	Droughty	1.00	Potentially or highly erodible	1.00
		Bedrock	1.00	Bedrock	1.00	Bedrock	1.00	Bedrock	1.00
		Potentially or highly erodible	1.00	Droughty	1.00	Potentially or highly erodible	1.00	Droughty	1.00
		Too gravelly, cobbly, or stony	0.73	Too gravelly, cobbly, or stony	0.73	Too gravelly, cobbly, or stony	0.73	Too gravelly, cobbly, or stony	0.73
						Slope	0.12	Slope	0.12
Nashoba----------	15	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Droughty	1.00	Too gravelly, cobbly, or stony	0.90	Droughty	1.00	Too gravelly, cobbly, or stony	0.90
		Too gravelly, cobbly, or stony	0.90	Droughty	0.60	Too gravelly, cobbly, or stony	0.90	Droughty	0.60
		Bedrock	0.46	Bedrock	0.46	Bedrock	0.46	Bedrock	0.46
						Slope	0.12	Slope	0.12
18B:									
Mazarn-----------	90	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Wetness	0.99	Wetness	0.99	Wetness	0.99	Wetness	0.99
		Bedrock	0.01	Bedrock	0.01	Bedrock	0.01	Bedrock	0.01

Table 9a.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover: Rating class and limiting features	Value	Domestic grasses and legumes for food and cover: Rating class and limiting features	Value	Irrigated grain and seed crops for food and cover: Rating class and limiting features	Value	Irrigated domestic grasses and legumes for food and cover: Rating class and limiting features	Value
19B:									
McCaskill	90	Very limited		Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00	Wetness	1.00
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
19C:									
McCaskill	90	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
						Slope	0.50	Slope	0.50
20F:									
Nashoba	45	Very limited		Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00	Slope	1.00
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Droughty	1.00	Too gravelly, cobbly, or stony	0.90	Droughty	1.00	Too gravelly, cobbly, or stony	0.90
		Too gravelly, cobbly, or stony	0.90	Droughty	0.60	Too gravelly, cobbly, or stony	0.90	Droughty	0.60
		Bedrock	0.46	Bedrock	0.46	Bedrock	0.46	Bedrock	0.46
Bismarck	30	Very limited		Very limited		Very limited		Very limited	
		Droughty	1.00	Slope	1.00	Droughty	1.00	Slope	1.00
		Slope	1.00	Potentially or highly erodible	1.00	Slope	1.00	Potentially or highly erodible	1.00
		Bedrock	1.00	Bedrock	1.00	Bedrock	1.00	Bedrock	1.00
		Potentially or highly erodible	1.00	Droughty	1.00	Potentially or highly erodible	1.00	Droughty	1.00
		Too gravelly, cobbly, or stony	0.86	Too gravelly, cobbly, or stony	0.86	Too gravelly, cobbly, or stony	0.86	Too gravelly, cobbly, or stony	0.86
Clebit	15	Very limited		Very limited		Very limited		Very limited	
		Too gravelly, cobbly, or stony	1.00	Too gravelly, cobbly, or stony	1.00	Too gravelly, cobbly, or stony	1.00	Too gravelly, cobbly, or stony	1.00
		Droughty	1.00	Droughty	1.00	Droughty	1.00	Droughty	1.00
		Slope	1.00	Slope	1.00	Slope	1.00	Slope	1.00
		Bedrock	1.00	Potentially or highly erodible	1.00	Bedrock	1.00	Potentially or highly erodible	1.00
		Potentially or highly erodible	1.00	Bedrock	1.00	Potentially or highly erodible	1.00	Bedrock	1.00
21B:									
Ouachita	90	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Flooding	0.50	Flooding	0.50	Flooding	0.50	Flooding	0.50

Table 9a.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover: Rating class and limiting features	Value	Domestic grasses and legumes for food and cover: Rating class and limiting features	Value	Irrigated grain and seed crops for food and cover: Rating class and limiting features	Value	Irrigated domestic grasses and legumes for food and cover: Rating class and limiting features	Value
22B:									
Ouachita	80	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Flooding	1.00	Flooding	1.00
		Flooding	0.50	Flooding	0.50	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
23D:									
Peanutrock	90	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Droughty	1.00	Too gravelly, cobbly, or stony	0.91	Droughty	1.00	Slope	1.00
		Too gravelly, cobbly, or stony	0.91	Droughty	0.01	Slope	1.00	Too gravelly, cobbly, or stony	0.91
						Too gravelly, cobbly, or stony	0.91	Droughty	0.01
23E:									
Peanutrock	90	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Slope	1.00	Slope	1.00
		Droughty	1.00	Too gravelly, cobbly, or stony	0.91	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Too gravelly, cobbly, or stony	0.91	Slope	0.78	Droughty	1.00	Too gravelly, cobbly, or stony	0.91
		Slope	0.78	Droughty	0.01	Too gravelly, cobbly, or stony	0.91	Droughty	0.01
24C:									
Pikecity	90	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Droughty	0.01			Slope	0.12	Slope	0.12
						Droughty	0.01		
25:									
Pits, gravel	100	Not rated		Not rated		Not rated		Not rated	
26C:									
Sacul	85	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Percs slowly	0.33	Percs slowly	0.33	Percs slowly	0.33	Percs slowly	0.33
		Droughty	0.29	Wetness	0.19	Droughty	0.29	Wetness	0.19
		Wetness	0.19			Wetness	0.19	Slope	0.12
						Slope	0.12		

Table 9a.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover: Rating class and limiting features	Value	Domestic grasses and legumes for food and cover: Rating class and limiting features	Value	Irrigated grain and seed crops for food and cover: Rating class and limiting features	Value	Irrigated domestic grasses and legumes for food and cover: Rating class and limiting features	Value
26D:									
Sacul------------	85	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Slope	1.00	Slope	1.00
		Percs slowly	0.33	Percs slowly	0.33	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Droughty	0.29	Wetness	0.19	Percs slowly	0.33	Percs slowly	0.33
		Wetness	0.19			Droughty	0.29	Wetness	0.19
						Wetness	0.19		
27C:									
Sacul------------	85	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Too gravelly, cobbly, or stony	1.00	Too gravelly, cobbly, or stony	1.00	Too gravelly, cobbly, or stony	1.00	Too gravelly, cobbly, or stony	1.00
		Droughty	0.50	Percs slowly	0.33	Slope	0.50	Slope	0.50
		Percs slowly	0.33	Wetness	0.19	Droughty	0.50	Percs slowly	0.33
		Wetness	0.19			Percs slowly	0.33	Wetness	0.19
28B:									
Sardis-----------	90	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Flooding	0.50	Flooding	0.50	Flooding	0.50	Flooding	0.50
		Wetness	0.19	Wetness	0.19	Wetness	0.19	Wetness	0.19
29B:									
Sardis-----------	90	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Flooding	1.00	Flooding	1.00
		Flooding	0.50	Flooding	0.50	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Wetness	0.19	Wetness	0.19	Wetness	0.19	Wetness	0.19
30E:									
Sherless---------	50	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Slope	1.00	Slope	1.00
		Slope	0.78	Slope	0.78	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Droughty	0.07	Bedrock	0.01	Droughty	0.07	Bedrock	0.01
		Bedrock	0.01			Bedrock	0.01		

Table 9a.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover: Rating class and limiting features	Value	Domestic grasses and legumes for food and cover: Rating class and limiting features	Value	Irrigated grain and seed crops for food and cover: Rating class and limiting features	Value	Irrigated domestic grasses and legumes for food and cover: Rating class and limiting features	Value
30E:									
Bismarck---------	25	Very limited		Very limited		Very limited		Very limited	
		Droughty	1.00	Potentially or	1.00	Droughty	1.00	Slope	1.00
		Bedrock	1.00	highly erodible		Slope	1.00	Potentially or	1.00
		Potentially or	1.00	Bedrock	1.00	Bedrock	1.00	highly erodible	
		highly erodible		Droughty	1.00	Potentially or	1.00	Bedrock	1.00
		Too gravelly,	0.86	Too gravelly,	0.86	highly erodible		Droughty	1.00
		cobbly, or stony		cobbly, or stony		Too gravelly,	0.86	Too gravelly,	0.86
		Slope	0.78	Slope	0.78	cobbly, or stony		cobbly, or stony	
Nashoba----------	20	Very limited		Very limited		Very limited		Very limited	
		Potentially or	1.00	Potentially or	1.00	Slope	1.00	Slope	1.00
		highly erodible		highly erodible		Potentially or	1.00	Potentially or	1.00
		Droughty	1.00	Too gravelly,	0.90	highly erodible		highly erodible	
		Too gravelly,	0.90	cobbly, or stony		Droughty	1.00	Too gravelly,	0.90
		cobbly, or stony		Slope	0.78	Too gravelly,	0.90	cobbly, or stony	
		Slope	0.78	Droughty	0.60	cobbly, or stony		Droughty	0.60
		Bedrock	0.46	Bedrock	0.46	Bedrock	0.46	Bedrock	0.46
31C:									
Sherless---------	55	Very limited		Very limited		Very limited		Very limited	
		Potentially or	1.00	Potentially or	1.00	Potentially or	1.00	Potentially or	1.00
		highly erodible		highly erodible		highly erodible		highly erodible	
		Droughty	0.07	Bedrock	0.01	Slope	0.12	Slope	0.12
		Bedrock	0.01			Droughty	0.07	Bedrock	0.01
						Bedrock	0.01		
Littlefir--------	30	Very limited		Very limited		Very limited		Very limited	
		Potentially or	1.00	Potentially or	1.00	Potentially or	1.00	Potentially or	1.00
		highly erodible		highly erodible		highly erodible		highly erodible	
		Wetness	0.75	Wetness	0.75	Wetness	0.75	Wetness	0.75
		Too gravelly,	0.64	Too gravelly,	0.64	Too gravelly,	0.64	Too gravelly,	0.64
		cobbly, or stony		cobbly, or stony		cobbly, or stony		cobbly, or stony	
		Droughty	0.57	Percs slowly	0.33	Droughty	0.57	Percs slowly	0.33
		Percs slowly	0.33	Bedrock	0.16	Percs slowly	0.33	Bedrock	0.16
31D:									
Sherless---------	55	Very limited		Very limited		Very limited		Very limited	
		Potentially or	1.00	Potentially or	1.00	Slope	1.00	Slope	1.00
		highly erodible		highly erodible		Potentially or	1.00	Potentially or	1.00
		Droughty	0.07	Bedrock	0.01	highly erodible		highly erodible	
		Bedrock	0.01			Droughty	0.07	Bedrock	0.01
						Bedrock	0.01		

Table 9a.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover		Domestic grasses and legumes for food and cover		Irrigated grain and seed crops for food and cover		Irrigated domestic grasses and legumes for food and cover	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31D:									
Littlefir--------	30	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Slope	1.00	Slope	1.00
		Wetness	0.75	Wetness	0.75	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Too gravelly, cobbly, or stony	0.64	Too gravelly, cobbly, or stony	0.64	Wetness	0.75	Wetness	0.75
		Droughty	0.57	Percs slowly	0.33	Too gravelly, cobbly, or stony	0.64	Too gravelly, cobbly, or stony	0.64
		Percs slowly	0.33	Bedrock	0.16	Droughty	0.57	Percs slowly	0.33
32C:									
Sherless---------	65	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Droughty	0.07	Bedrock	0.01	Slope	0.50	Slope	0.50
		Bedrock	0.01			Droughty	0.07	Bedrock	0.01
						Bedrock	0.01		
Nashoba----------	20	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Droughty	1.00	Too gravelly, cobbly, or stony	0.90	Droughty	1.00	Too gravelly, cobbly, or stony	0.90
		Too gravelly, cobbly, or stony	0.90	Droughty	0.60	Too gravelly, cobbly, or stony	0.90	Droughty	0.60
		Bedrock	0.46	Bedrock	0.46	Slope	0.50	Slope	0.50
						Bedrock	0.46	Bedrock	0.46
33C:									
Smithdale--------	90	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
						Slope	0.50	Slope	0.50
34A:									
Smithton---------	90	Very limited		Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00	Wetness	1.00
35B:									
Speer------------	95	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00

Table 9a.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover: Rating class and limiting features	Value	Domestic grasses and legumes for food and cover: Rating class and limiting features	Value	Irrigated grain and seed crops for food and cover: Rating class and limiting features	Value	Irrigated domestic grasses and legumes for food and cover: Rating class and limiting features	Value
36B:									
Speer------------	95	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Flooding	0.50	Flooding	0.50	Flooding	0.50	Flooding	0.50
37B:									
Stelltown--------	90	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Wetness	0.19	Wetness	0.19	Wetness	0.19	Wetness	0.19
38C:									
Sumter-----------	85	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Droughty	1.00	Percs slowly	0.52	Droughty	1.00	Percs slowly	0.52
		Percs slowly	0.52	Too clayey	0.50	Percs slowly	0.52	Slope	0.50
		Too clayey	0.50	Bedrock	0.29	Slope	0.50	Too clayey	0.50
		Bedrock	0.29	Droughty	0.01	Too clayey	0.50	Bedrock	0.29
38D:									
Sumter-----------	85	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Slope	1.00	Slope	1.00
		Droughty	1.00	Percs slowly	0.52	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Percs slowly	0.52	Too clayey	0.50	Droughty	1.00	Percs slowly	0.52
		Too clayey	0.50	Bedrock	0.29	Percs slowly	0.52	Too clayey	0.50
		Bedrock	0.29	Droughty	0.01	Too clayey	0.50	Bedrock	0.29
39B:									
Antoine----------	90	Very limited		Very limited		Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Wetness	0.99	Wetness	0.99	Wetness	0.99	Wetness	0.99
		Percs slowly	0.52	Percs slowly	0.52	Percs slowly	0.52	Percs slowly	0.52
40A:									
Tuscumbia--------	90	Very limited		Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00	Wetness	1.00
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Flooding	1.00	Flooding	1.00	Droughty	0.99	Percs slowly	0.52
		Droughty	0.99	Percs slowly	0.52	Percs slowly	0.52	Flooding	0.50
		Percs slowly	0.52			Flooding	0.50		

Table 9a.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover: Rating class and limiting features	Value	Domestic grasses and legumes for food and cover: Rating class and limiting features	Value	Irrigated grain and seed crops for food and cover: Rating class and limiting features	Value	Irrigated domestic grasses and legumes for food and cover: Rating class and limiting features	Value
41B:									
Urbo-------------	90	Very limited		Very limited		Very limited		Very limited	
		Percs slowly	1.00	Potentially or highly erodible	1.00	Percs slowly	1.00	Potentially or highly erodible	1.00
		Potentially or highly erodible	1.00	Percs slowly	1.00	Potentially or highly erodible	1.00	Percs slowly	1.00
		Wetness	0.99	Wetness	0.99	Wetness	0.99	Wetness	0.99
		Flooding	0.50	Flooding	0.50	Flooding	0.50	Flooding	0.50
		Too clayey	0.01	Too clayey	0.01	Too clayey	0.01	Too clayey	0.01
42B:									
Urbo-------------	80	Very limited		Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00	Flooding	1.00
		Percs slowly	1.00	Potentially or highly erodible	1.00	Percs slowly	1.00	Potentially or highly erodible	1.00
		Potentially or highly erodible	1.00	Percs slowly	1.00	Potentially or highly erodible	1.00	Percs slowly	1.00
		Wetness	0.99	Wetness	0.99	Wetness	0.99	Wetness	0.99
		Too clayey	0.01	Too clayey	0.01	Too clayey	0.01	Too clayey	0.01
43:									
Water------------	100	Not rated		Not rated		Not rated		Not rated	

Table 9b.--Wildlife Habitat

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Upland native herbaceous plants		Upland shrubs and vines		Burrowing mammals and reptiles	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1C:							
Kullit--------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Wetness	0.19	Wetness	0.19	Wetness	0.19
2C, 2D:							
Billstown-----------	90	Somewhat limited		Somewhat limited		Very limited	
		Too clayey	0.50	Too clayey	0.50	Too clayey	1.00
3D:							
Bismarck------------	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.50	Droughty	0.50	10-20" to Bedrock (Hard or Soft)	0.92
				Bedrock	0.10		
						Too gravelly	0.27
Littlefir-----------	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Wetness	0.75	Bedrock	0.95	Too clayey	0.97
				Wetness	0.75	Wetness	0.75
Nashoba-------------	20	Not limited		Somewhat limited		Very limited	
				Bedrock	0.86	Content of large stones	1.00
4E:							
Bismarck------------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.50	Droughty	0.50	10-20" to Bedrock (Hard or Soft)	0.92
				Bedrock	0.10		
						Too gravelly	0.12
Nashoba-------------	35	Not limited		Somewhat limited		Very limited	
				Bedrock	0.86	Content of large stones	1.00
Littlefir-----------	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Wetness	0.75	Bedrock	0.95	Too clayey	0.97
				Wetness	0.75	Wetness	0.75
5B:							
Cupco---------------	90	Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00
						Flooding	1.00
						Too clayey	0.19
6:							
Dam-----------------	100	Not rated		Not rated		Not rated	
7C:							
DeAnn---------------	85	Somewhat limited		Very limited		Very limited	
		Too clayey	0.50	Bedrock	1.00	Too clayey	1.00
				Too clayey	0.50		
8B:							
Dela----------------	95	Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00
						Flooding	1.00
9B:							
Felker--------------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Wetness	0.19	Wetness	0.19	Wetness	0.19

Table 9b.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Upland native herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Burrowing mammals and reptiles: Rating class and limiting features	Value
10B:							
Gurdon	90	Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00
11A:							
Guyton	95	Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00
						Flooding	1.00
						Too clayey	0.01
12A:							
Guyton	100	Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00
						Flooding	1.00
						Too clayey	0.01
13A:							
Guyton	100	Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Ponding	1.00
						Wetness	1.00
						Flooding	1.00
						Too clayey	0.01
14C, 14D:							
Japany	90	Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00
						Too clayey	1.00
15B:							
Kenn	60	Not limited		Not limited		Very limited	
						Flooding	1.00
Ceda	30	Somewhat limited		Somewhat limited		Very limited	
		Too gravelly, cobbly, or stony	0.34	Too gravelly, cobbly, or stony	0.34	Flooding	1.00
						Content of large stones	0.78
16B:							
Leeper	90	Somewhat limited		Somewhat limited		Very limited	
		Wetness	0.99	Wetness	0.99	Flooding	1.00
		Too clayey	0.50	Too clayey	0.50	Too clayey	1.00
						Wetness	0.99
17C:							
Littlefir	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Wetness	0.75	Bedrock	0.95	Too clayey	0.97
				Wetness	0.75	Wetness	0.75
Bismarck	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.50	Droughty	0.50	10-20" to Bedrock (Hard or Soft)	0.92
				Bedrock	0.10	Too gravelly	0.27
Nashoba	15	Not limited		Somewhat limited		Very limited	
				Bedrock	0.86	Content of large stones	1.00
18B:							
Mazarn	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Wetness	0.99	Wetness	0.99	Wetness	0.99
				Bedrock	0.99	Too clayey	0.05

Table 9b.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Upland native herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Burrowing mammals and reptiles: Rating class and limiting features	Value
19B:							
McCaskill-----------	90	Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00
19C:							
McCaskill-----------	90	Not limited		Not limited		Not limited	
20F:							
Nashoba-------------	45	Not limited		Somewhat limited		Very limited	
				Bedrock	0.86	Content of large stones	1.00
Bismarck------------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.50	Droughty	0.50	10-20" to Bedrock (Hard or Soft)	0.92
				Bedrock	0.10		
						Too gravelly	0.12
Clebit--------------	15	Somewhat limited		Somewhat limited		Very limited	
		Droughty	0.50	Droughty	0.50	Content of large stones	1.00
		Too gravelly, cobbly, or stony	0.45	Too gravelly, cobbly, or stony	0.45	10-20" to Bedrock (Hard or Soft)	0.46
				Bedrock	0.19		
21B:							
Ouachita------------	90	Not limited		Not limited		Very limited	
						Flooding	1.00
22B:							
Ouachita------------	80	Not limited		Not limited		Very limited	
						Flooding	1.00
23D, 23E:							
Peanutrock----------	90	Not limited		Not limited		Somewhat limited	
						Too gravelly	0.09
24C:							
Pikecity------------	90	Not limited		Not limited		Not limited	
25:							
Pits, gravel--------	100	Not rated		Not rated		Not rated	
26C, 26D:							
Sacul---------------	85	Somewhat limited		Very limited		Very limited	
		Wetness	0.19	Bedrock	1.00	Too clayey	1.00
				Wetness	0.19	Wetness	0.19
27C:							
Sacul---------------	85	Somewhat limited		Very limited		Very limited	
		Wetness	0.19	Bedrock	1.00	Too clayey	1.00
		Too gravelly, cobbly, or stony	0.01	Wetness	0.19	Wetness	0.19
				Too gravelly, cobbly, or stony	0.01		
28B, 29B:							
Sardis--------------	90	Somewhat limited		Somewhat limited		Very limited	
		Wetness	0.19	Wetness	0.19	Flooding	1.00
						Wetness	0.19
						Too clayey	0.01
30E:							
Sherless------------	50	Not limited		Somewhat limited		Somewhat limited	
				Bedrock	0.99	Too clayey	0.01

Table 9b.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Upland native herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Burrowing mammals and reptiles: Rating class and limiting features	Value
30E:							
Bismarck------------	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.50	Droughty	0.50	10-20" to Bedrock (Hard or Soft)	0.92
				Bedrock	0.10	Too gravelly	0.12
Nashoba-------------	20	Not limited		Somewhat limited		Very limited	
				Bedrock	0.86	Content of large stones	1.00
31C, 31D:							
Sherless------------	55	Not limited		Somewhat limited		Somewhat limited	
				Bedrock	0.99	Too clayey	0.01
Littlefir-----------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Wetness	0.75	Bedrock	0.95	Too clayey	0.97
				Wetness	0.75	Wetness	0.75
32C:							
Sherless------------	65	Not limited		Somewhat limited		Somewhat limited	
				Bedrock	0.99	Too clayey	0.01
Nashoba-------------	20	Not limited		Somewhat limited		Very limited	
				Bedrock	0.86	Content of large stones	1.00
33C:							
Smithdale-----------	90	Not limited		Not limited		Not limited	
34A:							
Smithton------------	90	Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00
35B:							
Speer---------------	95	Not limited		Not limited		Somewhat limited	
						Flooding	0.50
36B:							
Speer---------------	95	Not limited		Not limited		Very limited	
						Flooding	1.00
37B:							
Stelltown-----------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Wetness	0.19	Wetness	0.19	Wetness	0.19
38C, 38D:							
Sumter--------------	85	Somewhat limited		Somewhat limited		Very limited	
		Too clayey	0.50	Bedrock	0.91	Too clayey	1.00
				Too clayey	0.50		
39B:							
Antoine-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Wetness	0.99	Wetness	0.99	Wetness	0.99
						Too clayey	0.99
40A:							
Tuscumbia-----------	90	Very limited		Very limited		Very limited	
		Wetness	1.00	Wetness	1.00	Wetness	1.00
		Too clayey	0.50	Too clayey	0.50	Flooding	1.00
						Too clayey	1.00

Table 9b.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Upland native herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Burrowing mammals and reptiles: Rating class and limiting features	Value
41B:							
Urbo----------------	90	Somewhat limited		Somewhat limited		Very limited	
		Wetness	0.99	Wetness	0.99	Flooding	1.00
						Too clayey	1.00
						Wetness	0.99
42B:							
Urbo----------------	80	Somewhat limited		Somewhat limited		Very limited	
		Wetness	0.99	Wetness	0.99	Flooding	1.00
						Too clayey	1.00
						Wetness	0.99
43:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 9c.--Wildlife Habitat

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Upland deciduous trees: Rating class and limiting features	Upland deciduous trees: Value	Upland coniferous trees: Rating class and limiting features	Upland coniferous trees: Value	Upland mixed deciduous and coniferous trees: Rating class and limiting features	Upland mixed deciduous and coniferous trees: Value
1C:							
Kullit	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.47	Depth to saturated zone	1.00
						Growing season wetness	1.00
2C, 2D:							
Billstown	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Wetness	0.11	Growing season wetness	1.00
						Depth to saturated zone	0.99
3D:							
Bismarck	45	Very limited		Very limited		Very limited	
		Bedrock	1.00	Bedrock	1.00	Bedrock	1.00
		Droughty	1.00	Droughty	1.00	Droughty	1.00
Littlefir	25	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.86	Depth to saturated zone	1.00
		Bedrock	0.16	Bedrock	0.16	Growing season wetness	1.00
						Bedrock	0.16
Nashoba	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.60	Droughty	0.60	Droughty	0.60
		Bedrock	0.46	Bedrock	0.46	Bedrock	0.46
4E:							
Bismarck	40	Very limited		Very limited		Very limited	
		Bedrock	1.00	Bedrock	1.00	Bedrock	1.00
		Droughty	1.00	Droughty	1.00	Droughty	1.00
Nashoba	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.60	Droughty	0.60	Droughty	0.60
		Bedrock	0.46	Bedrock	0.46	Bedrock	0.46
Littlefir	15	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.86	Depth to saturated zone	1.00
		Bedrock	0.16	Bedrock	0.16	Growing season wetness	1.00
						Bedrock	0.16
5B:							
Cupco	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00	Depth to saturated zone	1.00
						Growing season wetness	1.00
6:							
Dam	100	Not rated		Not rated		Not rated	

Table 9c.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Upland deciduous trees: Rating class and limiting features	Value	Upland coniferous trees: Rating class and limiting features	Value	Upland mixed deciduous and coniferous trees: Rating class and limiting features	Value
7C:							
DeAnn	85	Not limited		Not limited		Very limited	
						Growing season wetness	1.00
8B:							
Dela	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00	Depth to saturated zone	1.00
						Growing season wetness	1.00
9B:							
Felker	95	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.47	Depth to saturated zone	1.00
						Growing season wetness	1.00
10B:							
Gurdon	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00	Depth to saturated zone	1.00
						Growing season wetness	1.00
11A:							
Guyton	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00	Depth to saturated zone	1.00
						Growing season wetness	1.00
12A, 13A:							
Guyton	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00	Depth to saturated zone	1.00
						Growing season wetness	1.00
14C, 14D:							
Japany	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00	Depth to saturated zone	1.00
						Growing season wetness	1.00
15B:							
Kenn	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.07	Droughty	0.07	Droughty	0.07
Ceda	30	Not limited		Not limited		Not limited	
16B:							
Leeper	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.99	Depth to saturated zone	1.00
						Growing season wetness	1.00

Table 9c.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Upland deciduous trees		Upland coniferous trees		Upland mixed deciduous and coniferous trees	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17C:							
Littlefir	40	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.86	Depth to saturated zone	1.00
		Bedrock	0.16	Bedrock	0.16	Growing season wetness	1.00
						Bedrock	0.16
Bismarck	35	Very limited		Very limited		Very limited	
		Bedrock	1.00	Bedrock	1.00	Bedrock	1.00
		Droughty	1.00	Droughty	1.00	Droughty	1.00
Nashoba	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.60	Droughty	0.60	Droughty	0.60
		Bedrock	0.46	Bedrock	0.46	Bedrock	0.46
18B:							
Mazarn	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.99	Depth to saturated zone	1.00
		Bedrock	0.01	Bedrock	0.01	Growing season wetness	1.00
						Bedrock	0.01
19B:							
McCaskill	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00	Depth to saturated zone	1.00
						Growing season wetness	1.00
19C:							
McCaskill	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Wetness	0.11	Growing season wetness	1.00
						Depth to saturated zone	0.99
20F:							
Nashoba	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.60	Droughty	0.60	Droughty	0.60
		Bedrock	0.46	Bedrock	0.46	Bedrock	0.46
Bismarck	30	Very limited		Very limited		Very limited	
		Bedrock	1.00	Bedrock	1.00	Bedrock	1.00
		Droughty	1.00	Droughty	1.00	Droughty	1.00
Clebit	15	Very limited		Very limited		Very limited	
		Droughty	1.00	Bedrock	1.00	Bedrock	1.00
		Bedrock	1.00	Droughty	1.00	Droughty	1.00
21B:							
Ouachita	90	Not limited		Not limited		Not limited	
22B:							
Ouachita	80	Not limited		Not limited		Not limited	
23D, 23E:							
Peanutrock	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.01	Droughty	0.01	Droughty	0.01
24C:							
Pikecity	90	Not limited		Not limited		Not limited	

Table 9c.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Upland deciduous trees: Rating class and limiting features	Value	Upland coniferous trees: Rating class and limiting features	Value	Upland mixed deciduous and coniferous trees: Rating class and limiting features	Value
25:							
Pits, gravel	100	Not rated		Not rated		Not rated	
26C, 26D, 27C:							
Sacul	85	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.47	Depth to saturated zone	1.00
						Growing season wetness	1.00
28B, 29B:							
Sardis	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.47	Depth to saturated zone	1.00
						Growing season wetness	1.00
30E:							
Sherless	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Bedrock	0.01	Bedrock	0.01	Bedrock	0.01
Bismarck	25	Very limited		Very limited		Very limited	
		Bedrock	1.00	Bedrock	1.00	Bedrock	1.00
		Droughty	1.00	Droughty	1.00	Droughty	1.00
Nashoba	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.60	Droughty	0.60	Droughty	0.60
		Bedrock	0.46	Bedrock	0.46	Bedrock	0.46
31C, 31D:							
Sherless	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Bedrock	0.01	Bedrock	0.01	Bedrock	0.01
Littlefir	30	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.86	Depth to saturated zone	1.00
		Bedrock	0.16	Bedrock	0.16	Growing season wetness	1.00
						Bedrock	0.16
32C:							
Sherless	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Bedrock	0.01	Bedrock	0.01	Bedrock	0.01
Nashoba	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Droughty	0.60	Droughty	0.60	Droughty	0.60
		Bedrock	0.46	Bedrock	0.46	Bedrock	0.46
33C:							
Smithdale	90	Not limited		Not limited		Not limited	
34A:							
Smithton	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00	Depth to saturated zone	1.00
						Growing season wetness	1.00
35B, 36B:							
Speer	95	Not limited		Not limited		Not limited	

Table 9c.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Upland deciduous trees: Rating class and limiting features	Value	Upland coniferous trees: Rating class and limiting features	Value	Upland mixed deciduous and coniferous trees: Rating class and limiting features	Value
37B:							
Stelltown-----------	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.47	Depth to saturated zone	1.00
						Growing season wetness	1.00
38C, 38D:							
Sumter--------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Bedrock	0.29	Bedrock	0.29	Bedrock	0.29
		Droughty	0.01	Droughty	0.01	Droughty	0.01
39B:							
Antoine-------------	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.99	Depth to saturated zone	1.00
						Growing season wetness	1.00
40A:							
Tuscumbia-----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00	Depth to saturated zone	1.00
						Growing season wetness	1.00
41B:							
Urbo----------------	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.99	Depth to saturated zone	1.00
						Growing season wetness	1.00
42B:							
Urbo----------------	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Wetness	0.99	Depth to saturated zone	1.00
						Growing season wetness	1.00
43:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 9d.--Wildlife Habitat

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value
1C:							
Kullit	90	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.89
		Too dry	0.89			Too acid	0.56
2C, 2D:							
Billstown	90	Very limited		Somewhat limited		Very limited	
		Too dry	1.00	Too dry	0.01	Too dry	1.00
		Infrequent flooding	1.00			Too acid	0.56
3D:							
Bismarck	45	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	1.00	Too acid	0.44
Littlefir	25	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.78
		Too dry	0.53			Too dry	0.53
Nashoba	20	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	0.60	Too acid	0.56
4E:							
Bismarck	40	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	1.00	Too acid	0.44
Nashoba	35	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	0.60	Too acid	0.56
Littlefir	15	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.78
		Too dry	0.53			Too dry	0.53
5B:							
Cupco	90	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.78
6:							
Dam	100	Not rated		Not rated		Not rated	
7C:							
DeAnn	85	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00				

Table 9d.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value
8B:							
Dela	95	Not limited		Not limited		Not limited	
9B:							
Felker	95	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.89
		Too dry	0.89			Too acid	0.44
10B:							
Gurdon	90	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.44
		Too dry	0.09			Too dry	0.09
11A:							
Guyton	95	Very limited		Somewhat limited		Somewhat limited	
		Infrequent flooding	1.00	Flooding	0.50	Too acid	0.44
		Long flooding	0.50				
12A:							
Guyton	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Long flooding	0.50	Flooding	0.50	Too acid	0.44
13A:							
Guyton	100	Somewhat limited		Very limited		Somewhat limited	
		Ponding	0.50	Ponding	1.00	Too acid	0.44
		Long flooding	0.50	Flooding	0.50		
14C, 14D:							
Japany	90	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.78
		Too dry	0.02			Too dry	0.02
15B:							
Kenn	60	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
				Droughty	0.07	Too acid	0.78
Ceda	30	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Too gravelly, cobbly, or stony	0.94				
16B:							
Leeper	90	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.14
		Too dry	0.14				
17C:							
Littlefir	40	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.78
		Too dry	0.53			Too dry	0.53
Bismarck	35	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	1.00	Too acid	0.44

Table 9d.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value
17C:							
Nashoba-------------	15	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	0.60	Too acid	0.56
18B:							
Mazarn--------------	90	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.78
		Too dry	0.14			Too dry	0.14
19B:							
McCaskill-----------	90	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.78
		Too dry	0.04			Too dry	0.04
19C:							
McCaskill-----------	90	Very limited		Somewhat limited		Very limited	
		Too dry	1.00	Too dry	0.01	Too dry	1.00
		Infrequent flooding	1.00			Too acid	0.78
20F:							
Nashoba-------------	45	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	0.60	Too acid	0.56
Bismarck------------	30	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	1.00	Too acid	0.44
Clebit--------------	15	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	1.00	Too acid	0.22
		Too gravelly, cobbly, or stony	0.99				
21B:							
Ouachita------------	90	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00			Too acid	0.78
22B:							
Ouachita------------	80	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
						Too acid	0.78
23D, 23E:							
Peanutrock----------	90	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	0.01	Too acid	0.78
24C:							
Pikecity------------	90	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00			Too acid	0.78

Table 9d.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value
25:							
Pits, gravel--------	100	Not rated		Not rated		Not rated	
26C, 26D:							
Sacul---------------	85	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.89
						Too acid	0.78
		Too dry	0.89				
27C:							
Sacul---------------	85	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.89
						Too acid	0.78
		Too dry	0.89				
		Too gravelly, cobbly, or stony	0.01				
28B:							
Sardis--------------	90	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.89
						Too acid	0.44
		Too dry	0.89				
29B:							
Sardis--------------	90	Somewhat limited		Not limited		Somewhat limited	
		Too dry	0.89			Too dry	0.89
						Too acid	0.44
30E:							
Sherless------------	50	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00			Too acid	0.78
Bismarck------------	25	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	1.00	Too acid	0.44
Nashoba-------------	20	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	0.60	Too acid	0.56
31C, 31D:							
Sherless------------	55	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00			Too acid	0.78
Littlefir-----------	30	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.78
						Too dry	0.53
		Too dry	0.53				
32C:							
Sherless------------	65	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00			Too acid	0.78

Table 9d.--Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value
32C:							
Nashoba-------------	20	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	0.60	Too acid	0.56
33C:							
Smithdale-----------	90	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00			Too acid	0.78
34A:							
Smithton------------	90	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.78
35B, 36B:							
Speer---------------	95	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00			Too acid	0.78
37B:							
Stelltown-----------	90	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.99
						Too dry	0.89
		Too dry	0.89				
38C, 38D:							
Sumter--------------	85	Very limited		Very limited		Very limited	
		Too dry	1.00	Too dry	1.00	Too dry	1.00
		Infrequent flooding	1.00	Droughty	0.01		
39B:							
Antoine-------------	90	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.78
						Too dry	0.14
		Too dry	0.14				
40A:							
Tuscumbia-----------	90	Very limited		Somewhat limited		Not limited	
		Infrequent flooding	1.00	Flooding	0.50		
		Long flooding	0.50				
41B:							
Urbo----------------	90	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too acid	0.78
						Too dry	0.14
		Too dry	0.14				
42B:							
Urbo----------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Long flooding	0.50	Flooding	0.50	Too acid	0.78
		Too dry	0.14			Too dry	0.14
43:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 10a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
1C:							
Kullit	90	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.99		
2C:							
Billstown	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to saturated zone	0.95	Slope	0.50
2D:							
Billstown	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	0.95	Shrink-swell	1.00
				Slope	0.63		
3D:							
Bismarck	45	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	0.50	Slope	0.63	Depth to soft bedrock	1.00
Littlefir	25	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	0.63	Shrink-swell	0.50
		Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39
				Depth to soft bedrock	0.15		
Nashoba	20	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Slope	0.63	Depth to hard bedrock	0.46
		Large stones content	0.13	Large stones content	0.13	Large stones content	0.13
4E:							
Bismarck	40	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Nashoba	35	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
		Large stones content	0.13	Large stones content	0.13	Large stones content	0.13
Littlefir	15	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39
				Depth to soft bedrock	0.15		

Table 10a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
5B:							
Cupco	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
6:							
Dam	100	Not rated		Not rated		Not rated	
7C:							
DeAnn	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to saturated zone	0.15	Slope	0.50
8B:							
Dela	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
9B:							
Felker	95	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.99		
				Shrink-swell	0.50		
10B:							
Gurdon	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
11A:							
Guyton	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
12A:							
Guyton	100	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
13A:							
Guyton	100	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
14C:							
Japany	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
14D:							
Japany	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Shrink-swell	1.00

Table 10a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
15B:							
Kenn	60	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
Ceda	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
16B:							
Leeper	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
17C:							
Littlefir	40	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39
				Depth to soft bedrock	0.15	Slope	0.12
Bismarck	35	Somewhat limited		Very limited		Somewhat limited	
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
						Slope	0.12
Nashoba	15	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
		Large stones content	0.13	Large stones content	0.13	Large stones content	0.13
						Slope	0.12
18B:							
Mazarn	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
				Depth to soft bedrock	0.01		
19B:							
McCaskill	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
19C:							
McCaskill	90	Not limited		Somewhat limited		Somewhat limited	
				Depth to saturated zone	0.95	Slope	0.50
20F:							
Nashoba	45	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
		Large stones content	0.13	Large stones content	0.13	Large stones content	0.13
Bismarck	30	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00

Table 10a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
20F:							
Clebit	15	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Large stones content	1.00	Large stones content	1.00	Large stones content	1.00
21B:							
Ouachita	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Shrink-swell	0.50		
22B:							
Ouachita	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Shrink-swell	0.50		
23D:							
Peanutrock	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
23E:							
Peanutrock	90	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
24C:							
Pikecity	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
25:							
Pits, gravel	100	Not rated		Not rated		Not rated	
26C:							
Sacul	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to saturated zone	0.99	Slope	0.12
26D:							
Sacul	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	0.99	Shrink-swell	1.00
				Slope	0.63		
27C:							
Sacul	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to saturated zone	0.99	Slope	0.50
28B, 29B:							
Sardis	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.99		
30E:							
Sherless	50	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
				Depth to soft bedrock	0.01		

Table 10a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
30E:							
Bismarck------------	25	Very limited Too steep Depth to soft bedrock	 1.00 0.50	Very limited Too steep Depth to soft bedrock	 1.00 1.00	Very limited Slope Depth to soft bedrock	 1.00 1.00
Nashoba-------------	20	Very limited Too steep Depth to hard bedrock Large stones content	 1.00 0.46 0.13	Very limited Too steep Depth to hard bedrock Large stones content	 1.00 1.00 0.13	Very limited Slope Depth to hard bedrock Large stones content	 1.00 0.46 0.13
31C:							
Sherless------------	55	Not limited		Somewhat limited Depth to soft bedrock	 0.01	Somewhat limited Slope	 0.12
Littlefir-----------	30	Somewhat limited Shrink-swell Depth to saturated zone	 0.50 0.39	Very limited Depth to saturated zone Shrink-swell Depth to soft bedrock	 1.00 0.50 0.15	Somewhat limited Shrink-swell Depth to saturated zone Slope	 0.50 0.39 0.12
31D:							
Sherless------------	55	Somewhat limited Slope	 0.63	Somewhat limited Slope Depth to soft bedrock	 0.63 0.01	Very limited Slope	 1.00
Littlefir-----------	30	Somewhat limited Slope Shrink-swell Depth to saturated zone	 0.63 0.50 0.39	Very limited Depth to saturated zone Slope Shrink-swell Depth to soft bedrock	 1.00 0.63 0.50 0.15	Very limited Slope Shrink-swell Depth to saturated zone	 1.00 0.50 0.39
32C:							
Sherless------------	65	Not limited		Somewhat limited Depth to soft bedrock	 0.01	Somewhat limited Slope	 0.50
Nashoba-------------	20	Somewhat limited Depth to hard bedrock Large stones content	 0.46 0.13	Very limited Depth to hard bedrock Large stones content	 1.00 0.13	Somewhat limited Slope Depth to hard bedrock Large stones content	 0.50 0.46 0.13
33C:							
Smithdale-----------	90	Not limited		Not limited		Somewhat limited Slope	 0.50
34A:							
Smithton------------	90	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
35B, 36B:							
Speer---------------	95	Very limited Flooding	 1.00	Very limited Flooding	 1.00	Very limited Flooding	 1.00

Table 10a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
37B:							
Stelltown-----------	90	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.99		
38C:							
Sumter--------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.50
				Depth to soft bedrock	0.29	Shrink-swell	0.50
38D:							
Sumter--------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.29		
39B:							
Antoine-------------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
40A:							
Tuscumbia-----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
41B:							
Urbo----------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
42B:							
Urbo----------------	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
43:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 10b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1C:							
Kullit	90	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.99		
				Cutbanks cave	0.10		
2C:							
Billstown	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Too clayey	1.00	Too clayey	1.00
		Low strength	1.00	Depth to saturated zone	0.95		
				Cutbanks cave	0.10		
2D:							
Billstown	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Too clayey	1.00	Too clayey	1.00
		Low strength	1.00	Depth to saturated zone	0.95	Slope	0.63
		Slope	0.63	Slope	0.63		
				Cutbanks cave	0.10		
3D:							
Bismarck	45	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
						Droughty	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
				Cutbanks cave	0.10	Gravel content	0.52
Littlefir	25	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Slope	0.63
		Slope	0.63			Gravel content	0.52
		Shrink-swell	0.50	Slope	0.63	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Depth to soft bedrock	0.15	Depth to bedrock	0.16
				Too clayey	0.12		
				Cutbanks cave	0.10		
Nashoba	20	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to hard bedrock	1.00	Large stones content	0.88
		Depth to hard bedrock	0.46	Cutbanks cave	1.00	Slope	0.63
		Large stones content	0.13	Slope	0.63	Droughty	0.61
				Large stones content	0.13	Depth to bedrock	0.46
4E:							
Bismarck	40	Very limited		Very limited		Very limited	
		Too steep	1.00	Depth to soft bedrock	1.00	Too steep	1.00
		Depth to soft bedrock	1.00			Depth to bedrock	1.00
				Too steep	1.00	Droughty	1.00
				Cutbanks cave	0.10	Large stones content	0.99

Table 10b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
4E:							
Nashoba	35	Very limited		Very limited		Very limited	
		Too steep	1.00	Depth to hard bedrock	1.00	Too steep	1.00
		Depth to hard bedrock	0.46	Too steep	1.00	Large stones content	0.88
		Large stones content	0.13	Cutbanks cave	1.00	Droughty	0.61
				Large stones content	0.13	Depth to bedrock	0.46
Littlefir	15	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Low strength	1.00	Depth to saturated zone	1.00	Large stones content	0.99
		Shrink-swell	0.50	Depth to soft bedrock	0.15	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Too clayey	0.12	Depth to bedrock	0.16
				Cutbanks cave	0.10		
5B:							
Cupco	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
6:							
Dam	100	Not rated		Not rated		Not rated	
7C:							
DeAnn	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Cutbanks cave	1.00	Too clayey	1.00
		Low strength	1.00	Too clayey	1.00		
				Depth to saturated zone	0.15		
8B:							
Dela	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
				Flooding	0.80		
9B:							
Felker	95	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.99		
				Cutbanks cave	0.10		
10B:							
Gurdon	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.83	Depth to saturated zone	1.00	Depth to saturated zone	0.83
				Cutbanks cave	0.10		
11A:							
Guyton	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Low strength	1.00	Cutbanks cave	0.10		

Table 10b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
12A:							
Guyton--------------	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
13A:							
Guyton--------------	100	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
14C:							
Japany--------------	90	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Low strength	1.00	Cutbanks cave	1.00		
		Depth to saturated zone	0.96	Too clayey	0.50		
14D:							
Japany--------------	90	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Low strength	1.00	Cutbanks cave	1.00	Slope	0.63
		Depth to saturated zone	0.96	Slope	0.63		
		Slope	0.63	Too clayey	0.50		
15B:							
Kenn----------------	60	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
		Shrink-swell	0.50	Flooding	0.80	Droughty	0.08
						Large stones content	0.01
Ceda----------------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Large stones content	1.00
						Droughty	0.01
16B:							
Leeper--------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Low strength	1.00	Too clayey	0.88	Depth to saturated zone	0.75
		Shrink-swell	1.00	Flooding	0.60	Flooding	0.60
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
17C:							
Littlefir-----------	40	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Gravel content	0.52
		Shrink-swell	0.50	Depth to soft bedrock	0.15	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Too clayey	0.12	Depth to bedrock	0.16
				Cutbanks cave	0.10		
Bismarck------------	35	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
				Cutbanks cave	0.10	Droughty	1.00
						Gravel content	0.52

Table 10b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
17C:							
Nashoba	15	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Large stones content	0.88
		Large stones content	0.13	Cutbanks cave	1.00	Droughty	0.61
				Large stones content	0.13	Depth to bedrock	0.46
18B:							
Mazarn	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
19B:							
McCaskill	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.94	Depth to saturated zone	1.00	Depth to saturated zone	0.94
				Cutbanks cave	0.10		
19C:							
McCaskill	90	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.95		
				Cutbanks cave	0.10		
20F:							
Nashoba	45	Very limited		Very limited		Very limited	
		Too steep	1.00	Depth to hard bedrock	1.00	Too steep	1.00
		Depth to hard bedrock	0.46	Too steep	1.00	Large stones content	0.88
		Large stones content	0.13	Cutbanks cave	1.00	Droughty	0.61
				Large stones content	0.13	Depth to bedrock	0.46
Bismarck	30	Very limited		Very limited		Very limited	
		Too steep	1.00	Depth to soft bedrock	1.00	Too steep	1.00
		Depth to soft bedrock	1.00	Too steep	1.00	Depth to bedrock	1.00
				Cutbanks cave	0.10	Droughty	1.00
						Large stones content	0.99
Clebit	15	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Too steep	1.00
		Too steep	1.00	Too steep	1.00	Large stones content	1.00
		Large stones content	1.00	Large stones content	1.00	Droughty	1.00
				Cutbanks cave	0.10	Depth to bedrock	1.00
21B:							
Ouachita	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Low strength	1.00	Cutbanks cave	0.10		
22B:							
Ouachita	80	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
		Low strength	1.00	Cutbanks cave	0.10		

Table 10b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
23D:							
Peanutrock----------	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	0.78
				Slope	0.04	Slope	0.04
						Droughty	0.01
23E:							
Peanutrock----------	90	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
				Cutbanks cave	1.00	Gravel content	0.78
						Droughty	0.01
24C:							
Pikecity------------	90	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
25:							
Pits, gravel--------	100	Not rated		Not rated		Not rated	
26C:							
Sacul---------------	85	Very limited		Somewhat limited		Not limited	
		Shrink-swell	1.00	Depth to saturated zone	0.99		
		Low strength	1.00	Too clayey	0.98		
				Cutbanks cave	0.10		
26D:							
Sacul---------------	85	Very limited		Somewhat limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	0.99	Slope	0.63
		Low strength	1.00	Too clayey	0.98		
		Slope	0.63	Slope	0.63		
				Cutbanks cave	0.10		
27C:							
Sacul---------------	85	Very limited		Somewhat limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	0.99	Gravel content	0.98
		Low strength	1.00	Too clayey	0.98		
				Cutbanks cave	0.10		
28B:							
Sardis--------------	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.99	Flooding	0.60
		Low strength	1.00	Flooding	0.60		
				Cutbanks cave	0.10		
29B:							
Sardis--------------	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.99	Flooding	1.00
		Low strength	1.00	Flooding	0.80		
				Cutbanks cave	0.10		
30E:							
Sherless------------	50	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
				Cutbanks cave	1.00	Large stones content	0.26
				Depth to soft bedrock	0.01	Depth to bedrock	0.01

Table 10b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
30E:							
Bismarck------------	25	Very limited		Very limited		Very limited	
		Too steep	1.00	Depth to soft bedrock	1.00	Too steep	1.00
		Depth to soft bedrock	1.00	Too steep	1.00	Depth to bedrock	1.00
				Cutbanks cave	0.10	Droughty	1.00
						Large stones content	0.99
Nashoba-------------	20	Very limited		Very limited		Very limited	
		Too steep	1.00	Depth to hard bedrock	1.00	Too steep	1.00
		Depth to hard bedrock	0.46	Too steep	1.00	Large stones content	0.88
		Large stones content	0.13	Cutbanks cave	1.00	Droughty	0.61
				Large stones content	0.13	Depth to bedrock	0.46
31C:							
Sherless------------	55	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Large stones content	0.01
				Depth to soft bedrock	0.01	Depth to bedrock	0.01
Littlefir-----------	30	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Gravel content	0.41
		Shrink-swell	0.50	Depth to soft bedrock	0.15	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Too clayey	0.12	Depth to bedrock	0.16
				Cutbanks cave	0.10		
31D:							
Sherless------------	55	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
				Slope	0.63	Large stones content	0.01
				Depth to soft bedrock	0.01	Depth to bedrock	0.01
Littlefir-----------	30	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Gravel content	0.41
		Shrink-swell	0.50	Depth to soft bedrock	0.15	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Too clayey	0.12	Depth to bedrock	0.16
				Cutbanks cave	0.10		
32C:							
Sherless------------	65	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Large stones content	0.26
				Depth to soft bedrock	0.01	Depth to bedrock	0.01
Nashoba-------------	20	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Large stones content	0.88
		Large stones content	0.13	Cutbanks cave	1.00	Droughty	0.61
				Large stones content	0.13	Depth to bedrock	0.46
33C:							
Smithdale-----------	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		

Table 10b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
34A:							
Smithton------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	0.10		
35B:							
Speer---------------	95	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Cutbanks cave	0.10		
36B:							
Speer---------------	95	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Flooding	0.60	Flooding	0.60
				Cutbanks cave	0.10		
37B:							
Stelltown-----------	90	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.99		
				Cutbanks cave	0.10		
38C:							
Sumter--------------	85	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Depth to soft bedrock	0.29	Too clayey	1.00
		Shrink-swell	0.50			Depth to bedrock	0.29
				Too clayey	0.18	Droughty	0.01
				Cutbanks cave	0.10		
38D:							
Sumter--------------	85	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Slope	0.63	Too clayey	1.00
		Slope	0.63	Depth to soft bedrock	0.29	Slope	0.63
		Shrink-swell	0.50			Depth to bedrock	0.29
				Too clayey	0.18	Droughty	0.01
				Cutbanks cave	0.10		
39B:							
Antoine-------------	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Shrink-swell	1.00				
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
40A:							
Tuscumbia-----------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too clayey	0.88	Too clayey	1.00
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Low strength	1.00	Cutbanks cave	0.10		
41B:							
Urbo----------------	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00				
		Shrink-swell	1.00	Flooding	0.60	Flooding	0.60
		Depth to saturated zone	0.75	Too clayey	0.12		
				Cutbanks cave	0.10		

Table 10b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42B:							
Urbo----------------	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Low strength	1.00	Flooding	0.80	Depth to saturated zone	0.75
		Shrink-swell	1.00	Too clayey	0.12		
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
43:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 11a.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1C:					
Kullit	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
2C:					
Billstown	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
2D:					
Billstown	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63		
3D:					
Bismarck	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
Littlefir	25	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slope	0.63		
Nashoba	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Large stones content	0.98
		Large stones content	0.13	Seepage	0.50
4E:					
Bismarck	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Too steep	1.00	Slope	1.00
Nashoba	35	Very limited		Very limited	
		Too steep	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Large stones content	0.98
		Large stones content	0.13	Seepage	0.50

Table 11a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
4E:					
Littlefir	15	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Too steep	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00		
5B:					
Cupco	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
6:					
Dam	100	Not rated		Not rated	
7C:					
DeAnn	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.92
		Depth to saturated zone	0.40		
		Depth to bedrock	0.25		
8B:					
Dela	95	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
9B:					
Felker	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
10B:					
Gurdon	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
11A:					
Guyton	95	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50

Table 11a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
12A:					
Guyton--------------	100	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
13A:					
Guyton--------------	100	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
14C:					
Japany--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.32
14D:					
Japany--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63		
15B:					
Kenn----------------	60	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.50	Seepage	0.50
Ceda----------------	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Filtering capacity	1.00	Large stones content	0.44
16B:					
Leeper--------------	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
17C:					
Littlefir-----------	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Slope	0.68

Table 11a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
17C:					
Bismarck------------	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	0.68
Nashoba-------------	15	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	0.50	Large stones content	0.98
		Large stones content	0.13	Slope	0.68
				Seepage	0.50
18B:					
Mazarn--------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to soft bedrock	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00		
19B:					
McCaskill-----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
19C:					
McCaskill-----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50
20F:					
Nashoba-------------	45	Very limited		Very limited	
		Too steep	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Large stones content	0.98
		Large stones content	0.13	Seepage	0.50
Bismarck------------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Too steep	1.00	Slope	1.00
Clebit--------------	15	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Too steep	1.00	Slope	1.00
		Large stones content	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Large stones content	1.00
21B:					
Ouachita------------	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Seepage	0.50

Table 11a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
22B:					
Ouachita------------	80	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Seepage	0.50
23D:					
Peanutrock----------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	1.00
		Slope	0.04		
23E:					
Peanutrock----------	90	Very limited		Very limited	
		Too steep	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
24C:					
Pikecity------------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
25:					
Pits, gravel--------	100	Not rated		Not rated	
26C:					
Sacul---------------	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68
		Depth to bedrock	0.69	Depth to soft bedrock	0.26
26D:					
Sacul---------------	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	0.69	Depth to soft bedrock	0.26
		Slope	0.63		
27C:					
Sacul---------------	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Depth to bedrock	0.69	Depth to soft bedrock	0.26
28B, 29B:					
Sardis--------------	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50

Table 11a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
30E:					
Sherless------------	50	Very limited		Very limited	
		Too steep	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Bismarck------------	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Too steep	1.00	Slope	1.00
Nashoba-------------	20	Very limited		Very limited	
		Too steep	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.50	Large stones content	0.98
		Large stones content	0.13	Seepage	0.50
31C:					
Sherless------------	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
Littlefir-----------	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Slope	0.68
31D:					
Sherless------------	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Littlefir-----------	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slope	0.63		
32C:					
Sherless------------	65	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50
Nashoba-------------	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	0.50	Large stones content	0.98
		Large stones content	0.13	Slope	0.92
				Seepage	0.50

Table 11a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
33C:					
Smithdale-----------	90	Somewhat limited		Very limited	
		Slow water movement	0.50	Seepage	1.00
				Slope	0.92
34A:					
Smithton------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
35B:					
Speer---------------	95	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Flooding	0.40
		Flooding	0.40		
36B:					
Speer---------------	95	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.50	Seepage	0.50
37B:					
Stelltown-----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
38C:					
Sumter--------------	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	0.92
38D:					
Sumter--------------	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.63		
39B:					
Antoine-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
40A:					
Tuscumbia-----------	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		

Table 11a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
41B:					
Urbo----------------	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
42B:					
Urbo----------------	80	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
43:					
Water---------------	100	Not rated		Not rated	

Table 11b.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
1C:							
Kullit	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.47
2C:							
Billstown	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to saturated zone	0.11
2D:							
Billstown	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.63	Hard to compact	1.00
		Slope	0.63			Slope	0.63
						Depth to saturated zone	0.11
3D:							
Bismarck	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Gravel content	0.99
						Slope	0.63
Littlefir	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.86
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
						Gravel content	0.01
Nashoba	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
		Large stones content	0.13			Large stones content	0.13
						Gravel content	0.03
4E:							
Bismarck	40	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too steep	1.00
						Gravel content	0.88
Nashoba	35	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones content	0.13			Large stones content	0.13
						Gravel content	0.03

Table 11b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
4E:							
Littlefir	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Too steep	1.00	Too steep	1.00
		Too steep	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.86
		Too clayey	0.50			Too clayey	0.50
5B:							
Cupco	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
6:							
Dam	100	Not rated		Not rated		Not rated	
7C:							
DeAnn	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Depth to bedrock	1.00			Hard to compact	1.00
		Too clayey	1.00				
8B:							
Dela	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.50
		Seepage, bottom layer	1.00	Seepage	1.00		
9B:							
Felker	95	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.47
10B:							
Gurdon	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
11A:							
Guyton	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
12A:							
Guyton	100	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				

Table 11b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
13A:							
Guyton	100	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
14C:							
Japany	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
14D:							
Japany	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.63	Too clayey	1.00
		Slope	0.63			Hard to compact	1.00
						Slope	0.63
15B:							
Kenn	60	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Gravel content	0.45
Ceda	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.82
16B:							
Leeper	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too clayey	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Too clayey	1.00			Depth to saturated zone	0.99
17C:							
Littlefir	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.86
		Too clayey	0.50			Too clayey	0.50
						Gravel content	0.01
Bismarck	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.99
Nashoba	15	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones content	0.13			Large stones content	0.13
						Gravel content	0.03
18B:							
Mazarn	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.99
		Too clayey	0.50			Too clayey	0.50

Table 11b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
19B:							
McCaskill	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
19C:							
McCaskill	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.11
20F:							
Nashoba	45	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones content	0.13			Large stones content	0.13
						Gravel content	0.03
Bismarck	30	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too steep	1.00
						Gravel content	0.88
Clebit	15	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too steep	1.00
		Seepage, bottom layer	1.00			Large stones	1.00
		Large stones	1.00			Seepage	0.50
21B:							
Ouachita	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Too clayey	0.50
		Too clayey	0.50				
22B:							
Ouachita	80	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Too clayey	0.50
		Too clayey	0.50				
23D:							
Peanutrock	90	Very limited		Somewhat limited		Very limited	
		Seepage, bottom layer	1.00	Slope	0.04	Gravel content	1.00
		Slope	0.04			Slope	0.04
23E:							
Peanutrock	90	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Seepage, bottom layer	1.00			Gravel content	1.00
24C:							
Pikecity	90	Not limited		Not limited		Somewhat limited	
						Gravel content	0.34
25:							
Pits, gravel	100	Not rated		Not limited		Not rated	

Table 11b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
26C:							
Sacul	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.26	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.47
						Depth to bedrock	0.26
26D:							
Sacul	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Depth to bedrock	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Depth to bedrock	0.26	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.47
						Depth to bedrock	0.26
27C:							
Sacul	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.26	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.47
						Depth to bedrock	0.26
28B, 29B:							
Sardis	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Too clayey	0.50
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.47
		Too clayey	0.50				
30E:							
Sherless	50	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Bismarck	25	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too steep	1.00
						Gravel content	0.88
Nashoba	20	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones content	0.13			Large stones content	0.13
						Gravel content	0.03
31C:							
Sherless	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Littlefir	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.86
		Too clayey	0.50			Too clayey	0.50
31D:							
Sherless	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63

Table 11b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
31D:							
Littlefir-----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.86
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
32C:							
Sherless------------	65	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Nashoba-------------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones content	0.13			Large stones content	0.13
						Gravel content	0.03
33C:							
Smithdale-----------	90	Not limited		Very limited		Not limited	
				Seepage	1.00		
34A:							
Smithton------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
35B:							
Speer---------------	95	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Flooding	0.40		
36B:							
Speer---------------	95	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
37B:							
Stelltown-----------	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.47
38C:							
Sumter--------------	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	1.00
38D:							
Sumter--------------	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.63	Hard to compact	1.00
		Slope	0.63			Depth to bedrock	1.00
						Slope	0.63
39B:							
Antoine-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Too clayey	0.50			Too clayey	0.50

Table 11b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Trench sanitary landfill: Value	Area sanitary landfill: Rating class and limiting features	Area sanitary landfill: Value	Daily cover for landfill: Rating class and limiting features	Daily cover for landfill: Value
40A:							
Tuscumbia-----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
41B:							
Urbo----------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too clayey	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Too clayey	1.00			Depth to saturated zone	0.99
42B:							
Urbo----------------	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too clayey	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Too clayey	1.00			Depth to saturated zone	0.99
43:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 12a.--Construction and Excavating Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1C:					
Kullit	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
2C, 2D:					
Billstown	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3D:					
Bismarck	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Littlefir	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nashoba	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
4E:					
Bismarck	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nashoba	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Littlefir	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
5B:					
Cupco	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
6:					
Dam	100	Not rated		Not rated	
7C:					
DeAnn	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
8B:					
Dela	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02

Table 12a.--Construction and Excavating Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
9B:					
Felker--------------	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
10B:					
Gurdon--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
11A:					
Guyton--------------	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
12A, 13A:					
Guyton--------------	100	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
14C, 14D:					
Japany--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
15B:					
Kenn----------------	60	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.01
Ceda----------------	30	Poor		Fair	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.01
16B:					
Leeper--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
17C:					
Littlefir-----------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bismarck------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nashoba-------------	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
18B:					
Mazarn--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
19B, 19C:					
McCaskill-----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 12a.--Construction and Excavating Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
20F:					
Nashoba	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Bismarck	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Clebit	15	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.06	Thickest layer	0.00
21B:					
Ouachita	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
22B:					
Ouachita	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
23D, 23E:					
Peanutrock	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
24C:					
Pikecity	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
25:					
Pits, gravel	100	Not rated		Not rated	
26C, 26D, 27C:					
Sacul	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
28B, 29B:					
Sardis	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
30E:					
Sherless	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bismarck	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nashoba	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
31C, 31D:					
Sherless	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 12a.--Construction and Excavating Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
31C, 31D:					
Littlefir-----------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
32C:					
Sherless------------	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nashoba-------------	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
33C:					
Smithdale-----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
34A:					
Smithton------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
35B, 36B:					
Speer---------------	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
37B:					
Stelltown-----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
38C, 38D:					
Sumter--------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
39B:					
Antoine-------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
40A:					
Tuscumbia-----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
41B:					
Urbo----------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
42B:					
Urbo----------------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
43:					
Water---------------	100	Not rated		Not rated	

Table 12b.--Construction and Excavating Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
1C:							
Kullit	90	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.89	Wetness depth	0.89
		Too acid	0.50			Too acid	0.95
2C:							
Billstown	90	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.00	Too acid	0.95
		Too acid	0.46				
		Carbonate content	0.80				
		Water erosion	0.99				
2D:							
Billstown	90	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.00	Slope	0.37
						Too acid	0.95
		Too acid	0.46				
		Carbonate content	0.80				
		Water erosion	0.99				
3D:							
Bismarck	45	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Too acid	0.54			Slope	0.37
		Organic matter content low	0.60			Too acid	0.98
Littlefir	25	Fair		Poor		Fair	
		Too clayey	0.05	Depth to bedrock	0.00	Too clayey	0.03
		Too acid	0.50	Low strength	0.00	Slope	0.37
		Droughty	0.80	Wetness depth	0.53	Wetness depth	0.53
		Depth to bedrock	0.84	Shrink-swell	0.66	Rock fragments	0.59
		Organic matter content low	0.88			Depth to bedrock	0.84
						Too acid	0.88
Nashoba	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.82	Slope	0.37
		Depth to bedrock	0.54			Depth to bedrock	0.54
		Organic matter content low	0.88			Too acid	0.95
		Cobble content	0.98				
4E:							
Bismarck	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Too acid	0.54			Depth to bedrock	0.00
		Organic matter content low	0.60			Too acid	0.98

Table 12b.--Construction and Excavating Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
4E:							
Nashoba-------------	35	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.00	Rock fragments	0.00
		Depth to bedrock	0.54	Cobble content	0.82	Depth to bedrock	0.54
		Organic matter content low	0.88			Too acid	0.95
		Cobble content	0.98				
Littlefir-----------	15	Fair		Poor		Poor	
		Too clayey	0.05	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.00	Too clayey	0.03
		Droughty	0.76	Low strength	0.00	Wetness depth	0.53
		Depth to bedrock	0.84	Wetness depth	0.53	Rock fragments	0.59
		Organic matter content low	0.88	Shrink-swell	0.66	Depth to bedrock	0.84
						Too acid	0.88
5B:							
Cupco---------------	90	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00	Too clayey	0.64
		Too acid	0.32	Shrink-swell	0.87		
		Too clayey	0.98				
		Water erosion	0.99				
6:							
Dam-----------------	100	Not rated		Not rated		Not rated	
7C:							
DeAnn---------------	85	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Water erosion	0.99	Low strength	0.00		
8B:							
Dela----------------	95	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.97				
9B:							
Felker--------------	95	Fair		Poor		Fair	
		Organic matter content low	0.50	Low strength	0.00	Wetness depth	0.89
		Too acid	0.54	Wetness depth	0.89	Too acid	0.98
		Water erosion	0.90				
10B:							
Gurdon--------------	90	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.09	Wetness depth	0.09
				Low strength	0.78	Too acid	0.98
		Too acid	0.54				
		Water erosion	0.90				
11A:							
Guyton--------------	95	Fair		Poor		Poor	
		Too acid	0.54	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.60	Low strength	0.00	Sodium content	0.98
		Water erosion	0.90				

Table 12b.--Construction and Excavating Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
12A, 13A:							
Guyton	100	Fair		Poor		Poor	
		Too acid	0.54	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.60	Low strength	0.00	Sodium content	0.98
		Water erosion	0.90				
14C:							
Japany	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.18	Shrink-swell	0.00	Wetness depth	0.02
				Wetness depth	0.02		
		Too acid	0.32				
		Water erosion	0.99				
14D:							
Japany	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.18	Shrink-swell	0.00	Wetness depth	0.02
				Wetness depth	0.02	Slope	0.37
		Too acid	0.32				
		Water erosion	0.99				
15B:							
Kenn	60	Fair		Good		Poor	
		Organic matter content low	0.18			Hard to reclaim (rock fragments)	0.00
		Too acid	0.50			Rock fragments	0.00
		Droughty	0.88			Too acid	0.88
Ceda	30	Fair		Fair		Poor	
		Organic matter content low	0.12	Stone content	0.52	Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.00
		Stone content	0.51				
		Too acid	0.95				
16B:							
Leeper	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
				Shrink-swell	0.12	Wetness depth	0.14
				Wetness depth	0.14		
17C:							
Littlefir	40	Fair		Poor		Fair	
		Too clayey	0.05	Depth to bedrock	0.00	Too clayey	0.03
		Too acid	0.50	Low strength	0.00	Wetness depth	0.53
		Droughty	0.80	Wetness depth	0.53	Rock fragments	0.59
		Depth to bedrock	0.84	Shrink-swell	0.66	Depth to bedrock	0.84
		Organic matter content low	0.88			Too acid	0.88
Bismarck	35	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Too acid	0.54			Too acid	0.98
		Organic matter content low	0.60				

Table 12b.--Construction and Excavating Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
17C:							
Nashoba-------------	15	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.82	Depth to bedrock	0.54
		Depth to bedrock	0.54			Too acid	0.95
		Organic matter content low	0.88				
		Cobble content	0.98				
18B:							
Mazarn--------------	90	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Wetness depth	0.14
				Low strength	0.00	Rock fragments	0.41
		Too acid	0.50	Wetness depth	0.14	Rock fragments	0.88
		Depth to bedrock	0.99			Depth to bedrock	0.99
		Water erosion	0.99				
19B:							
McCaskill-----------	90	Fair		Fair		Fair	
		Too acid	0.32	Wetness depth	0.04	Wetness depth	0.04
		Organic matter content low	0.60			Too acid	0.88
		Water erosion	0.99				
19C:							
McCaskill-----------	90	Fair		Good		Fair	
		Too acid	0.32			Too acid	0.88
		Organic matter content low	0.60				
		Water erosion	0.99				
20F:							
Nashoba-------------	45	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.54	Cobble content	0.82	Depth to bedrock	0.54
		Organic matter content low	0.88			Too acid	0.95
		Cobble content	0.98				
Bismarck------------	30	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Too acid	0.54			Depth to bedrock	0.00
		Organic matter content low	0.60			Too acid	0.98
Clebit--------------	15	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Stone content	0.00	Stone content	0.00	Depth to bedrock	0.00
		Organic matter content low	0.18	Cobble content	0.98		
		Too acid	0.68				
21B:							
Ouachita------------	90	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Too acid	0.88
		Organic matter content low	0.60	Shrink-swell	0.99		
		Water erosion	0.90				

Table 12b.--Construction and Excavating Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
22B:							
Ouachita------------	80	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Too acid	0.88
		Organic matter content low	0.60	Shrink-swell	0.99		
		Water erosion	0.90				
23D:							
Peanutrock----------	90	Fair		Good		Poor	
		Organic matter content low	0.12			Rock fragments	0.00
		Too acid	0.32			Hard to reclaim (rock fragments)	0.00
						Too acid	0.88
						Slope	0.96
23E:							
Peanutrock----------	90	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
						Rock fragments	0.00
		Too acid	0.32			Hard to reclaim (rock fragments)	0.00
						Too acid	0.88
24C:							
Pikecity------------	90	Fair		Good		Poor	
		Organic matter content low	0.18			Hard to reclaim (rock fragments)	0.00
		Too acid	0.32			Rock fragments	0.24
						Too acid	0.88
25:							
Pits, gravel--------	100	Not rated		Not rated		Not rated	
26C:							
Sacul---------------	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Shrink-swell	0.12	Too acid	0.88
		Organic matter content low	0.60	Depth to bedrock	0.74	Wetness depth	0.89
				Wetness depth	0.89	Rock fragments	0.95
26D:							
Sacul---------------	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Shrink-swell	0.12	Slope	0.37
		Organic matter content low	0.60	Depth to bedrock	0.74	Too acid	0.88
				Wetness depth	0.89	Wetness depth	0.89
						Rock fragments	0.95
27C:							
Sacul---------------	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Shrink-swell	0.12	Too acid	0.88
		Organic matter content low	0.60	Depth to bedrock	0.74	Wetness depth	0.89
				Wetness depth	0.89	Rock fragments	0.95
28B:							
Sardis--------------	90	Fair		Poor		Fair	
		Too acid	0.54	Low strength	0.00	Wetness depth	0.89
		Organic matter content low	0.88	Wetness depth	0.89	Too acid	0.98
		Water erosion	0.90				

Table 12b.--Construction and Excavating Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
29B:							
Sardis	90	Fair		Poor		Fair	
		Too acid	0.54	Low strength	0.00	Wetness depth	0.89
		Organic matter content low	0.88	Wetness depth	0.89	Too acid	0.98
		Water erosion	0.90				
30E:							
Sherless	50	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Organic matter content low	0.60	Slope	0.00	Rock fragments	0.32
						Too acid	0.88
		Droughty	0.97			Depth to bedrock	0.99
		Depth to bedrock	0.99				
Bismarck	25	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Too acid	0.54			Depth to bedrock	0.00
		Organic matter content low	0.60			Too acid	0.98
Nashoba	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.00	Rock fragments	0.00
		Depth to bedrock	0.54	Cobble content	0.82	Depth to bedrock	0.54
		Organic matter content low	0.88			Too acid	0.95
		Cobble content	0.98				
31C:							
Sherless	55	Fair		Poor		Fair	
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.32
		Organic matter content low	0.60			Too acid	0.88
						Depth to bedrock	0.99
		Droughty	0.97				
		Depth to bedrock	0.99				
Littlefir	30	Fair		Poor		Fair	
		Too clayey	0.05	Depth to bedrock	0.00	Too clayey	0.03
		Too acid	0.50	Low strength	0.00	Wetness depth	0.53
		Droughty	0.75	Wetness depth	0.53	Rock fragments	0.59
		Depth to bedrock	0.84	Shrink-swell	0.66	Depth to bedrock	0.84
		Organic matter content low	0.88			Too acid	0.88
31D:							
Sherless	55	Fair		Poor		Fair	
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.32
		Organic matter content low	0.60			Slope	0.37
						Too acid	0.88
		Droughty	0.97			Depth to bedrock	0.99
		Depth to bedrock	0.99				
Littlefir	30	Fair		Poor		Fair	
		Too clayey	0.05	Depth to bedrock	0.00	Too clayey	0.03
		Too acid	0.50	Low strength	0.00	Slope	0.37
		Droughty	0.75	Wetness depth	0.53	Wetness depth	0.53
		Depth to bedrock	0.84	Shrink-swell	0.66	Rock fragments	0.59
		Organic matter content low	0.88			Depth to bedrock	0.84
						Too acid	0.88

Table 12b.--Construction and Excavating Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
32C:							
Sherless------------	65	Fair		Poor		Fair	
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.32
		Organic matter content low	0.60			Too acid	0.88
		Droughty	0.97			Depth to bedrock	0.99
		Depth to bedrock	0.99				
Nashoba-------------	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.82	Depth to bedrock	0.54
		Depth to bedrock	0.54			Too acid	0.95
		Organic matter content low	0.88				
		Cobble content	0.98				
33C:							
Smithdale-----------	90	Fair		Good		Fair	
		Organic matter content low	0.18			Too acid	0.88
		Too acid	0.32				
34A:							
Smithton------------	90	Fair		Poor		Poor	
		Too acid	0.32	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.60			Too acid	0.88
35B, 36B:							
Speer---------------	95	Fair		Good		Fair	
		Organic matter content low	0.18			Too acid	0.88
		Too acid	0.32			Rock fragments	0.95
		Water erosion	0.99				
37B:							
Stelltown-----------	90	Fair		Fair		Fair	
		Too acid	0.12	Low strength	0.22	Too acid	0.88
		Organic matter content low	0.18	Wetness depth	0.89	Wetness depth	0.89
						Rock fragments	0.95
38C:							
Sumter--------------	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Droughty	0.17	Depth to bedrock	0.00	Depth to bedrock	0.71
		Organic matter content low	0.18	Shrink-swell	0.87		
		Depth to bedrock	0.71				
		Water erosion	0.99				
38D:							
Sumter--------------	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Droughty	0.17	Depth to bedrock	0.00	Slope	0.37
		Organic matter content low	0.18	Shrink-swell	0.87	Depth to bedrock	0.71
		Depth to bedrock	0.71				
		Water erosion	0.99				

Table 12b.--Construction and Excavating Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
39B:							
Antoine-------------	90	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Organic matter content low	0.18	Wetness depth	0.14	Wetness depth	0.14
		Too acid	0.50	Shrink-swell	0.15	Too acid	0.88
		Water erosion	0.68				
40A:							
Tuscumbia-----------	90	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Too clayey	0.00
		Organic matter content low	0.60	Shrink-swell	0.00	Wetness depth	0.00
				Low strength	0.00		
41B:							
Urbo----------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Shrink-swell	0.12	Wetness depth	0.14
		Organic matter content low	0.50	Wetness depth	0.14	Too acid	0.88
		Water erosion	0.99				
42B:							
Urbo----------------	80	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Shrink-swell	0.12	Wetness depth	0.14
		Organic matter content low	0.50	Wetness depth	0.14	Too acid	0.88
		Water erosion	0.99				
43:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 13.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1C:							
Kullit	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.86	Slow refill	0.30
		Slope	0.08	Piping	0.19	Cutbanks cave	0.10
						Depth to saturated zone	0.06
2C:							
Billstown	90	Somewhat limited		Very limited		Very limited	
		Slope	0.68	Hard to pack	1.00	Slow refill	1.00
				Depth to saturated zone	0.46	Depth to saturated zone	0.24
						Cutbanks cave	0.10
2D:							
Billstown	90	Very limited		Very limited		Very limited	
		Slope	1.00	Hard to pack	1.00	Slow refill	1.00
				Depth to saturated zone	0.46	Depth to saturated zone	0.24
						Cutbanks cave	0.10
3D:							
Bismarck	45	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	0.78				
		Seepage	0.01				
Littlefir	25	Very limited		Somewhat limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	0.99	Slow refill	0.96
		Depth to bedrock	0.05	Thin layer	0.74	Cutbanks cave	0.10
		Seepage	0.04	Hard to pack	0.20	Depth to saturated zone	0.01
Nashoba	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.86	Large stones content	0.13		
		Seepage	0.70	Seepage	0.01		
4E:							
Bismarck	40	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	0.78				
		Seepage	0.01				
Nashoba	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.86	Large stones content	0.13		
		Seepage	0.70	Seepage	0.01		
Littlefir	15	Very limited		Somewhat limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	0.99	Slow refill	0.96
		Depth to bedrock	0.05	Thin layer	0.74	Cutbanks cave	0.10
		Seepage	0.04	Hard to pack	0.20	Depth to	0.01
						saturated zone	0.01

Table 13.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
5B:							
Cupco	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.48		
6:							
Dam	100	Not rated		Not rated		Not rated	
7C:							
DeAnn	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.68	Hard to pack	0.85	Depth to water	1.00
						Slow refill	1.00
8B:							
Dela	95	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.02		
9B:							
Felker	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.86	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.83	Depth to saturated zone	0.06
10B:							
Gurdon	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.68		
11A:							
Guyton	95	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.99		
12A:							
Guyton	100	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.99		
13A:							
Guyton	100	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.99		
14C:							
Japany	90	Somewhat limited		Very limited		Very limited	
		Slope	0.08	Depth to saturated zone	1.00	Depth to water	1.00
				Hard to pack	0.98		
14D:							
Japany	90	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Slow refill	1.00
						Cutbanks cave	0.10
				Hard to pack	0.98		

Table 13.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
15B:							
Kenn	60	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.01	Depth to water	1.00
Ceda	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.01	Depth to water	1.00
16B:							
Leeper	90	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
				Hard to pack	0.99	Cutbanks cave	0.10
17C:							
Littlefir	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.32	Depth to saturated zone	0.99	Slow refill	0.96
		Depth to bedrock	0.05			Cutbanks cave	0.10
		Seepage	0.04	Thin layer	0.74	Depth to saturated zone	0.01
				Hard to pack	0.20		
Bismarck	35	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.78	Thin layer	1.00	Depth to water	1.00
		Slope	0.32				
		Seepage	0.01				
Nashoba	15	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.86	Thin layer	0.86	Depth to water	1.00
		Seepage	0.70	Large stones content	0.13		
		Slope	0.32				
				Seepage	0.01		
18B:							
Mazarn	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	1.00	Slow refill	0.97
		Depth to bedrock	0.02			Cutbanks cave	0.10
				Thin layer	0.56		
				Piping	0.03		
19B:							
McCaskill	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	1.00		
19C:							
McCaskill	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Piping	1.00	Slow refill	0.30
		Slope	0.68	Depth to saturated zone	0.46	Depth to saturated zone	0.24
						Cutbanks cave	0.10
20F:							
Nashoba	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.86	Large stones content	0.13		
		Seepage	0.70				
				Seepage	0.01		
Bismarck	30	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	0.78				
		Seepage	0.01				

Table 13.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
20F:							
Clebit----------------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	1.00	Large stones content	1.00		
		Seepage	0.57	Seepage	0.06		
21B:							
Ouachita-------------	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.24	Depth to water	1.00
22B:							
Ouachita-------------	80	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.24	Depth to water	1.00
23D, 23E:							
Peanutrock-----------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.02	Depth to water	1.00
		Slope	1.00				
24C:							
Pikecity-------------	90	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.32				
25:							
Pits, gravel---------	100	Not limited		Not rated		Not rated	
26C:							
Sacul----------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.32	Depth to saturated zone	0.86	Slow refill	0.97
		Seepage	0.03			Cutbanks cave	0.10
		Depth to bedrock	0.01	Hard to pack	0.46	Depth to saturated zone	0.06
				Thin layer	0.06		
26D:							
Sacul----------------	85	Very limited		Somewhat limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	0.86	Slow refill	0.97
		Seepage	0.03			Cutbanks cave	0.10
		Depth to bedrock	0.01	Hard to pack	0.46	Depth to saturated zone	0.06
				Thin layer	0.06		
27C:							
Sacul----------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.68	Depth to saturated zone	0.86	Slow refill	0.97
		Seepage	0.03			Cutbanks cave	0.10
		Depth to bedrock	0.01	Hard to pack	0.49	Depth to saturated zone	0.06
				Thin layer	0.06		
28B, 29B:							
Sardis---------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.89	Slow refill	0.30
				Depth to saturated zone	0.86	Cutbanks cave	0.10
						Depth to saturated zone	0.06
30E:							
Sherless-------------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.52	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.01				

Table 13.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
30E:							
Bismarck------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	0.78				
		Seepage	0.01				
Nashoba-------------	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.86	Large stones content	0.13		
		Seepage	0.70	Seepage	0.01		
31C:							
Sherless------------	55	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.52	Depth to water	1.00
		Slope	0.32				
		Depth to bedrock	0.01				
Littlefir-----------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.32	Depth to saturated zone	0.99	Slow refill	0.96
		Depth to bedrock	0.05	Thin layer	0.74	Cutbanks cave	0.10
		Seepage	0.04	Hard to pack	0.20	Depth to saturated zone	0.01
31D:							
Sherless------------	55	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.52	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.01				
Littlefir-----------	30	Very limited		Somewhat limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	0.99	Slow refill	0.96
		Depth to bedrock	0.05	Thin layer	0.74	Cutbanks cave	0.10
		Seepage	0.04	Hard to pack	0.20	Depth to saturated zone	0.01
32C:							
Sherless------------	65	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.52	Depth to water	1.00
		Slope	0.68				
		Depth to bedrock	0.01				
Nashoba-------------	20	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.86	Thin layer	0.86	Depth to water	1.00
		Seepage	0.70	Large stones content	0.13		
		Slope	0.68	Seepage	0.01		
33C:							
Smithdale-----------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.88	Depth to water	1.00
		Slope	0.68				
34A:							
Smithton------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		
35B, 36B:							
Speer---------------	95	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.01	Depth to water	1.00

Table 13.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
37B:							
Stelltown-----------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.86	Slow refill	0.30
						Cutbanks cave	0.10
						Depth to saturated zone	0.06
38C:							
Sumter--------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.68	Thin layer	0.81	Depth to water	1.00
		Depth to bedrock	0.08	Hard to pack	0.72		
38D:							
Sumter--------------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.81	Depth to water	1.00
		Depth to bedrock	0.08	Hard to pack	0.72		
39B:							
Antoine-------------	90	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
						Cutbanks cave	0.10
40A:							
Tuscumbia-----------	90	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
						Cutbanks cave	0.10
				Hard to pack	1.00		
41B:							
Urbo----------------	90	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
						Cutbanks cave	0.10
				Hard to pack	0.66		
42B:							
Urbo----------------	80	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
						Cutbanks cave	0.10
				Hard to pack	0.66		
43:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 14.--Engineering Index Properties

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
1C:												
Kullit----------	0-5	Fine sandy loam	CL-ML, SM, SC-SM, ML	A-4	0	0	100	98-100	90-95	35-50	22-35	4-12
	5-10	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	98-100	90-95	35-50	22-35	4-12
	10-22	Loam, sandy clay loam, clay loam	CL	A-4, A-6	0	0	100	98-100	85-95	60-75	27-44	10-25
	22-80	Loam, sandy clay loam, clay loam	CL	A-4, A-6	0	0	100	98-100	80-90	45-60	27-44	10-25
2C, 2D:												
Billstown-------	0-5	Silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	48-76	29-44
	5-10	Silty clay loam, clay loam, loam	CL	A-7	0	0	100	100	95-100	85-90	39-63	18-31
	10-40	Clay, silty clay	CH	A-7	0	0	100	100	95-100	90-100	69-97	44-61
	40-80	Clay, silty clay	CH	A-7	0	0	100	100	95-100	85-95	60-87	37-54
3D:												
Bismarck--------	0-2	Gravelly silt loam	SM, CL-ML, ML, SC-SM	A-2, A-4	0	0-4	70-85	50-85	45-80	35-65	21-33	2-12
	2-5	Gravelly silt loam, channery silt loam	SC-SM, GC-GM, ML, SM	A-1, A-2, A-4	0	0-4	70-85	50-85	45-80	25-70	21-33	2-12
	5-12	Very channery silt loam	SM, SC-SM, GM, GC-GM	A-1, A-2, A-4	0-5	0-10	55-70	25-70	20-70	15-60	21-33	2-12
	12-20	Weathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
3D:												
Littlefir-------	0-4	Gravelly silt loam	SC-SM, ML, CL-ML, CL	A-1, A-2, A-4	0	0-4	70-85	50-85	45-80	25-70	21-35	4-13
	4-26	Silty clay loam, clay loam, silty clay, clay, gravelly silty clay loam, gravelly clay loam, gravelly silty clay, gravelly clay, channery silty clay loam, channery clay loam, channery silty clay, channery clay	CL, SC, CH	A-2, A-6, A-7	0	0-4	80-90	55-90	50-90	35-90	38-60	19-36
	26-34	Very channery clay, very channery silty clay, very channery silty clay loam, very channery clay loam, channery clay, channery silty clay, channery silty clay loam, channery clay loam	CH	A-7	0	0-16	70-100	45-100	40-100	30-90	45-69	25-44
	34-40	Weathered bedrock			---	---	---	---	---	---	---	---
Nashoba---------	0-4	Cobbly fine sandy loam	SC-SM, ML, SM, CL-ML	A-1, A-2, A-4	0-8	16-33	70-90	50-90	45-90	20-50	21-31	2-12
	4-25	Very cobbly fine sandy loam, very cobbly loam, very gravelly fine sandy loam, very gravelly loam	SM, SC-SM	A-1, A-2, A-4	0-8	19-43	60-90	40-90	35-80	20-60	21-31	2-12
	25-30	Very gravelly fine sandy loam, very gravelly loam, very cobbly fine sandy loam, very cobbly loam	GM, SM, GC-GM	A-1, A-2, A-4	0-8	0-26	50-90	35-90	30-90	10-45	20-30	2-12
	30-40	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
4E:												
Bismarck--------	0-2	Cobbly silt loam	SC-SM, ML, CL-ML, SM	A-1, A-2, A-4	0-9	18-35	85-98	70-98	50-95	25-80	21-33	2-12
	2-5	Gravelly silt loam, channery silt loam	SM, SC-SM, ML, GC-GM	A-1, A-2, A-4	0	0-4	70-85	50-85	45-80	25-70	21-33	2-12
	5-12	Very channery silt loam	SM, GC-GM, SC-SM, GM	A-1, A-2, A-4	0-5	0-10	55-70	25-70	20-70	20-60	21-33	2-12
	12-20	Weathered bedrock			---	---	---	---	---	---	---	---
Nashoba---------	0-4	Cobbly fine sandy loam	SM, SC-SM, ML, CL-ML	A-1, A-2, A-4	0-8	16-33	70-90	50-90	45-90	20-50	21-31	2-12
	4-25	Very cobbly fine sandy loam, very cobbly loam, very gravelly fine sandy loam, very gravelly loam	SM, SC-SM	A-1, A-2, A-4	0-8	19-43	60-90	40-90	35-80	20-60	21-31	2-12
	25-30	Very gravelly fine sandy loam, very gravelly loam, very cobbly fine sandy loam, very cobbly loam	GC-GM, SM, GM	A-1, A-2, A-4	0-8	0-26	50-90	35-90	30-90	10-45	20-30	2-12
	30-40	Unweathered bedrock			---	---	---	---	---	---	---	---
Littlefir-------	0-4	Cobbly silt loam	CL-ML, CL, ML, SC-SM	A-2, A-4	0-9	17-34	84-100	65-100	57-96	35-81	21-35	4-13
	4-26	Silty clay loam, clay loam, silty clay, clay, gravelly silty clay loam, gravelly clay loam, gravelly silty clay, gravelly clay, channery silty clay loam, channery clay loam, channery silty clay, channery clay	SC, CL, CH	A-2, A-6, A-7	0	0-4	78-92	53-92	48-92	35-87	38-60	19-36
	26-34	Very channery clay, very channery silty clay, very channery silty clay loam, very channery clay loam, channery clay, channery silty clay, channery silty clay loam, channery clay loam	CH	A-7	0	0-16	72-100	43-100	39-100	31-91	45-69	25-44
	34-40	Weathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
5B:												
Cupco-----------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-95	25-37	5-13
	6-11	Silt loam, silty clay loam	CL-ML, CL	A-4, A-6, A-7	0	0	100	100	95-100	90-100	25-43	5-19
	11-35	Silty clay loam, clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-98	33-42	12-19
	35-64	Silty clay loam, clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	85-98	33-43	12-20
	64-80	Silty clay loam, clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	85-98	33-43	12-20
6:												
Dam.												
7C:												
DeAnn-----------	0-22	Clay	MH, CH	A-7	0	0	100	100	90-100	80-95	50-68	21-37
	22-38	Clay	CH, MH	A-7	0	0	100	100	90-100	85-95	51-80	22-48
	38-80	Clay	MH, CH	A-7	0	0	100	100	90-100	85-100	55-80	25-45
8B:												
Dela------------	0-3	Fine sandy loam	SC-SM, SM, SC	A-4	0	0	100	98-100	85-98	35-50	15-30	NP-10
	3-13	Fine sandy loam, sandy loam, loam	SM, SC-SM, SC	A-4	0	0	100	98-100	85-98	35-50	15-30	NP-10
	13-80	Stratified fine sandy loam to sandy loam to loam to loamy fine sand	SM, SC-SM, SC	A-2, A-4	0	0	100	98-100	70-85	35-50	15-30	NP-10
9B:												
Felker----------	0-4	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	90-95	50-60	0-30	NP-10
	4-15	Very fine sandy loam, silt loam, loam	CL, CL-ML, ML	A-4	0	0	100	100	90-95	50-60	0-30	NP-10
	15-36	Silt loam, loam, silty clay loam	CL, CL-ML	A-4	0	0	100	100	95-100	70-90	25-45	6-25
	36-80	Silty clay loam, loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	80-98	33-42	12-19
10B:												
Gurdon----------	0-5	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	95-100	90-100	50-65	18-33	2-10
	5-17	Very fine sandy loam, loam	ML, CL-ML	A-4	0	0	100	95-100	90-100	50-65	16-28	2-10
	17-35	Silt loam, loam, silty clay loam	CL-ML, ML	A-4	0	0	100	95-100	90-100	70-90	20-44	4-25
	35-80	Silt loam, loam, silty clay loam	CL-ML, CL	A-4, A-6	0	0	100	95-100	90-100	85-100	20-44	6-25

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
11A, 12A:												
Guyton----------	0-4	Silt loam	ML, CL-ML	A-4	0	0	100	100	95-100	80-98	19-41	3-17
	4-12	Silt loam, loam	CL-ML, ML	A-4	0	0	100	100	90-100	75-100	19-38	3-17
	12-22	Silt loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	75-100	19-37	3-17
	22-59	Silty clay loam, silt loam, clay loam, loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	24-45	6-25
	59-80	Loam, silt loam	SC-SM, SC, ML, CL	A-2, A-4	0	0	90-100	80-100	75-100	35-95	19-31	2-12
13A:												
Guyton----------	0-4	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-98	19-41	3-17
	4-12	Silt loam, loam	ML, CL-ML	A-4	0	0	100	100	90-100	75-100	19-38	3-17
	12-22	Silt loam, loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	75-100	19-37	3-17
	22-59	Silty clay loam, silt loam, clay loam, loam	ML, CL-ML, CL	A-4, A-6	0	0	100	100	90-100	85-100	24-45	6-25
	59-80	Loam, silt loam	SC-SM, ML, CL, SC	A-2, A-4	0	0	90-100	80-100	75-100	35-90	19-31	2-12
14C, 14D:												
Japany----------	0-3	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-45	15-25
	3-22	Silty clay, clay, silty clay loam, clay loam	CL, CH	A-6, A-7	0	0	100	100	95-100	85-100	38-70	22-45
	22-36	Silty clay, clay, silty clay loam, clay loam	CH	A-7	0	0	100	100	90-100	75-90	55-75	35-50
	36-50	Silty clay, clay, silty clay loam, clay loam	CH	A-7	0	0	100	100	90-100	75-90	55-75	35-50
	50-80	Clay, silty clay	CL, MH	A-7	0	0	100	100	90-100	75-90	48-80	20-50
15B:												
Kenn------------	0-4	Gravelly fine sandy loam	SM, ML	A-1, A-2, A-4	0	0-13	80-90	60-90	50-90	20-50	0-26	NP-7
	4-9	Gravelly loam, gravelly fine sandy loam, loam, fine sandy loam	ML, SM	A-1, A-2, A-4	0	0-13	65-85	50-85	40-85	25-60	0-26	NP-7
	9-27	Loam, clay loam, sandy clay loam, gravelly loam, gravelly clay loam, gravelly sandy clay loam	CL, SC	A-2, A-4, A-6	0	0-12	70-95	50-95	40-90	20-60	25-40	8-18
	27-32	Very gravelly sandy clay loam, very gravelly clay loam	GC, GP-GC	A-2, A-4, A-6	0	0-39	50-80	35-80	30-80	10-60	25-40	8-18
	32-80	Extremely cobbly loam, extremely gravelly loam, extremely cobbly fine sandy loam, extremely gravelly fine sandy loam	GC, GM, GP-GC, GP-GM	A-1, A-2, A-4	0	12-46	40-75	10-75	10-75	5-40	0-31	NP-10

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
15B:												
Ceda------------	0-4	Very cobbly fine sandy loam	SC-SM, SM	A-2, A-4	5-9	40-48	80-95	60-95	55-95	25-45	22-29	2-7
	4-80	Very gravelly loam, very gravelly fine sandy loam, extremely gravelly loam, extremely gravelly fine sandy loam, very cobbly loam, very cobbly fine sandy loam, extremely cobbly loam, extremely cobbly fine sandy loam	GC-GM, GP-GC, GP-GM	A-2, A-4, A-6	6-16	6-16	35-65	10-65	10-65	5-50	25-40	3-18
16B:												
Leeper----------	0-4	Silty clay	MH, CH	A-7	0	0	100	98-100	95-100	90-98	58-72	26-40
	4-12	Clay, silty clay	CH	A-7	0	0	100	98-100	95-100	90-100	52-75	30-50
	12-48	Clay, silty clay	CH	A-7	0	0	100	98-100	95-100	75-95	52-75	30-50
	48-80	Clay, silty clay	MH	A-7	0	0	100	98-100	95-100	75-95	52-75	23-50
17C:												
Littlefir-------	0-4	Gravelly silt loam	SC-SM, CL, CL-ML, ML	A-1, A-2, A-4	0	0-4	70-85	50-85	45-80	25-65	21-35	4-13
	4-26	Silty clay loam, clay loam, silty clay, clay, gravelly silty clay loam, gravelly clay loam, gravelly silty clay, gravelly clay, channery silty clay loam, channery clay loam, channery silty clay, channery clay	CH, CL, SC	A-2, A-6, A-7	0	0-4	80-90	55-90	50-90	35-85	38-60	19-36
	26-34	Very channery clay, very channery silty clay, very channery silty clay loam, very channery clay loam, channery clay, channery silty clay, channery silty clay loam, channery clay loam	CH	A-7	0	0-16	70-100	45-100	40-100	30-90	45-69	25-44
	34-40	Weathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
17C:												
Bismarck--------	0-2	Gravelly silt loam	ML, CL-ML, SM, SC-SM	A-2, A-4	0	0-4	70-85	50-85	45-80	35-65	21-33	2-12
	2-5	Gravelly silt loam, channery silt loam	GC-GM, ML, SM, SC-SM	A-1, A-2, A-4	0	0-4	70-85	50-85	45-80	25-70	21-33	2-12
	5-12	Very channery silt loam	SM, SC-SM, GC-GM, GM	A-1, A-2, A-4	0-5	0-10	55-70	25-70	20-70	15-60	21-33	2-12
	12-20	Weathered bedrock			---	---	---	---	---	---	---	---
Nashoba---------	0-4	Stony fine sandy loam	ML, SC-SM, GC-GM, CL-ML	A-1, A-2, A-4	0-8	16-33	72-90	51-90	46-89	18-50	20-30	2-12
	4-25	Very cobbly fine sandy loam, very cobbly loam, very gravelly fine sandy loam, very gravelly loam	SC-SM, SM	A-1, A-2, A-4	0-8	19-43	60-90	41-90	33-81	22-59	21-31	2-12
	25-30	Very gravelly fine sandy loam, very gravelly loam, very cobbly fine sandy loam, very cobbly loam	GC-GM, GM, SM	A-1, A-2, A-4	0-8	0-26	50-90	34-90	31-89	12-44	20-30	2-12
	30-40	Unweathered bedrock			---	---	---	---	---	---	---	---
18B:												
Mazarn----------	0-4	Silt loam	ML, CL-ML	A-4	0	0	100	95-100	85-95	70-85	25-43	6-17
	4-9	Silt loam, loam	ML	A-4, A-6	0	0	100	95-100	85-100	70-85	28-45	8-25
	9-38	Silt loam, loam, silty clay loam, gravelly silt loam, gravelly loam, gravelly silty clay loam	CL, SC	A-6, A-7	0	0	85-100	55-100	50-100	40-95	27-49	12-28
	38-40	Weathered bedrock			---	---	---	---	---	---	---	---
19B, 19C:												
McCaskill-------	0-4	Fine sandy loam	SM, SC-SM, ML, CL-ML	A-4	0	0	98-100	90-100	75-95	30-50	17-31	2-10
	4-10	Fine sandy loam, sandy loam	SC-SM, SM, CL-ML, ML	A-4	0	0	100	100	85-95	35-50	17-29	2-10
	10-46	Loam, fine sandy loam, sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	80-95	50-65	19-31	2-12
	46-80	Loam, fine sandy loam	SC-SM, ML	A-4, A-6	0	0	100	100	80-100	50-70	16-38	2-19

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
20F:												
Nashoba---------	0-4	Cobbly fine sandy loam	SC-SM, SM, ML, CL-ML	A-1, A-2, A-4	0-8	16-33	70-90	50-90	45-90	20-50	21-31	2-12
	4-25	Very cobbly fine sandy loam, very cobbly loam, very gravelly fine sandy loam, very gravelly loam	SM, SC-SM	A-1, A-2, A-4	0-8	19-43	60-90	40-90	35-80	20-60	21-31	2-12
	25-30	Very gravelly fine sandy loam, very gravelly loam, very cobbly fine sandy loam, very cobbly loam	GC-GM, GM, SM	A-1, A-2, A-4	0-8	0-26	50-90	35-90	30-90	10-45	20-30	2-12
	30-40	Unweathered bedrock			---	---	---	---	---	---	---	---
Bismarck--------	0-2	Cobbly silt loam	CL-ML, ML, SC-SM, SM	A-1, A-2, A-4	0-9	18-35	85-98	70-98	50-95	25-80	21-33	2-12
	2-5	Gravelly silt loam, channery silt loam	ML, GC-GM, SM, SC-SM	A-1, A-2, A-4	0	0-4	70-85	50-85	45-80	25-70	21-33	2-12
	5-12	Very channery silt loam	GC-GM, GM, SM, SC-SM	A-1, A-2, A-4	0-5	0-10	55-70	25-70	20-70	15-60	21-33	2-12
	12-20	Weathered bedrock			---	---	---	---	---	---	---	---
Clebit----------	0-3	Very stony fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	40-60	10-20	70-90	65-85	45-80	25-60	15-25	NP-7
	3-15	Very gravelly loam, extremely gravelly fine sandy loam	SC-SM, GC, GM, SC	A-1, A-2, A-4	0-50	0-50	25-70	20-70	15-70	12-50	15-25	NP-8
	15-20	Unweathered bedrock			---	---	---	---	---	---	---	---
21B, 22B:												
Ouachita--------	0-5	Silt loam	CL, ML, CL-ML	A-4	0	0	100	100	95-100	85-98	20-40	4-17
	5-14	Silt loam	ML, CL-ML, CL	A-4	0	0	100	100	95-100	85-98	20-40	4-17
	14-29	Silt loam, loam, silty clay loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	75-98	25-45	4-25
	29-60	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0	100	100	90-100	80-100	29-47	12-25
	60-80	Loam, silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	75-98	20-40	4-17

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
23D:												
Peanutrock------	0-7	Gravelly fine sandy loam	GM, SC-SM, SM	A-2	0	0-5	65-80	45-80	40-80	15-35	18-35	2-13
	7-14	Gravelly fine sandy loam, gravelly sandy loam, gravelly loam, very gravelly fine sandy loam, very gravelly sandy loam, very gravelly loam	SC-SM, GC-GM, SC	A-2	0	0-9	55-80	25-80	25-80	10-45	21-45	6-25
	14-52	Very gravelly sandy loam, very gravelly sandy clay loam, very gravelly loam, very gravelly clay loam, extremely gravelly sandy loam, extremely gravelly sandy clay loam, extremely gravelly loam, extremely gravelly clay loam	SM, GC-GM, GP-GC	A-2	0	0-9	35-60	10-60	5-55	5-35	22-44	2-25
	52-80	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy clay loam, extremely gravelly sandy loam, extremely gravelly loam, very gravelly sandy clay loam	GC, GM, SC, SM	A-1, A-2	0-5	0-14	50-80	5-80	5-75	5-55	20-36	2-17

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
23E:												
Peanutrock------	0-7	Gravelly fine sandy loam	GM, SM, SC-SM	A-2	0	0-5	65-80	45-80	40-80	15-35	18-35	2-13
	7-14	Gravelly fine sandy loam, gravelly sandy loam, gravelly loam, very gravelly fine sandy loam, very gravelly sandy loam, very gravelly loam	GC-GM, SC, SC-SM	A-2	0	0-9	55-80	25-80	25-80	10-45	21-45	6-25
	14-52	Very gravelly sandy loam, very gravelly sandy clay loam, very gravelly loam, very gravelly clay loam, extremely gravelly sandy loam, extremely gravelly sandy clay loam, extremely gravelly loam, extremely gravelly clay loam	GC-GM, GP-GC, SM	A-2	0	0-9	35-60	10-60	5-55	5-35	22-44	2-25
	52-80	Extremely gravelly loam, extremely gravelly sandy loam, extremely gravelly sandy clay loam, very gravelly loam, very gravelly sandy clay loam, very gravelly sandy loam	SM, SC, GM, GC	A-1, A-2	0-5	0-14	50-80	5-80	5-75	5-55	20-36	2-17
24C:												
Pikecity--------	0-5	Fine sandy loam	SC-SM, SM	A-4	0	0	90-100	80-100	70-95	30-45	18-31	3-10
	5-11	Loam, sandy loam, fine sandy loam	SC-SM, SC, CL-ML, CL	A-4, A-6	0	0	100	85-100	70-95	45-75	24-44	4-23
	11-30	Sandy clay loam, loam, gravelly loam, gravelly sandy clay loam	SC, CL-ML, CL, SC-SM	A-4, A-6	0	0	85-100	55-100	45-95	25-60	24-44	4-25
	30-48	Gravelly sandy clay loam, gravelly loam, sandy clay loam, loam	CL, SC, SM	A-1-b, A-2, A-4, A-6	0	0	70-90	45-90	35-85	20-55	24-44	4-25
	48-80	Very gravelly sandy clay loam, very gravelly loam, very gravelly clay loam, gravelly sandy clay loam, gravelly loam, gravelly clay loam	SM, GW-GM, GM, SW-SM	A-1, A-2	0	0-5	60-80	25-80	20-75	10-45	24-42	4-22

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
25:												
Pits, gravel.												
26C, 26D:												
Sacul-----------	0-4	Very fine sandy loam	SC, SC-SM	A-4	0	0	80-100	60-100	60-100	35-70	22-37	4-17
	4-8	Very fine sandy loam	SC-SM, SM	A-2, A-4	0	0	80-100	60-100	60-100	35-65	22-37	4-17
	8-30	Clay, silty clay	SC, CL, CH	A-7	0	0	80-100	60-100	60-100	40-95	45-75	29-48
	30-52	Silty clay loam, clay loam	CH, SC, CL	A-7	0	0	80-100	60-100	55-100	40-80	41-53	21-29
	52-72	Weathered bedrock			---	---	---	---	---	---	---	---
27C:												
Sacul-----------	0-4	Very gravelly loam	GC-GM, ML, SC, SC-SM	A-2, A-4	0	0-5	65-75	30-70	25-65	20-50	22-41	6-17
	4-8	Very fine sandy loam	SM, SC-SM	A-2, A-4	0	0	80-100	60-100	60-100	35-65	22-37	4-17
	8-30	Clay, silty clay	CH, SC, CL	A-7	0	0	80-100	60-100	60-100	40-95	45-75	29-48
	30-52	Silty clay loam, clay loam	SC, CL, CH	A-7	0	0	80-100	60-100	55-100	40-80	41-53	21-29
	52-72	Weathered bedrock			---	---	---	---	---	---	---	---
28B, 29B:												
Sardis----------	0-3	Silt loam	CL-ML, CL, ML	A-4	0	0	100	100	95-100	80-95	22-41	6-17
	3-15	Silt loam, silty clay loam, clay loam	CL-ML, CL, ML	A-4	0	0	100	100	90-100	80-100	22-47	6-24
	15-55	Silt loam, silty clay loam, clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	90-100	25-45	6-24
	55-80	Loam, silt loam, sandy loam, fine sandy loam	ML, SC, SM, CL	A-2, A-4	0	0	100	95-100	85-100	35-95	18-36	2-17
30E:												
Sherless--------	0-3	Cobbly fine sandy loam	SC, SC-SM, SM	A-2, A-4	7-21	0-13	75-95	75-95	65-90	30-50	17-33	2-12
	3-9	Fine sandy loam, gravelly fine sandy loam, cobbly fine sandy loam	SM, SC, SC-SM	A-2, A-4	0	0-10	80-95	65-90	55-90	25-50	16-31	2-12
	9-17	Gravelly loam, gravelly fine sandy loam, cobbly fine sandy loam, cobbly loam	SC, CL	A-2, A-4, A-6	0	0-19	80-95	60-95	50-90	30-70	20-39	6-19
	17-39	Clay loam, sandy clay loam, gravelly clay loam, gravelly sandy clay loam, very gravelly sandy clay loam	SC, CL	A-2, A-4, A-6	0	0-19	80-95	60-95	50-95	30-60	29-45	10-25
	39-45	Weathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
30E:												
Bismarck--------	0-2	Cobbly silt loam	SM, CL-ML, SC-SM, ML	A-1, A-2, A-4	0-9	18-35	85-98	70-98	50-95	25-80	21-33	2-12
	2-5	Gravelly silt loam, channery silt loam	GC-GM, ML, SC-SM, SM	A-1, A-2, A-4	0	0-4	70-85	50-85	45-80	25-70	21-33	2-12
	5-12	Very channery silt loam	SM, GC-GM, GM, SC-SM	A-1, A-2, A-4	0-5	0-10	55-70	25-70	20-70	15-60	21-33	2-12
	12-20	Weathered bedrock			---	---	---	---	---	---	---	---
Nashoba---------	0-4	Cobbly fine sandy loam	CL-ML, SM, SC-SM, ML	A-1, A-2, A-4	0-8	16-33	70-90	50-90	45-90	20-50	21-31	2-12
	4-25	Very cobbly fine sandy loam, very cobbly loam, very gravelly fine sandy loam, very gravelly loam	SM, SC-SM	A-1, A-2, A-4	0-8	19-43	60-90	40-90	35-80	20-60	21-31	2-12
	25-30	Very gravelly fine sandy loam, very gravelly loam, very cobbly fine sandy loam, very cobbly loam	GC-GM, GM, SM	A-1, A-2, A-4	0-8	0-26	50-90	35-90	30-90	10-45	20-30	2-12
	30-40	Unweathered bedrock			---	---	---	---	---	---	---	---
31C:												
Sherless--------	0-3	Gravelly fine sandy loam	SC, SM, SC-SM	A-2, A-4	0	0-13	80-95	65-95	55-90	25-45	16-31	2-12
	3-9	Fine sandy loam, gravelly fine sandy loam, cobbly fine sandy loam	SC, SC-SM, SM	A-2, A-4	0	0-10	80-95	65-95	55-90	25-45	16-31	2-12
	9-17	Gravelly loam, gravelly fine sandy loam, cobbly fine sandy loam, cobbly loam	CL, SC	A-2, A-4, A-6	0	0-19	80-95	60-95	50-92	30-70	20-39	6-19
	17-39	Clay loam, sandy clay loam, gravelly clay loam, gravelly sandy clay loam, very gravelly sandy clay loam	CL, SC	A-2, A-4, A-6	0	0-19	80-95	60-95	50-95	30-60	29-45	10-25
	39-45	Weathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
31C:												
Littlefir-------	0-4	Gravelly loam	CL, CL-ML, ML, SC-SM	A-1, A-2, A-4	0	0-5	55-80	50-75	45-75	20-65	21-35	4-13
	4-26	Silty clay loam, clay loam, silty clay, clay, gravelly silty clay loam, gravelly clay loam, gravelly silty clay, gravelly clay, channery silty clay loam, channery clay loam, channery silty clay, channery clay	SC, CL, CH	A-2, A-6, A-7	0	0-4	80-90	55-90	50-90	35-90	38-60	19-36
	26-34	Very channery clay, very channery silty clay, very channery silty clay loam, very channery clay loam, channery clay, channery silty clay, channery silty clay loam, channery clay loam	CH	A-7	0	0-16	70-100	45-100	40-100	30-90	45-69	25-44
	34-40	Weathered bedrock			---	---	---	---	---	---	---	---
31D:												
Sherless--------	0-3	Gravelly fine sandy loam	SM, SC, SC-SM	A-2, A-4	0	0-13	80-95	65-95	55-90	25-45	16-31	2-12
	3-9	Fine sandy loam, gravelly fine sandy loam, cobbly fine sandy loam	SM, SC-SM, SC	A-2, A-4	0	0-10	80-95	65-95	55-90	25-45	16-31	2-12
	9-17	Gravelly loam, gravelly fine sandy loam, cobbly fine sandy loam, cobbly loam	CL, SC	A-2, A-4, A-6	0	0-19	80-95	60-95	50-90	30-70	20-39	6-19
	17-39	Clay loam, sandy clay loam, gravelly clay loam, gravelly sandy clay loam, very gravelly sandy clay loam	CL, SC	A-2, A-4, A-6	0	0-19	80-95	60-95	50-95	30-60	29-45	10-25
	39-45	Weathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
31D:												
Littlefir-------	0-4	Gravelly loam	ML, CL, SC-SM, CL-ML	A-1, A-2, A-4	0	0-5	55-80	50-75	45-75	20-65	21-35	4-13
	4-26	Silty clay loam, clay loam, silty clay, clay, gravelly silty clay loam, gravelly clay loam, gravelly silty clay, gravelly clay, channery silty clay loam, channery clay loam, channery silty clay, channery clay	CL, CH, SC	A-2, A-6, A-7	0	0-4	80-90	55-90	50-90	35-85	38-60	19-36
	26-34	Very channery clay, very channery silty clay, very channery silty clay loam, very channery clay loam, channery clay, channery silty clay, channery silty clay loam, channery clay loam	CH	A-7	0	0-16	70-100	45-100	40-100	30-90	45-69	25-44
	34-40	Weathered bedrock			---	---	---	---	---	---	---	---
32C:												
Sherless--------	0-3	Cobbly fine sandy loam	SM, SC-SM, SC	A-2, A-4	7-21	0-13	75-95	75-95	65-90	30-50	17-33	2-12
	3-9	Fine sandy loam, gravelly fine sandy loam, cobbly fine sandy loam	SC, SC-SM, SM	A-2, A-4	0	0-10	80-95	65-95	55-90	25-45	16-31	2-12
	9-17	Gravelly loam, gravelly fine sandy loam, cobbly fine sandy loam, cobbly loam	CL, SC	A-2, A-4, A-6	0	0-19	80-95	60-95	50-90	30-70	20-39	6-19
	17-39	Clay loam, sandy clay loam, gravelly clay loam, gravelly sandy clay loam, very gravelly sandy clay loam	SC, CL	A-2, A-4, A-6	0	0-19	80-95	60-95	50-95	30-60	29-45	10-25
	39-45	Weathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
32C:												
Nashoba---------	0-4	Cobbly fine sandy loam	CL-ML, ML, SC-SM, SM	A-1, A-2, A-4	0-8	16-33	70-90	50-90	45-90	20-50	21-31	2-12
	4-25	Very cobbly fine sandy loam, very cobbly loam, very gravelly fine sandy loam, very gravelly loam	SM, SC-SM	A-1, A-2, A-4	0-8	19-43	60-90	40-90	35-80	20-60	21-31	2-12
	25-30	Very gravelly fine sandy loam, very gravelly loam, very cobbly fine sandy loam, very cobbly loam	GM, SM, GC-GM	A-1, A-2, A-4	0-8	0-26	50-90	35-90	30-90	10-45	20-30	2-12
	30-40	Unweathered bedrock			---	---	---	---	---	---	---	---
33C:												
Smithdale-------	0-5	Fine sandy loam	SM, SC, SC-SM	A-2, A-4	0	0	100	85-100	75-95	30-45	0-31	NP-10
	5-20	Fine sandy loam, sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	100	85-100	75-95	30-45	0-29	NP-10
	20-38	Clay loam, sandy clay loam, loam	SC, SC-SM, CL-ML, CL	A-4, A-6	0	0	100	85-100	70-100	45-75	27-44	6-23
	38-50	Sandy clay loam, loam	SC-SM, CL, CL-ML, SC	A-4, A-6	0	0	100	85-100	70-100	40-60	27-44	6-23
	50-80	Loam, sandy loam	CL, SC-SM, SC	A-4	0	0	100	85-100	70-100	45-70	22-38	7-19
34A:												
Smithton--------	0-3	Fine sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	90-100	75-95	30-50	18-35	2-12
	3-8	Fine sandy loam, sandy loam, loam	SM, SC-SM	A-4, A-2	0	0	95-100	90-100	75-95	30-50	17-31	2-12
	8-54	Fine sandy loam, loam, sandy clay loam	SC-SM, CL, CL-ML	A-2, A-4, A-6	0	0	95-100	90-100	70-100	35-70	19-41	4-21
	54-80	Fine sandy loam, loam, sandy clay loam	CL-ML, SC-SM, CL	A-2, A-4, A-6	0	0	95-100	90-100	70-100	35-75	19-41	4-21
35B, 36B:												
Speer-----------	0-4	Loam	CL-ML, CL	A-4	0	0	100	98-100	80-90	55-65	23-33	2-12
	4-13	Loam, fine sandy loam	CL, SM, ML, CL-ML	A-4, A-6	0	0	100	98-100	80-95	45-70	25-34	4-15
	13-25	Clay loam, sandy clay loam, loam	SC-SM, CL	A-4, A-6	0	0	100	98-100	80-95	60-70	29-40	10-21
	25-51	Sandy clay loam, clay loam	CL, SC, SC-SM	A-2, A-7, A-6	0	0	85-100	70-100	60-98	35-60	27-44	12-25
	51-80	Loam, fine sandy loam	CL-ML, ML, SC-SM, SC	A-4	0	0	100	85-100	75-100	30-50	22-30	2-12

Table 14.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
37B:												
Stelltown-------	0-4	Fine sandy loam	SM, SC-SM	A-2, A-4	0	0	90-100	75-100	65-95	30-50	0-25	NP-4
	4-12	Fine sandy loam, loam	SM, SC-SM	A-2, A-4	0	0	90-100	75-100	65-95	30-50	0-25	NP-4
	12-25	Sandy loam, loam	SC-SM, SC	A-2, A-4	0	0	90-100	80-100	65-95	25-50	19-31	4-12
	25-48	Sandy loam, loam, sandy clay loam	CL, SC-SM	A-4, A-6	0	0	90-100	80-100	60-98	40-70	19-38	4-19
	48-80	Sandy loam, sandy clay loam, loam	CL, SC	A-4, A-6	0	0	100	85-100	70-95	40-60	27-44	10-23
38C, 38D:												
Sumter----------	0-4	Silty clay	CL	A-7-6, A-7	0	0	90-100	80-100	75-100	70-100	45-66	23-36
	4-9	Silty clay, silty clay loam	CL, CH	A-7-6, A-7	0	0	95-100	85-100	80-100	70-100	46-68	25-42
	9-32	Silty clay, clay	CH, CL	A-7-6, A-7	0	0	95-100	85-100	80-100	70-100	44-65	25-41
	32-80	Weathered bedrock			---	---	---	---	---	---	---	---
39B:												
Antoine---------	0-5	Silt loam	CL	A-4	0	0	100	100	94-100	86-100	28-41	10-19
	5-12	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	35-47	17-25
	12-34	Silty clay loam, clay loam, loam	CH, CL	A-6, A-7	0	0	100	100	95-100	85-100	37-61	18-37
	34-80	Silty clay loam, silty clay	CH, CL	A-6, A-7	0	0	100	100	95-100	85-100	37-61	18-37
40A:												
Tuscumbia-------	0-5	Silty clay	CH	A-7-6, A-7	0	0	100	100	95-100	90-100	51-66	29-36
	5-23	Clay, silty clay	CH	A-7-5, A-7-6	0	0	100	100	90-100	85-100	51-84	29-50
	23-80	Clay, silty clay	CH	A-7-6, A-7-5	0	0	100	100	90-100	75-95	51-84	29-50
41B, 42B:												
Urbo------------	0-5	Silty clay loam	CL	A-6	0	0	100	100	90-100	75-90	26-51	7-25
	5-10	Silty clay loam	CL, CH	A-7	0	0	100	100	95-100	85-95	46-66	25-40
	10-80	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	85-100	46-65	25-40
43:												
Water.												

Table 15.--Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
1C:												
Kullit	0-5	10-18	1.35-1.60	4.00-14.00	0.16-0.18	0.0-2.9	1.0-2.0	.24	.24	5	3	86
	5-10	10-18	1.40-1.65	4.00-14.00	0.16-0.18	0.0-2.9	0.5-1.5	.24	.24			
	10-22	18-35	1.40-1.70	4.00-14.00	0.15-0.19	0.0-2.9	0.0-0.5	.32	.32			
	22-80	18-35	1.40-1.70	4.00-14.00	0.15-0.19	0.0-2.9	0.0-0.5	.20	.20			
2C, 2D:												
Billstown	0-5	40-60	1.15-1.55	0.40-1.40	0.12-0.16	9.0-12.0	0.5-3.0	.24	.24	5	7	38
	5-10	25-40	1.40-1.65	1.40-4.00	0.17-0.23	9.0-25.0	0.5-1.0	.37	.37			
	10-40	60-80	1.20-1.60	0.01-0.42	0.08-0.12	9.0-25.0	0.1-1.0	.17	.17			
	40-80	50-70	1.20-1.60	0.01-0.42	0.08-0.12	9.0-25.0	0.0-0.5	.24	.24			
3D:												
Bismarck	0-2	10-18	1.30-1.55	4.00-14.00	0.14-0.22	0.0-2.9	0.5-2.0	.24	.43	2	8	0
	2-5	10-18	1.40-1.55	4.00-14.00	0.14-0.22	0.0-2.9	0.5-1.0	.24	.43			
	5-12	12-20	1.40-1.60	4.00-14.00	0.07-0.22	0.0-2.9	0.1-1.0	.15	.43			
	12-20	---	---	0.42-4.00	0.00-0.00	---	---	---	---			
Littlefir	0-4	10-20	1.30-1.55	4.00-14.00	0.14-0.22	0.0-2.9	0.5-2.0	.24	.43	3	8	0
	4-26	27-50	1.25-1.65	0.42-1.40	0.06-0.19	3.0-5.9	0.5-1.0	.24	.32			
	26-34	35-60	1.30-1.70	0.42-1.40	0.04-0.20	6.0-8.9	0.0-0.2	.10	.32			
	34-40	---	---	1.41-4.23	---	---	---	---	---			
Nashoba	0-4	10-18	1.40-1.65	4.00-14.00	0.05-0.14	0.0-2.9	0.5-1.0	.10	.28	2	8	0
	4-25	10-18	1.40-1.65	4.00-14.00	0.05-0.14	0.0-2.9	0.5-1.0	.15	.32			
	25-30	10-18	1.45-1.70	4.00-14.00	0.02-0.12	0.0-2.9	0.0-0.5	.10	.32			
	30-40	---	---	1.40-14.00	---	---	---	---	---			
4E:												
Bismarck	0-2	10-18	1.30-1.55	4.00-14.00	0.14-0.22	0.0-2.9	0.5-2.0	.24	.43	2	8	0
	2-5	10-18	1.40-1.55	4.00-14.00	0.14-0.22	0.0-2.9	0.5-1.0	.24	.43			
	5-12	12-20	1.40-1.60	4.00-14.00	0.07-0.22	0.0-2.9	0.1-1.0	.15	.43			
	12-20	---	---	0.42-4.00	0.00-0.00	---	---	---	---			
Nashoba	0-4	10-18	1.40-1.65	4.00-14.00	0.05-0.14	0.0-2.9	0.5-1.0	.10	.28	2	8	0
	4-25	10-18	1.40-1.65	4.00-14.00	0.05-0.14	0.0-2.9	0.5-1.0	.15	.32			
	25-30	10-18	1.45-1.70	4.00-14.00	0.02-0.12	0.0-2.9	0.0-0.5	.10	.32			
	30-40	---	---	1.40-14.00	---	---	---	---	---			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
4E:												
Littlefir------------	0-4	10-20	1.30-1.55	4.00-14.00	0.12-0.19	0.0-2.9	0.5-2.0	.24	.43	3	8	0
	4-26	27-50	1.25-1.65	0.42-1.40	0.06-0.19	3.0-5.9	0.5-1.0	.24	.32			
	26-34	35-60	1.30-1.70	0.42-1.40	0.04-0.20	6.0-8.9	0.0-0.2	.10	.32			
	34-40	---	---	1.41-4.23	---	---	---	---	---			
5B:												
Cupco----------------	0-6	15-26	1.30-1.55	4.00-14.00	0.22-0.24	0.0-2.9	0.5-2.0	.37	.37	5	6	48
	6-11	15-30	1.40-1.65	4.00-14.00	0.21-0.24	3.0-5.9	0.5-1.0	.37	.37			
	11-35	27-35	1.40-1.70	1.40-4.00	0.15-0.20	3.0-5.9	0.0-1.0	.32	.32			
	35-64	20-35	1.40-1.70	1.40-4.00	0.14-0.22	3.0-5.9	0.0-0.5	.32	.32			
	64-80	20-35	1.40-1.70	1.40-4.00	0.14-0.22	3.0-5.9	0.0-0.5	.32	.32			
6:												
Dam.												
7C:												
DeAnn----------------	0-22	50-67	1.10-1.45	0.40-1.40	0.12-0.16	9.0-25.0	2.0-4.0	.37	.37	5	4	86
	22-38	52-71	1.10-1.45	0.01-0.42	0.12-0.16	9.0-25.0	1.0-2.0	.32	.32			
	38-80	53-78	1.10-1.45	0.01-0.42	0.12-0.16	9.0-25.0	0.5-1.0	.32	.32			
8B:												
Dela-----------------	0-3	5-18	1.40-1.65	14.00-42.00	0.16-0.18	0.0-2.9	0.5-1.0	.20	.20	5	3	86
	3-13	5-18	1.45-1.70	14.00-42.00	0.16-0.22	0.0-2.9	0.0-0.5	.32	.32			
	13-80	5-18	1.45-1.70	14.00-42.00	0.07-0.19	0.0-2.9	0.0-0.5	.20	.20			
9B:												
Felker---------------	0-4	10-20	1.35-1.60	4.00-14.00	0.20-0.22	0.0-2.9	0.5-2.0	.37	.37	5	6	48
	4-15	10-20	1.30-1.60	4.00-14.00	0.20-0.24	0.0-2.9	0.5-2.0	.37	.37			
	15-36	15-35	1.40-1.70	4.00-14.00	0.14-0.22	0.0-2.9	0.1-1.0	.43	.43			
	36-80	20-35	1.40-1.70	1.40-4.00	0.18-0.22	3.0-5.9	0.0-1.0	.43	.43			
10B:												
Gurdon---------------	0-5	5-15	1.30-1.55	4.00-14.00	0.19-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	5-17	5-15	1.40-1.65	4.00-14.00	0.19-0.22	0.0-2.9	0.1-1.0	.43	.43			
	17-35	10-35	1.40-1.70	4.00-14.00	0.16-0.22	0.0-2.9	0.1-0.5	.43	.43			
	35-80	15-35	1.40-1.70	4.00-14.00	0.16-0.22	0.0-2.9	0.0-0.5	.43	.43			
11A, 12A, 13A:												
Guyton---------------	0-4	7-25	1.25-1.50	4.00-14.00	0.20-0.23	0.0-2.9	0.5-3.0	.43	.43	5	5	56
	4-12	7-25	1.35-1.55	4.00-14.00	0.20-0.23	0.0-2.9	0.5-1.5	.43	.43			
	12-22	7-25	1.40-1.55	4.00-14.00	0.15-0.22	0.0-2.9	0.5-1.0	.37	.37			
	22-59	20-35	1.40-1.70	1.40-4.00	0.15-0.22	0.0-2.9	0.1-1.0	.37	.37			
	59-80	8-18	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.1-1.0	.28	.32			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
14C, 14D:												
Japany----------------	0-3	28-32	1.30-1.65	1.40-4.00	0.20-0.22	3.0-5.9	0.5-2.0	.37	.37	5	7	38
	3-22	36-60	1.25-1.70	0.40-1.40	0.20-0.22	6.0-8.9	0.1-1.0	.32	.32			
	22-36	36-60	1.25-1.70	0.40-1.40	0.12-0.16	9.0-25.0	0.1-1.0	.32	.32			
	36-50	36-60	1.25-1.70	0.40-1.40	0.12-0.16	9.0-25.0	0.1-1.0	.32	.32			
	50-80	40-60	1.25-1.60	0.40-1.40	0.08-0.12	9.0-25.0	0.1-0.5	.32	.32			
15B:												
Kenn------------------	0-4	10-20	1.30-1.60	4.00-14.00	0.06-0.11	0.0-2.9	0.5-2.0	.15	.20	5	5	56
	4-9	10-20	1.30-1.60	4.00-14.00	0.06-0.11	0.0-2.9	0.8-1.2	.17	.32			
	9-27	20-30	1.45-1.70	4.00-14.00	0.06-0.18	3.0-5.9	0.5-1.0	.10	.32			
	27-32	20-30	1.45-1.70	4.00-14.00	0.02-0.10	3.0-5.9	0.1-0.5	.10	.32			
	32-80	10-25	1.40-1.70	4.00-14.00	0.02-0.05	0.0-2.9	0.1-0.5	.05	.24			
Ceda------------------	0-4	10-18	1.30-1.55	42.00-141.00	0.06-0.13	0.0-2.9	0.5-2.0	.10	.15	5	8	0
	4-80	15-32	1.40-1.70	42.00-141.00	0.06-0.13	0.0-2.9	0.0-0.5	.10	.32			
16B:												
Leeper----------------	0-4	40-50	1.10-1.50	0.40-1.40	0.18-0.22	6.0-8.9	1.0-4.0	.32	.32	5	4	86
	4-12	40-65	1.20-1.55	0.01-0.42	0.18-0.20	6.0-8.9	0.5-2.0	.32	.32			
	12-48	40-65	1.20-1.55	0.01-0.42	0.18-0.20	6.0-8.9	0.5-2.0	.32	.32			
	48-80	40-65	1.20-1.55	0.01-0.42	0.18-0.20	6.0-8.9	0.5-2.0	.32	.32			
17C:												
Littlefir-------------	0-4	10-20	1.30-1.55	4.00-14.00	0.14-0.22	0.0-2.9	0.5-2.0	.24	.43	3	8	0
	4-26	27-50	1.25-1.65	0.42-1.40	0.06-0.19	3.0-5.9	0.5-1.0	.24	.32			
	26-34	35-60	1.30-1.70	0.42-1.40	0.04-0.20	6.0-8.9	0.0-0.2	.10	.32			
	34-40	---	---	1.41-4.23	---	---	---	---	---			
Bismarck--------------	0-2	10-18	1.30-1.55	4.00-14.00	0.14-0.22	0.0-2.9	0.5-2.0	.24	.43	2	8	0
	2-5	10-18	1.40-1.55	4.00-14.00	0.14-0.22	0.0-2.9	0.5-1.0	.24	.43			
	5-12	12-20	1.40-1.60	4.00-14.00	0.07-0.22	0.0-2.9	0.1-1.0	.15	.43			
	12-20	---	---	0.42-4.00	0.00-0.00	---	---	---	---			
Nashoba---------------	0-4	10-18	1.45-1.65	4.00-14.00	0.05-0.14	0.0-2.9	0.5-2.0	.10	.28	2	8	0
	4-25	10-18	1.40-1.65	4.00-14.00	0.05-0.14	0.0-2.9	0.5-1.0	.15	.32			
	25-30	10-18	1.45-1.70	4.00-14.00	0.02-0.12	0.0-2.9	0.0-0.5	.10	.32			
	30-40	---	---	1.40-14.00	---	---	---	---	---			
18B:												
Mazarn----------------	0-4	10-25	1.20-1.45	4.00-14.00	0.21-0.24	0.0-2.9	2.0-4.0	.37	.37	3	5	56
	4-9	18-35	1.40-1.55	4.00-14.00	0.19-0.24	0.0-2.9	0.5-1.0	.37	.37			
	9-38	18-40	1.40-1.70	1.40-4.00	0.12-0.20	0.0-2.9	0.0-0.5	.32	.37			
	38-40	---	---	0.42-4.00	---	---	---	---	---			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
19B:												
McCaskill------------	0-4	5-15	1.35-1.65	14.00-42.00	0.15-0.18	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	4-10	5-15	1.35-1.65	14.00-42.00	0.13-0.18	0.0-2.9	0.5-1.5	.24	.24			
	10-46	8-18	1.40-1.70	4.00-14.00	0.14-0.19	0.0-2.9	0.1-1.0	.37	.37			
	46-80	5-27	1.45-1.70	4.00-14.00	0.14-0.19	0.0-2.9	0.1-0.5	.37	.37			
19C:												
McCaskill------------	0-4	5-15	1.35-1.65	14.00-42.00	0.15-0.18	0.0-2.9	0.5-2.0	.24	.24	4	3	86
	4-10	5-15	1.35-1.65	14.00-42.00	0.13-0.18	0.0-2.9	0.5-1.5	.24	.24			
	10-46	8-18	1.40-1.70	4.00-14.00	0.14-0.19	0.0-2.9	0.1-1.0	.37	.37			
	46-80	5-27	1.45-1.70	4.00-14.00	0.14-0.19	0.0-2.9	0.1-0.5	.37	.37			
20F:												
Nashoba--------------	0-4	10-18	1.40-1.65	4.00-14.00	0.05-0.14	0.0-2.9	0.5-1.0	.10	.28	2	8	0
	4-25	10-18	1.40-1.65	4.00-14.00	0.05-0.14	0.0-2.9	0.5-1.0	.15	.32			
	25-30	10-18	1.45-1.70	4.00-14.00	0.02-0.12	0.0-2.9	0.0-0.5	.10	.32			
	30-40	---	---	1.40-14.00	---	---	---	---	---			
Bismarck-------------	0-2	10-18	1.30-1.55	4.00-14.00	0.14-0.22	0.0-2.9	0.5-2.0	.24	.43	2	8	0
	2-5	10-18	1.40-1.55	4.00-14.00	0.14-0.22	0.0-2.9	0.5-1.0	.24	.43			
	5-12	12-20	1.40-1.60	4.00-14.00	0.07-0.22	0.0-2.9	0.1-1.0	.15	.43			
	12-20	---	---	0.42-4.00	0.00-0.00	---	---	---	---			
Clebit---------------	0-3	10-20	1.30-1.60	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.15	.32	1	8	0
	3-15	10-20	1.30-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.1-0.5	.15	.32			
	15-20	---	---	1.40-14.00	---	---	---	---	---			
21B, 22B:												
Ouachita-------------	0-5	8-25	1.30-1.50	4.00-14.00	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	5-14	8-25	1.40-1.55	4.00-14.00	0.22-0.24	0.0-2.9	0.5-1.0	.37	.37			
	14-29	18-35	1.40-1.70	4.00-14.00	0.17-0.22	0.0-2.9	0.1-1.0	.32	.32			
	29-60	18-35	1.40-1.70	1.40-4.00	0.14-0.20	3.0-5.9	0.1-1.0	.37	.37			
	60-80	8-25	1.40-1.60	4.00-14.00	0.17-0.22	0.0-2.9	0.0-0.5	.43	.43			
23D, 23E:												
Peanutrock-----------	0-7	5-20	1.35-1.60	14.00-42.00	0.07-0.17	0.0-2.9	1.0-2.0	.17	.24	5	3	86
	7-14	10-35	1.40-1.65	4.00-14.00	0.06-0.15	0.0-2.9	0.5-1.0	.15	.20			
	14-52	12-35	1.40-1.70	4.00-14.00	0.06-0.12	0.0-2.9	0.0-0.5	.15	.24			
	52-80	10-25	1.40-1.70	4.00-42.00	0.04-0.11	0.0-2.9	0.0-0.5	.10	.24			
24C:												
Pikecity-------------	0-5	6-15	1.35-1.65	14.00-42.00	0.14-0.18	0.0-2.9	0.5-2.0	.20	.24	5	3	86
	5-11	18-33	1.40-1.70	4.00-14.00	0.12-0.18	0.0-2.9	0.1-1.0	.24	.28			
	11-30	18-35	1.40-1.70	4.00-14.00	0.12-0.18	0.0-2.9	0.1-0.5	.15	.20			
	30-48	18-35	1.40-1.70	4.00-14.00	0.09-0.18	0.0-2.9	0.1-0.5	.10	.20			
	48-80	16-32	1.40-1.70	4.00-14.00	0.04-0.16	0.0-2.9	0.1-0.5	.10	.24			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
25:												
Pits, gravel---------	---	---	---	---	---	---	---	---	---	--	8	0
26C, 26D:												
Sacul----------------	0-4	10-25	1.40-1.55	4.00-14.00	0.15-0.22	0.0-2.9	1.0-1.0	.32	.37	5	5	56
	4-8	10-20	1.40-1.60	4.00-14.00	0.15-0.22	0.0-2.9	0.5-1.0	.32	.37			
	8-30	40-65	1.25-1.60	0.40-1.40	0.07-0.13	6.0-8.9	0.1-1.0	.28	.32			
	30-52	30-40	1.40-1.70	0.40-1.40	0.10-0.20	6.0-8.9	0.1-1.0	.28	.32			
	52-72	---	---	1.40-4.00	---	---	---	---	---			
27C:												
Sacul----------------	0-4	10-25	1.40-1.50	4.00-14.00	0.11-0.17	0.0-2.9	1.0-3.0	.28	.37	5	5	56
	4-8	10-20	1.40-1.60	4.00-14.00	0.15-0.22	0.0-2.9	0.5-1.0	.32	.37			
	8-30	40-65	1.25-1.60	0.40-1.40	0.07-0.13	6.0-8.9	0.1-1.0	.28	.32			
	30-52	30-40	1.40-1.70	0.40-1.40	0.10-0.20	6.0-8.9	0.1-1.0	.28	.32			
	52-72	---	---	1.40-4.00	---	---	---	---	---			
28B, 29B:												
Sardis---------------	0-3	10-25	1.25-1.50	4.00-14.00	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	3-15	10-35	1.30-1.60	4.00-14.00	0.17-0.24	0.0-2.9	0.8-2.0	.43	.43			
	15-55	14-35	1.40-1.65	1.40-4.00	0.15-0.24	0.0-2.9	0.5-1.0	.37	.37			
	55-80	8-25	1.40-1.70	4.00-14.00	0.10-0.24	0.0-2.9	0.0-0.5	.37	.37			
30E:												
Sherless-------------	0-3	5-18	1.35-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.20	.24	3	8	0
	3-9	5-18	1.40-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.2-1.2	.20	.24			
	9-17	10-27	1.40-1.70	4.00-14.00	0.09-0.18	0.0-2.9	0.1-1.0	.28	.32			
	17-39	20-35	1.40-1.70	4.00-14.00	0.09-0.18	0.0-2.9	0.1-1.0	.28	.32			
	39-45	---	---	1.40-14.00	---	---	---	---	---			
Bismarck-------------	0-2	10-18	1.30-1.55	4.00-14.00	0.14-0.22	0.0-2.9	0.5-2.0	.24	.43	2	8	0
	2-5	10-18	1.40-1.55	4.00-14.00	0.14-0.22	0.0-2.9	0.5-1.0	.24	.43			
	5-12	12-20	1.40-1.60	4.00-14.00	0.07-0.22	0.0-2.9	0.1-1.0	.15	.43			
	12-20	---	---	0.42-4.00	0.00-0.00	---	---	---	---			
Nashoba--------------	0-4	10-18	1.40-1.65	4.00-14.00	0.05-0.14	0.0-2.9	0.5-1.0	.10	.28	2	8	0
	4-25	10-18	1.40-1.65	4.00-14.00	0.05-0.14	0.0-2.9	0.5-1.0	.15	.32			
	25-30	10-18	1.45-1.70	4.00-14.00	0.02-0.12	0.0-2.9	0.0-0.5	.10	.32			
	30-40	---	---	1.40-14.00	---	---	---	---	---			
31C, 31D:												
Sherless-------------	0-3	5-18	1.35-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.20	.24	3	5	56
	3-9	5-18	1.40-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.2-1.2	.20	.24			
	9-17	10-27	1.40-1.70	4.00-14.00	0.09-0.18	0.0-2.9	0.1-1.0	.28	.32			
	17-39	20-35	1.40-1.70	4.00-14.00	0.09-0.18	0.0-2.9	0.1-1.0	.28	.32			
	39-45	---	---	1.40-14.00	---	---	---	---	---			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
31C, 31D:												
Littlefir------------	0-4	10-20	1.35-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.5-2.0	.24	.43	3	8	0
	4-26	27-50	1.25-1.65	0.42-1.40	0.06-0.19	3.0-5.9	0.5-1.0	.24	.32			
	26-34	35-60	1.30-1.70	0.42-1.40	0.04-0.20	6.0-8.9	0.0-0.2	.10	.32			
	34-40	---	---	1.41-4.23	---	---	---	---	---			
32C:												
Sherless-------------	0-3	5-18	1.35-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.20	.24	3	8	0
	3-9	5-18	1.40-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.2-1.2	.20	.24			
	9-17	10-27	1.40-1.70	4.00-14.00	0.09-0.18	0.0-2.9	0.1-1.0	.28	.32			
	17-39	20-35	1.40-1.70	4.00-14.00	0.09-0.18	0.0-2.9	0.1-1.0	.28	.32			
	39-45	---	---	1.40-14.00	---	---	---	---	---			
Nashoba--------------	0-4	10-18	1.40-1.65	4.00-14.00	0.05-0.14	0.0-2.9	0.5-1.0	.10	.28	2	8	0
	4-25	10-18	1.40-1.65	4.00-14.00	0.05-0.14	0.0-2.9	0.5-1.0	.15	.32			
	25-30	10-18	1.45-1.70	4.00-14.00	0.02-0.12	0.0-2.9	0.0-0.5	.10	.32			
	30-40	---	---	1.40-14.00	---	---	---	---	---			
33C:												
Smithdale------------	0-5	2-15	1.35-1.65	14.00-42.00	0.15-0.18	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	5-20	2-15	1.40-1.65	14.00-42.00	0.14-0.16	0.0-2.9	0.2-1.2	.28	.28			
	20-38	18-33	1.40-1.70	4.00-14.00	0.15-0.17	0.0-2.9	0.1-1.0	.24	.24			
	38-50	18-33	1.40-1.70	4.00-14.00	0.15-0.17	0.0-2.9	0.1-1.0	.24	.24			
	50-80	12-27	1.45-1.70	4.00-14.00	0.14-0.16	0.0-2.9	0.1-0.5	.28	.28			
34A:												
Smithton-------------	0-3	5-18	1.35-1.60	14.00-42.00	0.15-0.18	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	3-8	5-18	1.40-1.65	14.00-42.00	0.15-0.22	0.0-2.9	0.5-1.0	.32	.32			
	8-54	8-30	1.40-1.70	4.00-14.00	0.14-0.20	0.0-2.9	0.1-1.0	.32	.32			
	54-80	8-30	1.40-1.70	4.00-14.00	0.14-0.20	0.0-2.9	0.1-1.0	.32	.32			
35B:												
Speer----------------	0-4	12-18	1.35-1.50	4.00-14.00	0.20-0.22	0.0-2.9	0.5-2.0	.32	.32	5	5	56
	4-13	15-22	1.40-1.70	4.00-14.00	0.16-0.22	0.0-2.9	0.1-1.0	.37	.37			
	13-25	20-30	1.40-1.70	4.00-14.00	0.15-0.19	0.0-2.9	0.1-0.5	.32	.32			
	25-51	18-35	1.40-1.70	4.00-14.00	0.12-0.16	0.0-2.9	0.1-0.5	.17	.20			
	51-80	12-18	1.40-1.70	4.00-14.00	0.12-0.16	0.0-2.9	0.1-0.5	.24	.28			
36B:												
Speer----------------	0-4	12-18	1.35-1.50	4.00-14.00	0.20-0.22	0.0-2.9	0.5-2.0	.32	.32	5	3	86
	4-13	15-22	1.40-1.70	4.00-14.00	0.16-0.22	0.0-2.9	0.1-1.0	.37	.37			
	13-25	20-30	1.40-1.70	4.00-14.00	0.15-0.19	0.0-2.9	0.1-0.5	.32	.32			
	25-51	18-35	1.40-1.70	4.00-14.00	0.12-0.16	0.0-2.9	0.1-0.5	.17	.20			
	51-80	12-18	1.40-1.70	4.00-14.00	0.12-0.16	0.0-2.9	0.1-0.5	.24	.28			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
37B:												
Stelltown	0-4	2-8	1.35-1.65	14.00-42.00	0.15-0.18	0.0-2.9	0.5-2.0	.24	.28	5	5	56
	4-12	2-8	1.35-1.65	4.00-42.00	0.15-0.22	0.0-2.9	0.5-2.0	.24	.28			
	12-25	8-18	1.40-1.70	4.00-14.00	0.11-0.19	0.0-2.9	0.1-1.0	.20	.24			
	25-48	8-27	1.40-1.70	4.00-14.00	0.11-0.19	0.0-2.9	0.1-0.5	.24	.28			
	48-80	18-33	1.40-1.70	4.00-14.00	0.11-0.19	0.0-2.9	0.1-1.0	.17	.20			
38C, 38D:												
Sumter	0-4	32-50	1.15-1.50	0.40-1.40	0.10-0.14	6.0-8.9	1.0-3.0	.37	.37	2	4	86
	4-9	35-57	1.25-1.65	0.40-1.40	0.10-0.14	6.0-8.9	0.5-1.0	.37	.37			
	9-32	35-57	1.25-1.60	0.40-1.40	0.10-0.14	3.0-5.9	0.1-0.5	.32	.37			
	32-80	---	1.15-1.50	0.01-0.42	---	---	---	---	---			
39B:												
Antoine	0-5	18-27	1.35-1.50	4.00-14.00	0.20-0.22	0.0-2.9	0.5-2.0	.49	.49	5	6	48
	5-12	25-35	1.40-1.70	1.40-4.00	0.18-0.22	3.0-5.9	0.1-1.0	.37	.37			
	12-34	25-50	1.40-1.70	0.40-1.40	0.14-0.22	6.0-8.9	0.1-0.5	.37	.37			
	34-80	25-50	1.25-1.70	0.40-1.40	0.10-0.20	6.0-8.9	0.1-0.5	.37	.37			
40A:												
Tuscumbia	0-5	40-50	1.15-1.50	0.40-1.40	0.12-0.14	6.0-8.9	1.0-3.0	.32	.32	5	7	38
	5-23	40-65	1.25-1.60	0.40-1.40	0.08-0.12	9.0-25.0	0.1-1.0	.28	.28			
	23-80	40-65	1.25-1.60	0.40-1.40	0.08-0.12	9.0-25.0	0.1-1.0	.20	.20			
41B:												
Urbo	0-5	12-35	1.25-1.60	1.40-4.00	0.21-0.23	3.0-5.9	1.0-3.0	.37	.37	5	4	86
	5-10	35-55	1.40-1.65	0.01-0.42	0.21-0.23	6.0-8.9	0.5-1.0	.28	.28			
	10-80	35-55	1.25-1.65	0.01-0.42	0.10-0.20	6.0-8.9	0.2-0.8	.28	.28			
42B:												
Urbo	0-5	12-35	1.25-1.60	1.40-4.00	0.21-0.23	3.0-5.9	1.0-3.0	.37	.37	5	7	38
	5-10	35-55	1.40-1.65	0.01-0.42	0.21-0.23	6.0-8.9	0.5-1.0	.28	.28			
	10-80	35-55	1.25-1.65	0.01-0.42	0.10-0.20	6.0-8.9	0.2-0.8	.28	.28			
43:												
Water.												

Table 16.--Chemical Soil Properties

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Sodium adsorption ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
1C:							
Kullit---------------	0-5	---	2.0-5.0	5.1-6.0	0	0	0
	5-10	---	2.0-10	4.5-6.0	0	0	0
	10-22	---	2.0-10	4.5-6.0	0	0	0
	22-80	---	2.0-10	4.5-6.0	0	0	0
2C, 2D:							
Billstown------------	0-5	---	20-40	4.5-6.0	0	0	0
	5-10	---	10-25	4.5-6.0	0	0	0
	10-40	---	30-50	4.5-6.0	0	0	0
	40-80	30-50	---	6.6-8.4	10-35	0	0
3D:							
Bismarck-------------	0-2	---	5.0-15	4.5-6.0	0	0	0
	2-5	---	2.0-15	4.5-6.0	0	0	0
	5-12	---	2.0-15	4.5-6.0	0	0	0
	12-20	---	---	---	---	---	---
Littlefir------------	0-4	---	7.0-12	4.5-6.0	0	0	0
	4-26	---	16-30	4.5-5.5	0	0	0
	26-34	---	24-36	4.5-5.5	0	0	0
	34-40	---	---	---	---	---	---
Nashoba--------------	0-4	---	2.0-5.0	4.5-6.0	0	0	0
	4-25	---	2.0-5.0	4.5-6.0	0	0	0
	25-30	---	2.0-5.0	4.5-6.0	0	0	0
	30-40	---	---	---	---	---	---
4E:							
Bismarck-------------	0-2	---	5.0-15	4.5-6.0	0	0	0
	2-5	---	2.0-15	4.5-6.0	0	0	0
	5-12	---	2.0-15	4.5-6.0	0	0	0
	12-20	---	---	---	---	---	---
Nashoba--------------	0-4	---	2.0-5.0	4.5-6.0	0	0	0
	4-25	---	2.0-5.0	4.5-6.0	0	0	0
	25-30	---	2.0-5.0	4.5-6.0	0	0	0
	30-40	---	---	---	---	---	---
Littlefir------------	0-4	---	7.0-12	4.5-6.0	0	0	0
	4-26	---	16-30	4.5-5.5	0	0	0
	26-34	---	24-36	4.5-5.5	0	0	0
	34-40	---	---	---	---	---	---
5B:							
Cupco----------------	0-6	10-16	---	4.5-6.5	0	0	0
	6-11	---	10-18	4.5-5.5	0	0	0
	11-35	17-21	---	4.5-6.5	0	0	0
	35-64	17-21	---	4.5-7.3	0	0	0
	64-80	17-21	---	4.5-7.3	0	0	0
6:							
Dam.							
7C:							
DeAnn----------------	0-22	39-63	---	6.1-8.4	0	0	0
	22-38	32-53	---	6.1-8.4	0	0	0
	38-80	26-46	---	6.6-8.4	0-20	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Sodium adsorption ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
8B:							
Dela	0-3	4.0-11	---	5.1-7.3	0	0	0
	3-13	4.0-11	---	5.1-7.3	0	0	0
	13-80	4.0-11	---	5.1-7.3	0	0	0
9B:							
Felker	0-4	---	2.0-8.0	4.5-6.0	0	0	0
	4-15	---	4.0-12	4.5-6.0	0	0	0
	15-36	---	4.0-12	4.5-6.0	0	0	0
	36-80	---	4.0-18	4.5-6.0	0	0	0
10B:							
Gurdon	0-5	---	5.0-15	4.5-6.0	0	0	0
	5-17	---	5.0-15	4.5-6.0	0	0	0
	17-35	---	5.0-20	4.5-6.0	0	0	0
	35-80	---	10-30	4.5-6.0	0	0	0
11A, 12A, 13A:							
Guyton	0-4	---	4.0-10	4.5-6.0	0	0	0
	4-12	---	4.0-10	4.5-6.0	0	0	0
	12-22	---	10-30	4.5-6.0	0	0-5	0
	22-59	10-30	---	4.5-8.4	0	0-5	0-10
	59-80	---	10-30	4.5-5.5	0	0	0
14C, 14D:							
Japany	0-3	---	14-22	4.5-6.0	0	0	0
	3-22	10-36	---	4.5-8.4	0	0	0
	22-36	---	30-60	3.5-6.5	0	0	0
	36-50	---	30-60	3.5-6.5	0	0	0
	50-80	12-30	---	5.1-8.4	0	0	0
15B:							
Kenn	0-4	4.0-12	---	5.1-6.5	0	0	0
	4-9	4.0-12	---	5.1-6.5	0	0	0
	9-27	---	4.0-12	4.5-5.5	0	0	0
	27-32	---	5.0-15	4.5-5.5	0	0	0
	32-80	---	2.0-10	4.5-5.5	0	0	0
Ceda	0-4	6.0-11	---	5.6-6.5	0	0	0
	4-80	9.0-20	---	5.6-6.5	0	0	0
16B:							
Leeper	0-4	25-49	---	5.6-8.4	0	0	0
	4-12	18-39	---	5.6-8.4	0	0	0
	12-48	18-39	---	5.6-8.4	0	0	0
	48-80	18-39	---	5.6-8.4	0	0	0
17C:							
Littlefir	0-4	---	7.0-12	4.5-6.0	0	0	0
	4-26	---	16-30	4.5-5.5	0	0	0
	26-34	---	24-36	4.5-5.5	0	0	0
	34-40	---	---	---	---	---	---
Bismarck	0-2	---	5.0-15	4.5-6.0	0	0	0
	2-5	---	2.0-15	4.5-6.0	0	0	0
	5-12	---	2.0-15	4.5-6.0	0	0	0
	12-20	---	---	---	---	---	---
Nashoba	0-4	---	2.0-5.0	4.5-6.0	0	0	0
	4-25	---	2.0-5.0	4.5-6.0	0	0	0
	25-30	---	2.0-5.0	4.5-6.0	0	0	0
	30-40	---	---	---	---	---	---

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Sodium adsorption ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
18B:							
Mazarn----------------	0-4	---	5.0-15	4.5-5.5	0	0	0
	4-9	---	5.0-25	4.5-5.5	0	0	0
	9-38	---	5.0-15	4.5-5.5	0	0	0
	38-40	---	---	---	0	0	0
19B, 19C:							
McCaskill------------	0-4	---	2.0-5.0	4.5-5.5	0	0	0
	4-10	---	2.0-5.0	4.5-5.5	0	0	0
	10-46	---	4.0-8.0	4.5-5.5	0	0	0
	46-80	---	4.0-8.0	4.5-5.5	0	0	0
20F:							
Nashoba--------------	0-4	---	2.0-5.0	4.5-6.0	0	0	0
	4-25	---	2.0-5.0	4.5-6.0	0	0	0
	25-30	---	2.0-5.0	4.5-6.0	0	0	0
	30-40	---	---	---	---	---	---
Bismarck-------------	0-2	---	5.0-15	4.5-6.0	0	0	0
	2-5	---	2.0-15	4.5-6.0	0	0	0
	5-12	---	2.0-15	4.5-6.0	0	0	0
	12-20	---	---	---	---	---	---
Clebit---------------	0-3	6.0-13	---	4.5-6.5	0	0	0
	3-15	6.0-13	---	4.5-6.5	0	0	0
	15-20	---	0.0-0.0	---	0	0	0
21B, 22B:							
Ouachita-------------	0-5	---	5.0-15	4.5-6.0	0	0	0
	5-14	---	5.0-15	4.5-6.0	0	0	0
	14-29	---	10-20	4.5-5.5	0	0	0
	29-60	---	10-20	4.5-5.5	0	0	0
	60-80	---	5.0-15	4.5-5.5	0	0	0
23D, 23E:							
Peanutrock-----------	0-7	---	0.8-3.7	4.5-5.5	0	0	0
	7-14	---	1.8-6.9	4.5-5.5	0	0	0
	14-52	---	2.3-8.4	4.5-5.5	0	0	0
	52-80	---	1.9-5.9	4.5-5.5	0	0	0
24C:							
Pikecity-------------	0-5	---	4.0-8.0	4.5-5.5	0	0	0
	5-11	---	4.0-8.0	4.5-5.5	0	0	0
	11-30	---	4.0-12	4.5-5.5	0	0	0
	30-48	---	4.0-12	4.5-5.5	0	0	0
	48-80	---	4.0-12	4.5-5.5	0	0	0
25:							
Pits, gravel.							
26C, 26D, 27C:							
Sacul----------------	0-4	---	5.0-15	4.5-6.0	0	0	0
	4-8	---	5.0-15	4.5-6.0	0	0	0
	8-30	---	20-45	4.5-5.5	0	0	0
	30-52	---	20-45	4.5-5.5	0	0	0
	52-72	---	---	---	---	---	---
28B, 29B:							
Sardis---------------	0-3	---	10-25	4.5-6.0	0	0	0
	3-15	---	10-25	4.5-6.0	0	0	0
	15-55	---	5.0-30	4.5-6.0	0	0	0
	55-80	---	5.0-15	4.5-6.0	0	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Sodium adsorption ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
30E:							
Sherless-------------	0-3	2.0-6.0	---	4.5-7.3	0	0	0
	3-9	2.0-6.0	---	4.5-7.3	0	0	0
	9-17	---	4.0-12	4.5-5.5	0	0	0
	17-39	---	4.0-12	4.5-5.5	0	0	0
	39-45	---	---	---	0	0	0
Bismarck-------------	0-2	---	5.0-15	4.5-6.0	0	0	0
	2-5	---	2.0-15	4.5-6.0	0	0	0
	5-12	---	2.0-15	4.5-6.0	0	0	0
	12-20	---	---	---	---	---	---
Nashoba--------------	0-4	---	2.0-5.0	4.5-6.0	0	0	0
	4-25	---	2.0-5.0	4.5-6.0	0	0	0
	25-30	---	2.0-5.0	4.5-6.0	0	0	0
	30-40	---	---	---	---	---	---
31C, 31D:							
Sherless-------------	0-3	2.0-6.0	---	4.5-7.3	0	0	0
	3-9	2.0-6.0	---	4.5-7.3	0	0	0
	9-17	---	4.0-12	4.5-5.5	0	0	0
	17-39	---	4.0-12	4.5-5.5	0	0	0
	39-45	---	---	---	0	0	0
Littlefir------------	0-4	---	7.0-12	4.5-6.0	0	0	0
	4-26	---	16-30	4.5-5.5	0	0	0
	26-34	---	24-36	4.5-5.5	0	0	0
	34-40	---	---	---	---	---	---
32C:							
Sherless-------------	0-3	2.0-6.0	---	4.5-7.3	0	0	0
	3-9	2.0-6.0	---	4.5-7.3	0	0	0
	9-17	---	4.0-12	4.5-5.5	0	0	0
	17-39	---	4.0-12	4.5-5.5	0	0	0
	39-45	---	---	---	0	0	0
Nashoba--------------	0-4	---	2.0-5.0	4.5-6.0	0	0	0
	4-25	---	2.0-5.0	4.5-6.0	0	0	0
	25-30	---	2.0-5.0	4.5-6.0	0	0	0
	30-40	---	---	---	---	---	---
33C:							
Smithdale------------	0-5	---	0.3-2.1	4.5-5.5	0	0	0
	5-20	---	0.8-9.1	4.5-5.5	0	0	0
	20-38	---	1.6-4.3	4.5-5.5	0	0	0
	38-50	---	1.6-4.3	4.5-5.5	0	0	0
	50-80	---	1.2-3.7	4.5-5.5	0	0	0
34A:							
Smithton-------------	0-3	---	2.0-10	4.5-5.5	0	0	0
	3-8	---	2.0-10	4.5-5.5	0	0	0
	8-54	---	2.0-20	4.5-5.5	0	0	0
	54-80	---	5.0-25	4.5-5.5	0	0	0
35B, 36B:							
Speer----------------	0-4	4.0-12	---	5.1-7.3	0	0	0
	4-13	---	4.0-12	4.5-6.0	0	0	0
	13-25	---	5.0-15	4.5-6.0	0	0	0
	25-51	---	5.0-15	4.5-5.5	0	0	0
	51-80	6.0-10	---	4.5-6.5	0	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Sodium adsorption ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
37B:							
Stelltown------------	0-4	---	0.0-5.0	3.5-5.5	0	0	0
	4-12	---	0.0-5.0	3.5-5.5	0	0	0
	12-25	---	2.0-5.0	4.5-5.5	0	0	0
	25-48	---	2.0-8.0	4.5-5.5	0	0	0
	48-80	---	2.0-8.0	4.5-5.5	0	0	0
38C, 38D:							
Sumter---------------	0-4	20-40	---	6.6-8.4	0-20	0	0
	4-9	20-35	---	7.4-8.4	10-20	0	0
	9-32	12-30	---	7.4-8.4	10-20	0	0
	32-80	---	---	---	---	---	---
39B:							
Antoine--------------	0-5	10-15	---	4.5-6.5	0	0	0
	5-12	---	10-15	4.5-5.5	0	0	0
	12-34	---	12-22	4.5-5.5	0	0	0
	34-80	---	12-22	4.5-5.5	0	0	0
40A:							
Tuscumbia------------	0-5	20-30	---	5.1-8.4	0	0	0
	5-23	15-30	---	5.1-8.4	0	0	0
	23-80	15-30	---	5.1-8.4	0	0	0
41B, 42B:							
Urbo-----------------	0-5	---	2.0-10	4.5-5.5	0	0	0
	5-10	---	10-20	4.5-5.5	0	0	0
	10-80	---	12-22	4.5-5.5	0	0	0
43:							
Water.							

Table 17.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In			
1C:						
Kullit	---	---	---	---	High	High
2C, 2D:						
Billstown	---	---	---	---	High	High
3D:						
Bismarck	Paralithic bedrock	10-20	---	Weakly cemented	Moderate	Moderate
Littlefir	Paralithic bedrock	20-50	---	Weakly cemented	High	High
Nashoba	Lithic bedrock	20-40	---	Weakly cemented	Low	Moderate
4E:						
Bismarck	Paralithic bedrock	10-20	---	Weakly cemented	Moderate	Moderate
Nashoba	Lithic bedrock	20-40	---	Very strongly cemented	Low	Moderate
Littlefir	Paralithic bedrock	20-40	---	Weakly cemented	High	High
5B:						
Cupco	---	---	---	---	High	Moderate
6:						
Dam.						
7C:						
DeAnn	Paralithic bedrock	48-72	---	Weakly cemented	High	Moderate
8B:						
Dela	---	---	---	---	Moderate	Moderate
9B:						
Felker	---	---	---	---	High	High
10B:						
Gurdon	---	---	---	---	High	High
11A, 12A:						
Guyton	---	---	---	---	High	High
13A:						
Guyton	---	---	---	---	High	Moderate
14C, 14D:						
Japany	---	---	---	---	High	High
15B:						
Kenn	---	---	---	---	Moderate	Moderate
Ceda	---	---	---	---	Low	Moderate
16B:						
Leeper	---	---	---	---	High	Low

Table 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In			
17C:						
Littlefir	Paralithic bedrock	20-40	---	Weakly cemented	High	High
Bismarck	Paralithic bedrock	10-20	---	Weakly cemented	Moderate	Moderate
Nashoba	Lithic bedrock	20-40	---	Very strongly cemented	Low	Moderate
18B:						
Mazarn	Paralithic bedrock	20-40	---	Weakly cemented	High	High
19B:						
McCaskill	---	---	---	---	Moderate	High
19C:						
McCaskill	Fragipan	37-45	23-39	Noncemented	Moderate	High
20F:						
Nashoba	Lithic bedrock	20-40	---	Very strongly cemented	Low	Moderate
Bismarck	Paralithic bedrock	10-20	---	Weakly cemented	Moderate	Moderate
Clebit	Lithic bedrock	10-20	---	Very strongly cemented	Low	Moderate
21B, 22B:						
Ouachita	---	---	---	---	Moderate	Moderate
23D, 23E:						
Peanutrock	---	---	---	---	Low	Moderate
24C:						
Pikecity	---	---	---	---	Low	Moderate
25:						
Pits, gravel.						
26C, 26D, 27C:						
Sacul	Paralithic bedrock	50-72	---	Weakly cemented	High	High
28B, 29B:						
Sardis	---	---	---	---	High	Moderate
30E:						
Sherless	Paralithic bedrock	20-40	---	Weakly cemented	Moderate	Moderate
Bismarck	Paralithic bedrock	10-20	---	Weakly cemented	Moderate	Moderate
Nashoba	Lithic bedrock	20-40	---	Very strongly cemented	Low	Moderate
31C, 31D:						
Sherless	Paralithic bedrock	20-40	---	Weakly cemented	Moderate	Moderate

Table 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Uncoated steel	Concrete
		In	In			
31C, 31D:						
Littlefir	Paralithic bedrock	20-40	---	Weakly cemented	High	High
32C:						
Sherless	Paralithic bedrock	20-40	---	Weakly cemented	Moderate	Moderate
Nashoba	Lithic bedrock	20-40	---	Very strongly cemented	Low	Moderate
33C:						
Smithdale	---	---	---	---	Low	Moderate
34A:						
Smithton	---	---	---	---	High	High
35B, 36B:						
Speer	---	---	---	---	Moderate	Moderate
37B:						
Stelltown	---	---	---	---	Moderate	High
38C, 38D:						
Sumter	Paralithic bedrock	20-40	---	Weakly cemented	Moderate	Low
39B:						
Antoine	---	---	---	---	High	High
40A:						
Tuscumbia	---	---	---	---	High	Low
41B, 42B:						
Urbo	---	---	---	---	High	High
43:						
Water.						

Table 18.--Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
1C:										
Kullit	B	Medium								
			Jan-May	2.0-3.0	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	2.0-3.0	>6.0	---	---	None	---	None
2C, 2D:										
Billstown	D	High								
			Jan-May	2.0-4.0	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	2.0-4.0	>6.0	---	---	None	---	None
3D:										
Bismarck	D	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Littlefir	C	High								
			Jan	1.5-2.8	2.2-4.2	---	---	None	---	None
			Feb	1.5-2.5	2.0-4.2	---	---	None	---	None
			Mar	1.5-4.2	2.0-4.2	---	---	None	---	None
			Apr-May	1.5-2.5	2.0-4.2	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.5-2.5	2.0-4.2	---	---	None	---	None
Nashoba	C	Low								
			Jan-Dec	---	---	---	---	None	---	None
4E:										
Bismarck	D	High								
			Jan-Dec	---	---	---	---	None	---	None
Nashoba	C	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Littlefir	C	Very high								
			Jan-May	1.5-2.5	2.0-4.2	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.5-2.5	2.0-4.2	---	---	None	---	None

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
5B:										
Cupco----------------------	C	Negligible								
			Jan-May	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			Jun	0.0	>6.0	---	---	None	---	Rare
			Jul-Nov	0.0	>6.0	---	---	None	---	None
			Dec	1.0-2.0	>6.0	---	---	None	---	Rare
6:										
Dam.										
7C:										
DeAnn----------------------	D	High								
			Jan-May	4.0-6.0	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	4.0-6.0	>6.0	---	---	None	---	None
8B:										
Dela-----------------------	B	Very low								
			Jan-May	3.0-5.0	>6.0	---	---	None	Very brief	Frequent
			Jun-Oct	0.0	>6.0	---	---	None	---	Rare
			Nov	0.0	>6.0	---	---	None	Very brief	Frequent
			Dec	3.0-5.0	>6.0	---	---	None	Very brief	Frequent
9B:										
Felker---------------------	C	Low								
			Jan-May	2.0-3.0	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	2.0-3.0	>6.0	---	---	None	---	None
10B:										
Gurdon---------------------	C	Low								
			Jan-May	1.0-2.0	>6.0	---	---	None	---	None
			Jun-Oct	---	---	---	---	None	---	None
			Nov-Dec	1.0-2.0	>6.0	---	---	None	---	None
11A:										
Guyton---------------------	D	Low								
			Jan-May	0.0-1.0	>6.0	---	---	None	Long	Occasional
			Jun-Sep	---	---	---	---	None	---	Rare
			Oct-Nov	---	---	---	---	None	---	Rare
			Dec	0.0-1.0	>6.0	---	---	None	Long	Occasional

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
12A:										
Guyton	D	Low								
			Jan-May	0.0-1.0	>6.0	---	---	None	Long	Frequent
			Jun	---	---	---	---	None	Brief	Frequent
			Jul-Sep	---	---	---	---	None	---	None
			Oct	---	---	---	---	None	Brief	Frequent
			Nov	---	---	---	---	None	Long	Frequent
			Dec	0.0-1.0	>6.0	---	---	None	Long	Frequent
13A:										
Guyton	D	Negligible								
			Jan-Apr	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Long	Frequent
			May	0.0-1.0	>6.0	0.0-1.0	Brief	Occasional	Long	Frequent
			Jun	---	---	0.0-1.0	---	Rare	Brief	Frequent
			Jul-Sep	---	---	0.0-1.0	---	Rare	---	None
			Oct	---	---	0.0-1.0	---	Rare	Brief	Frequent
			Nov	---	---	0.0-1.0	Brief	Occasional	Long	Frequent
			December	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Long	Frequent
14C:										
Japany	D	High								
			Jan-May	1.0-1.5	1.5-2.5	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.0-1.5	1.5-2.5	---	---	None	---	None
14D:										
Japany	D	Very high								
			Jan-May	1.0-1.5	3.3-6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.0-1.5	3.3-6.0	---	---	None	---	None
15B:										
Kenn	B	Negligible								
			Jan-May	---	---	---	---	None	Very brief	Frequent
			Jun-Dec	---	---	---	---	None	---	Rare
Ceda	B	Negligible								
			Jan-May	---	---	---	---	None	Very brief	Frequent
			Jun-Jul	---	---	---	---	None	---	Rare
			Aug-Nov	---	---	---	---	None	---	None
			Dec	---	---	---	---	None	---	Rare

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
16B:										
Leeper-------------------	D	High								
			Jan-May	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			Jun	---	---	---	---	None	---	Rare
			Jul-Oct	---	---	---	---	None	---	None
			Nov	---	---	---	---	None	---	Rare
			Dec	1.0-2.0	>6.0	---	---	None	Brief	Occasional
17C:										
Littlefir----------------	C	High								
			Jan-May	1.5-2.5	2.0-4.2	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.5-2.5	2.0-4.2	---	---	None	---	None
Bismarck-----------------	D	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Nashoba------------------	C	Low								
			Jan-Dec	---	---	---	---	None	---	None
18B:										
Mazarn-------------------	C	Medium								
			Jan-May	1.0-2.0	1.7-3.3	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.0-2.0	1.7-3.3	---	---	None	---	None
19B:										
McCaskill----------------	C	Medium								
			Jan-May	1.0-1.5	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.0-1.5	>6.0	---	---	None	---	None
19C:										
McCaskill----------------	C	Medium								
			Jan-May	2.0-4.0	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	2.0-4.0	>6.0	---	---	None	---	None
20F:										
Nashoba------------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Bismarck-----------------	D	High								
			Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
20F:										
Clebit	D	High								
			Jan-Dec	---	---	---	---	None	---	None
21B:										
Ouachita	C	Low								
			Jan-May	---	---	---	---	None	Brief	Occasional
			Jun	---	---	---	---	None	---	Rare
			Jul-Oct	---	---	---	---	None	---	None
			Nov	---	---	---	---	None	---	Rare
			Dec	---	---	---	---	None	Brief	Occasional
22B:										
Ouachita	C	Negligible								
			Jan-May	---	---	---	---	None	Brief	Frequent
			Jun	---	---	---	---	None	---	Rare
			Jul-Oct	---	---	---	---	None	---	None
			Nov	---	---	---	---	None	---	Rare
			Dec	---	---	---	---	None	Brief	Frequent
23D, 23E:										
Peanutrock	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
24C:										
Pikecity	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
25:										
Pits, gravel.										
26C:										
Sacul	C	High								
			Jan-May	2.0-3.0	3.0-5.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	2.0-3.0	3.0-5.0	---	---	None	---	None
26D:										
Sacul	C	Very high								
			Jan-Dec	2.0-3.0	3.0-5.0	---	---	None	---	None
27C:										
Sacul	C	High								
			Jan-Dec	2.0-3.0	3.0-5.0	---	---	None	---	None

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
28B:										
Sardis	C	Low								
			Jan-May	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			Jun	---	---	---	---	None	---	Rare
			Jul-Oct	---	---	---	---	None	---	None
			Nov	---	---	---	---	None	---	Rare
			Dec	2.0-3.0	>6.0	---	---	None	Brief	Occasional
29B:										
Sardis	C	Negligible								
			Jan-May	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			Jun-Nov	---	---	---	---	None	---	None
			Dec	2.0-3.0	>6.0	---	---	None	Brief	Frequent
30E:										
Sherless	B	High								
			Jan-Dec	---	---	---	---	None	---	None
Bismarck	D	High								
			Jan-Dec	---	---	---	---	None	---	None
Nashoba	C	High								
			Jan-Dec	---	---	---	---	None	---	None
31C, 31D:										
Sherless	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Littlefir	C	High								
			Jan-May	1.5-2.5	2.0-4.2	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.5-2.5	2.0-4.2	---	---	None	---	None
32C:										
Sherless	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Nashoba	C	Low								
			Jan-Dec	---	---	---	---	None	---	None
33C:										
Smithdale	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
34A:										
Smithton	D	Low								
			Jan-May	0.0-1.0	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	0.0-1.0	>6.0	---	---	None	---	None
35B:										
Speer	B	Negligible								
			Jan-May	---	---	---	---	None	---	Rare
			Jun-Nov	---	---	---	---	None	---	None
			Dec	---	---	---	---	None	---	Rare
36B:										
Speer	B	Negligible								
			Jan-May	---	---	---	---	None	Very brief	Occasional
			Jun-Nov	---	---	---	---	None	---	None
			Dec	---	---	---	---	None	---	Rare
37B:										
Stelltown	C	Low								
			Jan-May	2.0-3.0	>6.0	---	---	None	---	None
			Jun-Oct	---	---	---	---	None	---	None
			Nov-Dec	2.0-3.0	>6.0	---	---	None	---	None
38C:										
Sumter	C	High								
			Jan-Dec	---	---	---	---	None	---	None
38D:										
Sumter	C	Very high								
			Jan-Dec	---	---	---	---	None	---	None
39B:										
Antoine	C	Low								
			Jan-May	1.0-2.0	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.0-2.0	>6.0	---	---	None	---	None
40A:										
Tuscumbia	D	Low								
			Jan-Mar	0.0-1.0	>6.0	---	---	None	Long	Occasional
			Apr	0.0-1.0	>6.0	---	---	None	Brief	Occasional
			May	0.0-1.0	>6.0	---	---	None	---	Rare
			Jun-Nov	---	---	---	---	None	---	None
			Dec	0.0-1.0	>6.0	---	---	None	Brief	Occasional

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
41B:										
Urbo	D	Medium								
			Jan-May	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			Jun	---	---	---	---	None	---	Rare
			Jul-Oct	---	---	---	---	None	---	None
			Nov	---	---	---	---	None	---	Rare
			Dec	1.0-2.0	>6.0	---	---	None	Brief	Occasional
42B:										
Urbo	D	High								
			Jan-May	1.0-2.0	>6.0	---	---	None	Long	Frequent
			Jun	---	---	---	---	None	---	Rare
			Jul-Oct	---	---	---	---	None	---	None
			Nov	---	---	---	---	None	Brief	Occasional
			Dec	1.0-2.0	>6.0	---	---	None	Long	Frequent
43:										
Water.										

Table 19.--Taxonomic Classification of the Soils

Soil name	Family or higher taxonomic class
Antoine	Fine-silty, mixed, semiactive, thermic Aquic Paleudults
Billstown	Fine, smectitic, thermic Vertic Paleudalfs
Bismarck	Loamy-skeletal, mixed, semiactive, thermic, shallow Typic Dystrudepts
Ceda	Loamy-skeletal, siliceous, semiactive, nonacid, thermic Typic Udifluvents
Clebit	Loamy-skeletal, siliceous, semiactive, thermic Lithic Dystrudepts
Cupco	Fine-silty, siliceous, active, thermic Typic Epiaqualfs
DeAnn	Very-fine, smectitic, thermic Oxyaquic Hapluderts
Dela	Coarse-loamy, siliceous, active, nonacid, thermic Typic Udifluvents
Felker	Fine-silty, siliceous, active, thermic Aquic Paleudults
Gurdon	Coarse-silty, siliceous, semiactive, thermic Aquic Paleudults
Guyton	Fine-silty, siliceous, active, thermic Typic Glossaqualfs
Japany	Fine, mixed, active, thermic Aquic Dystruderts
Kenn	Fine-loamy, siliceous, active, thermic Ultic Hapludalfs
Kullit	Fine-loamy, siliceous, semiactive, thermic Aquic Paleudults
Leeper	Fine, smectitic, nonacid, thermic Vertic Epiaquepts
Littlefir	Fine, mixed, semiactive, thermic Oxyaquic Hapludults
Mazarn	Fine-loamy, siliceous, semiactive, thermic Aquic Hapludults
McCaskill	Coarse-loamy, mixed, semiactive, thermic Aquic Paleudults
Nashoba	Loamy-skeletal, siliceous, semiactive, thermic Typic Dystrudepts
Ouachita	Fine-silty, siliceous, active, thermic Fluventic Dystrudepts
Peanutrock	Loamy-skeletal, siliceous, semiactive, thermic Typic Hapludults
Pikecity	Fine-loamy, siliceous, semiactive, thermic Typic Hapludults
Sacul	Fine, mixed, active, thermic Aquic Hapludults
Sardis	Fine-silty, siliceous, active, thermic Fluvaquentic Dystrudepts
Sherless	Fine-loamy, mixed, semiactive, thermic Typic Hapludults
Smithdale	Fine-loamy, siliceous, subactive, thermic Typic Hapludults
Smithton	Coarse-loamy, siliceous, semiactive, thermic Typic Paleaquults
Speer	Fine-loamy, siliceous, active, thermic Ultic Hapludalfs
Stelltown	Coarse-loamy, mixed, semiactive, thermic Aquic Hapludults
Sumter	Fine-silty, carbonatic, thermic Rendollic Eutrudepts
Tuscumbia	Fine, mixed, active, nonacid, thermic Vertic Epiaquepts
Urbo	Fine, mixed, active, acid, thermic Vertic Epiaquepts

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