United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Tennessee Agricultural Experiment Station, Perry County Board of Commissioners, Tennessee Department of Agriculture, Perry County Soil Conservation District, and Tennessee Agricultural Extension Service

Soil Survey of Perry County, Tennessee

How To Use This Soil Survey

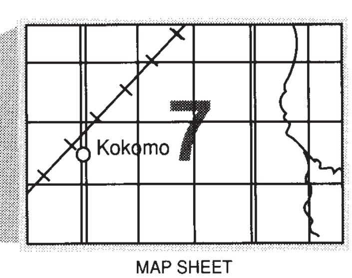
General Soil Map

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

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

Detailed Soil Maps

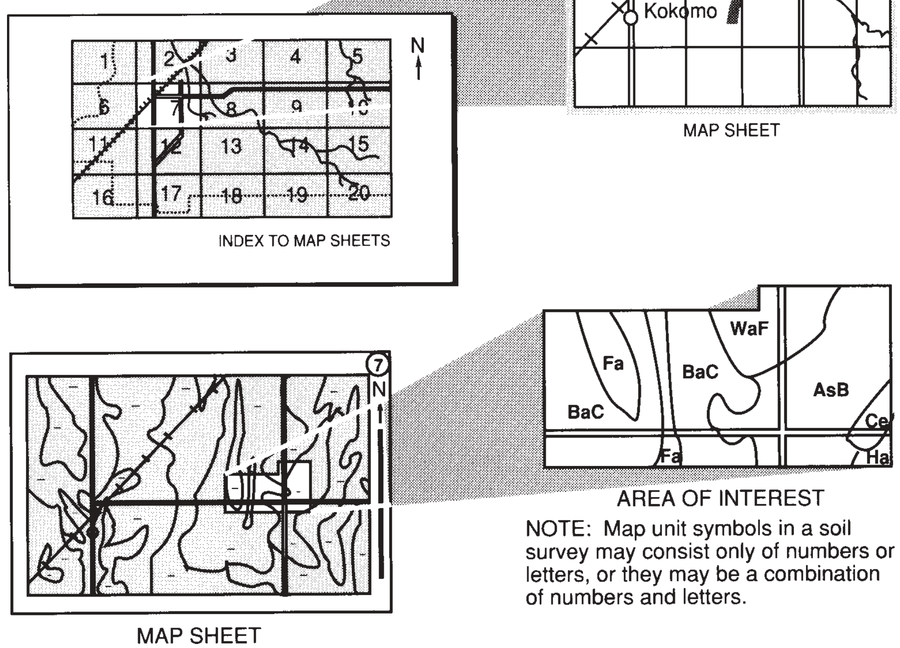
The detailed soil maps can be useful in planning the use and management of small areas.



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

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

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



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 2000. Soil names and descriptions were approved in 2000. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2000. This survey was made cooperatively by the Natural Resources Conservation Service, the Tennessee Agricultural Experiment Station, the Perry County Board of Commissioners, the Tennessee Department of Agriculture, the Perry County Soil Conservation District, and the Tennessee Agricultural Extension Service. Special thanks to Johnson Controls, Richardson and Associates Realtors, Inc., the Perry Farmers Coop, Inc., and the First State Bank of Linden for financial contributions and support toward the completion of the survey. The survey is part of the technical assistance furnished to the Perry County Soil Conservation District.

Cover: The Buffalo River valley. Soils in this valley provide a large part of the agricultural land in Perry County.

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

Contents

Issued 2004

Foreword

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

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

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

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

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

James W. Ford
State Conservationist
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Soil Survey of Perry County, Tennessee

By Douglas F. Clendenon

Fieldwork by Douglas F. Clendenon, David W. Thomas, and Jennifer L. Schanie, Natural Resources Conservation Service, and James A. Cotton and Terry E. Henry, Soil Consultants

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with
Perry County Board of Commissioners, Tennessee Department of Agriculture, Tennessee Agricultural Experiment Station, Perry County Soil Conservation District, and Tennessee Agricultural Extension Service

PERRY COUNTY is in the west-central part of Tennessee (fig. 1). It has an area of 271,100 acres, or about 423 square miles. Linden, the county seat, has a population of 1,100. It is 82 miles southwest of Nashville and 50 miles west of Columbia. The county population is about 6,600.

This soil survey updates the survey of Perry County previously published in 1953 *(7)*. It provides updated and additional information and has soil maps on a modern photographic background.

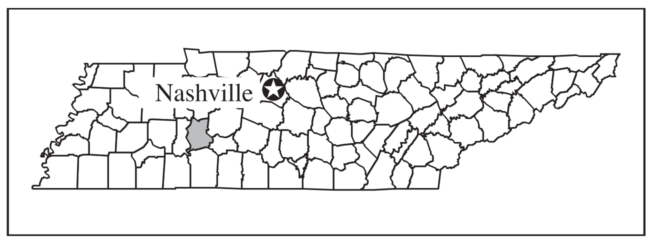

Figure 1.—Location of Perry County in Tennessee.

General Nature of the Survey Area

This section gives general facts about Perry County. It describes physiography, history, natural resources, geology, and climate.

Physiography

Perry County is in the Western Highland Rim physiographic province. Topography in the county is generally very hilly. Numerous valleys dissect the survey area, which consists of nearly level to undulating stream terraces and flood plains that discharge into either the Tennessee River or the Buffalo River. A very small area in the northwestern corner of the county drains into the Duck River as it exits into Humphreys County. The Tennessee River provides the border of Perry and Decatur Counties to the west. The Buffalo River runs through the middle of the county. All three rivers drain to the north. Nearly all of the soils used intensively for agricultural production are along these streams and tributaries. These soils are generally very deep to bedrock and have slopes suitable for agriculture and conventional building. Soils of the hilly uplands are generally well drained to excessively drained and loamy and have a considerable amount of chert fragments. Some of these soils, however, weathered from limestone near the Tennessee River and are clayey. Woodland is the dominant land use and comprises about 80 percent of the county.

History

Permanent settlers began to arrive in the survey area soon after it was acquired from Native Americans in 1806. The area offered productive bottomlands and an abundance of water, timber, and wild game. Early settlers were largely from adjoining counties of middle Tennessee, although some immigrated from North Carolina, Alabama, and Kentucky. The settlers primarily grew subsistence crops such as corn. As the county became more populated and transportation improved, more land was cleared for crop production. Most of the land clearing was completed by 1880. Corn, peanuts, and livestock were produced and shipped by river to outside markets. Cotton was the leading cash crop at that time. Oats, rye, and potatoes were also produced. Livestock grazed along roadways and streams, in woodland, and on other land not fenced. Only a very small amount of land was permanent pasture. Most cleared land was cropped continually or in a short rotation with pasture and hay.

Trends in the last 50 years are toward reducing the amount of land in agricultural production and the number of farms and toward slightly increasing the size of the farms. There was 147,490 acres of land in farms in 1945. Of this, 26,326 acres was harvested cropland or idle land. The average farm size was 169.3 acres *(7)*. In 1999, the average farm size was 231 acres. Total land in farms was 54,390 acres. Harvested cropland included 5,800 acres of corn and soybeans *(3)*.

Natural Resources

Some of the same resources that attracted the first settlers to Perry County remain today. The survey area has an abundance of potable water in wells and springs, as well as an abundance of woodland and wildlife. Generally, the soils of the river valleys are productive and areas of these soils offer good sites for homes where the sites are above the flood zone. Reserves of chert, sand, gravel, limestone, and phosphate occur in the county.

Geology

Cherty limestones are by far the most extensive geologic formations of the uplands. In most places, these formations have weathered to an infertile cherty regolith with few exposures of hard bedrock. These formations are the source of much of the rock fragments inherent in the soils of Perry County. Water-worn gravel caps some of the highest hills, particularly in the eastern part of the county.

Hard siltstone, shale, and limestone commonly are beneath the cherty formations. The siltstone resists penetration by water and causes most of the springs in this area. Where the formation is under the valley floor, there is a high frequency of soils with wetness conditions on the bottoms. Upland soils that weather directly from limestone are commonly clayey and range from shallow to very deep to bedrock. Most of the bedrock geology is level bedded with a few areas of faulting.

A silty mantle, presumably loess, caps some of the broader parts of ridgetops and high stream terraces. This remaining silt cap is commonly 2 feet or less in thickness. Soils in these areas are silty in the upper part.

The nature of the stream alluvium in the survey area depends on the source and the topography. In the Tennessee River valley, the alluvium ranges from loamy to clayey with very little amounts of gravel. This alluvium has a significant amount of mica. Elsewhere, alluvium is gravelly in narrow valleys and along major streams. Soils in broad valleys, such as the Buffalo River valley, are loamy with little amounts of gravel, except in spots where secondary streams deposited their stream load on the valley floor.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Linden, Tennessee, in the period 1961 to 1990. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is 47.8 degrees F and the average daily minimum temperature is 26.0 degrees. The lowest temperature on record, which occurred on January 24, 1963, is -18 degrees. In summer, the average temperature is 75.7 degrees and the average daily maximum temperature is 88.1 degrees. The highest recorded temperature, which occurred on July 17, 1980, is 105 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 (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 55.09 inches. Of this, 29.9 inches, or about 54 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 14.11 inches. The heaviest 1-day rainfall during the period of record was 6.97 inches on March 13, 1975. Thunderstorms occur on about 53 days each year, and most occur between May and August.

The average seasonal snowfall is 5.5 inches. The greatest snow depth at any one time during the period of record was 11 inches. On the average, 1 or 2 days of the year have at least 1 inch of snow on the ground.

The average relative humidity in mid-afternoon is about 57 percent. Humidity is higher at night, and the average at dawn is about 84 percent. The sun shines 64 percent of the time possible in summer and 43 percent in winter. The prevailing wind is from the south. 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 and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

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

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted 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. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

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

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

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

General Soil Map Units

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

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

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

Dominantly Nearly Level to Sloping Soils on Flood Plains, Stream Terraces, and Footslopes

These soils make up about 20 percent of the survey area. They are excessively drained to somewhat poorly drained. They formed in alluvium, colluvium, and, in places, a thin silty mantle.

1. Beason-Wolftever-Busseltown

Very deep, moderately well drained and somewhat poorly drained, nearly level to sloping soils; on flood plains and low stream terraces of the Tennessee River (fig. 2)

The landscape of this general soil map unit is characterized by undulating gentle knolls and adjacent narrow troughs that parallel the river. Slopes dominantly range from 0 to 6 percent but may range to 8 percent.

This map unit makes up about 3 percent of the survey area. It is about 25 percent Beason and the similar Chenneby soils, 24 percent Wolftever soils, 19 percent Busseltown soils, and 32 percent soils of minor extent.

The minor soils are Gumdale soils on low stream terraces; Staser soils on natural river levees; Egam soils on flood plains; poorly drained Minter soils in troughs and depressions on flood plains; and Paden and Pickwick soils on the higher stream terraces.

The Beason soils are in nearly level flats and troughs on the flood plain. They are somewhat poorly drained. They have a yellowish brown and gray, moderately fine textured and fine textured subsoil. These soils formed in alluvium.

The Wolftever soils are on gentle knolls on the flood plain. They are moderately well drained and are nearly level to sloping. They have a yellowish brown, moderately fine textured and fine textured subsoil with grayish wetness features in the lower part. These soils formed in alluvium.

The Busseltown soils are on low stream terraces. They are moderately well drained and level to sloping. They have a yellowish brown, medium textured subsoil with a fragipan. These soils formed in alluvium.

About 85 percent of this map unit is cleared. Some of the poorly drained areas are in timber species, such as oaks, maples, ash, and gum. Most of this unit is used for the production of corn and soybeans. Flooding and wetness are the main limitations.

This map unit is poorly suited to residential and commercial uses because of flooding.

2. Paden-Ellisville-Woodmont

Very deep, well drained and moderately well drained, nearly level to sloping soils; on flood plains and stream terraces of the Buffalo River (fig. 3)

The landscape of this general soil map unit is characterized by a nearly level flood plain and low stream terraces and a more dissected, gently sloping and sloping higher stream terrace. Slopes dominantly range from 0 to 12 percent with inclusions of steeper slopes.

This map unit makes up about 6 percent of the

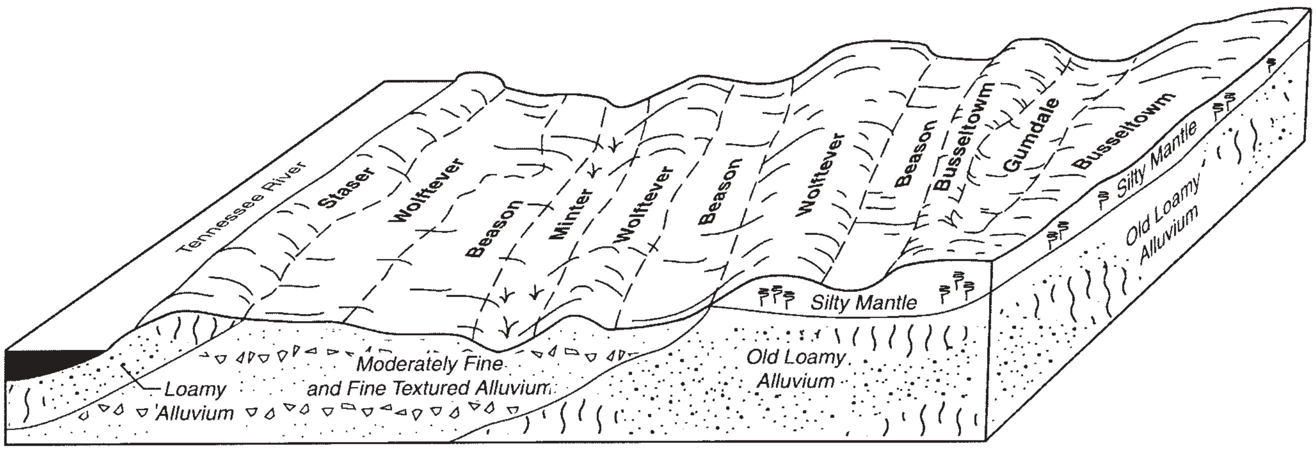

Figure 2.—Relationship of soils, parent material, and topography in the Beason-Wolftever-Busseltown general soil map unit.

survey area. It is about 27 percent Paden soils, 20 percent Ellisville soils, 11 percent Woodmont soils, and 42 percent soils of minor extent.

The minor soils are Armour, Trace, and Pickwick soils on stream terraces; Tarklin and Minvale soils on stream terrace escarpments and footslopes; Humphreys soils on alluvial fans; Riverby, Lobelville, Chenneby, and Lee soils on flood plains; and Biffle, Hawthorne, Sulphura, Braxton, Talbott, Gladdice, and Mimosa soils on uplands.

The Paden soils are on stream terraces. They are moderately well drained and nearly level to sloping. They have a yellowish brown, medium textured subsoil with a fragipan. These soils formed in a silty mantle and in the underlying loamy alluvium.

The Ellisville soils are on flood plains. They are well drained and nearly level. They have a brownish silty subsoil. These soils formed in recent alluvium.

The Woodmont soils are on low stream terraces. They are somewhat poorly drained and nearly level. They have a brownish and yellowish, medium textured subsoil with a fragipan. They have common or many grayish mottles in the upper part and in the fragipan. These soils formed in alluvium.

About 85 percent of this map unit is cleared. Some of the poorly drained areas and the river levees are in timber species, such as oaks, maples, ash, and gum. Some areas on the steeper slopes are in upland oaks, yellow-poplar, or pine. The Paden soils are primarily used for pasture or hay. Some areas are in row crops, such as corn, wheat, and soybeans. The Ellisville and Woodmont soils are used primarily for the production of corn and soybeans or for hay. Flooding is the main limitation affecting crop production in areas of the Ellisville soils.

The Ellisville and Woodmont soils are poorly suited to residential and commercial uses because of flooding. Wetness and restricted permeability are limitations in areas of the Paden and Woodmont soils.

3. Pickwick-Armour-Arrington

Very deep, well drained, nearly level to sloping soils; on stream terraces and flood plains

The landscape of this general soil map unit is characterized by a relatively narrow flood plain and broad stream terraces. This map unit consists of soils along the Duck River valley in the northeastern corner of the county. Slopes dominantly range from 0 to 12 percent.

This map unit makes up less than 1 percent of the survey area. It is about 33 percent Pickwick soils, 25 percent Armour soils, 25 percent Arrington soils, and 17 percent soils of minor extent.

The minor soils are Chenneby soils on flood plains; Woodmont soils on low stream terraces; and Paden soils on the higher stream terraces.

The Pickwick soils are on the higher stream terraces. They are gently sloping or sloping. They have a reddish, medium textured subsoil. These soils formed in alluvium.

The Armour soils are on low stream terraces. They are nearly level. They have a brownish, medium textured subsoil with an inherently high content of phosphate. These soils formed in alluvium.

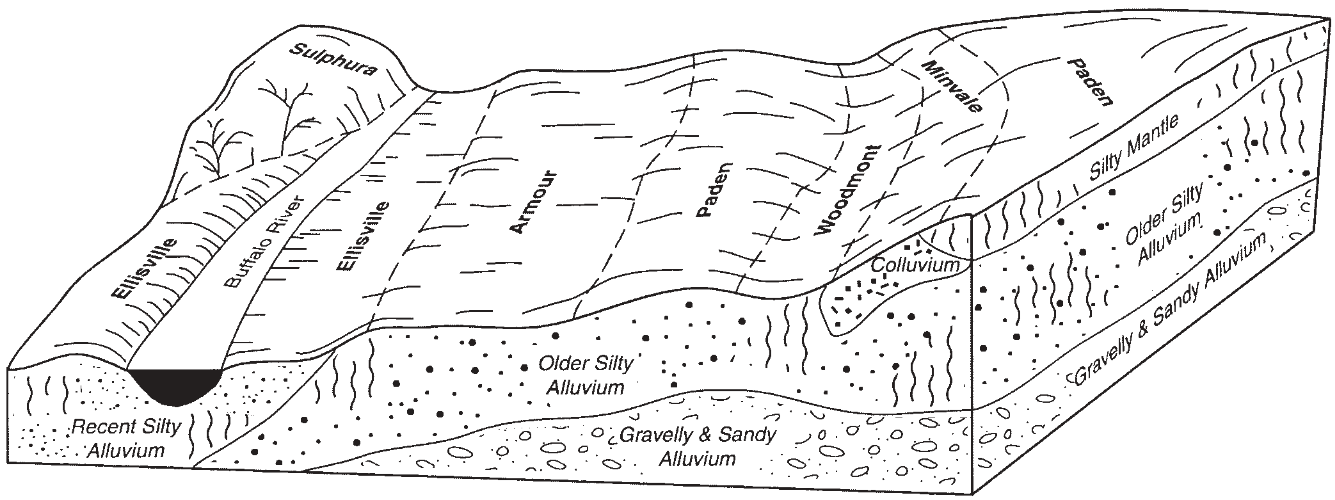

Figure 3.—Relationship of soils, parent material, and topography in the Paden-Ellisville-Woodmont general soil map unit.

The Arrington soils are on flood plains. They are nearly level. They have a dark brown, medium textured subsoil that is naturally high in phosphate. These soils formed in alluvium.

About 95 percent of this map unit is cleared. Some of the minor soils are in timber species, such as oaks, hickories, maples, hackberry, black walnut, locusts, and redcedar. The Armour and Pickwick soils are commonly in grass or mixed grass-legume forages used as pasture or hay. These soils are also used for the production of corn, soybeans, and wheat. The Arrington soils are mainly used for the production of corn and soybeans and, in some areas, are used for grazing land and hay production.

Flooding is the main limitation affecting crops in areas of the Arrington soils.

The Pickwick soils have few limitations affecting urban uses. The Arrington and Armour soils are subject to flooding and are severely limited for residential and commercial uses.

4. Trace-Riverby-Humphreys

Very deep, excessively drained to well drained, nearly level to sloping soils; on stream terraces, flood plains, and alluvial fans (fig. 4)

The landscape of this general soil map unit consists of narrow valleys that have carved into cherty uplands of the Highland Rim. The drainage pattern is dendritic, and the main watercourses are primary and secondary tributaries of the Tennessee and Buffalo Rivers. Slopes dominantly range from 0 to 12 percent.

This map unit makes up about 10 percent of the survey area. It is about 26 percent Trace soils, 24 percent Riverby soils, 22 percent Humphreys soils, and 28 percent soils of minor extent.

The minor soils are Paden and Woodmont soils on low stream terraces; Tarklin and Minvale soils on footslopes; and Sullivan, Lee, and Lobelville soils on flood plains.

The Trace soils are on low stream terraces. They are well drained and nearly level. They have a brownish, medium textured subsoil that becomes very gravelly in the lower part. These soils formed in alluvium.

The Riverby soils are on narrow flood plains. They are excessively drained and nearly level. They have a yellowish brown, extremely gravelly, coarse textured substratum. These soils formed in gravelly alluvium.

The Humphreys soils are on stream terraces and footslopes. They are well drained and nearly level to sloping. They have a brown, gravelly, medium textured subsoil that grades to a dark yellowish brown, extremely gravelly, coarse textured substratum. These soils formed in alluvium or colluvium.

About 85 percent of this map unit is cleared. Some of the minor soils on the steeper slopes and narrow strips along creek banks are in timber species, such as oaks, maples, yellow-poplar, sycamore, black walnut, and redcedar. The Riverby soils are mainly used for pasture, hay, or woodland. Flooding and droughtiness are major limitations affecting crops and forages. The Trace and Humphreys soils are commonly used for pasture or hay and, in some

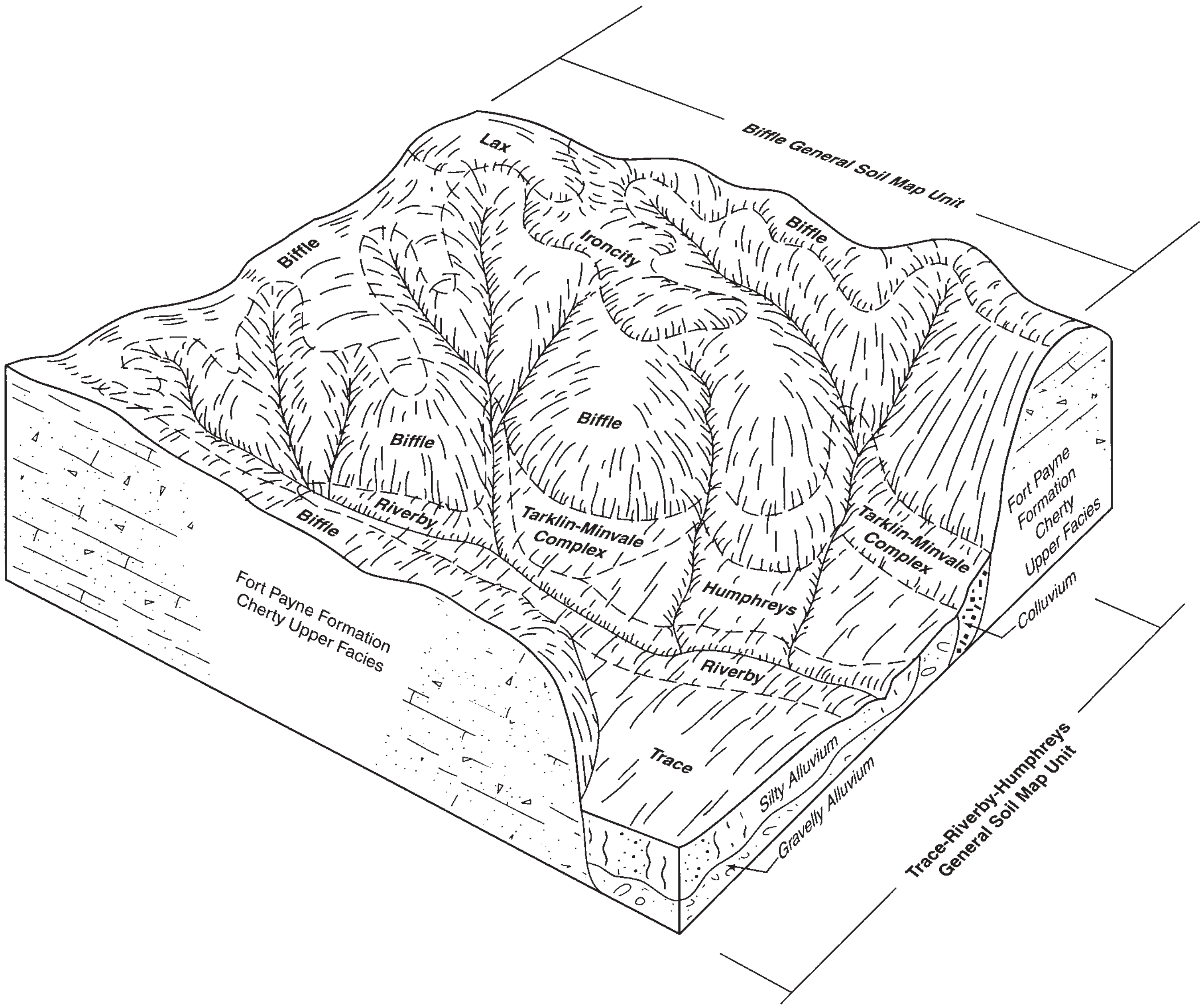

Figure 4.—Relationship of soils, parent material, and topography in the Trace-Riverby-Humpheys and Biffle general soil map units.

areas, are used for the production of corn, soybeans, wheat, and vegetables.

Flooding is the main limitation affecting residential and commercial uses in areas of the major soils.

5. Chenneby-Armour-Ellisville

Very deep, somewhat poorly drained to well drained, nearly level and gently sloping soils; on flood plains, stream terraces, and footslopes

The landscape of this general soil map unit consists of narrow valleys in the western part of the county in watersheds. Areas have a significant component of limestone. The drainage pattern is dendritic, and the main watercourses are primary and secondary tributaries of the Tennessee River. Slopes range from 0 to 5 percent.

This map unit makes up about 1 percent of the survey area. It is about 29 percent Chenneby soils, 25 percent Armour soils, 19 percent Ellisville soils, and 27 percent soils of minor extent.

The minor soils are Paden, Woodmont, Wolftever, and Humphreys soils on low stream terraces; Tarklin and Minvale soils on footslopes; and Sullivan, Egam, Riverby, Lee, and Lobelville soils on flood plains.

The Chenneby soils are on flood plains. They are somewhat poorly drained and nearly level. They have a brownish and grayish subsoil of silt loam or silty clay loam. These soils formed in alluvium.

The Armour soils are on low stream terraces and footslopes. They are nearly level or gently sloping. They have a brownish subsoil of silt loam or silty clay loam. These soils formed in alluvium and colluvium.

The Ellisville soils are on flood plains. They are well drained and nearly level. They have a brownish silty subsoil. These soils formed in alluvium.

About 85 percent of this map unit is cleared. Some areas within the flood easement of the Tennessee River, some of the minor soils on steeper slopes, and areas on narrow strips along creeks are in woodland. Common timber species are oaks, maples, yellow-poplar, sweetgum, ash, sycamore, and black walnut. Wetness and flooding are the main limitations affecting crops and forages. The Chenneby soils are in grass or trees or are idle. The Armour and Ellisville soils are commonly used for pasture, hay, or crop production.

Flooding is the main limitation affecting residential or commercial uses in areas of the major soils.

Dominantly Steep to Gently Sloping Soils on Uplands

These soils make up about 80 percent of the survey area. They are somewhat excessively drained to moderately well drained. They formed in residuum from argillaceous limestone or cherty limestone, gravelly marine deposits, colluvium, or thin loess.

6. Biffle

Moderately deep, somewhat excessively drained, sloping to steep soils; on uplands (figs. 4 and 5)

The landscape of this general soil map unit consists of the highly dissected portion of the Highland Rim that is underlain primarily by the Fort Payne Formation. It is characterized by steep hills and winding V-shaped valleys. The drainage pattern is dendritic. Slopes dominantly range from 5 to 75 percent.

This map unit makes up about 70 percent of the survey area. It is about 87 percent Biffle soils and 13 percent soils of minor extent.

The minor soils include Sugargrove, Barfield, Gladdice, Mimosa, Ironcity, and Lax soils on uplands; Tarklin and Minvale soils on footslopes; Humphreys soils on footslopes and stream terraces; and Riverby and Lobelville soils on flood plains.

The Biffle soils are on convex ridgetops and steep hillsides. They have a brownish, gravelly, medium textured subsoil. A dense bed of chert is commonly at a depth of about 2 feet. These soils formed in residuum from granular tripolitic chert.

About 95 percent of this map unit is woodland. Some areas, mainly minor soils, are cleared and used as pasture. Trees in areas of the Biffle soils generally are chestnut oak, white oak, black oak, and hickory. Numerous large chert pits, which are used as a source for roadfill, occur in this unit.

The slope and depth to bedrock are limitations affecting most residential and commercial uses.

7. Dickson-Ironcity

Very deep, moderately well drained and well drained, gently sloping and sloping soils; on uplands

The landscape of this general soil map unit consists of the broad area of uplands in the southeastern corner of the county along the border of Lewis County. This area is capped by a thin loess mantle over old alluvium and gravelly material from limestone residuum. The drainage pattern is dendritic. Slopes dominantly range from 2 to 12 percent.

This map unit makes up less than 1 percent of the survey area. It is about 60 percent Dickson soils, 25 percent Ironcity soils, and 15 percent soils of minor extent.

The minor soils are Biffle and Lax soils on uplands; Tarklin and Minvale soils on footslopes; and Riverby soils on flood plains.

The Dickson soils are on ridgetops. They are very deep to bedrock, moderately well drained, and gently sloping. They have a brownish or yellowish, medium textured subsoil that has a dense fragipan. These soils formed in loess over residuum from cherty limestone.

The Ironcity soils are on narrow ridgetops. They are very deep to bedrock, well drained, and sloping. Typically, they have a brownish, gravelly, medium textured subsoil. These soils formed in a silty mantle 2 to 3 feet thick containing fragments of chert and rounded gravel and in the underlying residuum from cherty limestone.

All of this map unit is woodland. The common trees are southern red oak, chestnut oak, white oak, black oak, post oak, blackgum, and hickory.

Erosion is the main limitation affecting crop production. Restricted permeability is the main limitation affecting most residential and commercial uses.

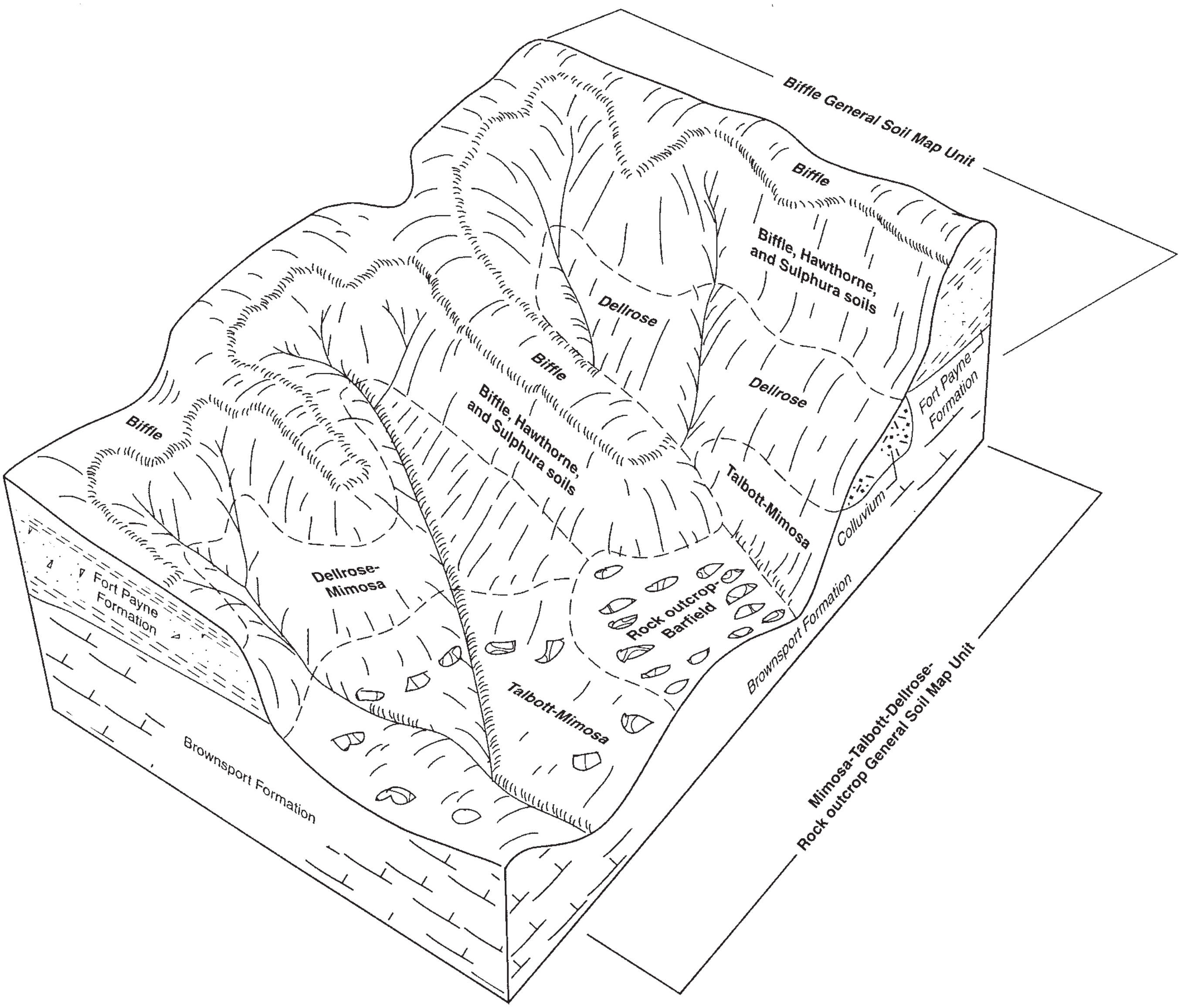

Figure 5.—Relationship of soils, parent material, and topography in the Biffle and Mimosa-Talbott-Dellrose-Rock outcrop general soil map units.

8. Mimosa-Talbott-Dellrose-Rock outcrop

Moderately deep to very deep, well drained, sloping to steep soils and areas of limestone rock outcrop; on hillsides (fig. 5)

The landscape of this general soil map unit consists of the hilly uplands in the western and southwestern parts of the county along the Tennessee River valley and its tributaries. It is characterized by highly dissected hillsides below the cherty Biffle soils in general soil map unit 6. Outcrops of level-bedded limestone bedrock are common. The drainage pattern is dendritic, and some streams drain into sinkholes or into fractures in limestone bedrock along the stream channel. Slopes dominantly range from 5 to 60 percent. In some areas, however, limestone bluffs are nearly vertical.

This map unit makes up about 10 percent of the survey area. It is about 20 percent Mimosa soils, 18 percent Talbott soils, 16 percent Dellrose soils, 15 percent areas of rock outcrop, and 31 percent soils of minor extent.

The minor soils are Barfield, Gladdice, Braxton, Stiversville, Marsh, and Biffle soils on uplands; Paden and Pickwick soils on stream terraces; Tarklin, Minvale, and Armour soils on footslopes; and Chenneby, Wolftever, Sullivan, Lobelville, and Riverby soils on flood plains.

The Mimosa soils are on hillsides. They are deep to bedrock and sloping to steep. They have a brownish and yellowish, fine textured subsoil. These soils formed in residuum from limestone.

The Talbott soils are on hillsides. They are moderately deep to limestone and sloping to moderately steep. They have a reddish, fine textured subsoil. These soils formed in residuum from limestone.

The Dellrose soils are on footslopes. They are very deep to bedrock and sloping to steep. They have a brownish, gravelly, medium textured subsoil. These soils formed in a layer of cherty colluvium underlain by limestone residuum.

The areas of rock outcrop consist of limestone ledges that extend 2 feet above the soil surface. In some areas there are loose stones and boulders.

About 85 percent of this map unit is woodland. Common timber species are oaks, hickories, maples, beech, locust, and redcedar. Some areas of the Dellrose soils are used as pasture. Small areas of minor soils are used for the production of crops, hay, and pasture.

The slope, restricted permeability, and depth to bedrock are the main limitations affecting residential and commercial uses.

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 noncontrasting, or 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, or dissimilar, 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*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Paden silt loam, 1 to 5 percent slopes, eroded, is a phase of the Paden series.

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

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Gladdice-Rock outcrop-Mimosa complex, 25 to 70 percent slopes, is an example.

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

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. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

AmA—Armour silt loam, 0 to 2 percent slopes, occasionally flooded

Composition

Armour soil and similar inclusions: 85 to 95 percent

Setting

Landform: Stream terraces along the Buffalo River and some of its tributaries
Major uses: Cropland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: Occasional for brief periods from December to June
Available water capacity: High
Seasonal high water table: None
Soil reaction (pH): 5.1 to 6.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 10 inches—brown silt loam

Subsurface layer:
10 to 18 inches—brown silt loam

Subsoil:
18 to 50 inches—strong brown silt loam
50 to 65 inches—brown loam

Substratum:
65 to 79 inches—brown loam

Inclusions

Contrasting inclusions:
• Small areas of Paden soils and the gravelly Humphreys soils intermingled on the landscape
• Small areas of Riverby and Ellisville soils in the lower positions near stream channels
• Soils on short steep side slopes along natural stream levees
• Small areas of Chenneby soils in concave positions

Similar inclusions:
• Areas of soils that are loamy in the upper part

Use and Management

Cropland

Suitability: Well suited
Major limitations: Flooding
Management measures and considerations:
• Although this map unit floods occasionally, it is capable of producing high yields of crops.
• Planting late and harvesting early reduce the risk of flood damage.
• Using a winter cover crop and no-till planting help to improve the soil condition.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Flooding
Management measures and considerations:
• This map unit is capable of producing high yields of forages.
• Flooding is likely in some years and may cause the loss of fences, forages, and livestock.

Woodland

Suitability: Moderately suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, and suitability for log landings and natural surface roads
Trees to plant: Yellow-poplar, loblolly pine, black walnut, white oak, and cherrybark oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding

Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.
• Roads should be constructed on raised fill material above the flood plain.

Interpretive Groups

Land capability classification: 2w

AmB—Armour silt loam, 2 to 5 percent slopes

Composition

Armour soil and similar inclusions: 90 to 100 percent

Setting

Landform: Stream terraces and footslopes
Major uses: Cropland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: None
Available water capacity: High
Seasonal high water table: None
Soil reaction (pH): 5.1 to 6.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 8 inches—dark yellowish brown silt loam

Subsurface layer:
8 to 16 inches—dark brown silt loam

Subsoil:
16 to 47 inches—strong brown and dark yellowish brown silt loam
47 to 65 inches—strong brown silty clay loam

Inclusions

Contrasting inclusions:
• Wolftever soils in small areas adjacent to upland hillsides
• Paden soils in small linear and concave areas
• Humphreys and Dellrose soils on small alluvial fans

Similar inclusions:
• Trace soils that are intermingled with Armour soils on stream terraces

Use and Management

Cropland

Suitability: Well suited
Major limitations: Erosion hazard
Management measures and considerations:
• Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
• Using resource management systems that include conservation tillage, no-till planting, stripcropping, contour farming, and winter cover crops helps to minimize runoff, control erosion, and improve soil quality.

Pasture and hayland

Suitability: Well suited
Major limitations: None
Management measures and considerations:
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Yellow-poplar, loblolly pine, black walnut, white oak, and cherrybark oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Well suited
Major limitations: None
Management measures and considerations: None

Septic tank absorption fields

Suitability: Well suited
Major limitations: None
Management measures and considerations: None

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 2e

ArA—Armour silt loam, 0 to 3 percent slopes, rarely flooded

Composition

Armour soil and similar inclusions: 85 to 95 percent

Setting

Landform: Low stream terraces
Major uses: Cropland and hayland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: Rare
Available water capacity: High
Seasonal high water table: None
Soil reaction (pH): 5.1 to 6.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 10 inches—brown silt loam

Subsurface layer:
10 to 18 inches—brown silt loam

Subsoil:
18 to 50 inches—strong brown silt loam
50 to 65 inches—brown loam

Substratum:
65 to 79 inches—brown loam

Inclusions

Contrasting inclusions:
- Small areas of Paden soils intermingled on the same landscape
- Woodmont and Chenneby soils in small low areas and troughs
- Humphreys soils on small alluvial fans

Similar inclusions:
- Trace soils that are intermingled with Armour soils on stream terraces
- Ellisville soils in areas where the map unit is subject to frequent flooding

Use and Management

Cropland

Suitability: Well suited
Major limitations: None
Management measures and considerations:
- This map unit is capable of producing high yields of crops.
- Using a winter cover crop and no-till planting help to improve the soil condition.

Pasture and hayland

Suitability: Well suited
Major limitations: Rare flooding
Management measures and considerations:
- Some surrounding areas are subject to flooding, which can limit livestock access.
- Animals need access to the higher areas above the flood plain.
- Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Yellow-poplar, loblolly pine, black walnut, white oak, and cherrybark oak
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Rare flooding
Management measures and considerations:
- Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Moderately suited
Major limitations: Rare flooding
Management measures and considerations:
- Locating field lines on the highest part of the landscape may help to increase soil absorption.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
- If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 1

At—Arrington silt loam, frequently flooded

Composition

Arrington soil and similar inclusions: 90 to 100 percent

Setting

Landform: Flood plains of the Duck River and some of its tributaries
Slope range: 0 to 3 percent
Major uses: Cropland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: Frequent for very brief or brief periods from December to May
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 4 to 6 feet from January to March
Soil reaction (pH): 6.5 to 7.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 10 inches—dark brown silt loam

Subsurface layer:
10 to 36 inches—dark brown silt loam

Substratum:
36 to 60 inches—brown silt loam that has yellowish brown mottles

Inclusions

Contrasting inclusions:
- Soils that are loam or sandy loam, along natural stream levees
- Soils that have slopes greater than 3 percent, along the edges of flood plain channels

Similar inclusions:
- Ellisville soils that are intermingled with Arrington soils on flood plains

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Flooding
Management measures and considerations:
- This map unit is difficult to manage for crop production because of the hazard of flooding during the growing season.
- Planting late and harvesting early reduce the risk of damage from flooding.
- This map unit has high phosphate levels in the Duck River valley.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Flooding
Management measures and considerations:
- Flooding is likely in most years and can cause the loss of fences, forages, and livestock.
- Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Moderately suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, and suitability for log landings and natural surface roads
Trees to plant: Yellow-poplar, black walnut, sweetgum, white oak, cherrybark oak, and loblolly pine
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
- Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
- Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding
Management measures and considerations:
- Roads should be constructed on raised fill material above the flood plain.
- If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 3w

BA—Beason and Chenneby soils, frequently flooded

Composition

Note: The Beason and Chenneby soils are mapped together because their use and management is very similar. Every mapped area has at least one of the named soils, and some may have both of them.
Beason soil and similar inclusions: 0 to 85 percent
Chenneby soil and similar inclusions: 0 to 85 percent

Setting

Landform: Slightly concave and linear areas on flood plains mainly along the Tennessee River; these areas commonly occur as shallow troughs that approximately parallel the river
Slope range: 0 to 2 percent
Major uses: Cropland and pasture; water-tolerant timber or idle land in some areas

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Somewhat poorly drained
Permeability: Moderate or moderately slow
Flood hazard: Frequent for brief periods from December to May
Available water capacity: High
Seasonal high water table: Perched, at a depth of 1.0 to 1.5 feet from December to April
Soil reaction (pH): 4.5 to 6.0
Shrink-swell potential: Beason—moderate; Chenneby—low in the upper part of the profile and moderate below a depth of 4 feet
Depth to bedrock: More than 5 feet

Typical Profile

Beason

Surface layer:
0 to 7 inches—dark yellowish brown silty clay loam

Subsoil:
7 to 30 inches—yellowish brown silty clay loam and silty clay having light brownish gray mottles
30 to 79 inches—light olive brown silty clay that has light brownish gray mottles

Chenneby

Surface layer:
0 to 12 inches—brown silt loam that has pale brown mottles

Subsoil:
12 to 48 inches—yellowish brown and light brownish gray silt loam
48 to 79 inches—gray silty clay loam that has strong brown mottles

Inclusions

Contrasting inclusions:
- Minter soils in the slighty lower concave positions
- Wolftever and Egam soils in the slightly higher, more convex positions

Similar inclusions:
- Beason soils that have a surface layer of silt loam, intermingled in similar positions
- Some areas of Beason and Chenneby soils that are flooded for longer than 7 days after periods of extremely heavy rainfall
- Gumdale soils intermingled in similar positions

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Flooding, wetness, and poor tilth
Management measures and considerations:
- Planting late and harvesting early reduce the risk of flood damage.
- Maintaining drainageways and ditches helps to remove excess water.
- Avoiding tillage when the soils are wet helps to minimize clodding and crusting.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Flooding and wetness
Management measures and considerations:
- Flooding is likely in most years and can cause the loss of fences, forages, and livestock.
- Grazing when the soils are wet causes compaction, reduces plant cover, and encourages the growth of undesirable species.
- Maintaining drainageways and ditches helps to remove excess water.
- Planting water-tolerant forages is recommended.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, suitability for log

landings and natural surface roads, and potential for seedling mortality
Trees to plant: Willow oak, green ash, baldcypress, sweetgum, eastern cottonwood, yellow-poplar, and swamp white oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding and wetness
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding, restricted permeability, and wetness
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding
Management measures and considerations:
• If the soils are to be used as a base for roads and streets, mixing the soil material with sand and gravel helps to increase soil strength and stability.
• Roads can be constructed above the flood zone on raised fill material.

Interpretive Groups

Land capability classification: 4w

BbC—Biffle gravelly silt loam, 5 to 15 percent slopes

Composition

Biffle soil and similar inclusions: 85 to 95 percent

Setting

Landform: Narrow convex ridgetops
Major uses: Woodland

Soil Properties and Qualities

Rooting depth: 20 to 40 inches
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Flood hazard: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction (pH): 4.0 to 5.5
Shrink-swell potential: Low
Depth to soft bedrock: 20 to 40 inches to granular tripolitic chert

Typical Profile

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

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

Subsoil:
10 to 22 inches—strong brown gravelly silt loam

Substratum:
22 to 79 inches—highly weathered, granular tripolitic chert

Inclusions

Contrasting inclusions:
• Small areas of Ironcity and Lax soils on the broader parts of the ridgetops
• Soils that have chert bedrock at a depth of less than 20 inches, intermingled with Biffle soils
• Areas of Sugargrove and Sulphura soils on the lower ridges

Similar inclusions:
• Very gravelly Hawthorne soils intermingled on narrow ridge crests
• Some areas that have a thin surface mantle of silt loam

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Droughtiness and erosion hazard
Management measures and considerations:
• Using a conservation tillage system, such as no-till planting, that maintains a maximum amount of ground cover increases the rate of rainfall infiltration into the soil, minimizes the loss of moisture due to evaporation, reduces the hazard of erosion, and improves soil quality.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Droughtiness
Management measures and considerations:
• Planting drought-tolerant forages helps to increase productivity.

Woodland

Suitability: Moderately suited
Major limitations: Hazards of soil rutting and erosion on roads and trails

Trees to plant: Shortleaf pine, loblolly pine, chestnut oak, southern red oak, and eastern redcedar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
• Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Moderate depth to fractured chert beds
Management measures and considerations:
• Locating and installing septic tank absorption fields in areas of deeper soils can improve performance.

Local roads and streets

Suitability: Well suited
Major limitations: Slope
Management measures and considerations:
• Placing roads in the less sloping areas of the map unit minimizes cutting and filling.
• This map unit often provides a suitable source of roadfill.

Interpretive Groups

Land capability classification: 4s

BbD—Biffle gravelly silt loam, 15 to 30 percent slopes

Composition

Biffle soil and similar inclusions: 85 to 95 percent

Setting

Landform: Convex hillsides
Major uses: Woodland

Soil Properties and Qualities

Rooting depth: 20 to 40 inches
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Flood hazard: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction (pH): 4.0 to 5.5
Shrink-swell potential: Low
Depth to soft bedrock: 20 to 40 inches to granular tripolitic chert

Typical Profile

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

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

Subsoil:
10 to 22 inches—strong brown gravelly silt loam

Substratum:
22 to 79 inches—highly weathered, granular tripolitic chert

Inclusions

Contrasting inclusions:
• Sulphura and Sugargrove soils on the lower parts of hillsides
• Soils that have chert bedrock at a depth of less than 20 inches, intermingled with Biffle soils
• Areas of Tarklin, Humphreys, Dellrose, and Minvale soils on small footslopes
• Small areas of Riverby soils along narrow drainageways

Similar inclusions:
• Soils that are more than 60 inches to a dense chert bed, intermingled with Biffle soils
• Soils that have a thin surface layer of silt loam
• Hawthorne soils in steep areas

Use and Management

Cropland

Suitability: Not suited
Major limitations: Slope and droughtiness
Management measures and considerations:
• Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Poorly suited
Major limitations: Slope and droughtiness
Management measures and considerations:
• The slope limits equipment use in the steeper areas.
• Planting drought-tolerant plants helps to increase productivity.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log

landings, suitability for natural surface roads, mechanical planting, mechanical site preparation, the use of harvesting equipment, hazard of soil rutting, and erosion
Trees to plant: Shortleaf pine, loblolly pine, chestnut oak, southern red oak, and eastern redcedar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Poorly suited
Major limitations: Slope
Management measures and considerations:
• Landshaping is needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Slope and depth to dense chert beds
Management measures and considerations:
• Installing field lines on the contour helps to improve performance of septic systems, but additional area is required as slope gradient and complexity increase.
• Installing septic tank absorption fields in areas of deeper soils can improve performance.

Local roads and streets

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
• Designing roads that conform to the contour and providing adequate water-control structures, such as culverts and diversions, help to maintain road stability.
• This map unit often provides a suitable source of roadfill.

Interpretive Groups

Land capability classification: 6s

BbF—Biffle gravelly silt loam, 30 to 60 percent slopes

Composition

Biffle soil and similar inclusions: 85 to 95 percent

Setting

Landform: Steep hillsides
Major uses: Woodland

Soil Properties and Qualities

Rooting depth: 20 to 40 inches
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Flood hazard: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction (pH): 4.0 to 5.5
Shrink-swell potential: Low
Depth to soft bedrock: 20 to 40 inches to granular tripolitic chert

Typical Profile

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

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

Subsoil:
10 to 22 inches—strong brown gravelly silt loam

Substratum:
22 to 79 inches—highly weathered, granular tripolitic chert

Inclusions

Contrasting inclusions:
• Sulphura soils and rock outcrops on the lower parts of some slopes
• Soils that have dense chert bedrock within a depth of 20 inches, on the steeper parts of some hillsides
• Areas of Tarklin, Minvale, Dellrose, and Humphreys soils on footslopes
• Areas of Riverby and Lobelville soils along narrow drainageways

Similar inclusions:
• Soils that are more than 60 inches to a dense chert bed, intermingled with Biffle soils
• Hawthorne soils on some of the steeper side slopes

Use and Management

Cropland

Suitability: Not suited
Major limitations: Slope and droughtiness
Management measures and considerations:
• Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Not suited
Major limitations: Slope and droughtiness
Management measures and considerations:
• Sites on better suited soils should be considered.

Woodland

Suitability: Poorly suited

Major limitations: Construction of haul roads and log landings, suitability for natural surface roads, mechanical planting, mechanical site preparation, the use of harvesting equipment, and hazards of soil rutting and erosion
Trees to plant: Shortleaf pine, loblolly pine, chestnut oak, southern red oak, and eastern redcedar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Slope
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Slope and depth to bedrock
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Slope
Management measures and considerations:
• Designing roads that conform to the contour and providing adequate water-control structures, such as culverts and diversions, help to maintain road stability.
• This map unit often provides a suitable source of roadfill.

Interpretive Groups

Land capability classification: 7s

BSF—Biffle, Hawthorne, and Sulphura soils, very steep, rocky

Composition

Note: The Biffle, Hawthorne, and Sulphura soils are mapped together because their use and management is very similar. Every mapped area has at least one of the named soils, and some may have all of them. Rock outcrops constitute from 0.1 to about 2 percent of the entire map unit and are concentrated along the lower part of slopes in association with the Sulphura soil.
Biffle soil and similar inclusions: 15 to 40 percent
Hawthorne soil and similar inclusions: 15 to 70 percent
Sulphura soil and similar inclusions: 0 to 35 percent

Setting

Landform: Biffle—the upper third of very steep convex hillsides; Hawthorne—the middle third of very steep convex hillsides (fig. 6); Sulphura—the lower third of very steep convex hillsides
Slope range: 30 to 75 percent
Major uses: Woodland

Soil Properties and Qualities

Rooting depth: 20 to 40 inches
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Flood hazard: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction (pH): Biffle and Hawthorne—4.0 to 5.5; Sulphura—5.1 to 6.0
Shrink-swell potential: Low
Depth to bedrock: Biffle and Hawthorne—20 to 40 inches to soft bedrock; Sulphura—20 to 40 inches to hard bedrock

Typical Profile

Biffle

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

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

Subsoil:
10 to 22 inches—strong brown gravelly silt loam

Substratum:
22 to 79 inches—highly weathered, granular tripolitic chert

Hawthorne

Surface layer:
0 to 9 inches—brown and yellowish brown gravelly silt loam

Subsoil:
9 to 26 inches—light yellowish brown and very pale brown very gravelly silt loam

Substratum:
26 to 36 inches—reddish yellow very gravelly silt loam
36 to 79 inches—highly weathered, horizontally bedded layers of chert and siltstone

Sulphura

Surface layer:
0 to 5 inches—yellowish brown very gravelly silt loam

Figure 6.—Hawthorne soils have a high content of blocky chert fragments and are typically on slopes greater than 30 percent.

Subsoil:

5 to 11 inches—light yellowish brown very gravelly silt loam

11 to 25 inches—yellowish brown very gravelly silt loam that has common siltstone flagstones

Bedrock:

25 to 79 inches—hard gray siltstone bedrock that is interlayered with shale and chert

Inclusions

Contrasting inclusions:

- Small areas of soils that have a chert bed or hard bedrock at a depth of less than 20 inches
- Gladdice soils on the lower third of hillsides
- Dellrose, Minvale, Humphreys, and Tarklin soils in small colluvial areas at the bottom of hillsides

• Riverby and Lobelville soils in narrow strips along drainageways

Similar inclusions:
• Small areas of Sugargrove soils intermingled with Sulphura soils on hillsides

Use and Management

Cropland, pasture, and hayland

Suitability: Not suited
Major limitations: Slope, droughtiness, erosion hazard, and rock outcrops
Management measures and considerations:
• Sites on better suited soils should be considered.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings, suitability for natural surface roads, mechanical planting, mechanical site preparation, the use of harvesting equipment, and hazards of soil rutting and erosion
Trees to plant: Eastern redcedar, Virginia pine, and chestnut oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Slope, depth to bedrock, and slippage
Management measures and considerations:
• Slopes are too steep for conventional homes. Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Depth to bedrock and slope
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Slope and slippage
Management measures and considerations:
• Designing roads that conform to the contour and providing adequate water-control structures, such as culverts and diversions, help to maintain road stability.
• This map unit commonly has limited quantities of chert suitable for road surfacing.

Interpretive Groups

Land capability classification: 7s

BtC—Braxton-Talbott complex, 5 to 15 percent slopes

Composition

Note: The Braxton and Talbott soils differ mainly in depth to bedrock and occur in areas so intricately mixed that they cannot be mapped separately at the selected scale.
Braxton soil and similar inclusions: 50 to 70 percent
Talbott soil and similar inclusions: 15 to 30 percent

Setting

Landform: Ridgetops and side slopes
Major uses: Woodland

Soil Properties and Qualitiess

Rooting depth: Braxton—more than 36 inches; Talbott—20 to 40 inches
Drainage class: Well drained
Permeability: Slow or very slow
Flood hazard: None
Available water capacity: Moderate or low
Seasonal high water table: None
Soil reaction (pH): Braxton—5.1 to 6.0; Talbott—5.1 to 7.0
Shrink-swell potential: Moderate
Depth to bedrock: Braxton—more than 5 feet; Talbott—20 to 40 inches

Typical Profile

Braxton

Surface layer:
0 to 3 inches—brown gravelly silt loam

Subsurface layer:
3 to 9 inches—yellowish brown gravelly silt loam

Subsoil:
9 to 32 inches—red silty clay
32 to 79 inches—red clay

Talbott

Surface layer:
0 to 5 inches—brown gravelly silt loam

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

Subsoil:
9 to 38 inches—strong brown clay

Bedrock:
38 inches—hard gray limestone

Inclusions

Contrasting inclusions:
- Mimosa soils on side slopes in some areas
- Small areas of Dellrose, Armour, and Wolftever soils on footslopes
- Some areas of loamy soils that have sandstone bedrock within a depth of 3 feet
- Some small areas that have cobbly and stony surfaces and rock outcrops

Similar inclusions:
- Small areas of severely eroded soils that have a surface layer of silty clay loam
- Areas of soils that have bedrock between depths of 40 and 60 inches, intermingled with Braxton and Talbott soils
- Some areas that are underlain by soft bedrock

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Erosion hazard and available water capacity
Management measures and considerations:
- Soil erosion is a major concern when cultivated crops are grown.
- Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
- Excessive rates of erosion result in dense subsoil material becoming exposed or near the surface in a relatively short time.
- Minimum tillage, stripcropping, contour farming, no-till planting, and planting winter cover crops help to minimize runoff, control erosion, and improve soil quality.

Pasture and hayland

Suitability: Well suited
Major limitations: Erosion hazard
Management measures and considerations:
- Overgrazing reduces plant cover, causes erosion, and encourages the growth of undesirable species.
- Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Moderately suited
Major limitations: Hazards of soil rutting and erosion and the suitability for mechanical site preparation and planting
Trees to plant: Shortleaf pine, white oak, and eastern redcedar
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Poorly suited
Major limitations: Slope, shrink-swell potential, and depth to bedrock
Management measures and considerations:
- Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.
- Reinforcing foundations and footings or backfilling with coarse textured material helps to prevent the damage caused by shrinking and swelling.
- Drilling and blasting or special earth-moving equipment are needed to increase the depth of the Talbott soil for dwellings with basements.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Restricted permeability and depth to bedrock
Management measures and considerations:
- This map unit is difficult to manage for septic tank absorption fields because the subsoils are plastic clay and have slow or very slow permeability.
- The Talbott soil may be too shallow to bedrock for use as septic tank absorption fields.
- Locating and installing the filter fields in deeper, more permeable soils in the map unit may improve the performance of filter fields.
- Contact the local environmental office for guidance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
- If the soils are to be used as a base for roads and streets, mixing the soil material with sand and gravel helps to increase soil strength and stability.

Interpretive Groups

Land capability classification: 4e

BtC3—Braxton-Talbott complex, 5 to 15 percent slopes, severely eroded

Composition

Note: The Braxton and Talbott soils differ mainly in depth to bedrock and occur in areas so intricately mixed that they cannot be mapped separately at the selected scale.

Braxton soil and similar inclusions: 50 to 70 percent
Talbott soil and similar inclusions: 15 to 30 percent

Setting

Landform: Severely eroded ridgetops and side slopes; a few small rills and gullies
Major uses: Woodland

Soil Properties and Qualities

Rooting depth: Braxton—more than 36 inches; Talbott—20 to 40 inches
Drainage class: Well drained
Permeability: Slow or very slow
Flood hazard: None
Available water capacity: Moderate or low
Seasonal high water table: None
Soil reaction (pH): Braxton—5.1 to 6.0; Talbott—5.1 to 7.0
Shrink-swell potential: Moderate
Depth to bedrock: Braxton—more than 5 feet; Talbott—20 to 40 inches

Typical Profile

Braxton

Surface layer:
0 to 4 inches—dark brown silty clay loam

Subsoil:
4 to 79 inches—yellowish red and red clay

Talbott

Surface layer:
0 to 3 inches—brown silt loam

Subsoil:
3 to 37 inches—strong brown and yellowish brown silty clay loam and clay

Bedrock:
37 inches—hard gray limestone

Inclusions

Contrasting inclusions:
- Mimosa soils on side slopes in some areas
- Small areas of Dellrose, Armour, and Wolftever soils in colluvial positions on footslopes
- Some small areas of loamy soils that have sandstone bedrock within a depth of 3 feet
- Some small areas have cobbly and stony surfaces and rock outcrops

Similar inclusions:
- Small areas of soils that have a surface layer of gravelly silt loam
- Areas of soils that have bedrock between depths of 40 and 60 inches, intermingled with Braxton and Talbott soils
- Some areas that are underlain by soft bedrock

Use and Management

Cropland

Suitability: Not suited
Major limitations: Poor tilth, severe erosion hazard, and low available water capacity
Management measures and considerations:
- Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Erosion and droughtiness
Management measures and considerations:
- Erosion has severely reduced the productivity of these soils, and the subsoils are exposed or near the surface.
- The clayey subsoil causes droughtiness, which reduces forage yields and lowers the response to fertilizers.
- Increased soil amendments and seeding rates are needed for quality forage stands.

Woodland

Suitability: Moderately suited
Major limitations: Hazards of soil rutting and erosion and the suitability for mechanical site preparation and planting
Trees to plant: Shortleaf pine, white oak, and eastern redcedar
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Poorly suited
Major limitations: Slope, shrink-swell potential, and depth to bedrock
Management measures and considerations:
- Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.
- Reinforcing foundations and footings or backfilling with coarse textured material prevents the damage caused by shrinking and swelling.
- Drilling and blasting or special earth-moving equipment is needed to increase the depth of the Talbott soil for dwellings with basements.

Septic tank absorption fields

Suitability: Poorly suited

Major limitations: Restricted permeability and depth to bedrock
Management measures and considerations:
• This map unit is difficult to manage for septic tank absorption fields because the subsoils are plastic clay and have slow or very slow permeability.
• The Talbott soil may be too shallow to bedrock for use as septic tank absorption fields.
• Locating and installing the filter fields in deeper, more permeable soils in the map unit may improve the performance of filter fields.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soils are to be used as a base for roads and streets, mixing the soil material with sand and gravel helps to increase soil strength and stability.

Interpretive Groups

Land capability classification: 6e

BtE—Braxton-Talbott complex, 15 to 35 percent slopes

Composition

Note: The Braxton and Talbott soils differ mainly in depth to bedrock and occur in areas so intricately mixed that they cannot be mapped separately at the selected scale.
Braxton soil and similar inclusions: 50 to 70 percent
Talbott soil and similar inclusions: 15 to 30 percent

Setting

Landform: Hillsides
Major uses: Woodland

Soil Properties and Qualitiess

Rooting depth: Braxton—more than 36 inches; Talbott—20 to 40 inches
Drainage class: Well drained
Permeability: Slow or very slow
Flood hazard: None
Available water capacity: Moderate or low
Seasonal high water table: None
Soil reaction (pH): Braxton—5.1 to 6.0; Talbott—5.1 to 7.0
Shrink-swell potential: Moderate
Depth to bedrock: Braxton—more than 5 feet; Talbott—20 to 40 inches

Typical Profile

Braxton

Surface layer:
0 to 3 inches—brown gravelly silt loam

Subsurface layer:
3 to 9 inches—yellowish brown gravelly silt loam

Subsoil:
9 to 32 inches—red silty clay
32 to 79 inches—red clay

Talbott

Surface layer:
0 to 5 inches—brown gravelly silt loam

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

Subsoil:
9 to 38 inches—strong brown clay

Bedrock:
38 inches—hard gray limestone

Inclusions

Contrasting inclusions:
• Gladdice and Mimosa soils on side slopes in some areas
• Small areas of Dellrose, Armour, and Wolftever soils in colluvial positions on footslopes
• Some small areas of loamy soils that have sandstone bedrock within a depth of 3 feet
• Some small areas that have cobbly and stony surfaces and rock outcrops

Similar inclusions:
• Small areas of soils that are severely eroded and have a surface layer of silty clay loam
• Areas of soils that have bedrock between depths of 40 and 60 inches, intermingled with Braxton and Talbott soils
• Some small areas that have slopes greater than 35 percent
• Some areas that are underlain by soft bedrock

Use and Management

Cropland

Suitability: Not suited
Major limitations: Erosion hazard and equipment limitations
Management measures and considerations:
• The slopes are too steep for use as cropland.

Pasture and hayland

Suitability: Poorly suited

Major limitations: Equipment limitations and erosion hazard
Management measures and considerations:
• The slope limits equipment use in the steeper areas.
• Overgrazing reduces plant cover, causes erosion, and encourages the growth of undesirable species.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soils and forage in good condition.

Woodland

Suitability: Poorly suited
Major limitations: Hazards of soil rutting and erosion and the suitability for log landings, natural surface roads, and mechanical site preparation and planting
Trees to plant: Shortleaf pine, white oak, and eastern redcedar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Slope and depth to bedrock
Management measures and considerations:
• Landshaping is needed for site preparation, or buildings may need to be designed to conform to the natural slope.
• Drilling and blasting or special earth-moving equipment is needed to increase the depth of the Talbott soil for dwellings with basements.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Restricted permeability, slope, and depth to bedrock
Management measures and considerations:
• This map unit is difficult to manage for septic tank absorption fields because the subsoils are plastic clay and have slow or very slow permeability.
• The Talbott soil may be too shallow to bedrock for use as septic tank absorption fields.
• Installing field lines on the contour helps to improve the performance of septic systems, but additional area is required as slope gradient and complexity increase.
• Locating and installing the filter fields in deeper, more permeable soils in the map unit may improve the performance of filter fields.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength and slope
Management measures and considerations:
• If the soils are to be used as a base for roads and streets, mixing the upper part of the soil profile with coarser textured material increases soil strength and stability.
• Designing roads that conform to the contour and providing adequate water-control structures, such as culverts and diversions, help to maintain road stability.

Interpretive Groups

Land capability classification: 6e

BtE3—Braxton-Talbott complex, 15 to 35 percent slopes, severely eroded

Composition

Note: The Braxton and Talbott soils differ mainly in depth to bedrock and occur in areas so intricately mixed that they cannot be mapped separately at the selected scale.
Braxton soil and similar inclusions: 50 to 70 percent
Talbott soil and similar inclusions: 15 to 30 percent

Setting

Landform: Severely eroded hillsides
Major uses: Woodland

Soil Properties and Qualities

Rooting depth: Braxton—more than 36 inches; Talbott—20 to 40 inches
Drainage class: Well drained
Permeability: Slow or very slow
Flood hazard: None
Available water capacity: Moderate or low
Seasonal high water table: None
Soil reaction (pH): Braxton—5.1 to 6.0; Talbot—5.1 to 7.0
Shrink-swell potential: Moderate
Depth to bedrock: Braxton—more than 5 feet; Talbott—20 to 40 inches

Typical Profile

Braxton

Surface layer:
0 to 4 inches—dark brown silty clay loam

Subsoil:
4 to 79 inches—yellowish red and red clay

Talbott

Surface layer:
0 to 3 inches—brown silt loam

Subsoil:
3 to 37 inches—strong brown and yellowish brown silty clay loam and clay

Bedrock:
37 inches—hard gray limestone

Inclusions

Contrasting inclusions:
• Mimosa and Gladdice soils on hillsides in some areas
• Small areas of Dellrose, Armour, and Wolftever soils in colluvial positions on footslopes
• Areas of loamy soils that have sandstone bedrock within a depth of 3 feet
• Some small areas that have cobbly and stony surfaces and rock outcrops

Similar inclusions:
• Small areas that have a thicker surface layer than the Braxton and Talbot soils
• Areas of soils that have bedrock between depths of 40 and 60 inches, intermingled with Braxton and Talbott soils
• Some small areas that have slopes greater than 35 percent
• Some areas that are underlain by soft bedrock

Use and Management

Cropland

Suitability: Not suited
Major limitations: Erosion hazard and equipment limitations
Management measures and considerations:
• The slopes are too steep for use as cropland.

Pasture and hayland

Suitability: Not suited
Major limitations: Equipment limitations, erosion hazard, and droughtiness
Management measures and considerations:
• Sites on better suited soils should be considered.

Woodland

Suitability: Poorly suited
Major limitations: Hazards of soil rutting and erosion and the suitability for log landings, natural surface roads, and mechanical site preparation and planting
Trees to plant: Shortleaf pine, white oak, and eastern redcedar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Slope and depth to bedrock
Management measures and considerations:
• Landshaping is needed for site preparation, or buildings may need to be designed to conform to the natural slope.
• Drilling and blasting or special earth-moving equipment is needed to increase the depth of the Talbott soil for dwellings with basements.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Restricted permeability, slope, and depth to bedrock
Management measures and considerations:
• This map unit is difficult to manage for septic tank absorption fields because the subsoils are plastic clay and have slow or very slow permeability.
• The Talbott soil may be too shallow to bedrock for use as septic tank absorption fields.
• Installing field lines on the contour helps to improve the performance of septic systems, but additional area is required as slope gradient and complexity increase.
• Locating and installing the filter fields in deeper, more permeable soils in the map unit may improve the performance of filter fields.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength and slope
Management measures and considerations:
• If the soils are to be used as a base for roads and streets, mixing the upper part of the soil profile with coarser textured material increases soil strength and stability.
• Designing roads that conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Interpretive Groups

Land capability classification: 7e

BuB2—Busseltown loam, 1 to 6 percent slopes, eroded, rarely flooded

Composition

Busseltown soil and similar inclusions: 75 to 90 percent

Figure 7.—Busseltown loam, 1 to 6 percent slopes, eroded, rarely flooded, is well suited to corn production. Timely rainfall is critical for good yields because rooting depth and available water capacity are limited by a dense fragipan.

Setting

Landform: Slightly convex knolls on low stream terraces of the Tennessee River
Major uses: Cropland (fig. 7)

Soil Properties and Qualities

Rooting depth: 18 to 30 inches
Drainage class: Moderately well drained
Permeability: Moderate above the fragipan and slow or very slow in the fragipan
Flood hazard: Rare
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 2.5 feet from December to April
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 9 inches—brown loam

Subsoil:
9 to 20 inches—yellowish brown and strong brown loam
20 to 30 inches—yellowish brown sandy clay loam fragipan that has pale brown mottles
30 to 79 inches—loam fragipan in shades of brown and gray

Inclusions

Contrasting inclusions:
• Gumdale soils in the slightly lower concave areas
• Small areas of Wolftever soils in similar positions adjacent to the river

• Loamy soils that do not have a fragipan, intermingled with Busseltown soils

Similar inclusions:
• Soils that have a silt loam surface layer and subsoil in some areas
• Busseltown soils that have a thicker surface layer

Use and Management

Cropland

Suitability: Well suited
Major limitations: Erosion hazard
Management measures and considerations:
• Conservation tillage, winter cover crops, crop residue management, no-till planting, and crop rotations which include grasses and legumes help to increase the available water capacity, prevent erosion and crusting, and improve soil quality.

Pasture and hayland

Suitability: Well suited
Major limitations: Restricted rooting depth and flooding
Management measures and considerations:
• The fragipan in the subsoil and the seasonal high water table restrict the root growth of some legumes.
• Using adapted plants helps to increase productivity.
• Some surrounding areas are commonly flooded, which can limit livestock access to the higher areas.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Shumard oak, cherrybark oak, yellow-poplar, sweetgum, and swamp white oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Wetness and restricted permeability
Management measures and considerations:
• Installing interceptor drains and increasing the size of the absorption field help to improve performance.
• Locating and installing the filter fields in more permeable soils in the map unit may improve the performance of filter fields.
• Careful selection of the absorption area helps to lower installation costs and maintenance.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding and wetness
Management measures and considerations:
• Roads should be constructed on raised fill material above the flood plain.
• Installing subsurface drains helps to improve soil performance.

Interpretive Groups

Land capability classification: 2e

BuC3—Busseltown sandy clay loam, 5 to 8 percent slopes, severely eroded, rarely flooded

Composition

Busseltown soil and similar inclusions: 75 to 90 percent

Setting

Landform: Side slopes on low stream terraces of the Tennessee River
Major uses: Cropland

Soil Properties and Qualities

Rooting depth: 12 to 18 inches
Drainage class: Moderately well drained
Permeability: Moderate above the fragipan and slow or very slow in the fragipan
Flood hazard: Rare
Available water capacity: Low
Seasonal high water table: Perched, at a depth of 1.0 to 1.5 feet from December to April
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 5 inches—dark yellowish brown sandy clay loam

Subsoil:
5 to 16 inches—yellowish brown sandy clay loam
16 to 50 inches—yellowish brown and dark yellowish brown sandy clay loam fragipan that has gray mottles
50 to 79 inches—dark yellowish brown loam fragipan that has gray mottles

Inclusions

Contrasting inclusions:
• Wolftever soils and loamy soils that do not have a fragipan, in small areas in the same positions on stream terraces

Similar inclusions:
• Some less eroded spots that have a loam surface layer and a fragipan at a depth of more than 18 inches

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Poor tilth, severe erosion hazard, and droughtiness
Management measures and considerations:
• Erosion has severely reduced the productivity of this soil.
• Using a conservation tillage system, such as no-till planting, that maintains a maximum amount of ground cover increases the rate of rainfall infiltration into the soil, minimizes the loss of moisture due to evaporation, and prevents further erosion.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Restricted rooting depth and flooding
Management measures and considerations:
• Because of erosion, the fragipan is near the surface. As a result, root growth is restricted and droughtiness is a problem.
• Planting drought-tolerant forages increases production.
• Some surrounding areas are commonly flooded, which can limit livestock access to the higher areas.

Woodland

Suitability: Well suited
Major limitations: Hazards of soil rutting and erosion
Trees to plant: Shumard oak, cherrybark oak, yellow-poplar, sweetgum, swamp white oak, and cherrybark oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Wetness and restricted permeability
Management measures and considerations:
• This map unit is difficult to manage for septic tank absorption fields because the soil is shallow to a fragipan and has slow or very slow permeability.
• Locating and installing the filter fields in more permeable soils in the map unit may improve the performance of filter fields.
• Installing subsurface drains helps to improve system performance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding and wetness
Management measures and considerations:
• Roads should be constructed on raised fill material above the flood plain.

Interpretive Groups

Land capability classification: 4e

Cb—Chenneby silt loam, frequently flooded

Composition

Chenneby soil and similar inclusions: 60 to 75 percent

Setting

Landform: Concave troughs and seeps on flood plains of the Buffalo and Duck Rivers
Slope range: 0 to 1 percent
Major uses: Crop and forage production; idle land or woodland in some areas

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Somewhat poorly drained
Permeability: Moderate
Flood hazard: Frequent for brief periods from December to May
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 1.0 to 1.5 feet from December to April
Soil reaction (pH): 5.0 to 6.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 12 inches—brown silt loam that has pale brown mottles

Subsoil:
12 to 40 inches—yellowish brown silt loam that has light brownish gray mottles
40 to 48 inches—light brownish gray silt loam that has yellowish brown and strong brown mottles
48 to 79 inches—gray silty clay loam that has strong brown mottles

Inclusions

Contrasting inclusions:
• Small areas of Arrington and Ellisville soils on the slightly higher parts of the flood plain
• Riverby soils in small strips where floodwaters have deposited sand and gravel
• Lee soils in small concave areas
• Some small concave depressions where water is ponded for brief periods

Similar inclusions:
• Lobelville soils in narrow strips near drainageways
• Some areas of soils near limestone bluffs that have reaction ranging to neutral in some layers

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Flooding and wetness
Management measures and considerations:
• Planting late and harvesting early reduce the risk of flood damage.
• Maintaining drainageways and ditches helps to remove excess water.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Flooding and wetness
Management measures and considerations:
• Flooding is likely in most years and can cause the loss of fences, forages, and livestock.
• Grazing when the soil is wet causes compaction, reduces plant cover, and encourages the growth of undesirable species.
• Maintaining drainageways and ditches helps to remove excess water.
• Planting water-tolerant forages is recommended.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, the suitability for log landings and natural surface roads, and the potential for seedling mortality
Trees to plant: Sweetgum, eastern cottonwood, willow oak, swamp white oak, and green ash
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding and wetness
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding and wetness
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding and low strength
Management measures and considerations:
• Roads should be constructed on raised fill material above the flood plain.
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 4w

Ch—Chenneby silt loam, occasionally flooded

Composition

Chenneby soil and similar inclusions: 60 to 75 percent

Setting

Landform: Concave troughs and seeps on flood plains of small streams
Slope range: 0 to 2 percent
Major uses: Crop and forage production; woodland in some areas

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Somewhat poorly drained
Permeability: Moderate
Flood hazard: Occasional for very brief or brief periods from December to May
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 1.0 to 1.5 feet from December to April
Soil reaction (pH): 5.0 to 6.0

Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 12 inches—brown silt loam that has pale brown mottles

Subsoil:
12 to 40 inches—yellowish brown silt loam that has light brownish gray mottles
40 to 48 inches—light brownish gray silt loam that has yellowish brown and strong brown mottles
48 to 79 inches—gray silty clay loam that has strong brown mottles

Inclusions

Contrasting inclusions:
- Paden and Woodmont soils in the slightly higher areas
- Small areas of Ellisville soils on natural levees
- Riverby soils in small strips where floodwaters have deposited sand and gravel
- Some small concave depressions of Lee soils where water is ponded for brief periods

Similar inclusions:
- Lobelville soils in narrow strips near drainageways
- Some areas of soils near limestone bluffs that have reaction ranging to neutral in some layers

Use and Management

Cropland

Suitability: Moderately suited
Major limitations: Wetness and flooding
Management measures and considerations:
- Maintaining drainageways and ditches helps to remove excess water.
- Planting late and harvesting early reduce the risk of flood damage.

Pasture and hayland

Suitability: Well suited
Major limitations: Flooding and wetness
Management measures and considerations:
- Flooding is likely in some years and may cause the loss of fences, forages, and livestock.
- Maintaining drainageways and ditches helps to remove excess water.
- Planting water-tolerant forages is recommended.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, the suitability for log landings and natural surface roads, and the potential for seedling mortality
Trees to plant: Sweetgum, eastern cottonwood, willow oak, swamp white oak, and green ash
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding and wetness
Management measures and considerations:
- Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding and wetness
Management measures and considerations:
- Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding and low strength
Management measures and considerations:
- Roads should be constructed on raised fill material above the flood plain.
- If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 3w

DeD2—Dellrose gravelly silt loam, 5 to 20 percent slopes, eroded

Composition

Dellrose soil and similar inclusions: 70 to 90 percent

Setting

Landform: Footslopes underlain by limestone
Major uses: Pasture

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderately rapid in the upper part of the profile and moderately slow in the lower part
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: None

Soil reaction (pH): 4.5 to 6.0
Shrink-swell potential: Low in the upper part of the subsoil and moderate in the lower part of the subsoil
Depth to bedrock: More than 5 feet

Typical Profile

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

Subsurface layer:
6 to 11 inches—dark yellowish brown gravelly silt loam

Subsoil:
11 to 40 inches—strong brown gravelly silty clay loam
40 to 79 inches—strong brown silty clay

Inclusions

Contrasting inclusions:
- Areas of Braxton, Mimosa, and Talbott soils on convex side slopes
- Small areas of Armour, Wolftever, and Tarklin soils intermingled with Dellrose soils on footslopes and stream terraces
- Strips of Riverby and Lobelville soils along narrow drainageways

Similar inclusions:
- Some small areas that are severely eroded

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Slope and erosion hazard
Management measures and considerations:
- Soil erosion is a major concern when cultivated crops are grown.
- Excessive rates of erosion result in subsoil material becoming exposed or near the surface in a relatively short time.
- Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
- Conservation tillage, stripcropping, contour farming, no-till planting, crop rotations which include legumes, and winter cover crops help to minimize runoff and control erosion.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
- The slope limits equipment use in the steeper areas.
- Overgrazing reduces plant cover, causes further erosion, and encourages the growth of undesirable species.
- Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: The suitability for log landings and hazards of soil rutting and erosion
Trees to plant: Yellow-poplar, shortleaf pine, and white oak
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Slope and slippage
Management measures and considerations:
- Landshaping is needed for site preparation, or buildings may need to be designed to conform to the natural slope.
- Excavating for footings on the steeper slopes may cause slippage and slumping of hillsides.

Septic tank absorption fields

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
- Installing field lines on the contour helps to improve the performance of septic systems, but additional area is required as slope gradient and complexity increase.

Local roads and streets

Suitability: Moderately suited
Major limitations: Slope and slippage
Management measures and considerations:
- Placing roads in less sloping areas of the map unit minimizes cutting and filling.

Interpretive Groups

Land capability classification: 4e

DeF—Dellrose-Mimosa complex, 20 to 60 percent slopes, very stony

Composition

Note: Individual areas of the Dellrose and Mimosa soils are too small to be mapped separately at the selected scale.
Dellrose soil and similar inclusions: 40 to 75 percent
Mimosa soil and similar inclusions: 15 to 40 percent

Setting

Landform: Dellrose—along the upper part of the map unit where cherty colluvium has accumulated on footslopes; Mimosa—on the lower part of steep hillsides
Major uses: Woodland; pasture in some small areas

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Dellrose—moderately rapid in the upper part of the profile and moderately slow in the lower part; Mimosa—slow or very slow
Flood hazard: None
Available water capacity: Dellrose—moderate; Mimosa—low
Seasonal high water table: None
Soil reaction (pH): 4.5 to 6.0
Shrink-swell potential: Dellrose—low in the upper part of the profile and moderate in the lower part; Mimosa—high
Depth to bedrock: Dellrose—more than 5 feet; Mimosa—more than 40 inches

Typical Profile

Dellrose

Surface layer:
0 to 9 inches—very dark grayish brown gravelly silt loam

Subsurface layer:
9 to 17 inches—dark yellowish brown gravelly silt loam

Subsoil:
17 to 58 inches—brown and strong brown gravelly silty clay loam
58 to 79 inches—strong brown clay

Mimosa

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

Subsurface layer:
6 to 16 inches—yellowish brown gravelly silty clay loam

Subsoil:
16 to 50 inches—yellowish brown and strong brown plastic clay

Bedrock:
50 inches—hard limestone bedrock

Inclusions

Contrasting inclusions:
- Small areas of Gladdice and Barfield soils intermingled with rock outcrop on convex nose slopes
- Small areas of Biffle and Sulphura soils in the higher positions on hillsides
- Braxton and Talbott soils intermingled on the lower parts of hillsides
- Riverby, Humphreys, and Tarklin soils along drainageways, alluvial fans, and footslopes

Similar inclusions:
- Areas of soils on the upper slopes that have very gravelly surface layers
- Some small benches where slopes are less than 20 percent
- Small areas of gullies and the severely eroded Dellrose soils that have thinner surface layers
- Areas that do not have numerous stones on the surface

Use and Management

Cropland

Suitability: Not suited
Major limitations: Slope
Management measures and considerations:
- Because of the very severe erosion and equipment limitations, these soils are limited for use as cropland.
- Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Not suited
Major limitations: Slope
Management measures and considerations:
- Slopes are too steep and stony for the safe operation of equipment.
- Sites on better suited soils should be considered.
- Small areas on the lesser slopes in the map unit can be used as pasture. Equipment access, however, is often difficult because of the steep slopes.

Woodland

Suitability: Moderately suited
Major limitations: Construction of haul roads and log landings; the suitability for natural surface roads, mechanical planting, and mechanical site preparation; the use of harvesting equipment; and hazards of soil rutting and erosion
Trees to plant: Yellow-poplar, shortleaf pine, white oak, chestnut oak, and eastern redcedar
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Poorly suited
Major limitations: Dellrose—slope and slippage; Mimosa—slope, seepage, and shrink-swell potential
Management measures and considerations:
• Slopes are too steep in most areas of the map unit for conventional dwellings.
• The Dellrose soil is prone to landslides when lower slopes are cut for roads or footings.
• Reinforcing footings and basements and backfilling with coarse textured material minimize the damage caused by shrinking and swelling in areas of the Mimosa soil.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Dellrose—slope; Mimosa—slope and restricted permeability
Management measures and considerations:
• The Dellrose soil has permeability suited for use as absorption fields.
• The Mimosa soil has slow or very slow permeability and is poorly suited for use as absorption fields.
• Slopes are too steep in most areas of the map unit for the installation of filter fields.
• Careful selection of the absorption area is needed and can reduce installation costs and maintenance.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Slope, slippage, shrink-swell potential, and low strength
Management measures and considerations:
• Designing roads that conform to the contour and providing adequate water-control structures, such as culverts and diversions, help to maintain road stability.
• The Dellrose soil is prone to landslides when lower slopes are cut.
• Installing permanent retaining walls with adequate drainage helps to improve soil stability.
• In areas of the Mimosa soil, soil strength is low and the shrink-swell potential is high.
• Removing as much of the clay as possible and increasing the thickness of the base aggregate help to improve soil performance.

Interpretive Groups

Land capability classification: 7e

DkB2—Dickson silt loam, 2 to 5 percent slopes, eroded

Composition

Dickson soil and similar inclusions: 80 to 100 percent

Setting

Landform: Broad linear ridgetops mainly in the southeastern part of the county
Major uses: Woodland and pasture

Soil Properties and Qualities

Rooting depth: 18 to 30 inches
Drainage class: Moderately well drained
Permeability: Moderate above the fragipan and slow or very slow in the fragipan
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 2.0 feet from December to April
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low in the upper part of the subsoil and moderate in lower part of the subsoil
Depth to bedrock: More than 5 feet

Typical Profile

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

Subsurface layer:
5 to 14 inches—light yellowish brown silt loam

Subsoil:
14 to 20 inches—yellowish brown silt loam
20 to 39 inches—gray and brown silt loam and silty clay loam fragipan
39 to 60 inches—red and brown clay

Inclusions

Contrasting inclusions:
• Small areas of a somewhat poorly drained soil in concave areas
• Some soils in the higher areas that do not have a fragipan and are well drained

Similar inclusions:
• Small areas of Lax soils, intermingled with Dickson soils

Use and Management

Cropland

Suitability: Well suited
Major limitations: Erosion

Management measures and considerations:
• Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
• Using resource management systems that include conservation tillage, stripcropping, contour farming, no-till planting, and winter cover crops helps to minimize runoff and control erosion.

Pasture and hayland

Suitability: Well suited
Major limitations: Limited rooting depth
Management measures and considerations:
• The fragipan in the subsoil and the seasonal perched water table restrict the root growth of some legumes.
• Planting adapted forages helps to increase productivity.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Yellow-poplar, southern red oak, and white oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Dwellings without basements—moderately suited; dwellings with basements—poorly suited
Major limitations: Wetness
Management measures and considerations:
• Subsurface drainage and landshaping help to reduce wetness.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Restricted permeability and wetness
Management measures and considerations:
• Installing interceptor drains and increasing the size of the absorption field help to improve performance.
• Locating and installing the filter fields in more permeable soils in the map unit may improve the performance of filter fields.
• Careful selection of the absorption area reduces installation costs and maintenance.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 2e

Eg—Egam silty clay loam, rarely flooded

Composition

Egam soil and similar inclusions: 85 to 95 percent

Setting

Landform: Flood plains
Slope range: 0 to 2 percent
Major uses: Cropland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Moderately well drained
Permeability: Moderately slow
Flood hazard: Rare
Available water capacity: Moderate
Seasonal high water table: Apparent, at a depth of 2.5 to 3.3 feet from December to March
Soil reaction (pH): 5.6 to 7.0
Shrink-swell potential: Moderate
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 7 inches—dark brown and dark yellowish brown silty clay loam

Subsoil:
7 to 43 inches—very dark grayish brown and dark yellowish brown silty clay
43 to 65 inches—yellowish brown and dark yellowish brown silty clay loam that has dark grayish brown and dark yellowish brown mottles

Substratum:
65 to 79 inches—yellowish brown silty clay that has dark grayish brown mottles

Inclusions

Contrasting inclusions:
• Small areas of Armour and Wolftever soils in the slightly higher areas
• Chenneby and Beason soils in the lower areas on flood plains

Similar inclusions:
• Egam soils that have a silt loam surface layer
• Some areas of Egam soils that are not subject to flooding

Use and Management

Cropland

Suitability: Well suited
Major limitations: Poor tilth and wetness
Management measures and considerations:
• In most areas, the plow layer has a moderately high clay content.
• Avoiding tillage operations during wet periods helps to minimize clodding and increases water infiltration.
• Some small concave areas have ponded water for brief periods in the winter and spring.
• Installing open ditches helps to remove excess water and improves productivity.

Pasture and hayland

Suitability: Well suited
Major limitations: Wetness
Management measures and considerations:
• Grazing when the soil is wet causes compaction, reduces plant cover, and encourages the growth of undesirable species.
• Installing surface drainage helps to remove excess water and maintain the quality and quantity of forages.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Yellow-poplar, sweetgum, white oak, cherrybark oak, and swamp white oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Wetness and restricted permeability
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 2w

Es—Ellisville silt loam, frequently flooded

Composition

Ellisville soil and similar inclusions: 90 to 100 percent

Setting

Landform: Flood plains of the Buffalo River
Slope range: 0 to 2 percent
Major uses: Hayland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: Frequent for very brief or brief periods from December to May
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 4.0 to 6.0 feet from January to March
Soil reaction (pH): 5.6 to 6.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 8 inches—brown silt loam

Subsoil:
8 to 50 inches—brown silt loam
50 to 60 inches—dark grayish brown silt loam that has grayish brown mottles

Substratum:
60 to 79 inches—grayish brown silt loam that has strong brown mottles

Inclusions

Contrasting inclusions:
• Soils with sandy loam textures in narrow strips of old stream channels
• Narrow strips of the somewhat poorly drained Chenneby soils

• Soils that have a dark brown subsoil, in slightly concave troughs
• Small strips of gravelly overwash and Riverby soils in areas adjacent to the stream channel
• Some small areas adjacent to the stream that contain numerous troughs and scours and have slopes ranging from 5 to 8 percent
• Small areas of Armour soils on the higher parts of the landscape

Similar inclusions:
• Some higher areas of Ellisville soils that are not subject to annual flooding

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Flooding
Management measures and considerations:
• This map unit is difficult to manage for crop production because of the hazard of flooding during the growing season.
• Planting late and harvesting early reduce the risk of damage from flooding.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Flooding
Management measures and considerations:
• Flooding is likely in most years and can cause the loss of fences, forages, and livestock.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Moderately suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, and the suitability for log landings and natural surface roads
Trees to plant: Yellow-poplar, black walnut, sweetgum, white oak, and cherrybark oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding and low strength
Management measures and considerations:
• Roads should be constructed on raised fill material above the flood plain.
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 3w

Ev—Ellisville silt loam, occasionally flooded

Composition

Ellisville soil and similar inclusions: 90 to 100 percent

Setting

Landform: Flood plains of small streams in the southwestern part of the county (fig. 8)
Slope range: 0 to 2 percent
Major uses: Cropland and hayland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: Occasional for very brief or brief periods from December to May
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 4.0 to 6.0 feet from January to March
Soil reaction (pH): 5.6 to 6.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 8 inches—brown silt loam

Subsoil:
8 to 50 inches—brown silt loam
50 to 60 inches—dark grayish brown silt loam that has grayish brown mottles

Substratum:
60 to 79 inches—grayish brown silt loam that has strong brown mottles

Figure 8.—Streambank erosion in an area of Ellisville soils. Streambank erosion is a serious concern along larger streams and rivers because it diminishes productive farmland. Forested riparian buffer strips help to stabilize streamside zones and minimize bank erosion.

Inclusions

Contrasting inclusions:
• Narrow strips of somewhat poorly drained Chenneby soils in slightly concave troughs
• Small strips of gravelly overwash and Riverby soils in areas adjacent to the stream channel
• Small areas of Armour and Trace soils on the higher parts of the landscape

Similar inclusions:
• Narrow strips of Sullivan soils adjacent to stream channels
• Some areas of Ellisville soils that are rarely subject to flooding

Use and Management

Cropland

Suitability: Well suited
Major limitations: Flooding
Management measures and considerations:
• This map unit is capable of producing high yields of crops.

• Planting late and harvesting early reduce the risk of flood damage.
• Using a winter cover crop and no-till planting help to improve the soil condition.

Pasture and hayland

Suitability: Well suited
Major limitations: Flooding
Management measures and considerations:
• This map unit is capable of producing high yields of forages.
• Flooding is likely in some years and may cause the loss of fences, forages, and livestock.

Woodland

Suitability: Moderately suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, and the suitability for log landings and natural surface roads
Trees to plant: Yellow-poplar, black walnut, sweetgum, white oak, and cherrybark oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength and flooding
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.
• Roads should be constructed on raised fill material above the flood plain.

Interpretive Groups

Land capability classification: 2w

GdF—Gladdice-Rock outcrop-Mimosa complex, 25 to 70 percent slopes

Composition

Note: Areas of the Gladdice and Mimosa soils and Rock outcrop are so intermingled that they cannot be mapped separately at the selected scale of mapping.
Gladdice soil and similar inclusions: 30 to 50 percent
Rock outcrop: 10 to 40 percent
Mimosa soil and similar inclusions: 15 to 25 percent

Setting

Landform: Steep convex hillsides
Major uses: Woodland

Properties and Qualities of the Gladdice and Mimosa Soils

Rooting depth: Gladdice—20 to 40 inches; Mimosa—more than 36 inches
Drainage class: Well drained
Permeability: Slow or very slow
Flood hazard: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction (pH): Gladdice—5.6 to 7.8; Mimosa—4.5 to 6.0
Shrink-swell potential: High
Depth to bedrock: Gladdice—20 to 40 inches to hard bedrock; Mimosa—more than 40 inches to hard bedrock

Typical Profile

Gladdice

Surface layer:
0 to 5 inches—very dark grayish brown silty clay loam

Subsoil:
5 to 26 inches—brown and dark yellowish brown clay

Substratum:
26 to 30 inches—pale brown channery clay

Bedrock:
30 inches—hard gray limestone

Rock outcrop

This part of the map unit consists of outcroppings and boulders of limestone bedrock in bands on the contour that extend from 0.5 foot to 3 feet above the surface.

Mimosa

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

Subsurface layer:
6 to 16 inches—yellowish brown gravelly silty clay loam

Subsoil:
16 to 50 inches—yellowish brown and strong brown clay

Bedrock:
50 inches—hard limestone bedrock

Inclusions

Contrasting inclusions:
- Barfield soils on parts of nose slopes
- Dellrose soils in small colluvial areas
- Talbott soils intermingled with Mimosa soils on hillsides
- Interspersed areas of shallow gullies

Similar inclusions:
- Areas of soils that have a dark brown surface layer

Use and Management

Cropland

Suitability: Not suited
Major limitations: Slope and rockiness
Management measures and considerations:
- Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Not suited
Major limitations: Slope and rockiness
Management measures and considerations:
- Sites on better suited soils should be considered.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings, hazards of soil rutting and erosion, and the suitability for log landings, natural surface roads, mechanical and hand planting, use of harvesting equipment, and mechanical site preparation
Trees to plant: Virginia pine, eastern redcedar, and chestnut oak
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Depth to bedrock, slope, and shrink-swell potential
Management measures and considerations:
- Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Depth to bedrock, slope, and slow or very slow permeability
Management measures and considerations:
- Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength, slope, shrink-swell potential, and depth to bedrock
Management measures and considerations:
- If the soils are to be used as a base for roads and streets, mixing the soil material with sand and gravel helps to increase soil strength and stability.
- Where deep cuts are necessary, bedrock needs to be blasted.
- Building roads in the less sloping areas reduces the amount of cut and fill needed.

Interpretive Groups

Land capability classification: 7s

Gm—Gumdale silt loam, rarely flooded

Composition

Gumdale soil and similar inclusions: 80 to 90 percent

Setting

Landform: Slightly concave and linear areas on low stream terraces of the Tennessee River
Major uses: Cropland

Soil Properties and Qualities

Rooting depth: 18 to 36 inches
Drainage class: Somewhat poorly drained
Permeability: Moderate in the upper part of the profile and slow or very slow in the fragipan
Flood hazard: Rare
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.0 to 2.0 feet from December to April
Soil reaction (pH): 4.5 to 6.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 10 inches—brown silt loam and loam

Subsoil:
10 to 18 inches—light olive brown clay loam that has pale brown and brownish gray mottles
18 to 40 inches—yellowish brown and strong brown clay loam fragipan that has light brownish gray mottles
40 to 79 inches—strong brown clay loam fragipan that has brown mottles

Inclusions

Contrasting inclusions:
- Minter soils in the slighty lower positions
- Busseltown soils on the slightly higher convex knolls

Similar inclusions:
- Somewhat poorly drained soils that do not have a fragipan, along drainageways
- Soils that have a silty subsoil, intermingled with Gumdale soils
- Small areas of Beason soils in slightly concave troughs
- Some areas of Gumdale soils that are drained by subsurface tile or ditches
- Some areas of soils that have a loam surface layer

Use and Management

Cropland

Suitability: Moderately suited
Major limitations: Wetness
Management measures and considerations:
- Maintaining drainageways and ditches helps to remove excess water.
- Avoiding tillage when the soil is wet helps to minimize clodding and crusting.
- Planting late in spring improves plant germination and reduces equipment limitations.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Wetness, restricted rooting depth, and flooding
Management measures and considerations:
- The fragipan in the subsoil and the seasonal high water table restrict the root growth of some legumes.
- Planting adapted forages helps to increase productivity.
- Some surrounding areas are commonly flooded, which can limit livestock access.
- Animals need access to the higher areas above the flood plain.
- Grazing when the soil is wet causes compaction, reduces plant cover, and encourages the growth of undesirable species.
- Installing surface ditches and tile drains helps to remove excess water and maintain the quality and quantity of forages.

Woodland

Suitability: Moderately suited
Major limitations: Hazard of soil rutting and potential for seedling mortality
Trees to plant: Yellow-poplar, sweetgum, swamp white oak, American sycamore, willow oak, and green ash
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding and wetness
Management measures and considerations:
- Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Wetness and restricted permeability
Management measures and considerations:
- Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
- If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 3w

HuA—Humphreys gravelly silt loam, 0 to 3 percent slopes, rarely flooded

Composition

Humphreys soil and similar inclusions: 80 to 100 percent

Setting

Landform: Low stream terraces and alluvial fans
Major uses: Hayland and pasture

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum
Flood hazard: Rare
Available water capacity: Moderate
Seasonal high water table: Apparent, at a depth of 5.0 to 6.0 feet from December to March
Soil reaction (pH): 5.0 to 7.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 10 inches—brown gravelly silt loam

Subsoil:
10 to 27 inches—strong brown gravelly silt loam
27 to 36 inches—strong brown very gravelly silt loam

Substratum:
36 to 42 inches—brown extremely gravelly loamy coarse sand
42 to 80 inches—strong brown gravelly silt loam

Inclusions

Contrasting inclusions:
• Riverby and Sullivan soils adjacent to drainageways
• Trace and Armour soils in small areas on the same landscape
• Lobelville soils in seep areas
• Some areas that have very gravelly textures throughout the subsoil

Similar inclusions:
• Some areas that have a thick dark brown surface layer

Use and Management

Cropland

Suitability: Well suited
Major limitations: Gravel in the surface layer and subsoil
Management measures and considerations:
• The content of gravel in the surface layer may hinder the use of some tillage equipment.
• Because of the gravelly layers, this soil tends to be droughty in dry years.
• Conservation tillage, winter cover crops, crop residue management, no-till planting, and crop rotations which include grasses and legumes help to increase the available water capacity, prevent crusting, and improve soil fertility.

Pasture and hayland

Suitability: Well suited
Major limitations: None
Management measures and considerations:
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Yellow-poplar, sweetgum, American sycamore, black walnut, and white ash
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Moderately suited
Major limitations: Rare flooding
Management measures and considerations:
• Soil absorption is reduced during flood events.
• Locating field lines on the highest part of the landscape may help to increase absorption.

Local roads and streets

Suitability: Moderately suited
Major limitations: Flooding
Management measures and considerations:
• Roads should be constructed on raised fill material above the flood plain.
• This soil often provides a suitable source of roadfill.

Interpretive Groups

Land capability classification: 2s

HuB—Humphreys gravelly silt loam, 2 to 5 percent slopes

Composition

Humphreys soil and similar inclusions: 75 to 90 percent

Setting

Landform: Alluvial fans and toeslopes
Major uses: Pasture and cropland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: Apparent, at a depth of 5.0 to 6.0 feet from December to March
Soil reaction (pH): 5.0 to 7.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 10 inches—brown gravelly silt loam

Subsoil:
10 to 27 inches—strong brown gravelly silt loam
27 to 36 inches—strong brown very gravelly silt loam

Substratum:
36 to 42 inches—brown extremely gravelly loamy coarse sand
42 to 80 inches—strong brown gravelly silt loam

Inclusions

Contrasting inclusions:
• Small areas of Tarklin and Minvale soils on footslopes
• Trace soils along the edges of alluvial fans
• Riverby soils in narrow drainageways
• Some areas that have very gravelly textures throughout the subsoil

Similar inclusions:
• Some areas of Humphreys soils that are underlain by silty alluvium below a depth of 3 feet
• Some areas that have a thick dark brown surface layer

Use and Management

Cropland

Suitability: Well suited
Major limitations: Gravel in the surface layer and subsoil
Management measures and considerations:
• The content of gravel in the surface layer may hinder the use of some tillage equipment.
• Because of the gravelly layers, this soil tends to be droughty in dry years.
• Conservation tillage, winter cover crops, crop residue management, no-till planting, and crop rotations which include grasses and legumes help to increase the available water capacity, prevent crusting, and improve soil fertility.

Pasture and hayland

Suitability: Well suited
Major limitations: None
Management measures and considerations:
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Yellow-poplar, sweetgum, American sycamore, black walnut, and white ash
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Dwellings without basements—well suited; dwellings with basements—poorly suited
Major limitations: Wetness in the lower part of the subsoil
Management measures and considerations:
• Installing subsurface drainage around footings and landshaping help to reduce wetness.

Septic tank absorption fields

Suitability: Well suited
Major limitations: None
Management measures and considerations:
• Careful selection of the absorption area reduces installation costs and maintenance.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Well suited
Major limitations: None
Management measures and considerations:
• This soil often provides a suitable source of roadfill.

Interpretive Groups

Land capability classification: 2e

HuC—Humphreys gravelly silt loam, 5 to 12 percent slopes

Composition

Humphreys soil and similar inclusions: 75 to 90 percent

Setting

Landform: Alluvial fans on stream terraces
Major uses: Pasture

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum
Flood hazard: None
Available water capacity: Moderate or low
Seasonal high water table: Apparent, at a depth of 5.0 to 6.0 feet from December to March
Soil reaction (pH): 5.0 to 7.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 10 inches—brown gravelly silt loam

Subsoil:
10 to 27 inches—strong brown gravelly silt loam
27 to 36 inches—strong brown very gravelly silt loam

Substratum:
36 to 42 inches—brown extremely gravelly loamy coarse sand
42 to 80 inches—strong brown gravelly silt loam

Inclusions

Contrasting inclusions:
- Tarklin soils on small footslopes
- Trace soils along the edges of alluvial fans
- Riverby and Lobelville soils in narrow drainageways

Similar inclusions:
- Some areas of Humphreys soils that are underlain by silty alluvium below a depth of 3 feet
- Small areas of Minvale soils intermingled with Humphreys soils

Use and Management

Cropland

Suitability: Moderately suited
Major limitations: Erosion hazard and gravel in the surface layer and subsoil
Management measures and considerations:
- Soil erosion is a concern when cultivated crops are grown.
- Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
- The content of gravel in the surface layer may hinder the use of some tillage equipment.
- Because of the gravelly layers, this soil is droughty.
- Conservation tillage, winter cover crops, crop residue management, no-till planting, and crop rotations which include grasses and legumes help to increase the available water capacity, prevent crusting, reduce the hazard of erosion, and improve soil fertility.

Pasture and hayland

Suitability: Well suited
Major limitations: None
Management measures and considerations:
- Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Yellow-poplar, sweetgum, American sycamore, black walnut, and white ash
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
- Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Well suited
Major limitations: None
Management measures and considerations:
- Careful selection of the absorption field location reduces installation costs and maintenance.

Local roads and streets

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
- Building roads in the less sloping areas helps to reduce the amount of cut and fill needed.
- This soil often provides a suitable source of roadfill.

Interpretive Groups

Land capability classification: 3e

IrC—Ironcity gravelly silt loam, 5 to 12 percent slopes

Composition

Ironcity soil and similar inclusions: 70 to 85 percent

Setting

Landform: Convex ridgetops
Major uses: Woodland and pasture

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low in the upper part of the profile and moderate in the lower part
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 5 inches—brown gravelly silt loam

Subsurface layer:
5 to 15 inches—light yellowish brown gravelly silt loam

Subsoil:
15 to 23 inches—yellowish brown gravelly silty clay loam
23 to 28 inches—strong brown and brownish yellow gravelly silt loam that has pale brown and red mottles
28 to 52 inches—red gravelly silty clay and clay having brownish, yellowish, and gray mottles
52 to 79 inches—red very gravelly clay that has brownish mottles

Inclusions

Contrasting inclusions:
- Biffle soils and Hawthorne soils on narrow convex parts of ridges
- Small areas of less permeable Lax soils on the smoother slopes

Similar inclusions:
- Areas near the center of ridgetops that have a silt loam surface layer

Use and Management

Cropland

Suitability: Moderately suited
Major limitations: Erosion hazard and droughtiness
Management measures and considerations:
- Conservation tillage, winter cover crops, crop residue management, no-till planting, and crop rotations which include grasses and legumes help to increase the available water capacity, prevent crusting, and improve soil fertility.
- Applying lime according to recommendations based on soil tests helps to decrease soil acidity, increase rooting depth, and increase the amount of water available to crops.

Pasture and hayland

Suitability: Well suited
Major limitations: Droughtiness
Management measures and considerations:
- Deferred grazing, liming, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Moderately suited
Major limitations: Hazards of soil rutting and erosion
Trees to plant: Loblolly pine, shortleaf pine, southern red oak, and chestnut oak
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
- Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Moderately suited
Major limitations: Restricted permeability
Management measures and considerations:
- Increasing the size of the absorption field helps to improve the performance of the system.

Local roads and streets

Suitability: Moderately suited
Major limitations: Low strength and slope
Management measures and considerations:
- If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.
- Placing roads in the less sloping areas minimizes cutting and filling.

Interpretive Groups

Land capability classification: 3e

LaC—Lax-Ironcity complex, 5 to 12 percent slopes

Composition

Note: Areas of the Lax and Ironcity soils are intricately mixed on ridgetops and cannot be mapped separately the selected scale.
Lax soil and similar inclusions: 30 to 60 percent
Ironcity soil and similar inclusions: 30 to 50 percent

Setting

Landform: Slightly convex ridgetops
Major uses: Woodland; pasture in some areas

Soil Properties and Qualities

Rooting depth: Lax—18 to 36 inches; Ironcity—24 to more than 36 inches
Drainage class: Lax—moderately well drained; Ironcity—well drained
Permeability: Lax—moderate above the fragipan and very slow in the fragipan; Ironcity—moderate
Flood hazard: None
Available water capacity: Lax—moderate; Ironcity—moderate or low
Seasonal high water table: Lax—perched, at a depth of 1.5 to 2.5 feet from December to March; Ironcity—none
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Lax—low; Ironcity—low in the upper part of the profile and moderate in the lower part
Depth to bedrock: More than 5 feet

Typical Profile

Lax

Surface layer:
0 to 2 inches—brown silt loam

Subsurface layer:
2 to 10 inches—yellowish brown silt loam

Subsoil:
10 to 27 inches—strong brown and yellowish brown silt loam
27 to 41 inches—yellowish brown gravelly silt loam fragipan that has strong brown and light brownish gray mottles
41 to 50 inches—strong brown, light yellowish brown, and light brownish gray gravelly silty clay loam fragipan
50 to 79 inches—red gravelly silty clay loam that has strong brown and light brownish gray mottles

Ironcity

Surface layer:
0 to 5 inches—brown gravelly silt loam

Subsurface layer:
5 to 15 inches—light yellowish brown gravelly silt loam

Subsoil:
15 to 23 inches—yellowish brown gravelly silty clay loam
23 to 28 inches—strong brown and brownish yellow gravelly silt loam that has pale brown and red mottles
28 to 52 inches—red gravelly silty clay and clay having brownish, yellowish, and gray mottles
52 to 79 inches—red very gravelly clay that has brownish mottles

Inclusions

Contrasting inclusions:
• Biffle soils on convex ridge shoulders

Similar inclusions:
• Soils that have gravelly textures throughout, intermingled with Lax soils on side slopes

Use and Management

Cropland

Suitability: Moderately suited
Major limitations: Erosion hazard and moderate rooting depth
Management measures and considerations:
• Soil erosion is a major concern when cultivated crops are grown.
• Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
• Excessive rates of erosion result in subsoil material becoming exposed or near the surface in a relatively short time.
• Conservation tillage, stripcropping, contour farming, crop rotations, no-till planting, and winter cover crops help to minimize runoff and control erosion.
• Because of a limited rooting depth, these soils are slightly droughty.
• Applying lime according to recommendations based on soil tests helps to decrease soil acidity, increase the rooting depth, and increase the amount of water available to crops.

Pasture and hayland

Suitability: Well suited
Major limitations: Restricted rooting depth

Management measures and considerations:
• In areas of the Lax soil, the fragipan in the subsoil and the seasonal high water table restrict the root growth of some legumes.
• Planting adapted forages helps to increase productivity.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Moderately suited
Major limitations: Hazards of soil rutting and erosion
Trees to plant: Lax—chestnut oak, Virginia pine, white oak, and eastern redcedar; Ironcity—loblolly pine, shortleaf pine, southern red oak, and chestnut oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Wetness and slope
Management measures and considerations:
• Subsurface drainage and landshaping help to reduce wetness in areas of the Lax soil.
• Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Lax—poorly suited; Ironcity—moderately suited
Major limitations: Wetness and restricted permeability
Management measures and considerations:
• Installing interceptor drains and increasing the size of the absorption field help to improve performance.
• Installing the filter fields in areas of the Ironcity soil helps to improve the performance of filter fields.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Lax—poorly suited; Ironcity—moderately suited
Major limitations: Low strength
Management measures and considerations:
• If the soils are to be used as a base for roads and streets, mixing the soil material with sand and gravel helps to increase soil strength and stability.

Interpretive Groups

Land capability classification: 3e

LbB—Lax silt loam, 2 to 5 percent slopes

Composition

Lax soil and similar inclusions: 80 to 100 percent

Setting

Landform: Gently sloping ridgetops
Major uses: Pasture

Soil Properties and Qualities

Rooting depth: 18 to 36 inches
Drainage class: Moderately well drained
Permeability: Moderate above the fragipan and very slow in the fragipan
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 2.5 feet from December to March
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 2 inches—brown silt loam

Subsurface layer:
2 to 10 inches—yellowish brown silt loam

Subsoil:
10 to 27 inches—strong brown and yellowish brown silt loam
27 to 41 inches—yellowish brown gravelly silt loam fragipan that has strong brown and light grayish brown mottles
41 to 50 inches—strong brown, light yellowish brown, and light brownish gray gravelly silty clay loam fragipan
50 to 79 inches—red gravelly silty clay loam that has strong brown and light brownish gray mottles

Inclusions

Contrasting inclusions:
• Some well drained soils that do not have a fragipan and are intermingled with Lax soils

Similar inclusions:
• Soils that have gravelly textures throughout

Use and Management

Cropland

Suitability: Well suited
Major limitations: Erosion

Management measures and considerations:
• Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
• Using resource management systems that include conservation tillage, stripcropping, contour farming, no-till planting, and winter cover crops helps to minimize runoff and control erosion.

Pasture and hayland

Suitability: Well suited
Major limitations: Limited rooting depth
Management measures and considerations:
• The fragipan in the subsoil and the seasonal high water table restrict the root growth of some legumes.
• Planting adapted forages helps to increase productivity.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Chestnut oak, Virginia pine, white oak, and eastern redcedar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Wetness
Management measures and considerations:
• Subsurface drainage and landshaping help to reduce wetness.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Restricted permeability and wetness
Management measures and considerations:
• Installing interceptor drains and increasing the size of the absorption field help to improve performance.
• Locating and installing the filter fields in more permeable soils in the map unit may improve the performance of filter fields.
• Careful selection of the absorption area reduces installation costs and maintenance.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 2e

LbC—Lax silt loam, 5 to 12 percent slopes

Composition

Lax soil and similar inclusions: 80 to 100 percent

Setting

Landform: Convex ridgetops
Major uses: Woodland

Soil Properties and Qualities

Rooting depth: 18 to 36 inches
Drainage class: Moderately well drained
Permeability: Moderate above the fragipan and very slow in the fragipan
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 2.5 feet from December to March
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 2 inches—brown silt loam

Subsurface layer:
2 to 10 inches—yellowish brown silt loam

Subsoil:
10 to 27 inches—strong brown and yellowish brown silt loam
27 to 41 inches—yellowish brown gravelly silt loam fragipan that has strong brown and light brownish gray mottles
41 to 50 inches—strong brown, light yellowish brown, and light brownish gray gravelly silty clay loam fragipan
50 to 79 inches—red gravelly silty clay loam that has strong brown and light brownish gray mottles

Inclusions

Contrasting inclusions:
• Small areas of Ironcity soils intermingled with Lax soils on side slopes

Similar inclusions:
• Soils that have gravelly surface textures throughout

Use and Management

Cropland

Suitability: Moderately suited
Major limitations: Erosion hazard and rooting depth
Management measures and considerations:
• Soil erosion is a major concern when cultivated crops are grown.
• Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
• Excessive rates of erosion result in subsoil material becoming exposed or near the surface in a relatively short time.
• Conservation tillage, stripcropping, contour farming, no-till planting, crop rotations that include grasses, and winter cover crops help to minimize runoff and control erosion.
• Because of a limited rooting depth, this soil is slightly droughty.

Pasture and hayland

Suitability: Well suited
Major limitations: Restricted rooting depth
Management measures and considerations:
• The fragipan in the subsoil and the seasonal high water table restrict the root growth of some legumes.
• Planting adapted forages helps to increase productivity.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Moderately suited
Major limitations: Hazards of soil rutting and erosion
Trees to plant: Chestnut oak, Virginia pine, white oak, and eastern redcedar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Wetness and slope
Management measures and considerations:
• Subsurface drainage and landshaping help to reduce wetness.
• Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Wetness and restricted permeability
Management measures and considerations:
• Installing interceptor drains and increasing the size of the absorption field help to improve performance.
• Locating and installing the filter fields in more permeable soils in the map unit may improve the performance of filter fields.
• Careful selection of the absorption area reduces installation costs and maintenance.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 3e

Le—Lee silt loam, frequently flooded

Composition

Lee soil and similar inclusions: 85 to 95 percent

Setting

Landform: Seeps and concave areas on flood plains
Slope range: 0 to 1 percent
Major uses: Idle land and woodland; pasture in some areas

Soil Properties and Qualities

Rooting depth: 18 to more than 36 inches
Drainage class: Poorly drained
Permeability: Moderate
Flood hazard: Frequent for brief periods from December through April
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 0.0 to 0.5 foot from December through June
Soil reaction (pH): 4.5 to 6.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 4 inches—brown and grayish brown silt loam that has yellowish red mottles

Subsoil:
4 to 19 inches—grayish brown silt loam that has yellowish red mottles
19 to 50 inches—gray gravelly silt loam that has dark yellowish brown mottles

Substratum:
50 to 79 inches—gray gravelly silt loam

Inclusions

Contrasting inclusions:
- Small areas of Woodmont and Humphreys soils in the slightly higher positions on terraces
- Lobelville, Chenneby, and Riverby soils adjacent to stream channels

Similar inclusions:
- Areas that have gravelly surface layers
- Soils that have a silty subsoil, intermingled with Lee soils
- The fine textured Minter soils in small concave areas

Use and Management

Cropland

Suitability: Not suited
Major limitations: Wetness and flooding
Management measures and considerations:
- This map unit is difficult to manage for crop production because of the hazard of flooding during the growing season.
- In areas that are currently in agricultural production, practices such as installing a drainage system that includes open ditches and perforated tile and landshaping improve productivity and reduce wetness.

Pasture and hayland

Suitability: Poorly suited
Major limitations: Wetness and flooding
Management measures and considerations:
- In most years this soil has characteristics of wetness for more than 6 months.
- Grazing when the soil is wet causes compaction, reduces plant cover, and encourages the growth of undesirable species.
- Maintaining drainageways and ditches helps to remove excess water.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, the suitability for log landings and natural surface roads, and the potential for seedling mortality
Trees to plant: Willow oak, sweetgum, American sycamore, yellow-poplar, swamp white oak, and green ash
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding and wetness
Management measures and considerations:
- Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding and wetness
Management measures and considerations:
- Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding and wetness
Management measures and considerations:
- Constructing roads on raised, well compacted fill material helps to overcome the flooding and wetness limitations.

Interpretive Groups

Land capability classification: 5w

Lo—Lobelville silt loam, occasionally flooded

Composition

Lobelville soil and similar inclusions: 85 to 95 percent

Setting

Landform: Seeps and concave areas on flood plains
Slope range: 0 to 3 percent
Major uses: Pasture

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Moderately well drained
Permeability: Moderate
Flood hazard: Occasional for very brief periods from December to April
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 1.6 to 2.5 feet from December to April
Soil reaction (pH): 4.5 to 6.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

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

Subsoil:
6 to 12 inches—dark yellowish brown silt loam
12 to 19 inches—yellowish brown gravelly silt loam that has pale brown mottles
19 to 26 inches—pale brown gravelly silt loam that has light brownish gray mottles
26 to 38 inches—light brownish gray gravelly silt loam that has brownish and yellowish mottles

Substratum:
38 to 52 inches—grayish brown extremely gravelly loam
52 to 79 inches—grayish brown extremely gravelly sandy loam

Inclusions

Contrasting inclusions:
- Paden, Woodmont, and Humphreys soils on low stream terraces
- Sullivan soils in the slightly higher positions on flood plains
- Lee soils in the lower concave positions
- Riverby soils near the natural stream levees

Similar inclusions:
- Some areas of soils that have a gravelly surface layer
- Some small areas of Chenneby soils on the same landscape

Use and Management

Cropland

Suitability: Well suited
Major limitations: Flooding and wetness
Management measures and considerations:
- Planting late in spring and harvesting early in fall reduce the risk of flood damage.
- Installing and maintaining a subsurface drainage system improves the productivity of this soil for moisture-sensitive crops.

Pasture and hayland

Suitability: Well suited
Major limitations: Wetness and flooding
Management measures and considerations:
- Proper stocking rates, pasture rotation, timely deferment of grazing, and restricted use during wet periods minimize compaction, maintain productivity, and help to keep the pasture in good condition.
- Flooding in some years may cause the loss of fences, forages, and livestock.

Woodland

Suitability: Moderately suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, and the suitability for log landings and natural surface roads
Trees to plant: Yellow-poplar, eastern cottonwood, sweetgum, American sycamore, swamp white oak, loblolly pine, cherrybark oak, and willow oak
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
- Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding and wetness
Management measures and considerations:
- Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding
Management measures and considerations:
- Roads should be constructed on raised fill material above the flood plain.

Interpretive Groups

Land capability classification: 2w

MaE3—Marsh channery silt loam, 12 to 35 percent slopes, severely eroded

Composition

Marsh soil and similar inclusions: 85 to 95 percent

Setting

Landform: Severely eroded hillsides
Major uses: Pasture and woodland

Soil Properties and Qualities

Rooting depth: 20 to 40 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: None

Available water capacity: Low
Seasonal high water table: None
Soil reaction (pH): 5.1 to 6.5
Shrink-swell potential: Low
Depth to bedrock: 20 to 40 inches to soft bedrock

Typical Profile

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

Subsoil:
4 to 24 inches—strong brown channery silty clay loam

Substratum:
24 to 27 inches—light olive brown very channery loam

Bedrock:
27 to 79 inches—highly weathered and interbedded siltstone, limestone, and shale

Inclusions

Contrasting inclusions:
• Small areas of soils that have soft bedrock at a depth of less than 20 inches
• Small areas of Stiversville soils on the upper part of hillsides

Use and Management

Cropland

Suitability: Not suited
Major limitations: Slope and droughtiness
Management measures and considerations:
• Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Poorly suited
Major limitations: Slope and droughtiness
Management measures and considerations:
• Erosion has severely reduced the productivity of this soil, and the subsoil is exposed or near the surface.
• Because of the restricted rooting depth, forage yields are reduced.
• Increased soil amendments and seeding rates are needed for quality forage stands.
• The slope limits equipment use in the steeper areas.
• Selecting drought-tolerant plants helps to increase productivity.

Woodland

Suitability: Moderately suited
Major limitations: Construction of haul roads and log landings; the suitability for natural surface roads, log landings, mechanical planting, and mechanical site preparation; and hazards of soil rutting and erosion
Trees to plant: Shortleaf pine, loblolly pine, and eastern redcedar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Poorly suited
Major limitations: Slope and depth to bedrock
Management measures and considerations:
• Landshaping is needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Slope and depth to bedrock
Management measures and considerations:
• Installing field lines on the contour helps to improve the performance of septic systems, but additional area is required as slope gradient and complexity increase.
• Installing septic tank absorption fields in areas of deeper soils can improve performance.

Local roads and streets

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
• Designing roads that conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Interpretive Groups

Land capability classification: 6e

Mn—Minter silty clay loam, frequently flooded

Composition

Minter soil and similar inclusions: 85 to 95 percent

Setting

Landform: Concave depressions on flood plains of the Tennessee River; these areas are commonly long narrow strips that parallel the river
Slope range: 0 to 1 percent
Major uses: Woodland or idle land

Soil Properties and Qualities

Rooting depth: 18 to more than 36 inches
Drainage class: Poorly drained
Permeability: Slow or very slow

Flood hazard: Frequent for long periods from December through May
Available water capacity: Moderate
Seasonal high water table: At a depth of 0.0 to 0.5 foot from December through May
Soil reaction (pH): 5.1 to 7.3
Shrink-swell potential: Moderate
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 5 inches—dark brownish gray silty clay loam that has strong brown mottles

Subsurface layer:
5 to 11 inches—dark brownish gray silty clay loam that has strong brown mottles

Subsoil:
11 to 40 inches—grayish brown silty clay that has brownish and grayish mottles
40 to 79 inches—gray clay that has brownish mottles

Inclusions

Contrasting inclusions:
• Beason and Chenneby soils in the slightly higher positions

Similar inclusions:
• Small areas of poorly drained soils that have loamy subsoils
• Some areas of soils that have a silt loam surface layer
• Some small areas where water is ponded for several weeks

Use and Management

Cropland

Suitability: Not suited
Major limitations: Wetness and flooding
Management measures and considerations:
• In areas that are currently in agricultural production, practices such as installing a drainage system that includes open ditches and perforated tile and landshaping improve productivity and reduce wetness.

Pasture and hayland

Suitability: Poorly suited
Major limitations: Wetness and flooding
Management measures and considerations:
• In most years this soil has characteristics of wetness for more than 6 months.
• Grazing when the soil is wet causes compaction, reduces plant cover, and encourages the growth of undesirable species.
• Maintaining drainageways and ditches helps to remove excess water.
• Planting water-tolerant forages helps to increase productivity.
• Flooding is likely in most years and can cause the loss of fences, forages, and livestock.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, the suitability for log landings and natural surface roads, and the potential for seedling mortality
Trees to plant: Sweetgum, American sycamore, swamp white oak, overcup oak, and green ash
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding, wetness, and restricted permeability
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding, wetness, and low strength
Management measures and considerations:
• Constructing roads on raised, well compacted fill material helps to overcome the flooding and wetness limitations.
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 5w

PdA—Paden silt loam, 0 to 3 percent slopes, rarely flooded

Composition

Paden soil and similar inclusions: 75 to 90 percent

Setting

Landform: Low stream terraces
Major uses: Cropland

Soil Properties and Qualities

Rooting depth: 18 to 36 inches
Drainage class: Moderately well drained
Permeability: Moderate above the fragipan and slow or very slow in the fragipan
Flood hazard: Rare
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 2.2 feet from December to April
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 8 inches—dark yellowish brown silt loam

Subsoil:
8 to 16 inches—yellowish brown silt loam
16 to 24 inches—yellowish brown silt loam that has pale brown mottles
24 to 60 inches—brownish yellow and yellowish brown silt loam fragipan that has pale brown and light gray mottles

Substratum:
60 to 79 inches—dark yellowish brown extremely gravelly coarse sandy loam

Inclusions

Contrasting inclusions:
- Woodmont and Chenneby soils in slightly concave areas
- Humphreys soils on small alluvial fan terraces
- Small areas of Armour and Trace soils on stream terraces adjacent to the river
- Small areas of Busseltown soils in similar landscape positions

Similar inclusions:
- Eroded areas along the edge of the map unit that have a thinner surface layer than the Paden soil

Use and Management

Cropland

Suitability: Well suited
Major limitations: Restricted rooting depth
Management measures and considerations:
- Because of a limited rooting depth, this soil is slightly droughty.
- Winter cover crops, crop residue management, no-till planting, and crop rotations which include grasses and legumes help to increase the available water capacity, prevent crusting, and improve soil fertility.

Pasture and hayland

Suitability: Well suited
Major limitations: Restricted rooting depth and flooding
Management measures and considerations:
- Because of the fragipan and the seasonal high water table, the root growth of some legumes is restricted.
- Some surrounding areas are commonly flooded, which can limit livestock access.
- Animals need access to higher areas above the flood plain.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Yellow-poplar, cherrybark oak, and white oak
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
- Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Restricted permeability and wetness
Management measures and considerations:
- Installing interceptor drains and increasing the size of the absorption field help to improve performance.
- Locating and installing the filter fields in deeper, more permeable soils in the map unit may improve the performance of filter fields.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
- If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 2w

PdB2—Paden silt loam, 1 to 5 percent slopes, eroded

Composition

Paden soil and similar inclusions: 75 to 90 percent

Setting

Landform: Linear slopes on stream terraces
Major uses: Pasture, hayland, and cropland

Soil Properties and Qualities

Rooting depth: 18 to 30 inches
Drainage class: Moderately well drained
Permeability: Moderate above the fragipan and slow or very slow in the fragipan
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 2.0 feet from December to April
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

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

Subsoil:
6 to 21 inches—dark yellowish brown and yellowish brown silt loam
21 to 30 inches—yellowish brown silt loam fragipan that has light brownish gray mottles
30 to 36 inches—yellowish brown and dark red gravelly silty clay loam fragipan that has light brownish gray mottles
36 to 79 inches—dark red gravelly clay loam

Inclusions

Contrasting inclusions:
• Woodmont soils in small concave areas
• Pickwick soils on gentle side slopes and convex knolls

Similar inclusions:
• Severely eroded areas on slightly convex knolls

Use and Management

Cropland

Suitability: Well suited
Major limitations: Erosion
Management measures and considerations:
• Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
• Using resource management systems that include conservation tillage, stripcropping, contour farming, no-till planting, and winter cover crops helps to minimize runoff and control erosion.

Pasture and hayland

Suitability: Well suited
Major limitations: Limited rooting depth
Management measures and considerations:
• Because of the fragipan and the seasonal high water table, the root growth of some legumes is restricted.
• Planting adapted forages helps to increase productivity.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Yellow-poplar, cherrybark oak, and white oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Dwellings without basements—moderately suited; dwellings with basements—poorly suited
Major limitations: Wetness
Management measures and considerations:
• Subsurface drainage and landshaping help to reduce wetness.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Restricted permeability and wetness
Management measures and considerations:
• Installing interceptor drains and increasing the size of the absorption field help to improve performance.
• Locating and installing the filter fields in more permeable areas in the map unit may improve the performance of filter fields.
• Careful selection of the absorption area reduces installation costs and maintenance.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 2e

PdC2—Paden silt loam, 5 to 12 percent slopes, eroded

Composition

Paden soil and similar inclusions: 70 to 100 percent

Setting

Landform: Slightly convex stream terraces
Major uses: Pasture

Soil Properties and Qualities

Rooting depth: 18 to 30 inches
Drainage class: Moderately well drained
Permeability: Moderate above the fragipan and slow or very slow in the fragipan
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 2.0 feet from December to April
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

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

Subsoil:
6 to 21 inches—dark yellowish brown and yellowish brown silt loam
21 to 30 inches—yellowish brown silt loam fragipan that has light brownish gray mottles
30 to 36 inches—yellowish brown and dark red gravelly silty clay loam fragipan that has light brownish gray mottles
36 to 79 inches—dark red gravelly clay loam

Inclusions

Contrasting inclusions:
- Woodmont soils in concave drainageways
- Pickwick soils on side slopes

Similar inclusions:
- Tarklin soils intermingled in small areas on the same landscape
- Severely eroded areas in some small convex areas

Use and Management

Cropland

Suitability: Moderately suited
Major limitations: Erosion hazard and moderate rooting depth
Management measures and considerations:
- Soil erosion is a major concern when cultivated crops are grown.
- Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
- Excessive rates of erosion result in subsoil material becoming exposed or near the surface in a relatively short time.
- Conservation tillage, stripcropping, contour farming, no-till planting, crop rotations which include grasses, and winter cover crops help to minimize runoff and control erosion.
- Because of a limited rooting depth, this soil is slightly droughty.

Pasture and hayland

Suitability: Well suited
Major limitations: Restricted rooting depth
Management measures and considerations:
- The fragipan and the seasonal high water table restrict the root growth of some legumes.
- Planting adapted forages helps to increase productivity.
- Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazards of soil rutting and erosion
Trees to plant: Yellow-poplar, cherrybark oak, and white oak
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Wetness and slope
Management measures and considerations:
- Subsurface drainage and landshaping help to reduce wetness.
- Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Wetness and restricted permeability
Management measures and considerations:
- Installing interceptor drains and increasing the size of the absorption field help to improve performance.

• Locating and installing the filter fields in deeper, more permeable areas in the map unit may improve the performance of filter fields.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 3e

PdC3—Paden silt loam, 5 to 12 percent slopes, severely eroded

Composition

Paden soil and similar inclusions: 70 to 85 percent

Setting

Landform: Slightly convex stream terraces
Major uses: Pasture

Soil Properties and Qualities

Rooting depth: 8 to 18 inches
Drainage class: Moderately well drained
Permeability: Moderate above the fragipan and slow or very slow in the fragipan
Flood hazard: None
Available water capacity: Low
Seasonal high water table: Perched, at a depth of 1.0 to 1.5 feet from December to April
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

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

Subsoil:
6 to 15 inches—yellowish brown silt loam
15 to 19 inches—light olive brown silt loam fragipan that has brownish yellow and light brownish gray mottles
19 to 32 inches—grayish brown and strong brown silty clay loam fragipan
32 to 79 inches—yellowish red gravelly clay loam

Inclusions

Contrasting inclusions:
• Woodmont soils in concave drainageways
• Pickwick soils on side slopes

Similar inclusions:
• Tarklin soils intermingled on the same landscape

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Poor tilth, severe erosion hazard, and droughtiness
Management measures and considerations:
• Erosion has severely reduced the productivity of this soil.
• Using a conservation tillage system, such as no-till planting, that maintains a maximum amount of ground cover increases the rate of rainfall infiltration into the soil, minimizes the loss of moisture due to evaporation, and prevents further erosion.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Restricted rooting depth
Management measures and considerations:
• Because of the shallow depth to the fragipan, root growth is restricted and droughtiness is a problem.
• Planting adapted forages increases production.

Woodland

Suitability: Moderately suited
Major limitations: Hazards of soil rutting and erosion and the potential for seedling mortality
Trees to plant: Yellow-poplar, cherrybark oak, and white oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Wetness and slope
Management measures and considerations:
• Subsurface drainage and landshaping help to reduce wetness.
• Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Wetness and restricted permeability

Management measures and considerations:
• This map unit is difficult to manage for septic tank absorption fields because the soil is shallow to a fragipan and has slow or very slow permeability.
• Installing the filter fields in more permeable areas in the map unit helps to improve the performance of filter fields.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 4e

PkB2—Pickwick silt loam, 2 to 5 percent slopes, eroded

Composition

Pickwick soil and similar inclusions: 90 to 100 percent

Setting

Landform: Gentle linear slopes on stream terraces
Major uses: Cropland and hayland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: None
Available water capacity: High
Seasonal high water table: None
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low in upper part of the subsoil and moderate in lower part of the subsoil
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 20 inches—yellowish red silty clay loam
20 to 42 inches—red silty clay loam
42 to 79 inches—yellowish red silty clay

Inclusions

Contrasting inclusions:
• Paden soils in small spots on similar landscapes and in the slightly lower positions
• Minvale and Braxton soils in more sloping areas near the edge of the map unit

Similar inclusions:
• Some areas that have a yellowish brown subsoil

Use and Management

Cropland

Suitability: Well suited
Major limitations: Erosion hazard
Management measures and considerations:
• Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
• Using resource management systems that include conservation tillage, stripcropping, contour farming, no-till planting, and winter cover crops helps to minimize runoff and control erosion.

Pasture and hayland

Suitability: Well suited
Major limitations: None
Management measures and considerations:
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Yellow-poplar, loblolly pine, white oak, cherrybark oak, and black walnut
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Well suited
Major limitations: None
Management measures and considerations: None

Septic tank absorption fields

Suitability: Moderately suited
Major limitations: Restricted permeability
Management measures and considerations:
• Increasing the size of the absorption field helps to improve the performance of the system.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 2e

PkC2—Pickwick silt loam, 5 to 12 percent slopes, eroded

Composition

Pickwick soil and similar inclusions: 80 to 100 percent

Setting

Landform: Slightly convex side slopes on stream terraces
Major uses: Pasture

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: None
Available water capacity: High
Seasonal high water table: None
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low in the upper part of the subsoil and moderate in the lower part of the subsoil
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 20 inches—yellowish red silty clay loam
20 to 42 inches—red silty clay loam
42 to 79 inches—yellowish red silty clay

Inclusions

Contrasting inclusions:
• Paden soils in small spots in the slightly lower positions
• Minvale and Braxton soils in sloping areas near the edge of the map unit
• Some small areas of soils that have bedrock between depths of 40 and 60 inches

Similar inclusions:
• Some areas of soils that have a yellowish brown subsoil

Use and Management

Cropland

Suitability: Moderately suited
Major limitations: Severe erosion hazard
Management measures and considerations:
• Soil erosion is a major concern when cultivated crops are grown.
• Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
• Excessive rates of erosion result in subsoil material becoming exposed or near the surface in a relatively short time.
• Conservation tillage, stripcropping, contour farming, no-till planting, crop rotations which include grasses, and winter cover crops help to minimize runoff and control erosion.

Pasture and hayland

Suitability: Well suited
Major limitations: None
Management measures and considerations:
• Overgrazing reduces plant cover, causes erosion, and encourages the growth of undesirable species.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazards of soil rutting and erosion
Trees to plant: Yellow-poplar, loblolly pine, white oak, cherrybark oak, and black walnut
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
• Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Moderately suited
Major limitations: Restricted permeability

Management measures and considerations:
• Increasing the size of the absorption field helps to improve the performance of the system.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 3e

PkC3—Pickwick silt loam, 5 to 12 percent slopes, severely eroded

Composition

Pickwick soil and similar inclusions: 75 to 85 percent

Setting

Landform: Severely eroded convex side slopes on stream terraces
Major uses: Pasture

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low in the upper part of subsoil and moderate in the lower part of the subsoil
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 2 inches—brown silt loam

Subsoil:
2 to 15 inches—strong brown silty clay loam
15 to 36 inches—yellowish red silty clay loam
36 to 79 inches—dark red silty clay

Inclusions

Contrasting inclusions:
• Paden soils in small spots in the slightly lower positions
• Minvale soils in sloping convex areas
• Some small areas of soils that have bedrock between depths of 40 and 60 inches

Similar inclusions:
• Some areas of soils that have a yellowish brown subsoil

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Poor tilth and severe erosion hazard
Management measures and considerations:
• Erosion has severely reduced the productivity of this soil.
• Soil erosion is a major concern when cultivated crops are grown.
• Conservation tillage, stripcropping, contour farming, no-till planting, crop rotations which include grasses, and winter cover crops help to minimize runoff and control erosion.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Severe erosion
Management measures and considerations:
• Erosion has severely reduced the productivity of this soil, and the subsoil is exposed or near the surface.
• Increased soil amendments and seeding rates are needed for quality forage stands.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazards of soil rutting and erosion
Trees to plant: Yellow-poplar, loblolly pine, white oak, cherrybark oak, and black walnut
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
• Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Moderately suited
Major limitations: Restricted permeability

Management measures and considerations:
• Increasing the size of the absorption field helps to improve the performance of the system.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 4e

Pt—Pits, gravel

Composition

Pits and similar inclusions: 75 to 90 percent

Setting

This map unit consists of chert and gravel pits on uplands. Many areas have nearly vertical walls of exposed chert. Most of the areas have been mined for a source of roadfill.

Use and Management

Cropland, pasture, hayland, and woodland

Suitability: Not suited
Major limitations: Extreme acidity, droughtiness, and restricted rooting depth
Management measures and considerations:
• Sites on better suited soils should be considered.

Dwellings

Suitability: Not suited
Major limitations: Slope and depth to soft bedrock
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Slope and restricted permeability
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
• Suitable roadfill material is available in this map unit.

Interpretive Groups

Land capability classification: None assigned

Rb—Riverby gravelly sandy loam, frequently flooded

Composition

Riverby soil and similar inclusions: 70 to 85 percent

Setting

Landform: Narrow flood plains
Slope range: 0 to 3 percent
Major uses: Pasture and woodland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Excessively drained
Permeability: Rapid
Flood hazard: Frequent for very brief or brief periods from December to June
Available water capacity: Low or very low
Seasonal high water table: Apparent, at a depth of 4.0 to 6.0 feet from December to April
Soil reaction (pH): 5.6 to 7.3
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

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

Subsurface layer:
6 to 10 inches—brown gravelly sandy loam

Substratum:
10 to 20 inches—yellowish brown extremely gravelly coarse sandy loam
20 to 39 inches—dark yellowish brown and pale brown extremely gravelly coarse sandy loam and loamy coarse sand
39 to 48 inches—yellowish brown extremely gravelly coarse sandy loam that has light brownish gray iron depletions
48 to 79 inches—dark yellowish brown extremely gravelly loamy coarse sand

Inclusions

Contrasting inclusions:
• Sullivan soils in the slightly higher flood plain positions
• Lobelville soils in seep areas and sloughs
• Humphreys soils on colluvial slopes near the base of uplands

• Areas of unvegetated, extremely gravelly soils on natural levees of larger streams

Similar inclusions:
• Some rarely flooded areas near the source of streams
• Areas of soils that have silt loam and loam surface layers with or without gravel, intermingled with areas of the Riverby soil

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Gravelly textures and flooding
Management measures and considerations:
• The content of gravel in the surface layer hinders the use of tillage equipment.
• Because of the large volume of gravel in the soil, this soil is droughty.
• Yields for most crops are low.
• Planting late in spring and harvesting early in fall reduce the risk of flood damage.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Droughtiness
Management measures and considerations:
• In this map unit, droughtiness reduces forage yields and lowers the response to fertilizers.
• Forage production and response to fertilizer are fair during the spring when rainfall is abundant, but they decrease sharply with the onset of drier weather.
• Selecting drought-tolerant plants helps to increase productivity.
• Flooding is likely in most years and can cause the loss of fences, forages, and livestock.

Woodland

Suitability: Moderately suited
Major limitations: Construction of haul roads and log landings and the suitability for mechanical planting, mechanical site preparation, log landings, and natural surface roads
Trees to plant: Sweetgum, American sycamore, and yellow-poplar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding
Management measures and considerations:
• Flash flooding can cause hazardous road conditions.
• Roads should be constructed above the flood zone on raised fill material.
• This map unit is a probable source for road material and gravel.

Interpretive Groups

Land capability classification: 4s

RoD—Rock outcrop-Barfield complex, 10 to 30 percent slopes

Composition

Note: Areas of Rock outcrop and the Barfield soil are so intermingled that they cannot be mapped separately at the selected scale for mapping.
Rock outcrop: 50 to 75 percent
Barfield soil and similar inclusions: 30 to 50 percent

Setting

Landform: Nose slopes on hillsides intermixed with outcrops of hard limestone bedrock; most areas of this map unit are in the western part of Perry County
Major uses: Woodland

Properties and Qualities of the Barfield Soil

Rooting depth: 8 to 20 inches
Drainage class: Well drained
Permeability: Slow
Flood hazard: None
Available water capacity: Very low
Seasonal high water table: None
Soil reaction (pH): 6.1 to 7.8
Shrink-swell potential: High
Depth to bedrock: 8 to 20 inches to hard bedrock

Typical profile

Rock outcrop

This part of the map unit consists of rock outcrops ranging from a few inches to more than 2 feet above the surface.

Barfield

Surface layer:
0 to 6 inches—very dark brown stony silty clay loam

Subsoil:
6 to 17 inches—very dark brown and dark brown channery silty clay

Bedrock:
17 inches—hard gray limestone

Inclusions

Contrasting inclusions:
• Some small areas of soils that have hard bedrock at a depth of more than 20 inches

Similar inclusions:
• Some areas that have a silty subsoil
• Areas of soils that have hard bedrock at a depth of less than 8 inches

Use and Management

Cropland

Suitability: Not suited
Major limitations: Slope and rockiness
Management measures and considerations:
• Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Not suited
Major limitations: Rockiness and droughtiness
Management measures and considerations:
• Sites on better suited soils should be considered.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings, the hazards of soil rutting and erosion, and the suitability for log landings, natural surface roads, mechanical and hand planting, use of harvesting equipment, and mechanical site preparation
Trees to plant: Eastern redcedar and Virginia pine
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Slope, depth to bedrock, and shrink-swell potential
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Depth to bedrock and slope
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Depth to bedrock, low soil strength, and slope
Management measures and considerations:
• Where deep cuts are necessary, bedrock needs to be blasted.
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 7s

RoF—Rock outcrop-Barfield complex, very steep

Composition

Note: Areas of Rock outcrop and the Barfield soil are so intermingled that they cannot be mapped separately at the selected scale for mapping.
Rock outcrop: 50 to 75 percent
Barfield soil and similar inclusions: 30 to 50 percent

Setting

Landform: Limestone bluffs; most areas of this map unit are adjacent to the Tennessee River
Slope range: More than 30 percent, including nearly vertical areas of bedrock
Major uses: Woodland

Properties and Qualities of the Barfield Soil

Rooting depth: 8 to 20 inches
Drainage class: Well drained
Permeability: Slow
Flood hazard: None
Available water capacity: Very low
Seasonal high water table: None
Soil reaction (pH): 6.1 to 7.8
Shrink-swell potential: High
Depth to bedrock: 8 to 20 inches to hard bedrock

Typical Profile

Rock outcrop

This part of the map unit consists of large limestone bluffs on hillsides.

Barfield

Surface layer:
0 to 6 inches—very dark brown stony silty clay loam

Subsoil:
6 to 17 inches—very dark brown and dark brown channery silty clay

Bedrock:
17 inches—hard gray limestone

Inclusions

Contrasting inclusions:
- Some small areas of soils that have hard bedrock at a depth of more than 20 inches

Similar inclusions:
- Some areas of soils that have a silty subsoil
- Areas of soils that have hard bedrock at a depth of less than 8 inches

Use and Management

Cropland

Suitability: Not suited
Major limitations: Slope and rockiness
Management measures and considerations:
- Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Not suited
Major limitations: Slope, rockiness, and droughtiness
Management measures and considerations:
- Sites on better suited soils should be considered.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings, the hazards of soil rutting and erosion, and the suitability for log landings, natural surface roads, mechanical and hand planting, use of harvesting equipment, and mechanical site preparation
Trees to plant: Eastern redcedar and Virginia pine
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Slope, depth to bedrock, and shrink-swell potential
Management measures and considerations:
- Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Slope and depth to bedrock
Management measures and considerations:
- Sites on better suited soils should be considered.

Local roads and streets

Suitability: Not suited
Major limitations: Slope, depth to bedrock, and low soil strength
Management measures and considerations:
- Sites on better suited soils should be considered.

Interpretive Groups

Land capability classification: 7s

Sa—Staser fine sandy loam, occasionally flooded

Composition

Staser soil and similar inclusions: 75 to 90 percent

Setting

Landform: Natural levees of the Tennessee River flood plain
Slope range: 0 to 5 percent
Major uses: Cropland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: Occasional for brief periods from December to May
Available water capacity: High
Seasonal high water table: None
Soil reaction (pH): 5.6 to 7.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 10 inches—brown fine sandy loam

Subsurface layer:
10 to 18 inches—dark brown loam

Subsoil:
18 to 46 inches—dark brown and dark yellowish brown clay loam
46 to 79 inches—dark yellowish brown silty clay loam and silty clay

Inclusions

Contrasting inclusions:
• Soils that have a loamy sand surface layer, on the natural levee of the Tennessee River
• Egam and Wolftever soils in small strips below natural levees

Similar inclusions:
• Soils that have a brown subsoil
• Some small areas with subsoils that are dominantly silt loam or silty clay loam

Use and Management

Cropland

Suitability: Well suited
Major limitations: Flooding
Management measures and considerations:
• This map unit is capable of producing high yields of crops if flooding is considered in management.
• Planting late in spring and harvesting early in fall reduce the risk of flood damage.
• Using a winter cover crop helps to improve the soil condition and minimize scouring during flood events.
• Equipment access is sometimes a problem because of more frequent flooding in adjacent areas.

Pasture and hayland

Suitability: Well suited
Major limitations: Flooding
Management measures and considerations:
• Flooding is likely in some years and may cause the loss of fences, forages, and livestock.

Woodland

Suitability: Moderately suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, and the suitability for log landings and natural surface roads
Trees to plant: Yellow-poplar, loblolly pine, white oak, black walnut, and cherrybark oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited for year-round use
Major limitations: Flooding
Management measures and considerations:
• This map unit is commonly used for camp sites along the river bank.
• Although this map unit is not suited for absorption fields for permanent dwellings, it is well suited for absorption fields for temporary camping sites during nonflooded periods.
• Streambank stabilization helps to keep cutbanks away from established septic filter fields.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding
Management measures and considerations:
• Roads should be constructed on raised fill material above the flood plain.

Interpretive Groups

Land capability classification: 2w

SeC3—Stiversville silty clay loam, 5 to 12 percent slopes, severely eroded

Composition

Stiversville soil and similar inclusions: 75 to 90 percent

Setting

Landform: Slightly convex ridgetops in the western part of the county near the Tennessee River
Major uses: Pasture

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction (pH): 5.1 to 6.0
Shrink-swell potential: Low
Depth to bedrock: 40 to 60 inches to soft bedrock

Typical Profile

Surface layer:
0 to 1 inch—brown silty clay loam

Subsoil:
1 to 30 inches—brown and strong brown silty clay loam
30 to 40 inches—strong brown channery silty clay loam

Substratum:
40 to 45 inches—brown very channery clay loam
45 to 79 inches—highly weathered, horizontally bedded siltstone

Inclusions

Contrasting inclusions:
• Areas that have weathered bedrock at a depth of more than 60 inches or less than 40 inches

Similar inclusions:
• Areas of soils that have a silt loam surface layer

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Poor tilth and severe erosion hazard
Management measures and considerations:
• Erosion has severely reduced the tilth and productivity of this soil.
• Soil erosion remains a major concern when cultivated crops are grown.
• Conservation practices are needed to reduce the hazard of erosion and improve soil productivity.
• Minimum tillage, contour farming, no-till planting, and winter cover crops may help to minimize runoff and control erosion.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Severe erosion
Management measures and considerations:
• Erosion has severely reduced the productivity of this soil, and the subsoil is exposed or near the surface.
• Because of past erosion, the amount of water available to plants and the response of plants to fertilizers are lower.
• Increased soil amendments and seeding rates are needed for quality forage stands.
• Overgrazing reduces plant cover, causes further erosion, and encourages the growth of undesirable species.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazards of soil rutting and erosion
Trees to plant: Yellow-poplar, southern red oak, loblolly pine, and black walnut
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
• Landshaping is needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Moderately suited
Major limitations: Restricted permeability
Management measures and considerations:
• Increasing the size of the absorption field helps to overcome the restricted permeability.

Local roads and streets

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
• Placing roads in the less sloping areas minimizes cutting and filling.

Interpretive Groups

Land capability classification: 4e

SgC—Sugargrove gravelly silt loam, 5 to 12 percent slopes

Composition

Sugargrove soil and similar inclusions: 70 to 85 percent

Setting

Landform: Slightly convex ridgetops
Major uses: Pasture; woodland in some areas

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: 20 to 60 inches to soft bedrock

Typical Profile

Surface layer:
0 to 2 inches—yellowish brown gravelly silt loam

Subsurface layer:
2 to 12 inches—light yellowish brown and strong brown gravelly silt loam

Subsoil:
12 to 39 inches—strong brown channery silty clay loam and silt loam

Substratum:
39 to 52 inches—strong brown and brownish yellow extremely channery silt loam
52 to 79 inches—very pale brown and light brown highly weathered siltstone

Inclusions

Contrasting inclusions:
- Areas of Biffle soils in the higher positions on hillsides
- Areas of Hawthorne and Sulphura soils in the lower positions on hillsides
- Small areas of well drained Minvale soils on footslopes

Similar inclusions:
- Areas of soils that have few or no chert fragments in the surface layer

Use and Management

Cropland

Suitability: Moderately suited
Major limitations: Severe erosion hazard
Management measures and considerations:
- No-till planting, cultivation on the contour, stripcropping, and growing cover crops help to increase soil moisture and reduce the hazard of erosion.
- Using a cropping system that includes grasses, legumes, or grass-legume mixtures, rotating crops, and returning crop residue to the soil help to maintain or improve tilth.

Pasture and hayland

Suitability: Well suited
Major limitations: Droughtiness
Management measures and considerations:
- This soil is slightly droughty.
- In this map unit, droughtiness reduces forage yields and lowers the response to fertilizers.
- Using drought-tolerant plants helps to increase productivity.
- Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Moderately suited
Major limitations: Hazards of soil rutting and erosion
Trees to plant: Shortleaf pine, Virginia pine, chestnut oak, and eastern redcedar
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
- Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Moderately suited
Major limitations: Restricted permeability
Management measures and considerations:
- Increasing the size of the absorption field improves the performance of the system.

Local roads and streets

Suitability: Well suited
Major limitations: Slope
Management measures and considerations:
- Building roads in the less sloping areas reduces the amount of cut and fill needed.

Interpretive Groups

Land capability classification: 3e

SgD—Sugargrove gravelly silt loam, 12 to 20 percent slopes

Composition

Sugargrove soil and similar inclusions: 70 to 85 percent

Setting

Landform: Slightly convex hillsides
Major uses: Woodland; pasture in some areas

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate
Flood hazard: None

Available water capacity: Moderate
Seasonal high water table: None
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: 20 to 60 inches to soft bedrock

Typical Profile

Surface layer:
0 to 2 inches—yellowish brown gravelly silt loam

Subsurface layer:
2 to 12 inches—light yellowish brown and strong brown gravelly silt loam

Subsoil:
12 to 39 inches—strong brown channery silty clay loam and silt loam

Substratum:
39 to 52 inches—strong brown and brownish yellow extremely channery silt loam
52 to 79 inches—very pale brown and light brown highly weathered siltstone

Inclusions

Contrasting inclusions:
• Areas of Biffle soils in the higher positions on hillsides
• Areas of Hawthorne and Sulphura soils on the convex steeper slopes
• Small areas of well drained Minvale soils on adjacent footslopes

Similar inclusions:
• Some areas of soils that have a channery substratum within a depth of 30 inches

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Very severe erosion hazard and slope
Management measures and considerations:
• Soil erosion is a major concern when cultivated crops are grown.
• Productive cropping systems include long rotations with grasses and legumes.
• Conservation tillage, stripcropping, contour farming, no-till planting, and winter cover crops help to minimize runoff and control erosion.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Slope and droughtiness
Management measures and considerations:
• The slope limits equipment use in the steeper areas.
• This soil is slightly droughty.
• Selecting drought-tolerant plants helps to increase productivity.

Woodland

Suitability: Moderately suited
Major limitations: Hazards of soil rutting and erosion
Trees to plant: Shortleaf pine, Virginia pine, chestnut oak, and eastern redcedar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Poorly suited
Major limitations: Slope
Management measures and considerations:
• Landshaping is needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
• Installing field lines on the contour helps to improve the performance of septic systems, but additional area is required as slope gradient and complexity increase.

Local roads and streets

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
• Designing roads that conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Interpretive Groups

Land capability classification: 4e

Sn—Sullivan silt loam, occasionally flooded

Composition

Sullivan soil and similar inclusions: 75 to 90 percent

Setting

Landform: Flood plains
Slope range: 0 to 2 percent
Major uses: Cropland, hayland, and pasture

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate in the upper part of the profile and moderately rapid in the substratum
Flood hazard: Occasional for very brief or brief periods from December to March
Available water capacity: High
Seasonal high water table: None
Soil reaction (pH): 4.5 to 7.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 9 inches—dark brown silt loam

Subsoil:
9 to 24 inches—dark yellowish brown silt loam

Substratum:
24 to 36 inches—dark yellowish brown loam that has light yellowish brown mottles
36 to 56 inches—dark brown silt loam and loam
56 to 60 inches—dark yellowish brown gravelly sandy loam

Inclusions

Contrasting inclusions:
- Riverby soils on natural stream levees
- Armour, Trace, and Humphreys soils on stream terraces
- Lobelville and Chenneby soils in the lower areas

Similar inclusions:
- Ellisville soils intermingled on the same landscape

Use and Management

Cropland

Suitability: Well suited
Major limitations: Flooding
Management measures and considerations:
- This map unit is capable of producing high yields of crops if flooding is considered in management.
- Planting late in spring and harvesting early in fall reduce the risk of flood damage.
- Using a winter cover crop and no-till planting help to improve the soil condition.

Pasture and hayland

Suitability: Well suited
Major limitations: Flooding
Management measures and considerations:
- This map unit is capable of producing high yields of forages.
- Flooding is likely in some years and may cause the loss of fences, forages, and livestock.

Woodland

Suitability: Moderately suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, and the suitability for log landings and natural surface roads
Trees to plant: Yellow-poplar, loblolly pine, white oak, black walnut, and cherrybark oak
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
- Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
- Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding
Management measures and considerations:
- Roads should be constructed on raised fill material above the flood plain.

Interpretive Groups

Land capability classification: 2w

SpF—Sulphura gravelly silt loam, 20 to 60 percent slopes

Composition

Sulphura soil and similar inclusions: 85 to 95 percent

Setting

Landform: Steep convex hillsides
Major uses: Woodland

Soil Properties and Qualities

Rooting depth: 20 to 40 inches
Drainage class: Somewhat excessively drained

Permeability: Moderate
Flood hazard: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction (pH): 5.1 to 6.5
Shrink-swell potential: Low
Depth to bedrock: 20 to 40 inches

Typical Profile

Surface layer:
0 to 5 inches—yellowish brown very gravelly silt loam

Subsoil:
5 to 11 inches—light yellowish brown very gravelly silt loam
11 to 25 inches—yellowish brown very gravelly silt loam that has common siltstone flagstones

Bedrock:
25 to 79 inches—hard gray siltstone interlayered with shale and chert

Inclusions

Contrasting inclusions:
- Small areas of soils that have hard bedrock or chert beds within a depth of 20 inches
- Areas of Tarklin and Minvale soils on footslopes
- Riverby and Lobelville soils in narrow drainageways

Similar inclusions:
- Small areas of Hawthorne and Biffle soils on the adjacent higher parts of hillsides

Use and Management

Cropland

Suitability: Not suited
Major limitations: Slope and droughtiness
Management measures and considerations:
- Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Poorly suited
Major limitations: Slope and droughtiness
Management measures and considerations:
- This map unit is difficult to manage for pasture and hay because of the slope.
- Selecting drought-tolerant plants is recommended.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings; the suitability for natural surface roads, mechanical planting, mechanical site preparation, and use of harvesting equipment; and hazards of soil rutting and erosion
Trees to plant: Virginia pine and eastern redcedar
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Poorly suited
Major limitations: Slope and depth to bedrock
Management measures and considerations:
- Landshaping is needed for site preparation, or buildings may need to be designed to conform to the natural slope.
- Undercutting hillsides increases the hazard of landslides.
- Slopes are too steep in areas of the map unit for conventional homes.
- Building in the less sloping areas helps to improve soil performance.
- Drilling and blasting or special earth-moving equipment is needed to increase the depth of this soil.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Slope and depth to bedrock
Management measures and considerations:
- Sites on better suited soils should be considered.

Local roads and streets

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
- Designing roads that conform to the contour and providing adequate water-control structures, such as culverts and diversions, help to maintain road stability.
- Undercutting hillsides increases the hazard of landslides.

Interpretive Groups

Land capability classification: 7s

SuF—Sulphura-Rock outcrop complex, 30 to 75 percent slopes

Composition

Sulphura soil and similar inclusions: 50 to 75 percent
Rock outcrop: 10 to 40 percent

Setting

Landform: Steep convex hillsides intermixed with outcrops of hard gray bedrock; rock outcrops cover 10 to 30 percent of the surface
Major uses: Woodland

Properties and Qualities of the Sulphura Soil

Rooting depth: 20 to 40 inches
Drainage class: Somewhat excessively drained
Permeability: Moderate
Flood hazard: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction (pH): 5.1 to 6.5
Shrink-swell potential: Low
Depth to bedrock: 20 to 40 inches

Typical Profile

Sulphura

Surface layer:
0 to 5 inches—yellowish brown very gravelly silt loam

Subsoil:
5 to 11 inches—light yellowish brown very gravelly silt loam

Substratum:
11 to 25 inches—yellowish brown very gravelly silt loam that has common siltstone flagstones

Bedrock:
25 to 79 inches—hard gray siltstone interlayered with shale and chert

Rock outcrop

This part of the map unit consists of level-bedded siltstone, limestone, and shale that protrude from 1 to 5 feet above the surface. Rock outcrop includes areas that are several feet wide in places to large shelves of rock in stairstep fashion that are hundreds of feet in length. Also included are steep bluffs of limestone.

Inclusions

Contrasting inclusions:
- Small areas of soils that have hard bedrock or chert beds within a depth of 20 inches
- Small areas of Gladdice soils on the lower hillsides
- Areas of Tarklin and Minvale soils on footslopes
- Riverby and Lobelville soils in narrow drainageways

Similar inclusions:
- Small areas of Hawthorne and Biffle soils on the adjacent higher parts of hillsides

Use and Management

Cropland

Suitability: Not suited
Major limitations: Slope, depth to bedrock, and rock outcrops
Management measures and considerations:
- Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Not suited
Major limitations: Slope and rockiness
Management measures and considerations:
- Sites on better suited soils should be considered.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings; the suitability for natural surface roads, mechanical planting, mechanical site preparation, and use of harvesting equipment; and hazards of soil rutting and erosion
Trees to plant: Virginia pine and eastern redcedar
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Slope
Management measures and considerations:
- Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Slope and depth to bedrock
Management measures and considerations:
- Sites on better suited soils should be considered.

Local roads and streets

Suitability: Not suited
Major limitations: Slope, rock outcrops, and depth to bedrock
Management measures and considerations:
- Sites on better suited soils should be considered.
- Drilling and blasting or special earth-moving equipment is needed to increase the depth of the soil.

Interpretive Groups

Land capability classification: 7s

TbD—Talbott-Mimosa complex, 5 to 15 percent slopes, rocky

Composition

Note: Areas of the Mimosa and Talbott soils cannot be mapped separately at the selected scale.
Talbott soil and similar inclusions: 40 to 65 percent
Mimosa soil and similar inclusions: 40 to 65 percent

Setting

Landform: Slightly convex ridgetops where irregular limestone outcrops occupy 0.1 to 2.0 percent of area
Major uses: Woodland; pasture in some areas

Soil Properties and Qualities

Rooting depth: Talbott—20 to 40 inches; Mimosa—more than 36 inches
Drainage class: Well drained
Permeability: Talbott—moderately slow; Mimosa—slow or very slow
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction (pH): Talbott—5.1 to 7.0; Mimosa—4.5 to 6.0
Shrink-swell potential: Talbott—moderate; Mimosa—high
Depth to bedrock: Talbott—20 to 40 inches; Mimosa—more than 40 inches

Typical Profile

Talbott

Surface layer:
0 to 3 inches—brown silt loam

Subsoil:
3 to 6 inches—strong brown silty clay loam
6 to 30 inches—strong brown and yellowish red clay
30 to 37 inches—yellowish brown clay and hard gray limestone

Bedrock:
37 inches—hard gray limestone

Mimosa

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

Subsoil:
6 to 15 inches—strong brown clay
15 to 27 inches—yellowish brown clay that has strong brown mottles
27 to 45 inches—yellowish brown clay that has strong brown, yellowish red, and pale brown mottles
45 to 79 inches—brownish yellow silty clay that has light gray mottles

Inclusions

Contrasting inclusions:
• Small areas consisting of Barfield soils and numerous rock outcrops
• Braxton soils intermingled in some areas
• Dellrose and Wolftever soils on small colluvial footslopes

Similar inclusions:
• Gladdice soils intermingled in some areas
• Some areas of severely eroded soils that have a silty clay surface layer

Use and Management

Cropland

Suitability: Not suited
Major limitations: Slope and rockiness
Management measures and considerations:
• Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Rockiness
Management measures and considerations:
• Rock outcrops and stones hinder equipment used in managing pasture or hay.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings; the suitability for natural surface roads, mechanical planting, and mechanical site preparation; use of harvesting equipment; and hazards of soil rutting and erosion
Trees to plant: Shortleaf pine, southern red oak, chestnut oak, and eastern redcedar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Poorly suited
Major limitations: Depth to bedrock and shrink-swell potential
Management measures and considerations:
• On sites for basements, drilling and blasting or special earth-moving equipment may be required to increase the depth of these soils.
• Reinforcing footings and basements and backfilling with coarse textured material minimize the damage caused by shrinking and swelling.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Depth to bedrock and restricted permeability
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength and shrink-swell potential
Management measures and considerations:
• If the soils are to be used as a base for roads and streets, mixing the soil material with sand and gravel helps to increase soil strength and stability.
• Removing as much of the clay, which has a high shrink-swell potential, as possible and increasing the thickness of the base aggregate help to improve soil performance.

Interpretive Groups

Land capability classification: 6e

TbE—Talbott-Mimosa complex, 15 to 35 percent slopes, very rocky

Composition

Note: Areas of the Mimosa and Talbott soils cannot be mapped separately at the selected scale.
Talbott soil and similar inclusions: 40 to 65 percent
Mimosa soil and similar inclusions: 40 to 65 percent

Setting

Landform: Hillsides with outcrops of limestone and loose stones covering 2 to 10 percent of the surface
Major uses: Woodland

Soil Properties and Qualities

Rooting depth: Talbott—20 to 40 inches; Mimosa—more than 36 inches
Drainage class: Well drained
Permeability: Talbott—moderately slow; Mimosa—slow or very slow
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction (pH): Talbott—5.1 to 7.0; Mimosa—4.5 to 6.0
Shrink-swell potential: Talbott—moderate; Mimosa—high
Depth to bedrock: Talbott—20 to 40 inches; Mimosa—more than 40 inches

Typical Profile

Talbott

Surface layer:
0 to 3 inches—brown silt loam

Subsoil:
3 to 6 inches—strong brown silty clay loam
6 to 30 inches—strong brown and yellowish red clay
30 to 37 inches—yellowish brown clay and hard gray limestone

Bedrock:
37 inches—hard gray limestone

Mimosa

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

Subsoil:
6 to 15 inches—strong brown clay
15 to 27 inches—yellowish brown clay that has strong brown mottles
27 to 45 inches—yellowish brown clay that has strong brown, yellowish red, and pale brown mottles
45 to 79 inches—brownish yellow silty clay that has light gray mottles

Inclusions

Contrasting inclusions:
• Small areas consisting of Barfield soils and numerous rock outcrops
• Braxton soils intermingled in some areas
• Wolftever and Dellrose soils on small colluvial footslopes

Similar inclusions:
• Gladdice soils intermingled in some areas
• Some small areas of severely eroded soils that have a silty clay surface layer

Use and Management

Cropland

Suitability: Not suited
Major limitations: Slope and rockiness
Management measures and considerations:
• Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Not suited
Major limitations: Slope and rockiness
Management measures and considerations:
• Sites on better suited soils should be considered.

Woodland

Suitability: Poorly suited
Major limitations: Construction of haul roads and log landings; the suitability for natural surface roads, mechanical planting, mechanical site preparation,

and the use of harvesting equipment; and hazards of soil rutting and erosion

Trees to plant: Shortleaf pine, southern red oak, eastern redcedar, and chestnut oak

Management measures and considerations:

• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited

Major limitations: Depth to bedrock, slope, and shrink-swell potential

Management measures and considerations:

• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited

Major limitations: Depth to bedrock, slope, and restricted permeability

Management measures and considerations:

• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited

Major limitations: Low strength, slope, and shrink-swell potential

Management measures and considerations:

• If the soils are to be used as a base for roads and streets, mixing the soil material with sand and gravel helps to increase soil strength and stability.

• Designing roads that conform to the contour and providing adequate water-control structures, such as culverts and diversions, help to maintain road stability.

• Removing as much of the clay, which has a high shrink-swell potential, as possible and increasing the thickness of the base aggregate help to improve soil performance.

Interpretive Groups

Land capability classification: 7e

ThC2—Tarklin-Humphreys complex, 5 to 12 percent slopes, eroded

Composition

Note: Areas of the Tarklin and Humphreys soils are so intermingled that they cannot be mapped separately at the selected scale.

Tarklin soil and similar inclusions: 60 to 80 percent

Humphreys soil and similar inclusions: 20 to 40 percent

Setting

Landform: Tarklin—footslopes; Humphreys—alluvial fans

Major uses: Pasture; cropland or woodland in some areas

Soil Properties and Qualities

Rooting depth: Tarklin—18 to 30 inches; Humphreys—more than 36 inches

Drainage class: Tarklin—moderately well drained; Humphreys—well drained

Permeability: Tarklin—moderate in the upper part of the profile and slow or very slow in the fragipan; Humphreys—moderately rapid

Flood hazard: None

Available water capacity: Moderate

Seasonal high water table: Tarklin—perched, at a depth of 1.5 to 2.0 feet from December to April; Humphreys—apparent, at a depth of 5.0 to 6.0 feet from December to March

Soil reaction (pH): Tarklin—4.5 to 5.5; Humphreys—5.1 to 7.0

Shrink-swell potential: Low

Depth to bedrock: More than 5 feet

Typical Profile

Tarklin

Surface layer:

0 to 7 inches—brown silt loam

Subsoil:

7 to 15 inches—strong brown silty clay loam that has few pebbles

15 to 25 inches—strong brown gravelly silty clay loam

25 to 70 inches—mottled brown and gray gravelly and very gravelly silt loam fragipan

Substratum:

70 to 79 inches—dense bed of granular tripolitic chert that has reddish and brownish stains

Humphreys

Surface layer:

0 to 8 inches—dark yellowish brown gravelly silt loam

Subsurface layer:

8 to 14 inches—dark yellowish brown gravelly silt loam

Subsoil:

14 to 32 inches—strong brown gravelly silty clay loam

32 to 48 inches—yellowish brown very gravelly silty clay loam

Substratum:

48 to 79 inches—yellowish brown very gravelly silt loam

Inclusions

Contrasting inclusions:
• Small areas of somewhat poorly drained soils in concave positions

Similar inclusions:
• Some small severely eroded areas
• Some small areas of soils that are not gravelly in the subsoil
• Minvale soils in the higher footslope positions

Use and Management

Cropland

Suitability: Moderately suited
Major limitations: Severe erosion hazard
Management measures and considerations:
• Soil erosion is a major concern when cultivated crops are grown.
• Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
• Excessive rates of erosion result in subsoil material being exposed or near the surface in a relatively short time.
• Conservation tillage, stripcropping, contour farming, no-till planting, crop rotations which include grasses, and winter cover crops help to minimize runoff and control erosion.

Pasture and hayland

Suitability: Well suited
Major limitations: Restricted rooting depth
Management measures and considerations:
• In areas of the Tarklin soil, the fragipan and the seasonal high water table restrict the root growth of some legumes.
• Planting adapted forages helps to increase productivity.
• Overgrazing reduces plant cover, causes further erosion, and encourages the growth of undesirable species.
• Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting and erosion
Trees to plant: Chestnut oak, Virginia pine, white oak, and eastern redcedar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Dwellings without basements—moderately suited; dwellings with basements—poorly suited
Major limitations: Slope and wetness
Management measures and considerations:
• Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.
• Subsurface drainage and landshaping help to reduce wetness.

Septic tank absorption fields

Suitability: Tarklin—poorly suited; Humphreys—well suited
Major limitations: Wetness and restricted permeability
Management measures and considerations:
• Installing interceptor drains and increasing the size of the absorption field help to improve performance.
• Installing the filter fields in areas of the Humphreys soil helps to improve the performance of filter fields.
• Careful selection of the absorption area reduces installation costs and maintenance.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Moderately suited
Major limitations: Slope
Management measures and considerations:
• Building roads in the less sloping areas reduces the amount of cut and fill needed.
• The Humphreys soil can provide a suitable source of roadfill.

Interpretive Groups

Land capability classification: 3e

TmC2—Tarklin-Minvale complex, 5 to 12 percent slopes, eroded

Composition

Note: Areas of the Tarklin and Minvale soils are so intermingled that they cannot be mapped separately at the scale selected. The Tarklin soil has a dense zone in the subsoil that resists penetration of water and roots; the Minvale soil is more permeable.
Tarklin soil and similar inclusions: 40 to 70 percent
Minvale soil and similar inclusions: 20 to 50 percent

Setting

Landform: Tarklin—footslopes and stream terraces;

Minvale—footslopes, alluvial fans, and escarpments of stream terraces
Major uses: Pasture

Soil Properties and Qualities

Rooting depth: Tarklin—18 to 30 inches; Minvale—more than 36 inches
Drainage class: Tarklin—moderately well drained; Minvale—well drained
Permeability: Tarklin—moderate in the upper part of the profile and slow or very slow in the fragipan; Minvale—moderate
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: Tarklin—perched, at a depth of 1.5 to 2.0 feet from January through April; Minvale—none
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Tarklin

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 15 inches—strong brown silty clay loam that has few pebbles
15 to 25 inches—strong brown gravelly silty clay loam
25 to 70 inches—mottled brown and gray gravelly silt loam fragipan

Substratum:
70 to 79 inches—dense bed of granular tripolitic chert that has reddish and brownish stains

Minvale

Surface layer:
0 to 5 inches—brown gravelly silt loam

Subsurface layer:
5 to 8 inches—yellowish brown silty clay loam

Subsoil:
8 to 21 inches—dark yellowish brown gravelly silt loam
21 to 70 inches—strong brown gravelly silt loam
70 to 79 inches—strong brown gravelly silt loam that has pale brown mottles

Inclusions

Contrasting inclusions:
- Few small areas of Pickwick and Paden soils on stream terraces
- Wolftever soils in small colluvial areas in the western part of the county

Similar inclusions:
- Some small areas of severely eroded soils that have a surface layer of silty clay loam
- Small areas of Dellrose soils where slopes are underlain by limestone

Use and Management

Cropland

Suitability: Moderately suited
Major limitations: Severe erosion hazard
Management measures and considerations:
- Soil erosion is a major concern when cultivated crops are grown.
- Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
- Excessive rates of erosion result in subsoil material being exposed or near the surface in a relatively short time.
- Conservation tillage, stripcropping, contour farming, no-till planting, crop rotations which include grasses, and winter cover crops help to minimize runoff and control erosion.

Pasture and hayland

Suitability: Well suited
Major limitations: Restricted rooting depth
Management measures and considerations:
- The fragipan and the seasonal high water table restrict the root growth of some legumes in areas of the Tarklin soil.
- Planting adapted forages helps to increase productivity.
- Overgrazing reduces plant cover, causes further erosion, and encourages the growth of undesirable species.
- Deferred grazing, fertilization, and proper stocking rates help to keep the soil and forage in good condition.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting and erosion
Trees to plant: Chestnut oak, Virginia pine, white oak, and eastern redcedar
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Dwellings without basements—moderately suited; dwellings with basements—poorly suited
Major limitations: Slope and wetness

Management measures and considerations:
• Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.
• Subsurface drainage and landshaping help to reduce wetness.

Septic tank absorption fields

Suitability: Tarklin—poorly suited; Minvale—well suited
Major limitations: Wetness and restricted permeability
Management measures and considerations:
• Installing interceptor drains and increasing the size of the absorption field help to improve performance.
• Installing the filter fields in areas of the Minvale soil helps to improve their performance.
• Careful selection of the absorption area reduces installation costs and maintenance.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Moderately suited
Major limitations: Tarklin—slope and low strength; Minvale—slope
Management measures and considerations:
• Building roads in the less sloping areas helps to reduce the amount of cut and fill needed.
• If the soils are to be used as a base for roads and streets, mixing the soil material with sand and gravel helps to increase soil strength and stability.
• The Minvale soil provides a suitable source of roadfill.

Interpretive Groups

Land capability classification: 3e

TmC3—Tarklin-Minvale complex, 5 to 12 percent slopes, severely eroded

Composition

Note: Areas of the Tarklin and Minvale soils are so intermingled that they cannot be mapped separately at the scale selected. The Tarklin soil has a dense zone in the subsoil that resists penetration of water and roots; the Minvale soil is more permeable.
Tarklin soil and similar inclusions: 40 to 70 percent
Minvale soil and similar inclusions: 20 to 50 percent

Setting

Landform: Tarklin—footslopes and stream terraces; Minvale—footslopes, alluvial fans, and escarpments of stream terraces
Major uses: Pasture

Soil Properties and Qualities

Rooting depth: Tarklin—12 to 20 inches; Minvale—more than 36 inches
Drainage class: Tarklin—moderately well drained; Minvale—well drained
Permeability: Tarklin—moderate in the upper part of the profile and slow or very slow in the fragipan; Minvale—moderate
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: Tarklin—perched, at a depth of 1.5 to 1.7 feet from January through April; Minvale—none
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Tarklin

Surface layer:
0 to 3 inches—brown silt loam

Subsoil:
3 to 12 inches—strong brown silty clay loam that has few pebbles
12 to 20 inches—strong brown gravelly silty clay loam
20 to 62 inches—mottled brown and gray gravelly silt loam fragipan

Substratum:
62 to 79 inches—dense bed of granular tripolitic chert that has reddish and brownish stains

Minvale

Surface layer:
0 to 3 inches—strong brown gravelly silt loam

Subsoil:
3 to 42 inches—red gravelly silty clay loam
42 to 79 inches—red gravelly silty clay loam that has mottles in shades of brown and gray

Inclusions

Contrasting inclusions:
• Few small areas of Pickwick and Paden soils on stream terraces
• Wolftever soils in small colluvial areas in the western part of the county
• Some small areas that have numerous gullies

Similar inclusions:
• Some small areas of soils that have thicker surface layers
• Small areas of Dellrose soils where slopes are underlain by limestone

Use and Management

Cropland

Suitability: Poorly suited
Major limitations: Poor tilth and severe erosion hazard
Management measures and considerations:
• Erosion has severely reduced the productivity of these soils.
• Using a conservation tillage system that maintains a maximum amount of ground cover, such as no-till planting, increases the rate of rainfall infiltration into the soil, minimizes the loss of moisture due to evaporation, and prevents further erosion.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Restricted rooting depth
Management measures and considerations:
• Because of past erosion, the fragipan is near the surface in the Tarklin soil.
• The fragipan restricts root growth and causes droughtiness by reducing the amount of water available to plants.
• Planting adapted forages increases production.
• Increased soil amendments and seeding rates are needed for quality forage stands.

Woodland

Suitability: Well suited
Major limitations: Hazards of soil rutting and erosion and suitability for site preparation and planting
Trees to plant: Chestnut oak, Virginia pine, white oak, and eastern redcedar
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Dwellings without basements—moderately suited; dwellings with basements—poorly suited
Major limitations: Slope and wetness
Management measures and considerations:
• Landshaping may be needed for site preparation, or buildings may need to be designed to conform to the natural slope.
• Subsurface drainage and landshaping help to reduce wetness.

Septic tank absorption fields

Suitability: Tarklin—poorly suited; Minvale—well suited
Major limitations: Wetness and restricted permeability
Management measures and considerations:
• This map unit is difficult to manage for septic tank absorption fields because the Tarklin soil is shallow to a fragipan and has very slow permeability.
• Installing the filter fields in areas of the Minvale soil helps to improve the performance of filter fields.
• Careful selection of the absorption area reduces installation costs and maintenance.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Moderately suited
Major limitations: Tarklin—slope and low strength; Minvale—slope
Management measures and considerations:
• Building roads in the less sloping areas reduces the amount of cut and fill needed.
• If the soils are to be used as a base for roads and streets, mixing the soil material with sand and gravel helps to increase soil strength and stability.
• The Minvale soil provides a suitable source of roadfill.

Interpretive Groups

Land capability classification: 4e

TmE3—Tarklin-Minvale complex, 12 to 30 percent slopes, severely eroded

Composition

Note: Areas of the Tarklin and Minvale soils are so intermingled that they cannot be mapped separately at the scale selected.
Tarklin soil and similar inclusions: 40 to 70 percent
Minvale soil and similar inclusions: 20 to 50 percent

Setting

Landform: Tarklin—footslopes and stream terraces; Minvale—footslopes and moderately steep hillsides
Major uses: Pasture and woodland

Soil Properties and Qualities

Rooting depth: Tarklin—12 to 20 inches; Minvale—more than 36 inches
Drainage class: Tarklin—moderately well drained; Minvale—well drained
Permeability: Tarklin—moderate in the upper part of the profile and slow or very slow in the fragipan; Minvale—moderate
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: Tarklin—perched, at a depth of 1.5 to 1.7 feet from January through April; Minvale—none

Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Tarklin

Surface layer:
0 to 3 inches—brown silt loam

Subsoil:
3 to 12 inches—strong brown silty clay loam that has few pebbles
12 to 20 inches—strong brown gravelly silty clay loam
20 to 62 inches—mottled brown and gray gravelly silt loam fragipan

Substratum:
62 to 79 inches—dense bed of granular tripolitic chert that has reddish and brownish stains

Minvale

Surface layer:
0 to 3 inches—strong brown gravelly silt loam

Subsoil:
3 to 42 inches—red gravelly silty clay loam
42 to 79 inches—red gravelly silty clay loam that has mottles in shades of brown and gray

Inclusions

Contrasting inclusions:
- Few small areas of Pickwick soils on stream terraces
- Small areas of Biffle, Braxton, Mimosa, and Sugargrove soils on hillsides and footslopes

Similar inclusions:
- Some areas of soils that have thicker surface layers
- Small areas of Dellrose soils where slopes are underlain by limestone

Use and Management

Cropland

Suitability: Not suited
Major limitations: Very severe erosion hazard and equipment limitations
Management measures and considerations:
- Slopes may be too steep for the safe operation of cultivation equipment.

Pasture and hayland

Suitability: Poorly suited
Major limitations: Slope and severe erosion
Management measures and considerations:
- The slope limits equipment use in the steeper areas.
- Erosion has severely reduced the productivity of these soils, and the subsoil is exposed or near the surface.
- Because of past erosion, forage yields are reduced and the response to fertilizers is lowered.
- Increased soil amendments and seeding rates are needed for quality forage stands.
- Planting adapted forages increases production.

Woodland

Suitability: Moderately suited
Major limitations: The suitability for natural surface roads, planting, and site preparation and hazards of soil rutting and erosion
Trees to plant: Chestnut oak, Virginia pine, white oak, and eastern redcedar
Management measures and considerations:
- See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Poorly suited
Major limitations: Slope
Management measures and considerations:
- Landshaping is needed for site preparation, or buildings may need to be designed to conform to the natural slope.

Septic tank absorption fields

Suitability: Tarklin—poorly suited; Minvale—moderately suited
Major limitations: Slope, restricted permeability, and wetness
Management measures and considerations:
- This map unit is difficult to manage for septic tank absorption fields because the Tarklin soil is shallow to a fragipan and has slow or very slow permeability.
- Installing the filter fields in areas of the Minvale soil helps to improve their performance.
- Careful selection of the absorption area reduces installation costs and maintenance.
- Contact the local environmental office for guidance.
- Installing field lines on the contour helps to improve the performance of septic systems, but additional area is required as slope gradient and complexity increase.

Local roads and streets

Suitability: Poorly suited
Major limitations: Slope
Management measures and considerations:
- Designing roads that conform to the contour and providing adequate water-control structures, such as culverts and diversions, help to maintain road stability.

• The Minvale soil provides a suitable source of roadfill.

Interpretive Groups

Land capability classification: 6e

ToA—Trace silt loam, 0 to 2 percent slopes, occasionally flooded

Composition

Trace soil and similar inclusions: 75 to 90 percent

Setting

Landform: Low stream terraces adjacent to Cane Creek in the eastern part of the county
Major uses: Cropland and hayland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate in the upper part of the profile and moderately rapid or rapid in the substratum
Flood hazard: Occasional for very brief or brief periods from January through April
Available water capacity: High
Seasonal high water table: None
Soil reaction (pH): 5.1 to 6.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 9 inches—brown and dark yellowish brown silt loam

Subsoil:
9 to 35 inches—brown silt loam
35 to 38 inches—dark yellowish brown very gravelly silt loam

Substratum:
38 to 79 inches—yellowish brown extremely gravelly loam

Inclusions

Contrasting inclusions:
• Small areas of Humphreys soils in similar terrace positions
• Narrow strips of Riverby, Sullivan, and Lobelville soils in the lower positions adjacent to stream channels

Similar inclusions:
• Some areas where the extremely gravelly substratum is deeper than 60 inches
• Some small spots that have a loam subsoil
• Some areas that are not subject to flooding, in the slightly higher positions

Use and Management

Cropland

Suitability: Well suited
Major limitations: Erosion hazard and flooding
Management measures and considerations:
• Small fringe areas of the map unit have a hazard of erosion when cultivated.
• Using resource management systems that include conservation tillage, stripcropping, contour farming, no-till planting, and winter cover crops helps to minimize runoff and control erosion.
• This map unit is capable of producing high yields of crops if flooding is considered in management.
• Planting crops late in spring reduces the hazard of flooding.

Pasture and hayland

Suitability: Well suited
Major limitations: None
Management measures and considerations:
• Rotating grazing land, controlling weeds, and applying fertilizer annually maintain the quality and quantity of forage.
• This map unit is capable of producing high yields of forages.

Woodland

Suitability: Moderately suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, and the suitability for log landings and natural surface roads
Trees to plant: Yellow-poplar, sweetgum, loblolly pine, cherrybark oak, and black walnut
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Flooding

Management measures and considerations:
• During periods of flooding, absorption fields may not function properly.
• Locating field lines on the higher parts of the landscape improves system performance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding
Management measures and considerations:
• Roads should be constructed on raised fill material above the flood plain.
• The lower part of this soil often provides a suitable source of roadfill and gravel.

Interpretive Groups

Land capability classification: 2w

TrA—Trace silt loam, 0 to 3 percent slopes, rarely flooded

Composition

Trace soil and similar inclusions: 75 to 90 percent

Setting

Landform: Low stream terraces
Major uses: Cropland and hayland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Well drained
Permeability: Moderate in the upper part of the profile and moderately rapid or rapid in the substratum
Flood hazard: Rare
Available water capacity: High
Seasonal high water table: None
Soil reaction (pH): 5.1 to 6.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 9 inches—brown and dark yellowish brown silt loam

Subsoil:
9 to 35 inches—brown silt loam
35 to 38 inches—dark yellowish brown very gravelly silt loam

Substratum:
38 to 79 inches—yellowish brown extremely gravelly loam

Inclusions

Contrasting inclusions:
• Small areas of Humphreys and Paden soils on similar terrace positions
• Narrow strips of Riverby, Sullivan, and Lobelville soils in the lower positions adjacent to stream channels

Similar inclusions:
• Armour soils in some small areas
• Small areas that have a loam subsoil
• Some areas not subject to flooding in the slightly higher positions

Use and Management

Cropland

Suitability: Well suited
Major limitations: Erosion hazard
Management measures and considerations:
• Small fringe areas of this map unit have a hazard of erosion when cultivated.
• Using resource management systems that include conservation tillage, stripcropping, contour farming, no-till planting, and winter cover crops helps to minimize runoff and control erosion.
• This map unit is capable of producing high yields of row crops.

Pasture and hayland

Suitability: Well suited
Major limitations: None
Management measures and considerations:
• Rotating grazing land, controlling weeds, and applying fertilizer annually maintain the quality and quantity of forage.
• This map unit is capable of producing high yields of forages.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Yellow-poplar, sweetgum, loblolly pine, cherrybark oak, and black walnut
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Poorly suited
Major limitations: Flooding
Management measures and considerations:
• Because of the risk of flooding during periods of

unusually high rainfall, sites on better suited soils should be considered for home sites.

Septic tank absorption fields

Suitability: Well suited
Major limitations: None
Management measures and considerations:
• There are no significant limitations affecting this use.

Local roads and streets

Suitability: Moderately suited
Management measures and considerations:
Major limitations: Low strength and flooding
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.
• Roads should be constructed above the flood zone on raised fill material.
• The lower part of this soil provides a suitable source of roadfill and gravel.

Interpretive Groups

Land capability classification: 1

Ua—Udalfs-Gullied land complex, 5 to 30 percent slopes

Composition

Note: The network of gullies and the adjacent soils are so intricately mixed that they cannot be mapped separately at the selected scale.
Udalfs and similar inclusions: 50 to 70 percent
Gullied land: 15 to 50 percent

Setting

Landform: Very severely eroded hillsides and footslopes having numerous gullies
Major uses: Woodland

Properties and Qualities of Udalfs

Rooting depth: Variable
Drainage class: Well drained
Permeability: Moderate or moderately slow
Flood hazard: None
Available water capacity: Moderate or low
Seasonal high water table: None
Soil reaction (pH): 4.5 to 6.0
Shrink-swell potential: Moderate or high
Depth to bedrock: Variable, commonly more than 5 feet

Typical Profile

Udalfs

Udalfs occur between deep V-shaped gullies and are commonly very deep and well drained. In some areas, they consist of cherty colluvium washed from adjacent hillsides and have a surface layer and subsoil of yellowish brown to strong brown gravelly silty clay loam. The gravelly silty clay loam is underlain at varying depths by brownish red to yellowish brown clay. In other areas, the soil material is dominantly clay with none or few chert fragments.

Gullied land

This part of the map unit consists of numerous V-shaped gullies ranging from 4 to 15 feet in depth, 10 to 15 feet in width, and 50 to 200 feet in length. The gullies are separated by steeply convex ridges of Udalfs. The sidewalls and floor of most of these gullies consist of clayey soil material. Stones, cobbles, and chert fragments cover the surface and line the bottom of gullies in many areas. Rock outcrops of limestone are common.

Inclusions

Contrasting inclusions:
• Small areas of moderately eroded Dellrose, Braxton, Mimosa, and Talbott soils, between gullies

Use and Management

Cropland

Suitability: Not suited
Major limitations: Erosion hazard, equipment limitations, and poor soil tilth
Management measures and considerations:
• Sites on better suited soils should be considered.

Pasture and hayland

Suitability: Not suited
Major limitations: Equipment limitations, erosion hazard, and droughtiness
Management measures and considerations:
• Areas of this map unit are too steep and dissected for use as pasture and hay.
• Most of the gullies are not trafficable by farm equipment.

Woodland

Suitability: Poorly suited
Major limitations: Hazards of soil rutting and erosion and the suitability for log landings, natural surface roads, mechanical site preparation, mechanical planting, and use of harvesting equipment

Trees to plant: Virginia pine, eastern redcedar, and chestnut oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Poorly suited
Major limitations: Slope and shrink-swell potential
Management measures and considerations:
• Gullied areas are too steep and dissected for use as dwellings without extensive landshaping.
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Gullies and restricted permeability
Management measures and considerations:
• The close network of gullies and slow permeability prevents proper functioning of septic systems and creates a health hazard.
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength and slope
Management measures and considerations:
• If the soils are to be used as a base for roads and streets, mixing the upper part of the soil profile with coarser textured material increases soil strength and stability.
• Designing roads that conform to the contour and providing adequate water-control structures, such as culverts and diversions, help to maintain road stability.

Interpretive Groups

Land capability classification: 7e

Ud—Udarents, clayey

Composition

Udarents and similar inclusions: 75 to 100 percent

Setting

This map unit consists of areas that have been filled, graded, and disturbed in the process of urbanization; borrow areas where the soil material has been removed and used in the construction of roadbeds or as fill material for construction sites; and sanitary landfills.

Soil Properties and Qualities

Rooting depth: Variable
Drainage class: Well drained to somewhat excessively drained
Permeability: Variable
Flood hazard: None
Available water capacity: Low or very low
Seasonal high water table: None
Soil reaction (pH): Variable
Shrink-swell potential: Low or moderate
Depth to bedrock: Variable

Typical Profile

In areas that have been filled, graded, and disturbed in the process of urbanization, the upper 2 to 5 feet of soil material has been added or reworked. The soil material remaining normally consists of clay with common or many pebbles, cobbles, and stones.

Borrow pits commonly are excavated to a depth of 10 to 50 feet. The soil material on the steep vertical sidewalls is comparable to that described in the lower subsoil of adjacent soils. The bottom of pits in these borrow areas consists of gravelly or very gravelly clay mixed with varying amounts of pebbles, cobbles, and stones.

In landfill areas, the original soil material has been removed and filled with solid waste in alternating layers. Areas no longer receiving waste material have been revegetated to trees or permanent grasses.

Inclusions

Contrasting inclusions:
• Small areas of natural soils in undisturbed spots

Use and Management

The exposed, clayey material in this map unit supports plant growth. Some areas in this unit have a vegetative cover of grasses, shrubs, and trees. Some areas are covered by gravel, concrete, or asphalt. Acidity, rooting depth in some areas, rock fragments, and the hazard of erosion are some of the limiting features of the soil material. Because areas are so diverse, onsite investigation is needed before use and management can be effectively planned.

Interpretive Groups

Land capability classification: None assigned

W—Water

This map unit consists of areas inundated with water for all of the year and generally includes rivers, lakes, and ponds. No capability class is assigned to this map unit.

WfA—Wolftever silt loam, 0 to 2 percent slopes, occasionally flooded

Composition

Wolftever soil and similar inclusions: 85 to 95 percent

Setting

Landform: Flood plains of the Tennessee River
Slope range: 0 to 2 percent
Major uses: Cropland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Moderately well drained
Permeability: Moderately slow
Flood hazard: Occasional for brief periods from December to May
Available water capacity: Moderate or high
Seasonal high water table: Apparent, at a depth of 2.5 to 3.5 feet from December to March
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Moderate
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 7 inches—dark yellowish brown silt loam

Subsoil:
7 to 16 inches—dark yellowish brown silty clay loam
16 to 28 inches—yellowish brown silty clay that has light yellowish brown mottles
28 to 42 inches—yellowish brown silty clay that has brown, pale brown, and black mottles
42 to 65 inches—dark yellowish brown silty clay that has light yellowish brown, pale brown, light brownish gray, and black mottles
65 to 79 inches—dark yellowish brown silty clay loam that has light yellowish brown, pale brown, light brownish gray, and black mottles

Inclusions

Contrasting inclusions:
• Staser soils in small areas adjacent to the river
• Beason soils in small concave areas

Similar inclusions:
• Some areas of soils that have a surface layer of silty clay loam
• Egam soils intermingled with Wolftever soils adjacent to the Tennessee River

Use and Management

Cropland

Suitability: Well suited
Major limitations: Flooding
Management measures and considerations:
• Planting late in spring and harvesting early in fall help to reduce the risk of flood damage.
• Equipment access is often limited by frequent flooding and ponding in adjacent areas.
• Using a conservation tillage system that maintains a maximum amount of ground cover, such as no-till planting, increases the rate of rainfall infiltration into the soil and minimizes the loss of moisture due to evaporation.

Pasture and hayland

Suitability: Well suited
Major limitations: Flooding
Management measures and considerations:
• Flooding is likely in some years and may cause the loss of fences, forages, and livestock.

Woodland

Suitability: Moderately suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, and the suitability for log landings and natural surface roads
Trees to plant: Shumard oak, cherrybark oak, yellow-poplar, sweetgum, and swamp white oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding, wetness, and restricted permeability
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding and low strength
Management measures and considerations:
• Roads should be constructed on raised fill material above the flood plain.

• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 2w

WfB2—Wolftever silt loam, 1 to 6 percent slopes, eroded, occasionally flooded

Composition

Wolftever soil and similar inclusions: 75 to 90 percent

Setting

Landform: Long, narrow, convex knolls on the flood plain of the Tennessee River
Major uses: Cropland

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Moderately well drained
Permeability: Moderately slow
Flood hazard: Occasional for brief periods from December to May
Available water capacity: Moderate
Seasonal high water table: Apparent, at a depth of 2.5 to 3.5 feet from December to March
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Moderate
Depth to bedrock: More than 5 feet

Typical Profile

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

Subsoil:
4 to 16 inches—dark yellowish brown silty clay loam
16 to 28 inches—yellowish brown silty clay that has light yellowish brown mottles
28 to 42 inches—yellowish brown silty clay that has brown, pale brown, and black mottles
42 to 65 inches—dark yellowish brown silty clay that has light yellowish brown, pale brown, light brownish gray, and black mottles
65 to 79 inches—dark yellowish brown silty clay loam that has light yellowish brown, pale brown, light brownish gray, and black mottles

Inclusions

Contrasting inclusions:
• Beason soils in narrow troughs and on flats

Similar inclusions:
• Areas of soils that have a loamy subsoil

Use and Management

Cropland

Suitability: Well suited
Major limitations: Flooding and erosion hazard
Management measures and considerations:
• Planting late in spring and harvesting early in fall help to reduce the risk of flood damage.
• Equipment access is often limited by frequent flooding and ponding in adjacent areas.
• Using a conservation tillage system that maintains a maximum amount of ground cover, such as no-till planting, increases the rate of rainfall infiltration into the soil, minimizes the loss of moisture due to evaporation, and reduces the hazard of erosion.

Pasture and hayland

Suitability: Well suited
Major limitations: Flooding
Management measures and considerations:
• Flooding is likely in some years and may cause the loss of fences, forages, and livestock.

Woodland

Suitability: Suited
Major limitations: Construction of haul roads and log landings, hazard of soil rutting, and the suitability for log landings and natural surface roads
Trees to plant: Yellow-poplar, sweetgum, swamp white oak, cherrybark oak, and Shumard oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Flooding, restricted permeability, and wetness
Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Flooding and low strength
Management measures and considerations:
• Roads should be constructed on raised fill material above the flood plain.

• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 2e

WlB—Wolftever silty clay loam, 2 to 5 percent slopes

Composition

Wolftever soil and similar inclusions: 65 to 85 percent

Setting

Landform: Alluvial fans on stream terraces
Major uses: Pasture

Soil Properties and Qualities

Rooting depth: More than 36 inches
Drainage class: Moderately well drained
Permeability: Moderately slow
Flood hazard: None
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 2.5 to 3.5 feet from December to March
Soil reaction (pH): 4.5 to 5.5
Shrink-swell potential: Moderate
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 7 inches—brown silty clay loam

Subsoil:
7 to 16 inches—dark yellowish brown silty clay loam
16 to 28 inches—yellowish brown silty clay that has light yellowish brown mottles
28 to 42 inches—yellowish brown silty clay that has brown, pale brown, and black mottles
42 to 65 inches—dark yellowish brown silty clay that has light yellowish brown, pale brown, light brownish gray, and black mottles
65 to 79 inches—dark yellowish brown silty clay loam that has light yellowish brown, pale brown, light brownish gray, and black mottles

Inclusions

Contrasting inclusions:
• Small areas of Armour, Dellrose, Paden, and Humphreys soils on footslopes

Similar inclusions:
• Areas of Egam soils in the lower positions
• Small areas of soils that have a gravelly surface layer
• Small areas that are less acid in the subsoil

Use and Management

Cropland

Suitability: Well suited
Major limitations: Poor tilth and erosion hazard
Management measures and considerations:
• Avoiding tillage during wet periods helps to minimize clodding and crusting and increases the infiltration of water.
• Conservation practices are needed to reduce the hazard of erosion and maintain soil productivity.
• Using resource management systems that include conservation tillage, stripcropping, contour farming, no-till planting, and winter cover crops helps to minimize runoff and control erosion.

Pasture and hayland

Suitability: Well suited
Major limitations: None
Management measures and considerations:
• Rotating grazing land, controlling weeds, and applying fertilizer annually maintain the quality and quantity of forage.

Woodland

Suitability: Well suited
Major limitations: Hazard of soil rutting
Trees to plant: Yellow-poplar, sweetgum, swamp white oak, cherrybark oak, and Shumard oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Moderately suited
Major limitations: Wetness and shrink-swell potential
Management measures and considerations:
• Subsurface drainage and landshaping help to reduce wetness.
• Reinforcing footings and basements and backfilling with coarse textured material minimize the damage caused by shrinking and swelling.

Septic tank absorption fields

Suitability: Poorly suited
Major limitations: Restricted permeability
Management measures and considerations:
• The soil is difficult to manage for septic tank

absorption fields because of clay in the subsoil, seasonal wetness, and moderately slow permeability.
• Contact the local environmental office for guidance.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength
Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 2e

Wm—Woodmont silt loam, rarely flooded

Composition

Woodmont soil and similar inclusions: 80 to 90 percent

Setting

Landform: Slightly concave areas on low stream terraces
Major uses: Cropland and hayland

Soil Properties and Qualities

Rooting depth: 20 to 36 inches
Drainage class: Somewhat poorly drained
Permeability: Moderate in the upper part of the profile and slow or very slow in the fragipan
Flood hazard: Rare
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.0 to 1.5 feet from December to April
Soil reaction (pH): 4.5 to 6.0
Shrink-swell potential: Low
Depth to bedrock: More than 5 feet

Typical Profile

Surface layer:
0 to 9 inches—brown silt loam that has yellowish red, brown, and black mottles

Subsoil:
9 to 14 inches—light yellowish brown silt loam that has olive yellow and light brownish gray mottles
14 to 18 inches—olive yellow and light gray silt loam
18 to 24 inches—light olive brown silty clay loam that has many light brownish gray mottles
24 to 79 inches—brownish yellow silt loam fragipan that has gray silty clay loam seams

Inclusions

Contrasting inclusions:
• Poorly drained Lee and Minter soils in the slightly lower positions
• Paden soils in the slightly higher positions

Similar inclusions:
• Chenneby and Beason soils along drainageways

Use and Management

Cropland

Suitability: Moderately suited
Major limitations: Wetness
Management measures and considerations:
• Maintaining drainageways and ditches helps to remove excess water.
• Avoiding tillage when the soil is wet helps to minimize clodding and crusting.

Pasture and hayland

Suitability: Moderately suited
Major limitations: Wetness and restricted rooting depth
Management measures and considerations:
• Grazing when the soil is wet causes compaction, reduces plant cover, and encourages the growth of undesirable species.
• Maintaining drainageways and ditches helps to remove excess water.
• Because of the fragipan and the seasonal high water table, the root growth of some legumes is restricted.
• Planting water-tolerant forages helps to increase productivity.

Woodland

Suitability: Moderately suited
Major limitations: Hazard of soil rutting and potential for seedling mortality
Trees to plant: Willow oak, green ash, yellow-poplar, cherrybark oak, and white oak
Management measures and considerations:
• See the forestry tables for interpretive ratings and productivity.

Dwellings

Suitability: Not suited
Major limitations: Flooding and wetness
Management measures and considerations:
• Sites on better suited soils should be considered.

Septic tank absorption fields

Suitability: Not suited
Major limitations: Wetness and restricted permeability

Management measures and considerations:
• Sites on better suited soils should be considered.

Local roads and streets

Suitability: Poorly suited
Major limitations: Low strength

Management measures and considerations:
• If the soil is to be used as a base for roads and streets, mixing it with sand and gravel helps to increase its strength and stability.

Interpretive Groups

Land capability classification: 3w

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 (fig. 9), 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 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 sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Crops and Pasture

Greg Brann, Agronomist, Natural Resources Conservation Service, helped prepare this section.

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

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.

In 1999, according to the Farm Service Agency and Tennessee Agricultural Statistics, about 3,200 acres were planted to corn, 2,600 acres were planted to soybeans, and 302 acres were enrolled in the Conservation Reserve Program. Small acreages of other crops were grown, including grain sorghum, snap beans, watermelons, and sweet corn.

As a whole, soil erosion is not a serious problem in Perry County because of the relatively low amount of cropland. Yet, soil erosion is a significant problem in parts of Perry County. Soils throughout the county with silty surface layers are very susceptible to erosion. These soils include Lax, Paden, Wolftever, and Pickwick. All of the soils in Perry County that are undulating or steeper will erode if the surface is not adequately protected.

Loss of the original surface layer by erosion is detrimental for several reasons. Productivity is decreased, plant nutrients are lost, and stream channels and drainage ditches are blocked by sediment.

Productivity is decreased as the surface layer is lost and part of the subsoil becomes incorporated into the plow layer. On soils that have undergone some degree of erosion, tilling or preparing a good seedbed is more difficult and crops are more easily damaged by a lack of moisture during dry periods than on uneroded soils. Some soils have a layer in the subsoil that limits the depth of the root zone. In Perry County, such layers include the fragipan that exists in Busseltown, Paden, Lax, and Dickson soils. As erosion occurs, layers undesirable for root growth become closer to the surface.

Figure 9.—Floodwaters from the Tennessee River cause backwater flooding along tributary streams. Flooding damages roads, fences, and crops. Flooding is common in winter and spring.

Soil tilth, or workability, is an important factor in the germination of seeds and the infiltration of water into the soil. Soils with good tilth are granular, porous, and easy to work. Most of the soils in the county have a surface layer of silt loam or gravelly silt loam that is low or moderate in organic matter content. Generally, the structure of the plow layer is weak or moderate. Intense rainfall causes the surface to crust. The crust is hard when dry and somewhat impervious to water. As a result, water infiltration is reduced and runoff is increased. Regular additions of crop residue, cover crops, manure, and other organic material improve soil structure and prevent crusting. Where the surface is gravelly, the fragments tend to hamper tillage and interfere with seedbed preparation.

Plant nutrients are lost because of erosion and must be replaced by costly applications of fertilizer. Many of the soils in Perry County are naturally acid and low or medium in plant nutrients. Commercial fertilizers and lime are needed for most crops to produce yields that are economically feasible. The use of fertilizers and lime should be based on the results of soil tests and on the nutrient requirements of the crop to be grown. The type of soil, desired yield level, and cropping practices for the most recent 3 to 5 years should also be considered. Information about soil tests and fertilizer recommendations can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Agricultural Extension Service.

Stream channels are filled with sediment because of soil erosion on uplands. The pollution caused by sediment and by chemicals, such as herbicides, that are attached to soil particles can be minimized by erosion-control practices. The deposition of infertile sediment washed from eroding uplands onto productive bottomlands is also minimized when erosion is controlled.

Erosion-control practices provide protective surface cover, reduce runoff, and increase the infiltration of water. Using conservation tillage or incorporating high-residue crops into the cropping system maintains a plant cover on the soil for extended periods and keeps erosion losses to amounts that do not reduce the productivity of the soil.

The practice of maintaining crop residue on the surface, which increases infiltration rates and reduces the hazards of runoff and erosion, can be adapted to most crop fields in the county, except those in steep or badly eroded areas. For row crops on sloping land, no-till planting or mulch tillage systems are effective in controlling erosion if concentrated water-flow areas are maintained in grass. Low-residue crops, such as soybeans, need to be rotated with high-residue crops or cover crops or rotated with sod to assure surface protection in winter months. Cover crops, high-residue crops, and sod rotation increase the soil’s content of organic matter.

Erosion-control practices, such as contour farming and contour stripcropping, need to be used more in the county. Contour farming is best adapted to soils that have smooth, uniform slopes, such as most areas of Pickwick, Busseltown, and Paden soils. Information on the design of erosion-control practices for each kind of soil is available from the local office of the Natural Resource Conservation Service.

Pasture presently makes up about 24,000 acres in Perry County. Hayland makes up about 6,500 acres. Pasture and hay consist mostly of cool-season grasses and legumes. The main grasses are tall fescue and orchardgrass. The most common legumes are white clover, red clover, alfalfa, annual lespedeza, and sericea lespedeza. Legumes are included as part of the seed mixture for establishing pasture and are reintroduced in perennial grass stands when they make up less than about 30 percent of the pasture composition. On livestock farms, which require pasture and hay, including legume and grass forage crops in the cropping system minimize erosion on sloping land, provide nitrogen, and maintain tilth.

The major management practices needed on pasture are maintenance of proper grazing heights, additions of warm-season forages on 10 to 30 percent of the acreage, controlled grazing, renovation with legumes, fertilizing, liming, and weed control. Renovation with legumes is most successful when accompanied by the maintenance of moderate soil fertility and the limitation of shading by other plants. Fertilizer should be applied according to plant needs as indicated by plant growth, the level of production desired, and the results of soil tests. Weeds can be controlled in pasture by using herbicides and mowing before the weeds reach maturity and produce seed. Weed control is easier on well managed pastures than on overgrazed, poorly managed pastures. Generally, well managed pastures have fewer weeds than poorly managed pastures because the desired species outcompete the weeds.

About 10 to 30 percent of a forage system should be in warm-season grasses. Traditionally, annual grasses such as sudan-sorghum crosses, pearl millet, and sudangrass are used for supplemental grazing or for hay. Another annual that deserves acknowledgement is crabgrass (Red River variety), which provides high-quality summer forage and has the ability to reseed. Bermudagrass is a warm-season perennial that is very responsive to fertilizer. It is a very good choice if utilization of animal waste is desired. Native warm-season grasses are beneficial to wildlife and grazing systems because they are bunch grasses, can tolerate drought, and have low fertility needs. The primary native warm-season grasses are switchgrass, indiangrass, big bluestem, and eastern gamagrass. Native grasses require special management, such as patience during establishment and a higher grazing or clipping height (at least 6 inches). Small grains and annual ryegrass overseeded in bermudagrass, crabgrass, sudangrass, or pearl millet provide good grazing in late fall and early spring. One of the most effective means of partitioning forage over time is stockpiling fescue into winter. Applying 60 pounds of nitrogen between August 15 and September 15 helps to boost fall growth.

Most harvested hay is surplus growth of grass-legume pastures. Annual lespedeza, sericea lespedeza, alfalfa, soybeans, millet, and small grains are also used for hay crops. Management for hay is generally the same as for pasture, except that more fertilizer is needed. Cutting perennial hay crops too close causes premature loss of the stand. Hay crops should be cut at the boot stage to pre-bud stage of growth to provide a high quality and reasonable quantity of hay.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of 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 depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit. In this survey, only class and subclass are used.

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, 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, 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, or s,* 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.

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* or *s,* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, forestland, wildlife habitat, or recreation.

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

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation’s short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. 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.

About 23,690 acres, or nearly 9 percent of the survey area, meets the requirements of prime farmland. Scattered areas of this land are throughout the county. Most commonly they are along major streams, mainly in general soil map units 1, 2, 3, 4, and 5. Most of this acreage is used as pasture and hay or for the production of corn and soybeans. A recent land use trend in parts of the county has been the loss of prime farmland to residential uses. The loss of prime farmland puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 6. This list does not constitute a recommendation for a particular land use. On some soils included in the list, 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 under the heading "Detailed Soil Map Units."

Forest Productivity and Management

The tables 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 7, 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. 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 at the local office 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.

Forest Management

In table 8, parts I through V, 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 forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately well suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, 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 practice. 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 practice 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 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified forest management practice (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 for forest management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual" *(4)*, which is available at the local office 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 well 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 well 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 well 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.

Recreation

The soils of the survey area are rated in table 9, parts I and II, according to limitations that affect their suitability for recreation. 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. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and 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 0.00 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 table 9 can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

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. 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.

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

Michael E. Zeman, State Biologist, Natural Resources Conservation Service, helped prepare this section.

Wildlife is an important natural resource of the county. It provides a source of revenue through sport hunting and recreational opportunities, such as photography and fishing. Popular game species include bobwhite quail, cottontail rabbit, whitetail deer, eastern wild turkey, mourning dove, gray squirrel, and fox squirrel.

The whitetail deer is the most popular game animal in the county. Deer populations are moderately high and have grown considerably over the past 30 years. Harvest records from the Tennessee Wildlife Resources Agency (TWRA) indicate that approximately 30 deer were harvested in 1967, while nearly 2,200 were harvested in 1996. The eastern wild turkey was eliminated from the county by the 1950’s but has since been reintroduced. Turkey numbers are moderate, and there are now good populations in several parts of the county due to the TWRA restoration program and management of the habitat. Bobwhite quail numbers are low in the county. Much of the county is forested or in tame grass pastures such as fescue and hay crops, which provide lower quality habitat. Those portions of the county where cropland fields are adjacent to cover areas of low brushy fencerows and idle areas of native warm-season grasses are suited to high populations of bobwhite quail. Populations of cottontail rabbit are also low in the county. The highest numbers occur where agricultural lands are intermixed with low brushy cover and native tall grasses provide suitable escape cover near food sources. Populations of mourning dove are typically low in the county. Fall migrants of this game bird typically use crop fields, such as corn, grain sorghum, and soybeans fields or fields recently planted to wheat. Perry County is low in the production of grain crops. There are three species of squirrels in the county and all occur in good numbers. Both the gray squirrel and the primarily nocturnal southern flying squirrel occur in excellent numbers throughout the hardwood forests. The fox squirrel typically occurs in lower numbers, generally along woodland edges and woody fencerows near agricultural lands utilized for crop production. Squirrel populations are highly variable from year to year due primarily to variability of hard mast production (acorns, hickory, and beechnuts).

Waterfowl numbers are low or moderate in the county. The most common species migrating through the county include wood duck, mallard, gadwall, and Canada goose. Highest numbers typically occur along the main creek channels that have associated wetland habitat. The Buffalo River corridor is noted for providing good nesting habitat for wood duck. Upland farm ponds and small lakes are often used for resting and roosting. Several species of furbearers occur in the county. Wetland furbearers include mink, muskrat, and beaver. They occur in moderate or high numbers along rivers, streams, small lakes, and farm ponds. Upland furbearers are common and abundant throughout the county. Species include bobcat, opossum, raccoon, gray fox, striped skunk, and coyote.

Many nongame species occur in abundance throughout the county. Different species of songbirds, both resident and migratory, are associated with different plant communities. Woodland birds include the Carolina chickadee, tufted titmouse, pileated woodpecker, and warblers. Openland birds include robins, meadowlarks, and various sparrows. Common birds of prey include the red-tailed hawk, sparrow hawk, barred owl, and screech owl. Common reptiles and amphibians include the eastern box turtle, hognosed snake, copperhead snake, bullfrog, and dusky salamander. Common small mammals include Hispid cotton rats, moles, shrews, and other rodents. The relative abundance of nongame species is dependent upon the type and quality of habitat available to the species.

State and federally listed threatened or endangered wildlife species that may occur in the county include several species of freshwater mussels associated with the Tennessee River and the Buffalo River, the Coppercheek darter, the Egg-mimic darter, the Gray bat, and the Indiana bat. Species that may migrate through the county include the bald eagle, peregrine falcon, and osprey. The eagle and osprey are recognized as potential nesters along Kentucky Lake.

There are several soils in the county with only slight limitations for impounding water. These soils include Egam, Lee, Minter, and Woodmont. The county has several soils, such as Armour, Paden, Pickwick, Lax, and Dickson, that have moderate limitations for impounding water. These soils have a tendency to seep. Several of the soils, such as Riverby, Sullivan, Biffle, and Humphreys, have severe limitations affecting pond building due to excessive slopes or seepage from gravel or sand. Most of the ponds in the county are used for livestock watering, but many are also stocked for recreational fishing. Commonly stocked fish species include largemouth bass, bluegill sunfish, and channel catfish. Water in ponds is typically acidic due to soil pH, which can limit fish production. Few privately owned ponds are being intensively managed for fish production.

Perry County has a total of approximately 146 miles of warm-water streams, according to a TWRA stream survey. Major streams of the county include the Buffalo River with its tributaries—Rockhouse, Sinking, and Brush Creeks—and the Tennessee River with its tributaries—Crooked, Lick, and Cedar Creeks. These and other streams provide approximately 500 acres of aquatic habitat and support populations of largemouth bass, smallmouth bass, rock bass, bluegill sunfish, green sunfish, channel catfish, and several species of minnows and darters. Most of the streams are moderately productive with fair populations of warm-water fishes. Two tributary streams to the Buffalo River, Cane Creek and Hurricane Creek, are stocked annually with rainbow trout by TWRA.

Perry County is not recognized as a potentially good county for the development of commercial aquaculture facilities. Overall, steep topography and soil limitations affecting pond building render much of the county unsuitable for extensive commercial pond construction. The highest potential for the development of larger production ponds would be the flatter flood plains of the Buffalo River. Adequate ground-water supplies, generally recognized as better for commercial fish production than surface water, are highly variable within the county. The Highland Rim aquifer is the main outcrop aquifer, generally discharging as springs. Local wells may extend to depths of over 300 feet. Water yields typically range from 1 to 400 gallons per minute. The Central Basin and Knox aquifers are subsurface aquifers in the county that are several hundred feet deep and typically not economical to use. Some potential exists in the county for the development of recreational fee-fishing operations, where community growth can support market demand.

There are several acres of natural wetlands in Perry County, excluding artificial wetlands such as upland farm ponds. The Tennessee Valley Authority estimated from satellite photography that approximately 5,200 acres of forested wetlands and 1,200 acres of non-forested wetlands currently exist in the county. Most natural wetlands occur along stream courses in the county with native plant communities consisting of bottomland hardwoods. Typical hydric soils in the county include Lee and Minter soils. Bottomland hardwood wetlands could provide some of the most productive wildlife habitat in the county. Bottomland hardwoods improve the water quality of streams by removing nutrients and trapping sediment from upland runoff and floodwaters, lowering water temperatures by shading streams, and providing leaf litter that serves as the foundation for aquatic food chains.

Conservation practices can improve or provide quality wildlife habitat. On cropland, planned crop rotations and crop residue use can provide food and needed winter cover for many species of wildlife. On grasslands, deferred grazing by livestock and fencing can protect food plots, nesting cover, and even fish habitat by providing streambank protection. Field borders and filter strips along streams can protect water quality and provide food, cover, and travel lanes for many species of wildlife, especially when native warm-season grasses are used. Selective thinning of woodlands can be performed so that den and quality mast-producing trees are protected. Other practices that can improve wildlife habitat include wildlife upland habitat management, wildlife wetland habitat management, fish pond management, pasture and hay management, livestock exclusion, and woodland improvement.

Some practices are harmful to wildlife. The most common include indiscriminate burning and use of pesticides, heavy grazing, complete clean mowing in or just before the growing (nesting) season, clean fall plowing, extensive clear cutting of timber, draining and clearing of wetlands, and removal of den trees. Technical assistance in the planning or application of wildlife conservation practices can be obtained from the Natural Resource Conservation Service, the University of Tennessee Agricultural Extension Service, the Tennessee Wildlife Resources Agency, and the Tennessee Division of Forestry.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 10, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are tall fescue, orchardgrass, annual lespedeza, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, panicum, carpetgrass, switchgrass, and greenbrier.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are shrub lespedeza, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine and eastern redcedar.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, cattail, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Shallow water areas are marshes, waterfowl feeding areas, and ponds. Examples of shallow water plants are coontail, common duckweed, spatterdock, cattail, waterlily, arrowhead, and watermilfoil.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, woodcock, thrushes, woodpeckers, squirrels, fox, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, otter, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the “Soil Properties” section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil 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, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

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. Table 11, parts I and II, shows 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. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and 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 0.00 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

Table 12, parts I and II, shows 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. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and 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 0.00 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

Table 13, parts I and II, gives information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

The soils are rated *good, fair,* or *poor* as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

The soils are rated as a *probable* or *improbable* source of sand and gravel. A rating of *probable* means that the source material is likely to be in or below the soil. The numerical ratings in these columns indicate the degree of probability. The number 0.00 indicates that the soil is an improbable source. A number between 0.00 and 1.00 indicates the degree to which the soil is a probable source of sand or gravel.

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 13, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

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 this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

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.

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).

Water Management

Table 14 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 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).

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 this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

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 ascertained 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 15 gives the engineering classifications and the range of index 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 *(2)* and the system adopted by the American Association of State Highway and Transportation Officials *(1)*.

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.

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.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 16 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.

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.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 16, 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 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 (33kPa or 10kPa) 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 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.

Permeability (K_{sat}) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each 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 tension (33kPa or 10kPa 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 table 16, 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 table 16 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.

Chemical Properties

Table 17 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 extractable bases 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 extractable bases 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.

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.

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. Table 18 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.

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.

Soil Features

Table 19 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.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

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.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories *(5, 6)*. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 20 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

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 Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols 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. An example is Ultic Hapludalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, clay activity, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, semi-active, thermic Ultic Hapludalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” *(8)*. Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” *(6)* and in “Keys to Soil Taxonomy” *(5)*. 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.

Armour Series

The Armour series consists of very deep, well drained soils on stream terraces and footslopes. These soils formed in old alluvium or colluvium. Slopes range from 0 to 5 percent.

Typical pedon of Armour silt loam, 2 to 5 percent slopes; Lewis County, Tennessee; from Hohenwald, 2 miles southwest on Tennessee Highway 48, about 6.5 miles south on Rockhouse Road, 0.5 mile southeast on Allen Creek Road, 50 feet west in a field; Riverside Quadrangle; lat. 35 degrees 26 minutes 48 seconds N. and long. 87 degrees 36 minutes 06 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 3/4) silt loam; moderate medium granular structure; very friable; many fine and medium roots; moderately acid; clear smooth boundary.

BA—8 to 16 inches; dark brown (7.5YR 3/4) silt loam; weak medium subangular blocky structure; friable; common fine and medium roots; few fine black (10YR 2/1) and dark brown (10YR 3/3) soft manganese and iron accumulations throughout; moderately acid; clear smooth boundary.

Bt1—16 to 24 inches; strong brown (7.5YR 4/6) silt loam; moderate medium subangular blocky structure; friable; few fine roots; moderately acid; clear smooth boundary.

Bt2—24 to 47 inches; dark yellowish brown (10YR 4/6) silt loam; moderate medium subangular blocky structure; friable; few fine roots; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; approximately 5 percent subangular and subrounded gravel; moderately acid; gradual wavy boundary.

BC—47 to 65 inches; strong brown (7.5YR 4/6) silty clay loam; common medium distinct strong brown (7.5YR 5/8) and pale brown (10YR 6/3) mottles; weak medium subangular blocky structure; firm; common prominent brown (7.5YR 4/4) clay films on faces of peds; approximately 10 percent subangular and subrounded gravel; strongly acid.

Depth to bedrock is more than 60 inches. The content of gravel ranges from 0 to 10 percent in the upper 40 inches and from 0 to 35 percent below a depth of 40 inches. Reaction ranges from moderately acid to strongly acid.

The Ap horizon has hue of 10YR and value and chroma of 3 or 4. Texture is silt loam.

Thin transitional horizons occur in some pedons. They are similar in color and texture to those of the adjacent horizons.

The Bt horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 or 6. It has few or common mottles in shades of brown. Texture is silt loam or silty clay loam.

The BC horizon has the same colors and textures as the Bt horizon. It has few or common mottles in shades of brown, yellow, and red. Texture is silty clay loam or, rarely, loam.

The 2Bt or C horizon, if it occurs, has hue of 2.5Y to 5YR, value of 4 or 5, and chroma of 4 to 8. It has few or common mottles in shades of brown, yellow, and red. In some pedons it has few redoximorphic depletions in shades of gray below a depth of 40 inches. Texture of the fine-earth fraction is silty clay loam, silt loam, loam, or silty clay.

Arrington Series

The Arrington series consists of very deep, well drained soils. These soils formed in medium textured alluvium on the Duck River flood plain. Slopes range from 0 to 3 percent.

Typical pedon of Arrington silt loam, frequently flooded; Hickman County, Tennessee; from Centerville, about 5 miles east to Totty's Bend Road, about 6 miles to the bridge over Duck River, about 1.25 miles west to a crop field on the flood plain; Littlelot Quadrangle; lat. 35 degrees 48 minutes 16 seconds N. and long. 87 degrees 21 minutes 44 seconds W.

Ap—0 to 10 inches; dark brown (10YR 3/3) silt loam; moderate fine granular structure; very friable; many very fine and fine roots; neutral; abrupt smooth boundary.

A—10 to 36 inches; dark brown (10YR 3/3) silt loam; weak fine granular structure; very friable; common very fine and fine roots; common very fine and fine tubular pores; neutral; gradual wavy boundary.

C—36 to 60 inches; brown (10YR 4/3) silt loam; massive; friable; common very fine and fine roots; common very fine and fine tubular pores; common strata of yellowish brown (10YR 5/4) silt loam; common pockets of black charcoal; neutral.

Depth to bedrock is more than 5 feet. Reaction ranges from slightly acid to neutral in each horizon. The content of rounded gravel ranges from 0 to 5 percent in the A horizon and from 0 to 10 percent in the C horizon.

The Ap or A horizon has hue of 10YR and value and chroma of 3. Texture is silt loam.

Some pedons have a Bwb horizon below a depth of about 3 feet. This horizon has colors similar to those of the A horizon. Texture is silt loam or silty clay loam.

The C horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. It has few or common strata with higher value and chroma. Texture is silt loam.

Barfield Series

The Barfield series consists of shallow, well drained soils that formed in residuum from limestone. These soils are on nose slopes and bluffs mainly in the western section of Perry County. Slopes range from 10 to more than 70 percent.

Typical pedon of Barfield flaggy silty clay loam in an area of Rock outcrop-Barfield complex, 10 to 30 percent slopes; on Short Creek Road near the Tennessee River, about 200 feet east of the ruins at an old Mormon church; USGS Clifton Quadrangle; lat. 35 degrees 29 minutes 25.9 seconds N. and long. 87 degrees 58 minutes 28.4 seconds W.

A—0 to 6 inches; very dark brown (10YR 2/2) flaggy silty clay loam; strong medium granular structure; hard; many very fine and fine and common medium and coarse roots throughout; common very fine and common fine tubular pores; approximately 20 percent subangular limestone flagstones and 25 percent subangular limestone channers; neutral; clear wavy boundary.

BA—6 to 13 inches; very dark brown (10YR 2/2) channery silty clay; strong medium angular blocky structure; very firm; common very fine to coarse roots throughout; common very fine and common fine tubular pores; approximately 20 percent subangular limestone channers and 10 percent limestone flagstones; neutral; clear wavy boundary.

Bw—13 to 17 inches; dark brown (7.5YR 3/2) channery silty clay; strong medium angular blocky structure; very firm; common very fine to coarse roots throughout; common very fine and common fine tubular pores; approximately 25 percent subangular limestone channers and 10 percent limestone flagstones; slightly alkaline; abrupt wavy boundary.

R—17 inches; hard, level-bedded limestone bedrock.

Depth to limestone bedrock ranges from 8 to 20 inches. Reaction in each horizon ranges from slightly acid to slightly alkaline. The average volume of limestone channers and flagstones ranges from 5 to about 35 percent in the A and B horizons. In individual horizons in some pedons, it ranges to as much as 50 percent.

The A and Bw horizons typically have hue of 10YR or 7.5YR and value and chroma of 2 or 3. In some pedons the Bw horizon has hue of 2.5Y to 7.5YR, value of 4, and chroma of 3 or 4. Transitional horizons have similar colors and textures. Texture of the fine-earth fraction is silty clay loam in the A horizon and silty clay or clay in the Bw horizon.

Beason Series

The Beason series consists of very deep, somewhat poorly drained soils on flood plains. These soils formed in moderately fine textured and fine textured alluvium. Slopes range from 0 to 2 percent.

Typical pedon of Beason silty clay loam in an area of Beason and Chenneby soils, frequently flooded; in Hardin Bottom of the Tennessee River, about 2,000 feet northeast of Hardin Barn Landing; USGS Bath Springs Quadrangle; lat. 35 degrees 28 minutes 8.6 seconds N. and long. 88 degrees 01 minute 0.4 second W.

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) silty clay loam; common fine distinct light yellowish brown (10YR 6/4) and common fine distinct brown (7.5YR 4/4) mottles; weak fine granular structure; friable; many very fine and fine roots; strongly acid; abrupt smooth boundary.

Bt1—7 to 18 inches; yellowish brown (10YR 5/6) silty clay loam; weak medium subangular blocky structure; firm; many very fine roots; few medium light brownish gray (10YR 6/2) iron depletions; few medium strong brown (7.5YR 5/6) and few medium yellowish red (5YR 5/6) masses of iron accumulation; very strongly acid; clear smooth boundary.

Bt2—18 to 30 inches; yellowish brown (10YR 5/4) silty clay; strong medium prismatic structure parting to moderate medium subangular blocky; very firm; few very fine roots; many very coarse light brownish gray (10YR 6/2) iron depletions and common medium yellowish brown (10YR 5/6) masses of iron accumulation on prism faces and in secondary peds; very strongly acid; gradual smooth boundary.

Bt3—30 to 55 inches; light olive brown (2.5Y 5/6) silty clay; moderate medium prismatic structure parting to weak medium subangular blocky; very firm; few very fine roots; common distinct light brownish gray (10YR 6/2) clay films in root channels and pores; common coarse light brownish gray (10YR 6/2) iron depletions; few fine strong brown (7.5YR 4/6) masses of iron accumulation; few fine and medium mica flakes; moderately acid; gradual smooth boundary.

Bt4—55 to 79 inches; light olive brown (2.5Y 5/6) silty clay; moderate medium prismatic structure parting to weak medium subangular blocky; firm; few very fine roots; few distinct light brownish gray (10YR 6/2) clay films in root channels and pores; many coarse light brownish gray (10YR 6/2) iron depletions; common fine strong brown (7.5YR 5/6) masses of iron accumulation; common fine mica flakes; moderately acid.

Depth to bedrock is more than 5 feet. Reaction is strongly acid or very strongly acid in the A horizon and the upper part of the subsoil and ranges to moderately acid in the lower part of the subsoil.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4. Texture is silty clay loam.

The Bt horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 6. It has common or many redoximorphic features with chroma of 2 or less within the upper 10 inches. Redoximorphic features include iron accumulations in shades of brown and red. Texture is silty clay loam or silty clay.

Some pedons have a Btg horizon that has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2. This horizon has few to many redoximorphic features in shades of yellow and brown. Texture is silty clay or silty clay loam.

Biffle Series

The Biffle series consists of moderately deep, somewhat excessively drained soils on convex ridgetops and hillsides in the dissected sections of the Highland Rim. These soils formed in residuum of granular, tripolitic chert. Slopes range from 5 to 60 percent.

Typical pedon of Biffle gravelly silt loam, 5 to 15 percent slopes; from Lobelville, about 2 miles north to Russell Creek Road, about 1.5 miles to Coble Road, about 0.5 mile to pedon on north side of road; USGS Lobelville Quadrangle; lat. 35 degrees 47 minutes 4.5 seconds N. and long. 87 degrees 45 minutes 20.7 seconds W.

A—0 to 4 inches; brown (10YR 4/3) gravelly silt loam; weak fine granular structure; friable; many fine and medium roots; approximately 20 percent fragments of chert; very strongly acid; clear wavy boundary.

BE—4 to 10 inches; light yellowish brown (10YR 6/4) gravelly silt loam; weak fine and medium subangular blocky structure; friable; many fine and medium and common coarse roots; many very fine and fine tubular pores; approximately 20 percent fragments of chert; very strongly acid; clear wavy boundary.

Bt—10 to 22 inches; strong brown (7.5YR 5/6) gravelly silt loam; weak medium subangular blocky structure; friable; common fine and medium and common coarse roots; many very fine and fine tubular pores; few distinct brown (7.5YR 5/4) clay films on faces of peds; at the base of the horizon is a 3-inch-thick stratum with many reddish brown (2.5YR 4/4) clay films on faces of peds and rock fragments; approximately 25 percent fragments of chert; very strongly acid; abrupt wavy boundary.

Cr—22 to 79 inches; highly weathered, dense bed of granular, tripolitic chert.

Depth to a paralithic contact ranges from 20 to 40 inches. Depth to hard bedrock is more than 5 feet. The content of chert gravel ranges from 15 to 35 percent in the A and B horizons.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 2 or 3. The Ap horizon, if it occurs, is 4 to 10 inches thick and has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. Texture of the fine-earth fraction is silt loam.

The BE horizon has hue of 10YR, value of 5 or 6, and chroma of 3 or 4. Texture of the fine-earth fraction is silt loam.

The Bt horizon has hue of 10YR or 7.5YR or, rarely, 5YR; value of 4 to 6; and chroma of 4 to 8. Mottles, if they occur, are in shades of brown, yellow, and red. Texture of the fine-earth fraction is silty clay loam or silt loam.

Some pedons have transitional horizons between the Bt and Cr horizons. These horizons have colors and textures similar to those of the Bt horizon.

The Cr horizon is a dense bed of granular, tripolitic chert. Colors are in shades of red, brown, yellow, and white. Some pedons have thin diagonal seams that are more than 4 inches apart and commonly contain fine roots and clayey material.

Braxton Series

The Braxton series consists of very deep, well drained soils on ridgetops and hillsides. These soils formed in fine textured residuum from limestone. Slopes range from 5 to 35 percent.

Typical pedon of Braxton silty clay loam in an area of Braxton-Talbott complex, 5 to 15 percent slopes, severely eroded; off Peter's Landing Road, about 0.75 mile east of the Tennessee River; USGS Clifton Quadrangle; lat. 35 degrees 28 minutes 37.5 seconds N. and long. 87 degrees 59 minutes 09 seconds W.

Ap—0 to 4 inches; dark brown (7.5YR 3/4) silty clay loam; strong fine subangular blocky and strong fine angular blocky structure; firm; moderately sticky; moderately plastic; many very fine and fine roots throughout; approximately 10 percent angular fragments of chert; slightly acid; abrupt smooth boundary.

Bt1—4 to 22 inches; yellowish red (5YR 4/6) clay; moderate coarse subangular blocky structure parting to strong fine angular blocky; very firm; very sticky; very plastic; common fine and medium and common coarse roots between peds; common fine continuous tubular pores; very few distinct patchy pressure faces on peds; approximately 5 percent angular fragments of chert; moderately acid; gradual smooth boundary.

Bt2—22 to 44 inches; red (2.5YR 4/6) clay; moderate coarse subangular blocky structure parting to strong fine angular blocky; very firm; very sticky; very plastic; common fine and medium and common coarse roots between peds; very few distinct patchy pressure faces on peds and few faint patchy dark red (2.5YR 3/6, moist) clay films on faces of peds; approximately 2 percent angular fragments of chert; moderately acid; diffuse wavy boundary.

Bt3—44 to 79 inches; red (2.5YR 4/6) clay; common coarse prominent brownish yellow (10YR 6/6) irregular mottles; moderate coarse prismatic structure parting to strong coarse angular blocky; very firm; very sticky; very plastic; common fine and medium and common coarse roots between peds; few distinct patchy pressure faces on peds and few faint patchy dark red (2.5YR 3/6, moist) clay films on faces of peds; approximately 2 percent subangular channers of limestone; moderately acid.

Depth to bedrock ranges from 60 to 79 inches or more. The content of chert fragments ranges from 0 to 30 percent in the Ap horizon. The content of chert and limestone fragments ranges from 0 to about 15 percent in the Bt horizon. Reaction is mainly strongly acid to moderately acid throughout the profile. Reaction in the horizon above bedrock ranges to slightly acid in some pedons.

The A or Ap horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 or 4. In severely eroded areas, it has chroma of 6. Texture of the fine-earth fraction is silt loam or silty clay loam.

The Bt horizon has hue of 7.5YR to 2.5YR, value of 4 or 5, and chroma of 4 to 8. Texture is typically silty clay or clay. In some pedons the upper few inches is silty clay loam. In most pedons the horizon has few or common mottles in shades of red, brown, and yellow in the lower part.

Busseltown Series

The Busseltown series consists of very deep, moderately well drained soils on low stream terraces. These soils formed in loamy alluvium and have a fragipan in the subsoil. Slopes range from 1 to 8 percent.

Typical pedon of Busseltown loam, 1 to 6 percent slopes, eroded, rarely flooded; from the junction of U.S. Highway 412 and Tennessee Highway 13, about 6.0 miles south to Tennessee Highway 128, about 5.0 miles west to Cedar Creek Road, 2.0 miles west to Lego School Road, 1.0 mile south to Sandy Shores Road, about 2,500 feet west onto the Tennessee River flood plain, in a hay field; USGS Pope Quadrangle; lat. 35 degrees 31 minutes 11.87 seconds N. and long. 87 degrees 58 minutes 7.68 seconds W.

Ap—0 to 9 inches; brown (10YR 4/3) loam; weak medium granular structure; friable; many very fine and fine and common medium roots throughout; common very fine and fine tubular pores; few fine mica flakes; strongly acid; clear smooth boundary.

Bt1—9 to 14 inches; yellowish brown (10YR 5/6) loam; weak medium and coarse subangular blocky structure; friable; many very fine and common fine roots throughout; many very fine and fine tubular pores; few fine distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine mica flakes; strongly acid; clear smooth boundary.

Bt2—14 to 20 inches; strong brown (7.5YR 4/6) loam; common medium distinct strong brown (7.5YR 5/6) and common fine prominent light yellowish brown (10YR 6/4) mottles; moderate medium and coarse subangular blocky structure; friable; common very fine and fine roots throughout; many very fine and fine tubular pores; few fine distinct brown (7.5YR 4/4) clay films on faces of peds and in pores; few fine and medium dark brown (7.5YR 3/2) soft, plate-like accumulations of iron and manganese between peds; common medium to coarse dark brown (7.5 YR 3/2) iron and manganese nodules; few fine mica flakes; strongly acid; clear smooth boundary.

Btx1—20 to 30 inches; yellowish brown (10YR 5/4) sandy clay loam; moderate coarse angular blocky structure parting to weak coarse angular and subangular blocky; firm; common very fine roots between peds; common very fine tubular and vesicular pores; few fine distinct brown (7.5YR 4/4) clay films on faces of peds and in pores; few fine and medium dark brown (7.5YR 3/2) soft, plate-like accumulations of iron and manganese between peds; few fine and medium strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) masses of iron accumulation; common fine and medium pale brown (10YR 6/3) iron depletions between peds; common fine brown (7.5YR 4/4) iron and manganese nodules; few fine very dark gray (10YR 3/1) manganese concretions throughout; few fine mica flakes; brittle in 50 percent of the mass; strongly acid; clear wavy boundary.

Btx2—30 to 60 inches; yellowish brown (7.5YR 4/6) loam; common medium distinct yellowish brown (10YR 5/4) mottles; weak very coarse prismatic structure parting to weak coarse angular and subangular blocky; firm; common very fine roots between prisms; common very fine and fine discontinuous tubular and vesicular pores; few fine brown (7.5YR 4/4) clay films on prism faces and in pores; few fine mica flakes; common fine prominent pale brown (10YR 6/3) and light brownish gray (10YR 6/2) iron and clay depletions on prism faces and as vertical seams; common fine and medium very dark brown (10YR 2/2) iron and manganese concretions in seams between prisms and in interior secondary peds; common fine and medium very dark grayish brown (10YR 3/2) iron and manganese nodules; brittle in 70 percent of the mass; very strongly acid; gradual wavy boundary.

Btx3—60 to 79 inches; 34 percent light brownish gray (10YR 6/2), 33 percent light yellowish brown (10YR 6/4), and 33 percent brown (7.5YR 4/4) loam; weak very coarse prismatic structure parting to weak coarse and very coarse subangular blocky; very firm; common fine and very fine discontinuous tubular and vesicular pores; few fine distinct dark yellowish brown (10YR 4/4) clay films on prism faces; few fine mica flakes; common medium strong brown (7.5YR 5/8) masses of iron accumulation between peds; brittle in 85 percent of the mass; very strongly acid.

Depth to the fragipan typically ranges from 18 to 36 inches. In severely eroded pedons, it ranges from 16 to 18 inches. Reaction is strongly acid or very strongly acid. The content of rounded gravel ranges from 0 to 10 percent in the A, Bt, and Btx horizons. Depth to hard bedrock is more than 5 feet. Transitional horizons have colors and textures similar to those of adjacent horizons.

The Ap horizon has hue of 10YR, value of 4, and chroma of 3 to 4. Texture is silt loam or loam. In severely eroded pedons, the horizon has colors similar to those of the Bt horizon and texture of sandy clay loam or clay loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 or 6. The lower part of the horizon has none to common redoximorphic features in shades of brown, black, and gray. Texture is loam, sandy clay loam, or clay loam.

The Btx horizon has hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 3 to 6. It has common or many redoximorphic features in shades of brown, black, red, and gray. Texture is loam, clay loam, or sandy clay loam.

Chenneby Series

The Chenneby series consists of very deep, somewhat poorly drained soils on flood plains in concave seeps and troughs. These soils formed in silty alluvium. Slopes range from 0 to 2 percent.

Typical pedon of Chenneby silt loam in an area of Beason and Chenneby soils, frequently flooded; from Linden about 12 miles west on U.S. Highway 412 to Perryville Bottom Road, about 0.6 mile north, about 2,000 feet onto a wooded flood plain; USGS Jeanette Quadrangle; lat. 35 degrees 37 minutes 52.21 seconds N. and long. 88 degrees 01 minute 20.50 seconds W.

A1—0 to 6 inches; brown (10YR 5/3) silt loam; common medium dark yellowish brown (10YR 4/4) mottles; moderate medium granular structure; friable; many fine and common medium and coarse roots; many fine and medium tubular pores; common fine rounded very dark gray (10YR 3/1) manganese and iron nodules; strongly acid; clear smooth boundary.

A2—6 to 12 inches; brown (10YR 5/3) silt loam; common medium dark yellowish brown (10YR 4/4) and common fine yellowish brown (10YR 5/6) mottles; moderate medium granular structure; friable; many fine and common medium and coarse roots; many fine and medium tubular pores; common fine rounded very dark gray (10YR 3/1) manganese and iron nodules; common medium pale brown (10YR 6/3) iron depletions between peds; strongly acid; clear smooth boundary.

Bw—12 to 40 inches; yellowish brown (10YR 5/4) silt loam; common medium yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; common fine and few medium and coarse roots; common fine and medium tubular pores; few fine rounded very dark gray (10YR 3/1) iron and manganese concretions throughout; common medium light brownish gray (10YR 6/2) and common medium pale brown (10YR 6/3) iron depletions between peds; strongly acid; clear smooth boundary.

Bg—40 to 50 inches; light brownish gray (10YR 6/2) silt loam; weak medium subangular blocky structure; friable; few fine to coarse roots; common fine tubular pores; common medium strong brown (7.5YR 5/6), light yellowish brown (10YR 6/4), and yellowish brown (10YR 5/4) masses of iron accumulation between peds; strongly acid; gradual smooth boundary.

Cg—50 to 60 inches; gray (10YR 6/1) silty clay loam; massive; firm; many medium and coarse strong brown (7.5YR 5/8) masses of iron accumulation in ped interiors; strongly acid.

Depth to bedrock is more than 5 feet. Reaction is moderately acid or strongly acid, except where the surface layer has been limed.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. It has few or common mottles in shades of brown. Texture is silt loam.

The Bw horizon has hue of 10YR, value of 4 or 5, and chroma of 3 to 6. It has few to many mottles in shades of brown. It has few or common redoximorphic features in shades of brown and gray. Texture is silt loam or silty clay loam.

The Bg and Cg horizons have hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2. They have none to many redoximorphic features in shades of brown or olive. Texture is silt loam or silty clay loam.

Dellrose Series

The Dellrose series consists of very deep, well drained soils on footslopes. These soils formed in a layer of cherty colluvium underlain by limestone residuum. Slopes range from 5 to 60 percent.

Typical pedon of Dellrose gravelly silt loam in an area of Dellrose-Mimosa complex, 20 to 60 percent slopes, very stony; from Linden about 6 miles south on Tennessee Highway 13 to Tennessee Highway 128, about 9 miles west to Howell Cedar Creek Road, about 4.5 miles to Woods Hollow, about 1,000 feet east along the road, about 500 feet northwest along a logging road, in a road cut on southwest side of road; USGS Pope Quadrangle; lat. 35 degrees 30 minutes 12.92 seconds N. and long. 87 degrees 53 minutes 30.00 seconds W.

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) gravelly silt loam; moderate medium granular structure; friable; many fine and common medium and coarse roots; many fine tubular pores; approximately 15 percent angular fragments of chert; very strongly acid; abrupt smooth boundary.

BA—9 to 17 inches; dark yellowish brown (10YR 4/4) gravelly silt loam; weak medium subangular blocky structure; friable; common fine, medium, and coarse roots; many fine and common medium and coarse tubular pores; approximately 15 percent angular fragments of chert; strongly acid; clear smooth boundary.

Bt1—17 to 30 inches; brown (7.5YR 4/4) gravelly silty clay loam; weak medium subangular blocky structure; friable; common fine and common medium roots; many fine and common medium tubular pores; very few faint patchy clay films in root channels and pores; approximately 20 percent angular fragments of chert; strongly acid; gradual smooth boundary.

Bt2—30 to 58 inches; strong brown (7.5YR 4/6) gravelly silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; common fine tubular pores; few faint patchy clay films in root channels and pores; approximately 20 percent angular mixed gravel; strongly acid; clear smooth boundary.

2Bt—58 to 79 inches; strong brown (7.5YR 5/8) clay; common medium yellowish brown (10YR 5/6) and common fine yellowish red (5YR 4/6) mottles; moderate medium and coarse subangular blocky structure; very firm; common fine roots; common fine tubular pores; very few strong brown (7.5YR 5/6) clay films in root channels and pores; approximately 10 percent angular mixed gravel; strongly acid.

Depth to bedrock is more than 6 feet. The content of rock fragments ranges from 10 to 35 percent in each horizon. It ranges from 10 to 50 percent in the lower part of the Bt horizon and from 0 to 15 percent in the 2Bt horizon. Reaction ranges from very strongly acid to moderately acid, except where the surface layer has been limed.

The A or Ap horizon has hue of 10YR or 7.5YR, value of 3 or 4, and chroma of 2 to 4. Texture of the fine-earth fraction is silt loam.

Most pedons have a transitional horizon between the A and Bt horizons.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. Some pedons have subhorizons within the Bt horizon that have hue of 5YR, value of 4, and chroma of 4 to 8. Texture of the fine-earth fraction is silty clay loam or silt loam.

The 2Bt horizon, if it occurs, has hue of 10YR to 5YR, value of 4 or 5, and chroma of 4 to 8. In some pedons it has mottles in shades of brown, yellow, and gray. Texture is silty clay, clay, or silty clay loam.

Dickson Series

The Dickson series consists of very deep, moderately well drained soils on uplands in the southeastern part of the county. These soils have a fragipan in the subsoil. The soils formed in loess and the underlying residuum from cherty limestone. Slopes range from 2 to 5 percent.

Typical pedon of Dickson silt loam, 2 to 5 percent slopes, eroded; Lewis County, Tennessee; from Hohenwald, 4 miles south on Tennessee Highway 48, about 0.25 mile south on Fire Tower Road, 50 feet west in a field; Hohenwald Quadrangle; lat. 35 degrees 31 minutes 14 seconds N. and long. 87 degrees 36 minutes 08 seconds W.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium granular structure; very friable; many fine and medium roots; strongly acid; clear smooth boundary.

E—5 to 10 inches; light yellowish brown (2.5Y 6/4) silt loam; moderate medium granular structure; very friable; many fine and medium roots; strongly acid; gradual smooth boundary.

B/E—10 to 14 inches; 60 percent yellowish brown (10YR 5/6) silt loam (B part) and 40 percent light yellowish brown (10YR 6/4) silt loam (E part); weak medium subangular blocky structure; very friable; common fine roots; few fine black (10YR 2/1) and dark brown (10YR 3/3) soft accumulations and spherical concretions of manganese and iron throughout; strongly acid; gradual smooth boundary.

Bt—14 to 20 inches; yellowish brown (10YR 5/6) silt loam; few medium distinct strong brown (7.5YR 5/8) and light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; friable; few fine roots; few fine black (10YR 2/1) and dark brown (10YR 3/3) soft accumulations and spherical concretions throughout; strongly acid; clear smooth boundary.

E/B—20 to 24 inches; 70 percent light grayish brown (10YR 6/2) and light gray (10YR 7/2) silt loam (E part) and 30 percent yellowish brown (10YR 5/4) silt loam (B part); weak fine and medium subangular blocky structure in E part; moderate medium prismatic structure parting to moderate medium subangular blocky in B part; very friable in E part and firm in B part; few fine roots; common fine and medium black (10YR 2/1) and dark brown (10YR 3/3) soft accumulations and spherical concretions of manganese and iron; brittle in approximately 40 percent of the mass; strongly acid; gradual smooth boundary.

Btx—24 to 39 inches; 40 percent light yellowish brown (10YR 6/4), 20 percent yellowish brown (10YR 5/8), 20 percent light gray (10YR 7/2), and 20 percent dark yellowish brown (10YR 4/4) silty clay loam; weak very coarse to extremely coarse prismatic structure parting to moderate medium subangular blocky; firm; common fine vessicular pores; common distinct yellowish brown (10YR 5/4) clay films on prism faces and in vertical seams; common coarse light brownish gray (10YR 6/2) and light gray (10YR 7/1) silt loam coatings as vertical seams between prisms; common medium black (10YR 2/1) and dark brown (10YR 3/3) spherical manganese and iron concretions and soft irregular accumulations throughout; approximately 5 percent angular fragments of chert; brittle in approximately 75 percent of the mass; strongly acid; gradual wavy boundary.

2Bt—39 to 60 inches; 25 percent red (2.5YR 4/8), 25 percent yellowish red (5YR 4/6), 25 percent light yellowish brown (10YR 6/4), and 25 percent light gray (10YR 7/2) clay; moderate medium subangular blocky structure; firm; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; approximately 5 percent angular fragments of chert; strongly acid.

Depth to bedrock is more than 60 inches. Depth to the fragipan ranges from 18 to 36 inches. The content of rock fragments ranges from 0 to 10 percent in the lower part of the Btx horizon and from 5 to 35 percent in the 2Bt horizon. Reaction is strongly acid or very strongly acid.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4. Texture is silt loam.

The E horizon has hue of 2.5Y or 10YR, value of 4 to 6, and chroma of 3 or 4. Texture is silt loam.

Some pedons have transitional horizons that are similar in color and texture to the E and Bt horizons.

The Bt horizon has hue of 10YR, value of 4 or 5, and chroma of 4 or 6. It has few or common mottles in shades of brown and yellow. Texture is silt loam or silty clay loam.

The E part of the E/B horizon has hue of 10YR, value of 5 to 7, and chroma of 2 or 3. The B part has hue of 10YR, value of 4 or 5, and chroma of 4 or 6. Texture of the horizon is silt loam.

The Btx horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 6. It has few or common redoximorphic features in shades of brown, yellow, red, and gray. Texture is silt loam or silty clay loam.

The 2Bt horizon has hue of 7.5YR to 2.5YR, value of 3 to 5, and chroma of 4 to 8. In some pedons it has hue of 2.5Y, value of 4 to 6, and chroma of 4 to 8. It has mottles and redoximorphic features in shades of yellow, red, brown, and gray. Texture of the fine-earth fraction is silty clay loam or silty clay.

Egam Series

The Egam series consists of very deep, moderately well drained soils. These soils formed in fine textured alluvium on flood plains. Slopes range from 0 to 2 percent.

Typical pedon of Egam silty clay loam, rarely flooded; from Linden, along Tennessee Highway 13 south to Tennessee Highway 128, about 4.0 miles, to the left about 150 feet, in a field; USGS Pope Quadrangle; lat. 35 degrees 30 minutes 20.1 seconds N. and long. 87 degrees 53 minutes 30.1 seconds W.

Ap—0 to 7 inches; 60 percent dark brown (10YR 3/3) and 40 percent dark yellowish brown (10YR 3/4) silty clay loam; weak medium subangular blocky structure; friable; many very fine and fine roots throughout; many very fine and fine tubular pores; few fine rounded very dark gray (10YR 3/1) manganese concretions throughout; approximately 2 percent subrounded chert gravel; slightly acid; abrupt smooth boundary.

Bw1—7 to 15 inches; 70 percent very dark grayish brown (10YR 3/2) and 30 percent dark yellowish brown (10YR 3/4) silty clay; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common very fine and fine roots throughout; many very fine and common fine tubular pores; few fine rounded very dark gray (10YR 3/1) manganese concretions throughout; approximately 1 percent subrounded chert gravel; neutral; clear smooth boundary.

Bw2—15 to 43 inches; very dark grayish brown (10YR 3/2) silty clay; common medium distinct dark yellowish brown (10YR 4/4) mottles; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots throughout; common very fine and fine tubular pores; common fine and medium rounded very dark gray (10YR 3/1) manganese concretions throughout; approximately 1 percent subrounded chert gravel; neutral; clear smooth boundary.

BC—43 to 65 inches; 50 percent yellowish brown (10YR 5/4) and 50 percent dark yellowish brown (10YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm; common fine tubular pores; common medium and coarse plate-like very dark gray (10YR 3/1) soft masses of manganese accumulation between peds; common fine and medium irregular dark yellowish brown (10YR 4/6) soft masses of iron accumulation between peds; many medium dark grayish brown (10YR 4/2) iron depletions; approximately 1 percent subrounded chert gravel; neutral; clear smooth boundary.

C—65 to 79 inches; 60 percent dark yellowish brown (10YR 4/6) and 40 percent yellowish brown (10YR 5/4) silty clay; moderate very coarse subangular blocky structure; firm; few fine tubular pores; many medium dark grayish brown (10YR 4/2) iron depletions; approximately 2 percent subrounded chert gravel; neutral.

Depth to bedrock is more than 60 inches. Reaction ranges from neutral to moderately acid throughout the profile. The content of gravel is less than 15 percent in all horizons.

The Ap horizon has hue of 10YR, value of 3, and chroma of 2 or 3. In most pedons it has mottles in shades of brown. Texture is silty clay loam.

The upper part of the Bw horizon is part of the mollic epipedon and has colors similar to those of the Ap horizon. Texture is silty clay or silty clay loam.

The lower part of the Bw horizon and the BC horizon have hue of 10YR, value of 4 or 5, and chroma of 3 to 6. They have few to many redoximorphic features in shades of brown. Texture is silty clay loam or silty clay.

The C horizon, if it occurs, has hue of 10YR to 2.5Y, value of 4 to 6, and chroma of 1 to 6. Redoximorphic features are in shades of brown and gray and, in some pedons, occur in an evenly mottled pattern without a dominant matrix color. Texture is dominantly silty clay loam, silty clay, or clay.

Ellisville Series

The Ellisville series consists of very deep, well drained soils on flood plains. These soils formed in medium textured alluvium. Slopes range from 0 to 2 percent.

Typical pedon of Ellisville silt loam, frequently flooded; Humphreys County, Tennessee; 1.5 miles north of the Perry-Humphreys County line on Tennessee Highway 13, about 0.3 mile west into a crop field; USGS Lobelville Quadrangle; lat. 35 degrees 51 minutes 10.1 seconds N. and long. 87 degrees 48 minutes 44.8 seconds W.

Ap—0 to 8 inches; brown (10YR 4/3) silt loam; weak coarse granular structure; friable; many very fine roots; many very fine and common fine tubular pores; strongly acid; abrupt smooth boundary.

Bw1—8 to 37 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; common very fine roots; many very fine and common fine tubular pores; moderately acid; gradual smooth boundary.

Bw2—37 to 50 inches; brown (10YR 4/3) silt loam; common medium dark brown (10YR 3/3) mottles; weak medium subangular blocky structure; friable; common very fine roots; many very fine and common fine tubular pores; moderately acid; gradual smooth boundary.

Bw3—50 to 60 inches; dark grayish brown (10YR 4/2) silt loam; weak medium subangular blocky structure; friable; common very fine roots; many very fine and common fine tubular pores; common medium grayish brown (10YR 5/2) iron depletions; moderately acid; gradual smooth boundary.

Cg—60 to 79 inches; grayish brown (10YR 5/2) silt loam; many medium distinct dark yellowish brown (10YR 4/4) mottles; massive; friable; common very fine roots; common very fine tubular pores; few medium and coarse irregular manganese nodules; common medium rounded very dark gray (10YR 3/1) manganese concretions; common fine strong brown (7.5YR 5/6) soft masses of iron accumulation; moderately acid.

Depth to bedrock is more than 5 feet. Reaction ranges from slightly acid to very strongly acid, except where the surface layer has been limed.

The Ap horizon has hue of 10YR, value of 4, and chroma of 3 or 4. Texture is silt loam.

The Bw horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. Below a depth of about 48 inches, the horizon has value of 4 and chroma of 2 to 4. The lower part of the horizon has none to many mottles or redoximorphic features in shades of brown and gray. Texture is silt loam.

The C or Cg horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4. It has none to many mottles or redoximorphic features in shades of brown and gray. Texture is silt loam or loam.

Gladdice Series

The Gladdice series consists of moderately deep, well drained soils on convex hillsides associated with rock outcrop. These soils formed in residuum from limestone. Slopes range from 25 to 70 percent.

Typical pedon of Gladdice silty clay loam in an area of Gladdice-Rock outcrop-Mimosa complex, 25 to 70 percent slopes; about 500 feet northeast of the Tennessee River at Peter’s Landing; USGS Clifton Quadrangle; lat. 35 degrees 28 minutes 49.8 seconds N. and long. 87 degrees 59 minutes 20.4 seconds W.

A—0 to 5 inches; very dark grayish brown (10YR 3/2) silty clay loam; moderate medium granular structure; friable; slightly sticky; slightly plastic; common very fine to coarse roots throughout; approximately 12 percent chert gravel; neutral; abrupt wavy boundary.

Bt1—5 to 10 inches; brown (10YR 4/3) silty clay; moderate fine subangular blocky structure; firm; moderately sticky; moderately plastic; common very fine to coarse roots throughout; approximately 5 percent chert gravel; neutral; clear wavy boundary.

Bt2—10 to 17 inches; brown (10YR 4/3) clay; strong fine angular blocky structure; firm; moderately sticky; moderately plastic; common very fine and fine and common medium and coarse roots; approximately 5 percent limestone channers; neutral; clear wavy boundary.

Bt3—17 to 26 inches; dark yellowish brown (10YR 4/4) clay; moderate medium angular blocky structure; firm; moderately sticky; moderately plastic; common very fine and fine and common medium and coarse roots; common pockets of pale brown (10YR 6/3) soft masses of weathered limestone; approximately 12 percent channers of limestone; neutral; abrupt wavy boundary.

C—26 to 30 inches; pale brown (10YR 6/3) channery clay; moderate medium platy structure; firm; slightly sticky; slightly plastic; common fine to coarse roots; approximately 25 percent channers of limestone; moderately alkaline; abrupt wavy boundary.

R—30 inches; hard limestone bedrock.

Depth to bedrock ranges from 20 to 40 inches. Reaction typically ranges from moderately acid to slightly alkaline. Directly above bedrock it ranges to moderately alkaline. Cracks as much as $^{1}/_{2}$ inch wide extend to a depth of about 15 inches during long dry periods. The content of rock fragments, including channers and flagstones of limestone and chert, ranges from 0 to 15 percent in the A and Bt horizons and from 0 to 35 percent in the C horizon.

The A horizon has hue of 10YR, value of 4, and chroma of 2 to 4. Texture is silty clay loam.

The Bt horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 to 6. Mottles in shades of brown, yellow, olive, and gray may occur in the lower part of the horizon in some pedons. Texture is silty clay or clay.

The C horizon, if it occurs, has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 6. In some pedons it has mottles in shades of gray, yellow, brown, and olive. Texture of the fine-earth fraction is clay.

Gumdale Series

The Gumdale series consists of very deep, somewhat poorly drained soils on low stream terraces. These soils have a fragipan in the subsoil. The soils formed in medium textured alluvium. Slopes range from 0 to 2 percent.

Typical pedon of Gumdale silt loam, rarely flooded (fig. 10); in Hardin Bottom of the Tennessee River, from Linden south along Tennessee Highway 13 about 3 miles to Tennessee Highway 128, about 8 miles to Dobber Road, 1 mile to Culps Bend Road, left about 5 miles to an unnamed road, 1 mile to Hardin Bottom Road, right 0.25 mile to a road fork, about 1.0 mile on left fork to a farmstead, about 0.5 mile on the field road into a crop field; USGS Bath Springs Quadrangle; lat.

35 degrees 26 minutes 5.5 seconds N. and long. 88 degrees 01 minute 48 seconds W.

Ap1—0 to 6 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; friable; many fine and medium roots; many fine and medium tubular pores; common fine and medium rounded very dark gray (10YR 3/1) manganese and iron concretions throughout; common medium brown (10YR 5/3) iron depletions; moderately acid; abrupt smooth boundary.

Ap2—6 to 10 inches; brown (10YR 4/3) loam; moderate medium granular structure; friable; many fine and medium roots in cracks; many fine tubular pores; common fine and medium rounded very dark gray (10YR 3/1) manganese and iron concretions throughout; common medium pale brown (10YR 6/3) iron depletions; common fine and medium dark yellowish brown (10YR 4/6) soft masses of iron accumulation; moderately acid; abrupt smooth boundary.

Bt—10 to 18 inches; light olive brown (2.5Y 5/4) clay loam; weak medium subangular blocky structure; friable; common very fine, fine, and few medium roots; common fine tubular pores; very few faint patchy pale brown (10YR 6/3) clay films in root channels and pores; common medium and coarse very dark gray (10YR 3/1) manganese and iron concretions throughout; common medium light brownish gray (2.5Y 6/2) and common medium pale brown (10YR 6/3) iron depletions; common medium strong brown (7.5YR 4/6) soft masses of iron accumulation; very strongly acid; clear smooth boundary.

B/E—18 to 31 inches; 65 percent yellowish brown (10YR 5/6) clay loam (Btx part) and 35 percent light brownish gray (2.5Y 6/2) loam as vertical seams about 1 to 4 inches wide (E part); weak very coarse prismatic structure parting to weak coarse subangular blocky in Btx part; weak coarse subangular blocky structure in E part; firm; very few very fine roots between prisms in Btx part; many fine discontinuous tubular pores; common very fine roots in pores in E part; very few faint pale brown (10YR 6/3) clay films on prism faces and in pores; common fine and medium rounded strong brown (7.5YR 5/8) manganese and iron nodules throughout; common medium and coarse olive yellow (2.5Y 6/6) soft masses of iron accumulation; many medium and coarse light brownish gray (2.5Y 6/2) iron depletions; brittle in 65 percent of the mass; very strongly acid; gradual wavy boundary.

Btx1—31 to 40 inches; strong brown (7.5YR 4/6) clay loam; weak very coarse prismatic structure parting to moderate medium and coarse subangular blocky; very firm; very few very fine roots in vertical seams between prisms; many fine discontinuous tubular pores; few fine prominent brown (10YR 5/3) clay films on prism faces; common coarse prominent brown (10YR 5/3) silt loam and loam coatings as vertical seams between prisms; common medium and coarse very dark gray (10YR 3/1) soft accumulations and stains of iron and manganese on prism faces; few mica flakes throughout; brittle in 80 percent of the mass; strongly acid; gradual irregular boundary.

Btx2—40 to 67 inches; strong brown (7.5YR 4/6) clay loam; weak very coarse prismatic structure parting to weak medium and coarse subangular blocky; very firm; very few very fine roots in vertical seams between prisms; many fine discontinuous tubular pores; few distinct brown (10YR 5/3) clay films on prism faces and in pores; common coarse and medium prominent brown (10YR 5/3) silt loam and loam coatings on prism faces and as vertical seams; common coarse pale brown (10YR 6/3) and light brownish gray (10YR 6/2) iron depletions on prism faces; few mica flakes throughout; brittle in 90 percent of the mass; slightly acid; diffuse irregular boundary.

Btx3—67 to 79 inches; strong brown (7.5YR 4/6) clay loam; moderate extremely coarse prismatic structure parting to weak medium and coarse subangular blocky; very firm; very few very fine roots in vertical seams between prisms; many fine discontinuous tubular pores; few distinct brown (10YR 5/3) clay films on prism faces and in pores; common coarse and medium prominent brown (10YR 5/3) silt loam and loam coatings on prism faces and in vertical seams; common coarse pale brown (10YR 6/3) and light brownish gray (10YR 6/2) iron depletions on prism faces; few mica flakes throughout; brittle in 100 percent of the mass; slightly acid.

Depth to bedrock is more than 5 feet. Depth to the fragipan ranges from 20 to 36 inches. Reaction ranges from slightly acid to very strongly acid throughout the profile. The content of coarse fragments of rounded gravel ranges from 0 to 5 percent in each horizon.

The Ap or A horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 4. It has none to common redoximorphic features in shades of brown and gray. Texture is loam or silt loam.

The Bt horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 6. It has few to many redoximorphic features in shades of gray, yellow, and brown. It has few or common fine or medium iron and manganese concretions, nodules, or coatings on peds. Texture is loam, silt loam, clay loam, or silty clay loam.

The Btx part of the B/E horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 6. The E part has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 4 or less. The horizon has common or many redoximorphic features in shades of brown and gray. Texture is loam, clay loam, or silt loam.

The Btx horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 6. It has redoximorphic features in shades of gray, yellow, and brown. Texture is loam or clay loam.

Hawthorne Series

The Hawthorne series consists of moderately deep, somewhat excessively drained soils on convex hillsides. These soils formed in residuum from cherty limestone. Slopes range from 30 to 75 percent.

Typical pedon of Hawthorne gravelly silt loam in an area of Biffle, Hawthorne, and Sulphura soils, very steep, rocky; from Linden, Tennessee Highway 13 south to Tennessee Highway 128, about 6 miles to Mayberry Road, 2 miles to Woods Hollow, 1,200 feet north along a logging road; USGS Pope Quadrangle; lat. 35 degrees 30 minutes 20.1 seconds N. and long. 87 degrees 53 minutes 30.1 seconds W.

A—0 to 5 inches; brown (10YR 4/3) gravelly silt loam; moderate medium granular structure; friable; common coarse and many very fine to medium roots; many very fine tubular pores; approximately 25 percent angular chert gravel; very strongly acid; abrupt wavy boundary.

BA—5 to 9 inches; yellowish brown (10YR 5/4) gravelly silt loam; weak fine subangular blocky and moderate coarse granular structure; friable; common coarse and many very fine to medium roots; many very fine tubular pores; approximately 30 percent angular chert gravel; very strongly acid; clear wavy boundary.

Bw—9 to 20 inches; light yellowish brown (10YR 6/4) very gravelly silt loam; moderate fine subangular blocky structure; friable; common very fine to medium roots; many very fine tubular pores; approximately 55 percent angular chert gravel; very strongly acid; clear wavy boundary.

BC—20 to 26 inches; very pale brown (10YR 7/4) very gravelly silt loam; weak fine subangular blocky structure; friable; common very fine to medium roots; many very fine tubular pores; 50 percent angular chert gravel; very strongly acid; clear wavy boundary.

C—26 to 36 inches; reddish yellow (7.5YR 6/6) very gravelly silt loam; common medium and coarse distinct yellow (10YR 7/8) mottles; moderate coarse angular blocky structure; friable; few very fine to medium roots; many very fine discontinuous tubular pores; common distinct patchy yellowish red (5YR 5/6) clay coatings on rock fragments; few distinct patchy very pale brown (10YR 7/4) silt coatings throughout; approximately 60 percent angular chert gravel; clear wavy boundary.

Cr—36 to 79 inches; highly weathered, interlayered siltstone and chert beds.

Depth to a paralithic contact ranges from 20 to 40 inches. Depth to hard bedrock is more than 40 inches. Reaction ranges from strongly acid to extremely acid. The content of rock fragments ranges from 10 to 35 percent in the A and E horizons and from 35 to 60 percent in the B and C horizons (fig. 11).

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4. Texture of the fine-earth fraction is silt loam.

The BA or E horizon has hue of 10YR, value of 5 to 7, and chroma of 3 or 4. Texture of the fine-earth fraction is silt loam.

The Bw horizon has hue of 10YR or 7.5YR and value and chroma of 4 to 6. Texture of the fine-earth fraction is silt loam or silty clay loam. Some pedons have thin discontinuous argillic horizons with colors and textures similar to those of the Bw horizon.

The BC and C horizons have colors and textures similar to those of the Bw horizon.

The Cr horizon is highly fractured, horizontally bedded siltstone and chert interlayered with thin seams of silty clay loam.

Humphreys Series

The Humphreys series consists of very deep, well drained soils on alluvial fans, footslopes, and low stream terraces. These soils formed in a mixture of gravelly alluvium and colluvium derived from cherty limestone, siltstone, and shale. Slopes range from 0 to 12 percent.

Typical pedon of Humphreys gravelly silt loam, 2 to 5 percent slopes; from Linden, 10 miles north on Tennessee Highway 13 to King Branch Road, 5 miles west to Strickland Road, about 4 miles west, 60 feet south of the road in a pasture on the Turnbow farm; USGS Pineview Quadrangle; lat. 35 degrees 40 minutes 48.4 seconds N. and long. 87 degrees 53 minutes 15.4 seconds W.

Ap—0 to 10 inches; brown (10YR 4/3) gravelly silt loam; weak medium granular structure; very friable; many very fine and fine roots; many very fine tubular pores throughout; common medium and coarse prominent strong brown (7.5YR 4/6) pockets of gravelly silt loam; approximately 25 percent angular and subangular fragments of chert; moderately acid; abrupt smooth boundary.

Bt1—10 to 18 inches; strong brown (7.5YR 4/6) gravelly silt loam; common medium faint strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable; common very fine and fine roots; many very fine and fine tubular pores throughout; few faint brown (7.5YR 4/4) clay films on faces of peds; common fine dark brown (7.5YR 3/2) manganese stains on faces of peds; approximately 30 percent angular and subangular fragments of chert; neutral; clear smooth boundary.

Bt2—18 to 27 inches; strong brown (7.5YR 5/6) gravelly silt loam; common medium faint brown (7.5YR 5/4) and few fine prominent dark yellowish brown (10YR 4/4) mottles; moderate medium subangular blocky structure; friable; common very fine and fine roots; many fine tubular pores throughout; few faint brown (7.5YR 5/4) clay films on faces of peds and in pores; approximately 25 percent angular and subangular fragments of chert; neutral; clear smooth boundary.

BC—27 to 36 inches; strong brown (7.5YR 5/6) very gravelly silt loam; common fine prominent light yellowish brown (10YR 6/4) and few fine prominent dark yellowish brown (10YR 4/4) mottles; weak medium subangular blocky structure; friable; common very fine and fine roots; many very fine tubular pores throughout; common patchy distinct clay films and silt coatings on rock fragments; approximately 50 percent angular and subangular fragments of chert; neutral; clear smooth boundary.

C—36 to 42 inches; brown (7.5YR 5/4) extremely gravelly loamy coarse sand; single grain; loose; common very fine and fine roots between rock fragments; common patchy distinct clay films and silt coatings on rock fragments; approximately 78 percent angular and subangular rock fragments and 2 percent cobbles of chert; neutral; clear smooth boundary.

2Bt1—42 to 55 inches; strong brown (7.5YR 4/6) gravelly silt loam; common medium distinct yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; friable; few very fine roots between peds; many fine and common medium tubular pores throughout; very few distinct discontinuous dark yellowish brown (10YR 4/4) clay films on faces of peds and in pores; common medium prominent light yellowish brown (10YR 6/4) iron depletions; approximately 30 percent angular and subangular fragments of chert; neutral; gradual smooth boundary.

2Bt2—55 to 80 inches; brown (7.5YR 5/4) gravelly silt loam; moderate medium subangular blocky structure; friable; few very fine roots between peds; many fine and common medium tubular pores throughout; very few distinct discontinuous dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine distinct pale brown (10YR 6/3) and common medium distinct light yellowish brown (10YR 6/4) iron depletions between peds; approximately 30 percent angular and subangular fragments of chert; neutral.

Depth to bedrock is more than 5 feet. Reaction ranges from strongly acid to neutral throughout the profile. The content of chert gravel ranges from 15 to 35 percent in the A and Bt horizons, from 35 to 60 percent in the BC horizon, and from 35 to 80 percent in the C horizon. A 2Bt horizon is common in many pedons. If it occurs, it has the same content of rock fragments as the Bt horizon.

The Ap or A horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 2 to 4. Some pedons have a discontinuous A horizon that has value and chroma of 3 and is less than 7 inches thick. Texture of fine-earth fraction is silt loam or loam.

The Bt horizon has hue of 10YR or 7.5YR or, rarely, 5YR; value of 4 or 5; and chroma of 4 or 6. Texture of the fine-earth fraction is silt loam, loam, silty clay loam, or clay loam.

The BC horizon is discontinuous horizontally within a depth of 3 feet. It has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 or 6. Texture of the fine-earth fraction is silt loam, loam, silty clay loam, or clay loam.

The C horizon has colors similar to those of the Bt horizon. Texture of the fine-earth fraction is extremely variable and includes silty clay loam, clay loam, silt loam, sandy loam, and loamy coarse sand. The C horizon has none to common mottles and redoximorphic features in shades of brown, yellow, and gray.

The 2Bt horizon, if it occurs, has colors and textures similar to those of the Bt horizon. It has few to many mottles and redoximorphic depletions.

Ironcity Series

The Ironcity series consists of very deep, well drained soils on ridgetops. These soils formed in a silty mantle that is 2 to 3 feet thick and contains fragments of chert and rounded gravel and in the underlying residuum from cherty limestone. Slopes range from 5 to 12 percent.

Typical pedon of Ironcity gravelly silt loam in an area of Lax-Ironcity complex, 5 to 12 percent slopes; from Linden, Tennessee Highway 13 north to King Branch Road, 5 miles southwest, 300 feet south in a logging road bank; USGS Chestnut Grove Quadrangle; lat. 35 degrees 39 minutes 59 seconds N. and long. 87 degrees 50 minutes 25 seconds W.

A—0 to 5 inches; brown (10YR 5/3) gravelly silt loam; weak fine granular structure; friable; many fine and medium and few coarse roots; many very fine tubular pores; approximately 15 percent angular fragments of chert; very strongly acid; abrupt smooth boundary.

BE—5 to 15 inches; light yellowish brown (10YR 6/4) gravelly silt loam; weak fine subangular blocky structure; friable; many fine and medium and few coarse roots; many very fine tubular pores; approximately 15 percent angular fragments of chert; very strongly acid; clear smooth boundary.

Bt1—15 to 23 inches; yellowish brown (10YR 5/8) gravelly silty clay loam; moderate medium subangular blocky structure; friable; common fine and medium roots; common fine tubular pores; few faint patchy yellowish brown (10YR 5/8) clay films on faces of peds; approximately 15 percent angular fragments of chert; very strongly acid; clear smooth boundary.

Bt2—23 to 28 inches; 50 percent strong brown (7.5YR 5/6) and 50 percent brownish yellow (10YR 6/6) gravelly silt loam; common fine distinct pale brown (10YR 6/3) and common fine prominent red (2.5YR 4/6) mottles; moderate medium subangular blocky structure; friable; common fine and medium roots; common fine tubular pores; few faint patchy strong brown (7.5YR 5/6) clay films on faces of peds; approximately 15 percent angular fragments of chert; brittle in 15 percent of the mass; very strongly acid; clear smooth boundary.

2Bt3—28 to 38 inches; red (2.5YR 4/6) gravelly silty clay; many coarse prominent yellowish brown (10YR 5/6) mottles; moderate fine subangular blocky and moderate fine angular blocky structure; firm; few fine roots; few fine tubular pores; common prominent continuous yellowish brown (10YR 5/4) and few prominent continuous red (2.5YR 4/6) clay films on faces of peds; approximately 25 percent angular fragments of chert; very strongly acid; clear wavy boundary.

2Bt4—38 to 52 inches; red (2.5YR 4/6) gravelly clay; common medium prominent brownish yellow (10YR 6/8) mottles; moderate coarse angular blocky and moderate medium subangular blocky structure; firm; common fine roots; common fine tubular pores; few prominent continuous yellowish brown (10YR 5/4) and few prominent continuous red (2.5YR 4/6) clay films on faces of peds; many coarse threads of gray (10YR 6/1) iron depletions; approximately 25 percent angular fragments of chert and 5 percent angular cobbles; very strongly acid; clear wavy boundary.

2Bt5—52 to 79 inches; red (2.5YR 4/6) very gravelly clay; common coarse prominent light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; firm; few fine roots; few fine tubular pores; few prominent continuous yellowish brown (10YR 5/4) and few prominent continuous red (2.5YR 4/6) clay films on faces of peds; many coarse threads of gray (10YR 6/1) iron depletions; approximately 30 percent angular fragments of chert and 10 percent angular chert cobbles; very strongly acid.

Depth to bedrock is more than 5 feet. The content of chert gravel ranges from 15 to 25 percent in the A and E horizons, from 15 to 35 percent in the Bt horizon, and from 15 to 50 percent in the 2Bt horizon. The content of cobbles is less than 15 percent throughout the profile. Reaction is strongly acid or very strongly acid, except where the surface layer has been limed.

The A horizon has hue of 10YR, value of 4, and chroma of 2 or 3 or has hue of 10YR, value of 5, and chroma of 3. Texture of the fine-earth fraction is silt loam.

The E or BE horizon has hue of 10YR, value of 5 or 6, and chroma of 3 or 4. Texture of the fine-earth fraction is silt loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 6 to 8. In most pedons, near the contact with the 2Bt horizon, peds or pockets exhibit some brittleness in 40 percent or less of the horizon. The brittle areas are commonly yellowish brown, light yellowish brown, or pale brown. Texture of the fine-earth fraction is silt loam or silty clay loam.

The 2Bt horizon has hue of 5YR or 2.5YR, value of 4 or 5, chroma of 6 or 8, or it occurs in an evenly mottled pattern in shades of brown and red. Texture of the fine-earth fraction is silty clay loam, silty clay, clay loam, or clay.

Lax Series

The Lax series consists of very deep, moderately well drained soils on ridgetops. These soils have a

Figure 10.—Typical profile of Gumdale silt loam. The grayish colors between depths of 1.0 and 2.5 feet are caused by a perched water table. The brownish lower part is a dense fragipan.

Figure 11.—Profile of Hawthorne soils. These soils have a high content of chert fragments in the subsoil. A dense bed of chert is just below a depth of 2 feet.

Figure 12.—Typical profile of Lax silt loam. The top of a dense fragipan is between depths of 2 and 3 feet.

Figure 13.—Typical profile of Sugargrove gravelly silt loam. Sugargrove soils weathered from shale and siltstone. Weathered rock is below a depth of 4 feet.

dense gravelly fragipan in the subsoil. They formed in a silty mantle, gravelly marine sediments, and residuum from cherty limestone. Slopes range from 2 to 12 percent.

Typical pedon of Lax silt loam in an area of Lax-Ironcity complex, 5 to 12 percent slopes (fig. 12); from Linden, U.S. Highway 412 west to Linden Pineview Road, 0.25 mile to Timber Company Road, 1.5 miles along road, 3 feet east of the road; USGS Chestnut Grove Quadrangle; lat. 35 degrees 38 minutes 58.9 seconds N. and long. 87 degrees 51 minutes 19.1 seconds W.

A—0 to 3 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; many very fine and fine and few medium and coarse roots; many very fine and fine tubular pores; approximately 5 percent angular fragments of chert; very strongly acid; clear smooth boundary.

BE—3 to 7 inches; yellowish brown (10YR 5/6) silt loam; weak fine subangular blocky structure; friable; many very fine and fine and few medium and coarse roots; many very fine and common fine tubular pores; approximately 5 percent angular fragments of chert; very strongly acid; clear smooth boundary.

Bt1—7 to 20 inches; strong brown (7.5YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; many very fine and fine and few medium and coarse roots; many very fine and common fine tubular pores; few faint patchy strong brown (7.5YR 4/6) clay films on faces of peds; approximately 5 percent angular fragments of chert; very strongly acid; clear smooth boundary.

Bt2—20 to 25 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; few fine and medium roots; many very fine and common fine tubular pores; few faint patchy strong brown (7.5YR 4/6) clay films on faces of peds; approximately 10 percent angular fragments of chert; very strongly acid; clear smooth boundary.

2Btx1—25 to 38 inches; 60 percent yellowish brown (10YR 5/4) and 40 percent strong brown (7.5YR 4/6) very gravelly silty clay loam; weak very coarse prismatic structure parting to coarse angular blocky; extremely firm; few fine roots in vertical seams; common fine discontinuous tubular pores; few distinct patchy grayish brown (10YR 5/2) clay films on prism faces and in pores; few prominent patchy light gray (2.5Y 7/2) silt coatings on prism faces and as vertical seams; common medium grayish brown (10YR 5/2) iron depletions between prisms and in seams; approximately 50 percent angular and subrounded fragments of chert; brittle in 100 percent of the mass; very strongly acid; gradual wavy boundary.

2Btx2—38 to 48 inches; brownish yellow (10YR 6/6) gravelly silty clay loam; common medium distinct strong brown (7.5YR 5/6) and common fine prominent red (2.5YR 4/6) mottles; weak very coarse prismatic structure parting to coarse angular blocky; extremely firm; common fine discontinuous tubular pores; few prominent continuous grayish brown (10YR 5/2) clay films on prism faces and in pores; few prominent patchy light gray (2.5Y 7/2) silt coatings on prism faces and as vertical seams; approximately 30 percent angular and subrounded fragments of chert; brittle in 100 percent of the mass; very strongly acid; gradual wavy boundary.

3Bt—48 to 80 inches; 55 percent yellowish brown (10YR 5/6) and 45 percent red (2.5YR 4/6) very gravelly silty clay; strong medium angular blocky structure; firm; very few very fine tubular pores; common prominent continuous grayish brown (10YR 5/2) clay films on faces of peds and in pores; approximately 45 percent angular fragments of chert and 10 percent angular cobbles; very strongly acid.

Depth to bedrock is more than 5 feet. Depth to the fragipan ranges from about 1.5 to 3.0 feet. Reaction is strongly acid or very strongly acid, except where the surface layer has been limed. The content of fragments of quartz gravel and chert ranges from 0 to 15 percent in the A, E, and Bt horizons and from 15 to 80 percent in the 2Btx and 3Bt horizons.

The Ap or A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 or 3. Texture is silt loam.

The BE horizon has hue of 10YR, value of 5 or 6, and chroma of 3 to 6. Texture is silt loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 6. Texture is silt loam or silty clay loam.

The 2Btx horizon has hue of 10YR, value of 5 or 6, and chroma of 4 to 6. It has few to many mottles and redoximorphic features in shades of brown, yellow, red, and gray. Texture of the fine-earth fraction is silt loam or silty clay loam.

The 3Bt horizon has hue of 7.5YR to 2.5YR, value of 4 or 5, and chroma of 4 to 8. It has few or common mottles in shades of gray, yellow, brown, and red. Texture in the fine-earth fraction is silty clay loam, silty clay, or clay.

Lee Series

The Lee series consists of very deep, poorly drained soils in lower positions and concave seep areas on flood plains. These soils formed in loamy and gravelly alluvium. Slopes are 0 or 1 percent.

Typical pedon of Lee silt loam, frequently flooded; from Linden about 2.5 miles south on Tennessee Highway 13 to Bethel Road, east about 200 feet, about 100 feet south; USGS Linden Quadrangle; lat. 35 degrees 35 minutes 18.32 seconds N. and long. 87 degrees 51 minutes 48.03 seconds W.

A—0 to 4 inches; 60 percent grayish brown (10YR 5/2) and 40 percent brown (10YR 4/3) silt loam; weak medium granular structure; friable; many fine and medium roots; many fine and medium tubular pores; common fine dendritic yellowish red (5YR 4/6) oxidized rhizospheres; approximately 2 percent subangular chert gravel; strongly acid; abrupt smooth boundary.

Bg1—4 to 12 inches; grayish brown (10YR 5/2) silt loam; weak medium subangular blocky structure; friable; common fine and medium roots; common fine and medium tubular pores; common fine dendritic yellowish red (5YR 4/6) oxidized rhizospheres; approximately 2 percent subangular chert gravel; moderately acid; gradual smooth boundary.

Bg2—12 to 19 inches; grayish brown (10YR 5/2) silt loam; weak medium subangular blocky structure; friable; few fine and medium roots; common fine and medium tubular pores; common fine dendritic red (2.5YR 4/6) oxidized rhizospheres; approximately 2 percent subangular chert gravel; moderately acid; gradual smooth boundary.

Bg3—19 to 30 inches; gray (2.5Y 5/1) gravelly silt loam; weak medium subangular blocky structure; friable; few fine and medium roots; few fine tubular pores; common fine dendritic dark yellowish brown (10YR 4/6) oxidized rhizospheres; approximately 20 percent subangular chert gravel; moderately acid; gradual smooth boundary.

Bg4—30 to 50 inches; gray (2.5Y 5/1) gravelly silt loam; weak medium subangular blocky structure; friable; few fine tubular pores; approximately 20 percent subangular chert gravel; moderately acid; gradual smooth boundary.

Cg—50 to 60 inches; gray (2.5Y 5/1) gravelly silt loam; massive; friable; approximately 25 percent subrounded chert gravel; moderately acid.

Depth to bedrock is more than 5 feet. Reaction ranges from strongly acid to slightly acid in each horizon. Redoximorphic features are few or common in each horizon. The content of chert gravel ranges from about 2 to 15 percent, by volume, in the upper 20 inches of the profile. Below a depth of 20 inches, the gravel content ranges from 15 to 35 percent and, in some individual horizons, to 60 percent.

The A or Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 or 3. Texture is silt loam.

The Bg horizon has hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2. Texture of the fine-earth fraction is silt loam or loam.

The Cg horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 or less. Texture of the fine-earth fraction is silt loam or loam.

Lobelville Series

The Lobelville series consists of very deep, moderately well drained soils in seeps and low areas on flood plains along tributary drains. These soils formed in loamy and gravelly alluvium. Slopes range from 0 to 3 percent.

Typical pedon of Lobelville silt loam, occasionally flooded; Hickman County, Tennessee; 7.0 miles southwest of Centerville on Tennessee Highway 100 to Beaver Dam Creek Road, 0.9 mile northwest to West Beaverdam Road, 1.6 miles northwest to a field lane, 1,100 feet north-northwest in pasture; Beaverdam Quadrangle; lat. 35 degrees 44 minutes 15 seconds N. and long. 87 degrees 31 minutes 36 seconds W.

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium granular structure; friable; many very fine and fine roots; many very fine and fine tubular pores; approximately 5 percent subrounded chert fragments; moderately acid; abrupt smooth boundary.

Bw1—6 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; many very fine and fine roots; many very fine and fine tubular pores; approximately 7 percent subrounded chert fragments; moderately acid; clear smooth boundary.

Bw2—12 to 19 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; common very fine and fine roots; many very fine and fine tubular pores; common coarse faint pale brown (10YR 6/3) iron depletions; approximately 12 percent subrounded chert fragments; moderately acid; clear wavy boundary.

Bw3—19 to 26 inches; pale brown (10YR 6/3) gravelly silt loam; weak medium subangular blocky structure; friable; common very fine and fine roots;

common fine and medium pores; few soft black (10YR 2/1) manganese accumulations; common medium faint light brownish gray (10YR 6/2) iron depletions; approximately 15 percent subrounded chert fragments; moderately acid; clear smooth boundary.

Bg—26 to 38 inches; light brownish gray (10YR 6/2) gravelly silt loam; weak medium subangular blocky structure; few fine roots; few fine and medium pores; common soft black (10YR 2/1) manganese accumulations; common coarse distinct yellowish brown (10YR 5/4) and common coarse prominent reddish yellow (7.5YR 6/8) iron concentrations; approximately 20 percent subrounded chert fragments; brittle in 15 percent of the mass; strongly acid; clear wavy boundary.

Cg1—38 to 52 inches; grayish brown (10YR 5/2) extremely gravelly loam; massive; friable; few very fine and fine roots; many medium interstitial pores; many silt and clay coatings on rock fragments; approximately 75 percent rounded and subrounded fragments of chert; strongly acid; clear wavy boundary.

Cg2—52 to 79 inches; grayish brown (10YR 5/2) extremely gravelly sandy loam; massive; friable; many medium interstitial pores; common silt and clay coatings on rock fragments; approximately 85 percent rounded and subrounded fragments of chert; strongly acid.

Depth to bedrock is more than 6 feet. The content of gravel ranges from about 5 to 25 percent in the A and Bw horizons, from 10 to 30 percent in the Bg horizon, and from 35 to 90 percent in the the Cg or C horizon. Reaction is strongly acid or moderately acid.

The A or Ap horizon has hue of 10YR, value of 4 to 6, and chroma of 2 to 4. Texture of the fine-earth fraction is silt loam.

The Bw horizon has hue of 10YR, value of 4 to 6, and chroma of 3 to 6. Redoximorphic features with chroma of 2 or less occur within a depth of 24 inches. Texture of the fine-earth fraction is silt loam, loam, silty clay loam, or clay loam.

The Bg horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2. It has few to many redoximorphic features, occurring as iron concentrations. Texture of the fine-earth fraction is silt loam, silty clay loam, loam, or clay loam.

The C or Cg horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 to 4. In many pedons it has redoximorphic features in shades of red, brown, and gray. Texture of the fine-earth fraction is silt loam, loam, clay loam, or sandy loam.

Marsh Series

The Marsh series consists of moderately deep, well drained soils on hillsides. These soils formed in residuum from thinly bedded limestone, siltstone, and shale. Slopes range from 12 to 35 percent.

Typical pedon of Marsh channery silt loam, 12 to 35 percent slopes, severely eroded; from Linden about 6.0 miles south on Tennessee Highway 13 to Tennessee Highway 128, west about 5 miles to Cedar Creek Road, about 1 mile west to a field road, about 2,500 feet south into pasture; USGS Pope Quadrangle; lat. 35 degrees 31 minutes 44.89 seconds N. and long. 87 degrees 57 minutes 01.15 seconds W.

Ap—0 to 4 inches; brown (10YR 4/3) channery silt loam; moderate medium granular structure; friable; many very fine and fine roots; many fine tubular pores; approximately 15 percent angular channers of siltstone; strongly acid; abrupt smooth boundary.

Bt—4 to 24 inches; strong brown (7.5YR 4/6) channery silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; common fine tubular pores; few distinct patchy strong brown (7.5YR 5/6) clay films on faces of peds and in pores; approximately 15 percent angular channers of siltstone; moderately acid; clear smooth boundary.

C—24 to 27 inches; light olive brown (2.5Y 5/4) very channery loam; weak medium and thick platy structure; friable; few fine roots; common fine voids between rock fragments; approximately 50 percent angular channers of siltstone; moderately acid; clear wavy boundary.

Cr—27 inches; interbedded siltstone, sandy limestone, and shale.

Depth to soft bedrock ranges from 20 to 40 inches. The content of rock fragments, generally limestone or siltstone channers, ranges from 15 to 20 percent in the A horizon, from 15 to 35 percent in the B horizon, and from 15 to 50 percent in the C horizon. Reaction ranges from slightly acid to very strongly acid.

The Ap horizon has hue of 10YR or 7.5YR, value of 4, and chroma of 3 to 6. Texture is silty clay loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 or 6. Texture of the fine-earth fraction is silty clay loam. In some pedons the lower part of the B horizon is clay loam or silty clay.

The C horizon has colors similar to those of the Bt horizon, or it occurs in an evenly mottled pattern in shades of brown, olive, or gray. Texture of the fine-earth fraction is loam, silt loam, silty clay loam, clay loam, or silty clay.

The Cr horizon consists of interbedded sandy limestone, shale, and siltstone. In some pedons there are few thin strata of hard limestone.

Mimosa Series

The Mimosa series consists of deep, well drained soils on ridgetops and hillsides. These soils formed in fine textured residuum from limestone. Slopes range from 5 to 35 percent.

Typical pedon of Mimosa silt loam in an area of Talbott-Mimosa complex, 15 to 35 percent slopes, very rocky; from old Lego School, about 750 feet north on Old School Road, east about 1,000 feet along an old logging road, on right side of the logging road; USGS Clifton Quadrangle; lat. 35 degrees 28 minutes 44.7 seconds N. and long. 87 degrees 58 minutes 39 seconds W.

A—0 to 2 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; friable; many very fine and fine roots throughout; approximately 10 percent angular chert gravel; moderately acid; abrupt smooth boundary.

BE—2 to 6 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; many very fine to medium roots throughout; very strongly acid; clear smooth boundary.

Bt1—6 to 15 inches; strong brown (7.5YR 5/6) clay; many medium yellowish red (5YR 5/6) mottles; strong medium and coarse angular blocky structure; very firm; moderately sticky; moderately plastic; common very fine to medium roots between peds; few fossilized crinoid stems and coral branches as much as 1 inch long; common medium plate-like masses of iron and manganese accumulation between peds; few medium black (10YR 2/1) iron and manganese concretions throughout; approximately 5 percent angular chert gravel; strongly acid; clear wavy boundary.

Bt2—15 to 27 inches; yellowish brown (10YR 5/8) clay; many medium strong brown (7.5YR 5/6) mottles; strong coarse prismatic structure parting to strong coarse angular blocky; very firm; very sticky; very plastic; common very fine to medium roots between peds; common distinct pressure faces; common vertical cracks 5 millimeters and smaller extend throughout this horizon and define coarse prisms; few fossilized crinoid stems and coral branches as much as 1 inch long; 2 percent angular cherty gravel; strongly acid; gradual wavy boundary.

Bt3—27 to 45 inches; yellowish brown (10YR 5/8) clay; many medium strong brown (7.5YR 5/6), many medium yellowish red (5YR 5/6), and common medium pale brown (10YR 6/3) mottles between peds; strong coarse prismatic structure parting to strong coarse angular blocky; very firm; very sticky; very plastic; common very fine roots between peds; common distinct pressure faces; common vertical cracks 5 millimeters and smaller extend through this horizon and define coarse prisms; few fossilized crinoid stems and coral branches as much as 1 inch long; approximately 2 percent subangular limestone channers; very strongly acid; gradual wavy boundary.

Bt4—45 to 60 inches; brownish yellow (10YR 6/8) silty clay; moderate medium subangular blocky structure; firm; common very fine roots throughout; few distinct dark yellowish brown (10YR 4/4) clay films; few fine light gray (10YR 7/1) iron depletions; very strongly acid; gradual wavy boundary.

BC—60 to 79 inches; brownish yellow (10YR 6/8) silty clay; weak medium subangular blocky structure; very firm; common very fine roots throughout; few fine light gray (10YR 7/1) iron depletions; very strongly acid.

Depth to bedrock commonly ranges from 40 to 60 inches. In some pedons it is more than 60 inches. The content of rock fragments ranges from 0 to 25 percent in the A and BE horizons and from 0 to 5 percent in the Bt and BC horizons. Reaction typically ranges from moderately acid to very strongly acid. In the layer directly above bedrock, it ranges from moderately acid to mildly alkaline.

The A horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 3 to 6. In severely eroded pedons, it has value of 5 and chroma of 6. Texture of the fine-earth fraction is commonly silt loam but includes silty clay in severely eroded areas.

Some pedons have a transitional horizon between the Ap and Bt horizons.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 4 to 8. In most pedons the upper several inches of the horizon includes hue of 5YR. Texture generally is silty clay or clay, except the upper few inches is silty clay loam. The horizon has few or common mottles in shades of brown and red. In most pedons the lower part of the horizon has few iron depletions in shades of gray.

The BC or C horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8. It has mottles and redoximorphic features in shades of brown, red, and gray. Texture is silty clay or clay.

Minter Series

The Minter series consist of very deep, poorly drained soils on flood plains of the Tennessee River. These soils formed in fine textured alluvium. Slopes are 0 or 1 percent.

Typical pedon of Minter silty clay loam, frequently flooded; from Patriot Landing on the Tennessee River, 2,750 feet east-southeast; USGS Bath Springs Quadrangle; lat. 35 degrees 28 minutes 6.99 seconds N. long. 88 degrees 01 minute 0.05 second W.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silty clay loam; weak medium granular structure; friable; many very fine and fine roots; many very fine tubular pores; few fine and medium black (10YR 2/1) manganese concretions; many fine strong brown (7.5YR 4/6) oxidized rhizospheres; slightly acid; abrupt smooth boundary.

BA—5 to 11 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium subangular blocky structure; firm; many very fine and fine roots; many very fine tubular pores; common fine and medium black (10YR 2/1) manganese concretions; many fine and medium strong brown (7.5YR 4/6) soft masses of iron accumulation; neutral; clear smooth boundary.

Btg1—11 to 27 inches; grayish brown (2.5Y 5/2) silty clay; moderate fine subangular blocky structure; firm; common very fine and fine roots; few very fine tubular pores; many coarse distinct light olive brown (2.5Y 5/4) soft masses of iron accumulation; neutral; clear smooth boundary.

Btg2—27 to 40 inches; grayish brown (2.5Y 5/2) silty clay; strong medium prismatic structure parting to strong medium angular blocky; firm; few very fine and fine roots; few very fine tubular pores; common distinct gray (2.5Y 6/1) clay films on faces of peds and in pores; many coarse distinct light olive brown (2.5Y 5/4) and common medium prominent yellowish brown (10YR 5/6) soft masses of iron accumulation; common coarse dark gray (N 4/0) iron depletions; neutral; clear smooth boundary.

Btg3—40 to 79 inches; gray (2.5Y 6/1) clay; strong medium prismatic structure parting to strong medium angular blocky; very firm; few very fine and fine roots; common distinct gray (2.5Y 6/1) clay films on faces of peds and in pores; many medium distinct light olive brown (2.5Y 5/4) and common medium prominent yellowish brown (10YR 5/6) soft masses of iron accumulation; neutral.

Depth to bedrock is more than 5 feet. Reaction ranges from strongly acid to neutral. Redoximorphic features in shades of brown, black, or red range from few to many in each horizon.

The Ap or A horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2. Texture is silty clay loam.

The BA horizon in most pedons has hue of 2.5Y to 5Y, value of 4, and chroma of 2. Texture is silty clay loam.

The Btg horizon has hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2. Texture is silty clay or clay.

Minvale Series

The Minvale series consists of very deep, well drained soils on footslopes, alluvial fans, and escarpments of stream terraces. These soils formed in colluvium or old alluvium. Slopes range from 5 to 30 percent.

Typical pedon of Minvale gravelly silt loam in an area of Tarklin-Minvale complex, 5 to 12 percent slopes, eroded; from Linden about 6 miles north on Tennessee Highway 13 to King Branch Road, about 5 miles west to Strickland Road, about 1 mile, on north side of the road; USGS Chestnut Grove Quadrangle; lat. 35 degrees 41 minutes 5.88 seconds N. and long. 87 degrees 50 minutes 43.91 seconds W.

Ap—0 to 5 inches; brown (10YR 4/3) gravelly silt loam; weak fine granular structure; friable; many very fine and fine and common medium and few coarse roots; many very fine and fine, common medium, and few coarse tubular pores; approximately 25 percent angular chert gravel; very strongly acid; abrupt smooth boundary.

BE—5 to 8 inches; yellowish brown (10YR 5/4) gravelly silt loam; weak fine subangular blocky structure; friable; many very fine and fine, common medium, and few coarse roots; many very fine and fine, common medium, and few coarse tubular pores; approximately 22 percent angular chert gravel; strongly acid; clear smooth boundary.

Bt1—8 to 21 inches; dark yellowish brown (10YR 4/6) gravelly silt loam; weak medium subangular blocky structure; friable; common fine and medium roots; common fine and medium tubular pores; few distinct patchy strong brown (7.5YR 4/6) clay films on faces of peds and in pores; approximately 20 percent angular chert gravel; strongly acid; clear smooth boundary.

Bt2—21 to 37 inches; strong brown (7.5YR 5/6) gravelly silt loam; moderate medium subangular blocky structure; friable; common fine and medium roots; common fine and medium tubular pores; few distinct patchy brown (7.5YR 4/4) clay films on faces of peds and in pores; approximately 18 percent angular chert gravel; strongly acid; gradual smooth boundary.

Bt3—37 to 70 inches; strong brown (7.5YR 4/6) gravelly silt loam; moderate medium and coarse subangular blocky structure; friable; few fine and medium roots; few fine and medium tubular pores; few distinct patchy brown (7.5YR 4/4) clay films on faces of peds and in pores; common medium plate-like very dark gray (10YR 3/1) soft masses of manganese accumulation between peds and on rock fragments; approximately 25 percent angular chert gravel; strongly acid; gradual smooth boundary.

Bt4—70 to 79 inches; strong brown (7.5YR 4/6) gravelly silt loam; moderate medium and coarse subangular blocky structure; friable; few fine and medium roots; few fine and medium tubular pores; few distinct patchy brown (7.5YR 4/4) clay films on faces of peds and in pores; common medium plate-like very dark gray (10YR 3/1) soft masses of manganese accumulation between peds and on rock fragments; common medium pale brown (10YR 6/3) iron depletions between peds; approximately 35 percent angular chert gravel; strongly acid.

Depth to bedrock is more than 5 feet. The content of chert gravel and cobbles ranges from about 15 to 35 percent in each horizon. Reaction is strongly acid, except where the surface layer has been limed.

The Ap horizon has hue of 10YR, value of 4, and chroma of 3 or 4. In severely eroded pedons it has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 6. Texture of the fine-earth fraction is silt loam.

Many pedons have a thin transitional horizon between the Ap and Bt horizons. This horizon has colors and textures similar to those horizons.

The Bt horizon has hue of 7.5YR to 2.5YR, value of 4 or 5, and chroma of 6 or 8. In many pedons the upper part of the horizon includes hue of 10YR. Texture of the fine-earth fraction is commonly silt loam or silty clay loam.

Paden Series

The Paden series consists of very deep, moderately well drained soils on stream terraces. These soils have a fragipan in the subsoil. The soils formed in a silty mantle and in the underlying old alluvium. Slopes range from 0 to 12 percent.

Typical pedon of Paden silt loam, 5 to 12 percent slopes, eroded; Humphreys County, Tennessee; 1.3 miles north of the Perry-Humphreys County line on Tennessee Highway 13, about 300 feet west into a hay field; USGS Lobelville Quadrangle; lat. 35 degrees 50 minutes 57.5 seconds N. long. 87 degrees 48 minutes 37.3 seconds W.

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; friable; many very fine and fine roots; many very fine and fine tubular pores; approximately 2 percent rounded gravel; moderately acid; abrupt smooth boundary.

Bt1—6 to 16 inches; dark yellowish brown (10YR 4/6) silt loam; weak medium subangular blocky structure; friable; common very fine and fine roots; common very fine and fine tubular pores; approximately 2 percent rounded gravel; strongly acid; clear smooth boundary.

Bt2—16 to 21 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; common very fine and fine roots; common very fine and fine tubular pores; few distinct patchy strong brown (7.5YR 4/6) clay films on faces of peds; common fine and medium rounded very dark gray (10YR 3/1) iron and manganese concretions; approximately 2 percent rounded gravel; strongly acid; abrupt smooth boundary.

B/E—21 to 30 inches; about 80 percent yellowish brown (10YR 5/6) silt loam (Btx part) and 20 percent light brownish gray (10YR 6/2) silt loam as vertical seams that are about 3 inches wide and taper as depth increases (E part); weak very coarse prismatic structure parting to moderate medium platy; firm in Btx part and friable in E part; few very fine roots in seams in Btx part and common very fine roots in E part; common very fine and fine discontinuous tubular pores; few distinct patchy strong brown (7.5YR 4/6) clay films on prism faces; few medium light brownish gray (10YR 6/2) iron depletions on prism faces; approximately 2 percent rounded gravel; brittle in 60 percent of the mass; very strongly acid; clear smooth boundary.

2Btx—30 to 36 inches; 50 percent yellowish brown (10YR 5/8) and 45 percent dark red (2.5YR 3/6) gravelly silty clay loam; many medium prominent brown (7.5YR 5/4) mottles; weak extremely coarse prismatic structure parting to moderate medium platy; very firm; common very fine and fine discontinuous tubular pores; few distinct patchy strong brown (7.5YR 4/6) clay films on prism faces; common medium light brownish gray (10YR 6/2) iron depletions in pores and as seams between prisms; approximately 15 percent rounded gravel; brittle in about 75 percent of the mass; very strongly acid; clear smooth boundary.

2Bt—36 to 79 inches; dark red (2.5YR 3/6) gravelly clay loam; moderate medium subangular blocky structure; firm; few very fine and fine tubular pores; few distinct patchy dark brown (7.5YR 3/2) clay films on faces of peds; approximately 25 percent rounded gravel; strongly acid.

Depth to bedrock is more than 5 feet. Depth to the fragipan ranges from 18 to 30 inches. Reaction is strongly acid or very strongly acid. The content of coarse fragments, mostly rounded chert gravel, ranges from 0 to 5 percent in the upper part of the solum, from 0 to 30 percent in the 2Bt horizon, and from 35 to 90 percent in the 2C horizon.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4. Texture is silt loam.

The Bw or Bt horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6. Texture is silt loam or silty clay loam.

The Btx part of the B/E horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 6. It has redoximorphic features or mottles in shades of brown, yellow, red, and gray. Texture is silt loam or silty clay loam.

The E part of the B/E horizon has hue of 10YR, value of 6 or 7, and chroma of 1 or 2. Texture is silt loam.

The 2Btx horizon has hue of 10YR to 2.5YR, value of 5 or 6, and chroma of 4 to 8. It has redoximorphic features or mottles in shades of brown, yellow, red, and gray. Texture of the fine-earth fraction is silt loam or silty clay loam.

The 2Bt horizon, if it occurs, has hue of 7.5YR to 2.5YR, value of 3 to 5, and chroma of 6 to 8. It has mottles in shades of brown, yellow, red, and gray. In some pedons the horizon occurs in an evenly mottled pattern without a dominant color. Texture of the fine-earth fraction is clay loam or silty clay.

The 2C horizon, if it occurs, has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 3 to 6. It has none to common mottles in shades of brown. Texture of the fine-earth fraction is sandy loam, loam, or silt loam.

Pickwick Series

The Pickwick series consists of very deep, well drained soils on high stream terraces along the Buffalo River. These soils formed in old alluvium. Slopes range from 2 to 12 percent.

Typical pedon of Pickwick silt loam, 5 to 12 percent slopes, eroded; Lewis County, Tennessee; from Hohenwald, 15.0 miles southwest on Tennessee Highway 99, about 50 feet south in a field; USGS Riverside Quadrangle; lat. 35 degrees 50 minutes 57.5 seconds N. and long. 87 degrees 48 minutes 37.3 seconds W.

Ap—0 to 7 inches; yellowish brown (10YR 5/4) silt loam; moderate medium granular structure; very friable; many fine and medium roots; moderately acid; clear smooth boundary.

Bt1—7 to 20 inches; yellowish red (5YR 4/6) silty clay loam; weak medium subangular blocky structure; friable; common fine and medium roots; moderately acid; clear smooth boundary.

Bt2—20 to 42 inches; red (2.5YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm; common fine and medium roots; common distinct reddish brown (2.5YR 4/4) clay films on faces of peds; few fine black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron stains and nodules throughout; approximately 2 percent gravel; strongly acid; gradual smooth boundary.

Bt3—42 to 65 inches; yellowish red (5YR 5/8) silty clay; moderate medium subangular blocky structure; firm; few fine roots; few distinct yellowish red (5YR 5/6) clay films on faces of peds; few fine black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron stains and nodules throughtout; approximately 10 percent gravel; strongly acid.

Depth to bedrock is more than 60 inches. The content of rounded gravel ranges from 0 to 5 percent in the A, Bt, and Bt2 horizons and from 5 to 25 percent in the Bt3 horizon. Some pedons have very gravelly layers below a depth of 60 inches. Reaction is strongly acid or very strongly acid, except where lime has been added.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 4 or 6. Texture is silt loam. In severely eroded pedons, the horizon has hue of 7.5YR, value of 4, and chroma of 4 or 6 and is silty clay loam.

The Bt horizon has hue of 7.5YR to 2.5YR, value of 4 or 5, and chroma of 4 to 8. It has none to common mottles in shades of brown, yellow, and red. Texture is silty clay loam, clay loam, or clay.

Riverby Series

The Riverby series consists of very deep, excessively drained soils on flood plains. These soils formed in alluvium containing large volumes of sand and gravel that washed from the cherty uplands of the Highland Rim. Slopes range from 0 to 3 percent.

Typical pedon of Riverby gravelly sandy loam, frequently flooded; from Linden, about 7 miles north on Tennessee Highway 13 to Tennessee Highway 50, about 6 miles east to Depriest-Lagoon Road, about 3 miles northwest to a stream cut; USGS Pleasantville Quadrangle; lat. 35 degrees 44 minutes 26.84 seconds N. and long. 87 degrees 44 minutes 27.60 seconds W.

A1—0 to 6 inches; dark brown (10YR 3/3) gravelly sandy loam; moderate medium granular structure; very friable; many very fine and fine, common medium, and common coarse roots throughout; approximately 30 percent rounded and subrounded gravel; neutral; clear smooth boundary.

A2—6 to 10 inches; brown (10YR 4/3) gravelly sandy loam; moderate medium granular structure; friable; common very fine and fine, common medium, and common coarse roots throughout; approximately 35 percent rounded and subrounded gravel; neutral; abrupt smooth boundary.

C1—10 to 20 inches; 70 percent yellowish brown (10YR 5/4) and 30 percent dark yellowish brown (10YR 4/4) extremely gravelly coarse sandy loam; single grain; loose; common very fine and fine and common medium and coarse roots throughout; few brown (7.5YR 4/4) iron oxide coats on sand and gravel; approximately 75 percent rounded and subrounded gravel; neutral; clear wavy boundary.

C2—20 to 31 inches; 60 percent dark yellowish brown (10YR 4/4) and 40 percent pale brown (10YR 6/3) extremely gravelly coarse sandy loam; single grain; loose; common very fine and fine roots throughout; few strong brown (7.5YR 5/6) iron oxide coats on sand and gravel; approximately 80 percent rounded and subrounded gravel; neutral; clear wavy boundary.

C3—31 to 39 inches; 60 percent dark yellowish brown (10YR 4/4) and 40 percent pale brown (10YR 6/3) extremely gravelly loamy coarse sand; single grain; loose; common very fine and fine roots throughout; few strong brown (7.5YR 5/6) iron oxide coats on sand and gravel; approximately 80 percent rouinded and subrounded gravel; neutral; clear wavy boundary.

C4—39 to 48 inches; yellowish brown (10YR 5/4) extremely gravelly coarse sandy loam; single grain; loose; common very fine and fine roots throughout; few strong brown (7.5YR 5/6) iron oxide coats on sand and gravel; common coarse light brownish gray (10YR 6/2) iron depletions; approximately 80 percent rounded and subrounded gravel; neutral; clear wavy boundary.

C5—48 to 79 inches; dark yellowish brown (10YR 4/6) extremely gravelly loamy coarse sand; single grain; loose; approximately 90 percent rounded gravel and 5 percent cobbles; neutral.

Depth to bedrock is more than 5 feet. The content of gravel ranges from 10 to 60 percent in the A horizon and from 35 to 95 percent, by volume, in the C horizon. The content of cobbles commonly increases as depth increases and ranges from 5 to 50 percent in the C horizon. In some pedons, there are thin strata of sandy material without rock fragments. Reaction ranges from moderately acid to neutral in all horizons.

The A horizon or Ap horizon, if it occurs, has hue of 10YR, value of 3 to 5, and chroma of 2 to 4. Where value and chroma are 3 or less, the horizon is 6 inches or less thick. Texture of the fine-earth fraction is loam or sandy loam.

The C horizon has hue of 10YR, value of 4 or 5, and chroma of 3 to 6. In some pedons there are thin strata with value and chroma of 3. Texture of the fine-earth fraction is coarse sandy loam with strata of loamy sand or sand.

Staser Series

The Staser series consists of very deep, well drained soils on the flood plain of the Tennessee River. These soils formed in medium textured and moderately fine textured alluvium. Slopes range from 0 to 5 percent.

Typical pedon of Staser fine sandy loam, occasionally flooded; from Jeter Landing on the Tennessee River, about 400 feet west in a crop field; USGS Bath Springs Quadrangle; lat. 35 degrees 25 minutes 32.03 seconds N. and long. 88 degrees 01 minute 2.32 seconds W.

Ap—0 to 10 inches; brown (10YR 4/3) fine sandy loam; weak medium granular structure; very friable; many fine and medium roots; few fine mica flakes throughout; moderately acid; abrupt smooth boundary.

AB—10 to 18 inches; dark brown (10YR 3/3) loam; moderate fine subangular blocky structure; friable; many fine and medium roots; many fine tubular pores; few fine mica flakes throughout; moderately acid; clear smooth boundary.

Bt1—18 to 35 inches; dark brown (10YR 3/3) clay loam; moderate fine angular blocky structure; friable; common fine and medium roots; many fine tubular pores; few faint patchy dark brown (10YR

3/3) clay films on faces of peds; few fine mica flakes throughout; moderately acid; gradual smooth boundary.

Bt2—35 to 46 inches; dark yellowish brown (10YR 3/4) clay loam; moderate coarse angular blocky structure; friable; common fine roots; many fine tubular pores; common distinct dark brown (10YR 3/3) clay films on faces of peds and in pores; few fine mica flakes throughout; moderately acid; gradual smooth boundary.

2Bt3—46 to 54 inches; dark yellowish brown (10YR 3/4) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; firm; common fine roots; many fine tubular pores; common distinct dark brown (10YR 3/3) clay films on faces of peds and in pores; few fine mica flakes throughout; moderately acid; gradual smooth boundary.

2Bt4—54 to 79 inches; dark yellowish brown (10YR 4/4) silty clay; strong medium prismatic structure parting to strong medium angular blocky; firm; common fine roots; common fine tubular pores; many distinct brown (10YR 4/3) clay films on faces of peds and in pores; few fine mica flakes throughout; moderately acid.

Depth to bedrock is more than 5 feet. Reaction ranges from moderately acid to neutral in each horizon. The mollic epipedon ranges from 24 to 45 inches in thickness. Flakes of mica are none or few in each horizon.

The Ap horizon has hue of 10YR and value and chroma of 3 or 4. The A horizon, if it occurs, has hue of 10YR, value of 3, and chroma of 2 or 3. Texture is loam, fine sandy loam, or silt loam.

Many pedons have an AB horizon with colors and textures similiar to those of the A horizon.

The Bt horizon has hue of 10YR and value and chroma of 3 or 4. Texture is clay loam, loam, or silt loam.

The 2Bt horizon, if it occurs, has hue of 10YR, value of 3 or 4, and chroma of 3 to 6. Texture is silty clay loam or silty clay.

Stiversville Series

The Stiversville series consists of deep, well drained soils on convex ridgetops. These soils formed in residuum from interbedded limestone, siltstone, and shale. Slopes range from 5 to 12 percent.

Typical pedon of Stiversville silty clay loam, 5 to 12 percent slopes, severely eroded; from Linden about 6.0 miles south on Tennessee Highway 13 to Tennessee Highway 128, about 5.0 miles west to Cedar Creek Road, about 1 mile west to a field road, about 3,000 feet south in pasture; USGS Pope Quadrangle; lat. 35 degrees 31 minutes 38.78 seconds N. and long. 87 degrees 57 minutes 0.5 second W.

Ap—0 to 1 inch; brown (10YR 4/3) silty clay loam; moderate medium granular structure; friable; many very fine and fine roots; many very fine and fine tubular pores; common fine rounded very dark gray (10YR 3/1) manganese concretions throughout; approximately 5 percent angular channers of siltstone; moderately acid; abrupt smooth boundary.

Bt1—1 to 5 inches; brown (7.5YR 4/4) silty clay loam; weak medium subangular blocky structure; friable; many very fine and fine roots; many fine tubular pores; few faint patchy strong brown (7.5YR 5/6) clay films on faces of peds and in pores; common fine very dark gray (10YR 3/1) manganese concretions throughout; approximately 5 percent angular channers of siltstone; strongly acid; clear smooth boundary.

Bt2—5 to 18 inches; strong brown (7.5YR 4/6) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; common fine tubular pores; few distinct patchy strong brown (7.5YR 5/6) clay films on faces of peds and in pores; common medium plate-like very dark gray (10YR 3/1) soft masses of manganese accumulation between peds; approximately 5 percent angular channers of siltstone; strongly acid; gradual smooth boundary.

Bt3—18 to 30 inches; strong brown (7.5YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; common fine tubular pores; few distinct patchy strong brown (7.5YR 5/6) clay films on faces of peds and in pores; common medium plate-like very dark gray (10YR 3/1) soft masses of manganese accumulation between peds; approximately 10 percent angular channers of siltstone; strongly acid; gradual smooth boundary.

Bt4—30 to 40 inches; strong brown (7.5YR 5/6) channery silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; common fine tubular pores; few distinct patchy strong brown (7.5YR 5/6) clay films on faces of peds and in pores; common medium plate-like very dark gray (10YR 3/1) soft masses of manganese accumulation between peds; approximately 20 percent angular channers of siltstone; strongly acid; clear smooth boundary.

C—40 to 45 inches; brown (7.5YR 4/4) very channery clay loam; common medium strong brown (7.5YR

5/6) mottles; weak medium and thick platy structure; friable; few fine roots; approximately 50 percent angular channers of siltstone; strongly acid; clear wavy boundary.

Cr—45 inches; thinly bedded siltstone.

Depth to soft bedrock ranges from 40 to 60 inches. Reaction is moderately acid or strongly acid. Phosphate content is medium or high. The content of rock fragments ranges from 0 to about 15 percent in the A horizon and from 5 to 25 percent in the Bt horizon. Some pedons have a thin CB or C horizon. In this horizon the content of rock fragments ranges from 25 to 50 percent.

The Ap horizon has hue of 10YR or 7.5YR, value of 4, and chroma of 3 or 4. Texture is silty clay loam.

The Bt horizon has hue of 7.5YR, value of 4 or 5, and chroma of 4 to 6. Texture is silty clay loam or clay loam. Some pedons have subhorizons with clay in the lower part.

The C horizon has hue of 7.5YR, value of 4 or 5, and chroma of 3 to 6. Texture of the fine-earth fraction is silt loam, silty clay loam, or clay loam.

The Cr horizon is dominantly siltstone interbedded with shale and limestone. Most of the rock is relatively soft, but included are some thin strata that are hard. Some of the strata were calcareous prior to weathering, and some strata contain phosphate nodules.

Sugargrove Series

The Sugargrove series consists of moderately deep and deep, well drained soils on ridgetops and hillsides. These soils formed in residuum from siltstone and shale. Slopes range from 5 to 20 percent.

Typical pedon of Sugargrove gravelly silt loam, 5 to 12 percent slopes (fig. 13); from Linden, Highway 100 east to Brush Creek bridge, northwest 0.3 mile on Brush Creek Road, 500 feet north to Warren Cemetery, 100 feet northeast along logging road; USGS Chestnut Grove Quadrangle; lat. 35 degrees 39 minutes 30.8 seconds N. and long. 87 degrees 46 minutes 17.9 seconds W.

A—0 to 2 inches; yellowish brown (10YR 5/4) gravelly silt loam; moderate fine granular structure; friable; many very fine and fine and common medium and coarse roots; many very fine to coarse tubular pores; approximately 15 percent angular chert gravel; very strongly acid; abrupt smooth boundary.

E—2 to 7 inches; light yellowish brown (10YR 6/4) gravelly silt loam; moderate fine granular structure; friable; many very fine and common medium and coarse roots; many very fine to coarse tubular pores; approximately 15 percent angular chert gravel; very strongly acid; abrupt smooth boundary.

BE—7 to 12 inches; strong brown (7.5YR 4/6) gravelly silt loam; weak medium and coarse subangular blocky structure; friable; common very fine and fine roots; common very fine to coarse tubular pores; approximately 15 percent angular chert gravel; very strongly acid; clear smooth boundary.

Bt—12 to 27 inches; strong brown (7.5YR 4/6) channery silty clay loam; moderate medium subangular blocky structure; friable; common very fine and fine roots; common very fine to coarse tubular pores; few distinct patchy yellowish red (5YR 5/6) clay films on faces of peds and in pores; few distinct continuous brown (7.5YR 5/4) silt coatings on faces of peds and in pores; approximately 15 percent angular channers of siltstone; very strongly acid; clear wavy boundary.

BC—27 to 39 inches; strong brown (7.5YR 4/6) channery silt loam; moderate medium platy and weak medium subangular blocky structure; friable; common very fine to coarse roots; common very fine and fine tubular pores; few distinct patchy yellowish red (5YR 5/6) clay films on faces of peds and rock fragments; approximately 30 percent angular channers of siltstone; very strongly acid; clear wavy boundary.

C1—39 to 47 inches; strong brown (7.5YR 4/6) extremely channery silt loam; common coarse distinct reddish yellow (7.5YR 6/6) mottles; moderate thick and very thick platy structure; friable; common very fine to medium and few coarse roots; common very fine and fine tubular pores; few distinct patchy yellowish red (5YR 5/6) clay films on rock fragments; approximately 75 percent angular channers of siltstone; very strongly acid; clear wavy boundary.

C2—47 to 52 inches; brownish yellow (10YR 6/6) extremely channery silt loam; moderate very thick platy structure; friable; few very fine roots; few very fine and fine tubular pores; few distinct patchy yellowish red (5YR 5/6) clay films on rock fragments; approximately 95 percent angular channers of siltstone; very strongly acid; clear wavy boundary.

Cr—52 to 79 inches; very pale brown (10YR 7/4) and light brown (7.5YR 6/3) siltstone.

Depth to soft bedrock ranges from 30 to 60 inches. Depth to hard bedrock is 40 inches or more. Most pedons have a Cr horizon at variable depths above hard bedrock. Reaction is strongly acid or very strongly acid. The content of rock fragments ranges from 10 to 35 percent in the A and E horizons and the upper part of the Bt horizon and from 15 to 80 percent in the lower part of the Bt horizon and in the C horizon. Most pedons have transitional horizons with colors and textures similar to those of adjacent horizons.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. Texture of the fine-earth fraction is silt loam or loam.

The E horizon, if it occurs, has hue of 10YR, value of 5 or 6, and chroma of 3 or 4. Texture of the fine-earth fraction is silt loam or loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 4 or 6. In some pedons it has mottles in shades of brown and red. Texture of the fine-earth fraction is silt loam or silty clay loam.

The C horizon has hue of 10YR to 5YR, value of 4 to 6, and chroma of 3 to 8. It has few to many mottles in shades of red, brown, yellow, and gray. In some pedons the horizon occurs in an evenly mottled pattern and does not have a dominant matrix color. Texture of the fine-earth fraction is silt loam, silty clay loam, or, rarely, silty clay.

The Cr horizon is interbedded, highly weathered siltstone and cherty limestone.

Sullivan Series

The Sullivan series consists of very deep, well drained soils on flood plains. These soils formed in loamy alluvium. Slopes range from 0 to 2 percent.

Typical pedon of Sullivan silt loam, occasionally flooded; Hickman County, Tennessee; from Centerville, about 14 miles north on Tennessee Highway 48 to Plunders Creek Road, about 4 miles north, about 1,500 feet northeast onto the Piney River flood plain; USGS Texas Hollow Quadrangle; lat. 35 degrees 58 minutes 17 seconds N. and long. 87 degrees 26 minutes 48 seconds W.

Ap—0 to 9 inches; dark brown (10YR 4/3) silt loam; weak medium granular structure; very friable; many fine and common medium roots; many fine tubular pores; moderately acid; abrupt smooth boundary.

Bw—9 to 24 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; many fine roots; many fine tubular pores; moderately acid; clear smooth boundary.

C—24 to 36 inches; dark yellowish brown (10YR 4/6) loam; massive; friable; many fine roots; common fine tubular pores; common medium distinct light yellowish brown (10YR 6/4) strata of silt loam; few medium dark brown (7.5YR 4/4) silt coatings on faces of peds; approximately 5 percent rounded chert gravel; moderately acid; abrupt smooth boundary.

Ab—36 to 50 inches; dark brown (10YR 4/3) silt loam; weak medium granular structure; friable; common fine roots; few fine tubular pores; approximately 5 percent rounded chert gravel; moderately acid; clear smooth boundary.

Bwb—50 to 56 inches; dark brown (10YR 4/3) loam; weak fine subangular blocky structure; friable; common fine roots; few fine tubular pores; approximately 5 percent rounded chert gravel; moderately acid; clear smooth boundary.

Cb—56 to 60 inches; dark yellowish brown (10YR 4/4) gravelly sandy loam; single grain; loose; few fine roots; approximately 25 percent rounded chert gravel; moderately acid.

Depth to bedrock is more than 5 feet. The content of gravel ranges from 0 to 15 percent in the upper 40 inches of the profile and from 5 to 50 percent below a depth of 40 inches. Reaction ranges from moderately acid to neutral.

The Ap or A horizon has hue of 10YR, value of 4, and chroma of 3 or 4. Texture is silt loam.

The Bw horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. Texture is silt loam or loam.

The C horizon has hue of 10YR, value of 4, and chroma of 3 to 6. Texture of the fine-earth fraction is sandy loam, loam, or silt loam. In some pedons there are alternating strata of these textures.

The Ab horizon, if it occurs, has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. Texture is silt loam or loam.

The Bwb horizon, if it occurs, has colors and textures similar to those of the Bw horizon.

The Cb horizon, if it occurs, has colors and textures similar to those of the C horizon.

Sulphura Series

The Sulphura series consists of moderately deep, somewhat excessively drained soils on steep hillsides of highly dissected uplands. These soils formed in a thin layer of gravelly colluvium over residuum from siltstone and shale. Slopes range from 20 to 75 percent.

Typical pedon of Sulphura very gravelly silt loam in an area of Biffle, Hawthorne, and Sulphura soils, very steep, rocky; from Linden, about 7.0 miles north on Tennessee Highway 13 to Tennessee Highway 50, about 6 miles east to Depriest-Lagoon Road, about 3.5 miles northwest, 20 feet north of the road; USGS Pleasantville Quadrangle; lat. 35 degrees 44 minutes

34.62 seconds N. and long. 87 degrees 44 minutes 44.27 seconds W.

A—0 to 5 inches; yellowish brown (10YR 5/4) very gravelly silt loam; moderate fine granular structure; friable; many very fine and fine and many medium and coarse roots; approximately 50 percent chert gravel; strongly acid; clear wavy boundary.

Bw1—5 to 11 inches; light yellowish brown (10YR 6/4) very gravelly silt loam; weak fine subangular blocky structure; friable; many very fine and fine and many medium and coarse roots; many fine tubular pores; approximately 50 percent chert gravel; strongly acid; abrupt wavy boundary.

Bw2—11 to 25 inches; yellowish brown (10YR 5/6) very gravelly silt loam; moderate medium subangular blocky structure; friable; common fine and common coarse roots; many very fine and fine tubular pores; approximately 35 percent chert gravel and 15 percent siltstone flagstones; moderately acid; abrupt wavy boundary.

R—25 to 79 inches; hard gray siltstone.

Depth to hard bedrock ranges from 20 to 40 inches. Reaction ranges from strongly acid to moderately acid in the upper part of the profile and from strongly acid to slightly acid in the lower part. The content of rock fragments ranges from 10 to 60 percent in the A horizon and from 35 to 60 percent in the Bw horizon.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 2 to 4. Texture of the fine-earth fraction is silt loam.

The Bw horizon has hue of 10YR or 7.5YR and value and chroma of 4 or 6. Texture of the fine-earth fraction is silt loam or silty clay loam.

Some pedons have a thin Cr horizon that is weathered siltstone.

The R layer is hard gray horizontally bedded siltstone bedrock that is interlayered with shale and chert.

Talbott Series

The Talbott series consists of moderately deep, well drained soils on ridgetops and hillsides. These soils formed in fine textured residuum from limestone. Slopes range from 5 to 35 percent.

Typical pedon of Talbott silt loam in an area of Talbott-Mimosa complex, 5 to 15 percent slopes, rocky; from Linden, about 4 miles south on Tennessee Highway 13 to Tennessee Highway 128, about 10 miles southwest, about 200 feet east on the entrance lane to RJE Machinery, about 20 feet south of the lane; USGS Clifton Quadrangle; lat. 35 degrees 28 minutes 0.7 second N. and long. 87 degrees 57 minutes 25.1 seconds W.

Ap—0 to 3 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; friable; moderately sticky; moderately plastic; many very fine and fine and common coarse roots throughout; approximately 10 percent angular chert gravel; moderately acid; abrupt smooth boundary.

Bt1—3 to 6 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine angular blocky structure; very firm; moderately sticky; moderately plastic; common very fine and fine and common coarse roots between peds; common very fine tubular pores; strongly acid; clear smooth boundary.

Bt2—6 to 14 inches; strong brown (7.5YR 5/6) clay; strong fine angular blocky structure; very firm; very sticky; very plastic; common very fine and fine and common coarse roots between peds; common fine tubular pores; approximately 10 percent subangular limestone flagstones; strongly acid; gradual wavy boundary.

Bt3—14 to 30 inches; 60 percent strong brown (7.5YR 5/6) and 40 percent yellowish red (5YR 5/8) clay; strong coarse prismatic structure parting to strong coarse angular blocky; very firm; very sticky; very plastic; common very fine, fine, and common coarse roots between peds; common fine tubular pores; few faint patchy strong brown (7.5YR 4/6) clay films on faces of peds; common medium plate-like masses of manganese accumulation between peds and few fine rounded iron and manganese concretions throughout; strongly acid; abrupt wavy boundary.

BC—30 to 37 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; very firm; very sticky; very plastic; common fine plate-like masses of manganese accumulation between peds; hard gray limestone bedrock intrudes into 50 percent of horizon; neutral; abrupt irregular boundary.

R—37 to 79 inches; hard gray limestone bedrock.

Depth to bedrock ranges from 20 to 40 inches. The content of rock fragments is commonly less than 5 percent but ranges from 0 to 10 percent in all horizons. In some pedons, the A and E horizons are 15 to 25 percent gravel. Reaction generally ranges from slightly acid to strongly acid. In the horizons above bedrock, it ranges to mildly alkaline.

The Ap or A horizon has hue of 10YR or 7.5YR, value of 3 to 5, and chroma of 2 to 4. In severely eroded pedons, it has chroma of 6. Texture of the fine-earth fraction is silt loam.

The E horizon, if it occurs, has hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 2 to 4. Texture of the fine-earth fraction is silt loam.

The Bt horizon has hue of 7.5YR to 2.5YR, value of 4 or 5, and chroma of 4 to 8. In some pedons the lower part of the horizon has hue of 10YR, value of 5, and chroma of 4 to 8. The horizon has none to common mottles in shades of brown, yellow, and red. Texture is generally silty clay or clay, except the upper few inches is silty clay loam in most pedons.

The BC horizon, if it occurs, has hue of 2.5Y to 5YR, value of 4 to 6, and chroma of 4 to 8. It has none to many mottles in shades of brown, yellow, red, and gray. In some pedons it occurs in an evenly mottled pattern without a dominant matrix color. Texture is silty clay or clay.

Tarklin Series

The Tarklin series consists of very deep, moderately well drained soils on footslopes and stream terraces. These soils have a dense fragipan in the subsoil. The soils formed in a mixture of colluvium and old alluvium. Slopes range from 5 to 30 percent.

Typical pedon of Tarklin silt loam in an area of Tarklin-Minvale complex, 5 to 12 percent slopes, eroded; from Linden, about 6.0 miles east on Tennessee Highway 100 to Brush Creek Road, about 7.0 miles southeast, in road cut on northeast side of road; USGS Chestnut Grove Quadrangle; lat. 35 degrees 35 minutes 36.92 seconds N. and long. 87 degrees 39 minutes 22.95 seconds W.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; many fine, common medium, and few coarse roots; common fine and medium tubular pores; approximately 10 percent angular fragements of chert; very strongly acid; abrupt smooth boundary.

Bt1—7 to 15 inches; strong brown (7.5YR 4/6) silty clay loam; moderate fine subangular blocky structure; friable; many very fine and fine and common medium and coarse roots; common fine and medium tubular pores; few distinct patchy strong brown (7.5YR 5/6) clay films on faces of peds and in pores; approximately 5 percent angular fragments of chert; strongly acid; clear smooth boundary.

Bt2—15 to 25 inches; strong brown (7.5YR 4/6) gravelly silty clay loam; common medium yellowish brown (10YR 5/4) and many coarse dark yellowish brown (10YR 4/6) mottles; moderate medium subangular blocky structure; friable; many very fine and fine and common medium and coarse roots; common fine, medium, and coarse tubular pores; few distinct patchy strong brown (7.5YR 5/6) clay films on faces of peds and in pores; common light brownish gray (10YR 6/2) iron depletions; approximately 15 percent angular fragments of chert; strongly acid; gradual smooth boundary.

Btx—25 to 70 inches; 55 percent strong brown (7.5YR 4/6) and 45 percent yellowish brown (10YR 5/6) very gravelly silt loam; moderate extremely coarse prismatic structure; extremely firm; few fine roots in horizontal and vertical cracks between prisms; common fine and medium discontinuous tubular pores; few distinct patchy strong brown (7.5YR 4/6) clay films on prism faces and in pores and few distinct continuous gray (10YR 5/1) clay films in root channels as flows between prisms; common medium and coarse light brownish gray (10YR 6/2) iron depletions throughout; approximately 45 percent angular fragments of chert; brittle in 90 to 100 percent of the mass; strongly acid; gradual smooth boundary.

Cr—70 to 79 inches; highly weathered dense beds of tripolitic chert with reddish and brownish stains.

Depth to bedrock is more than 5 feet. Reaction is very strongly acid or strongly acid, except where the surface layer has been limed. The content of chert gravel ranges from about 10 to 25 percent in the Ap horizon and from 5 to 25 percent in the Bt horizon. In the Btx horizon, the content of rock fragments ranges from 15 to 60 percent.

The Ap horizon has hue of 10YR, value of 4, and chroma of 3 or 4. Texture of the fine-earth fraction is silt loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 or 6. Texture of the fine-earth fraction is silt loam or silty clay loam.

The Btx horizon commonly does not have a dominant matrix color but occurs in an evenly mottled pattern with hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 2 to 8. In some pedons the horizon has dominant hue of 10YR, value of 6, and chroma of 1 or 2. Texture of the fine-earth fraction is silt loam, silty clay loam, or, rarely, loam.

Many pedons have a Cr horizon below a depth of 60 inches. This horizon is weathered chert or siltstone.

The Tarklin soils in Perry County are considered taxadjuncts to the series because of termperature regime. The Tarklin series is in the mesic temperature regime and has no thermic counterpart. Its type location has a mean annual soil temperature of 58.5 degrees F averaged over 25 years. All other series correlated in the county are considered thermic. Use of the Tarklin series was needed to affect a quality join between Perry County and previously correlated counties. The Tarklin soils are classified as fine-loamy, siliceous, semiactive, mesic Typic Fragiudults. Although the Tarklin soils are taxadjuncts, their use and management is not affected.

Trace Series

The Trace series consists of very deep, well drained soils on low stream terraces. These soils formed in about 2.5 to 5.0 feet of silty alluvium underlain by extremely gravelly alluvium. Slopes range from 0 to 5 percent.

Typical pedon of Trace silt loam, 0 to 2 percent slopes; Lewis County, Tennessee; from Hohenwald, 12.25 miles east on U.S. Highway 412, about 4.5 miles south on Big Swan Creek Road, 50 feet west in a field; Mount Joy Quadrangle; lat. 35 degrees 31 minutes 09 seconds N. and long. 87 degrees 20 minutes 57 seconds W.

Ap—0 to 3 inches; brown (10YR 4/3) silt loam; weak fine and medium granular structure; very friable; many very fine and fine roots; approximately 1 percent rounded gravel; moderately acid; abrupt smooth boundary.

BA—3 to 9 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots; common fine irregular pores; common medium faint brown (10YR 4/3) soil material filling old root channels; approximately 2 percent rounded gravel; moderately acid; clear smooth boundary.

Bt1—9 to 24 inches; brown (7.5YR 4/4) silt loam; moderate medium subangular blocky structure; friable; common fine roots; common fine pores; few faint clay films; 2 percent rounded gravel; moderately acid; clear wavy boundary.

Bt2—24 to 35 inches; brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; few fine pores; few fine faint strong brown (7.5YR 4/6) clay films on faces of peds; approximately 2 percent rounded gravel; moderately acid; clear wavy boundary.

2BC—35 to 38 inches; dark yellowish brown (10YR 4/4) very gravelly silt loam; weak medium subangular blocky structure; friable; common fine roots; approximately 45 percent rounded gravel; strongly acid; clear wavy boundary.

2C—38 to 80 inches; yellowish brown (10YR 5/4) extremely gravelly loam; single grain; loose; few fine roots; approximately 65 percent rounded gravel; strongly acid.

Depth to bedrock is more than 60 inches. Depth to gravelly layers ranges from 30 to 60 inches. The content of rounded gravel ranges from 0 to 10 percent in the Ap and Bt horizons, from 15 to 60 percent in the 2BC horizon, and from 60 to 90 percent in the 2C horizon. Reaction ranges from moderately acid to strongly acid, except where lime has been added.

The Ap horizon has hue of 10YR or 7.5YR and value and chroma of 3 or 4. Texture is silt loam.

The BA horizon has hue of 10YR or 7.5YR, value of 4, and chroma of 3 to 6. Texture is silt loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 or 6. Texture is silt loam or silty clay loam.

The 2BC horizon, if it occurs, has colors similar to those of the Bt horizon. Texture of the fine-earth fraction is silt loam, loam, or clay loam.

The 2C horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 3 to 6. Texture of the fine-earth fraction is loam, silt loam, or sandy loam.

Wolftever Series

The Wolftever series consists of very deep, moderately well drained soils on flood plains and alluvial fans. These soils formed in moderately fine textured and fine textured alluvium. Slopes range from 0 to 6 percent.

Typical pedon of Wolftever silt loam, 1 to 6 percent slopes, eroded, occasionally flooded; 3,400 feet north of mile 152 on the Tennessee River, about 1,200 feet northeast of Hardin Barn Landing in a crop field in the Hardin Bottom; USGS Jeannette Quadrangle; lat. 35 degrees 26 minutes 16.4 seconds N. and long. 88 degrees 01 minute 54.2 seconds W.

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium granular structure; many very fine and fine roots; common fine and medium rounded black (10YR 2/1) manganese concretions throughout; moderately acid; abrupt smooth boundary.

Bt1—7 to 16 inches; dark yellowish brown (10YR 4/6) silty clay loam; weak medium subangular blocky structure; firm; many very fine and fine roots; common fine rounded black (10YR 2/1) manganese concretions throughout; very strongly acid; clear smooth boundary.

Bt2—16 to 28 inches; yellowish brown (10YR 5/6) silty clay; common medium distinct light yellowish brown (10YR 6/4) mottles; moderate medium angular blocky structure; firm; common very fine and fine roots; few distinct yellowish brown (10YR

5/4) clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt3—28 to 42 inches; yellowish brown (10YR 5/4) silty clay; many coarse distinct brown (7.5YR 4/4) mottles; strong medium prismatic structure parting to strong medium angular blocky; firm; few very fine and fine roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common black (10YR 2/1) plate-like mangese concentrations and concretions; common medium distinct pale brown (10YR 6/3) and few fine distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual smooth boundary.

Bt4—42 to 65 inches; dark yellowish brown (10YR 4/6) silty clay; common medium distinct light yellowish brown (10YR 6/4) mottles; strong medium prismatic structure parting to strong medium angular blocky; firm; few very fine and fine roots; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common medium black (10YR 2/1) plate-like soft manganese accumulations between peds; common fine pale brown (10YR 6/3) and common medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual smooth boundary.

Bt5—65 to 79 inches; dark yellowish brown (10YR 4/6) silty clay loam; common medium distinct light yellowish brown (10YR 6/4) mottles; strong medium prismatic structure parting to strong medium angular blocky; firm; few very fine and fine roots; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common medium black (10YR 2/1) plate-like soft manganese accumulations between peds; few fine mica flakes; many medium distinct light brownish gray (10YR 6/2) and common medium distinct pale brown (10YR 6/3) iron depletions; very strongly acid.

Depth to bedrock is more than 60 inches. The content of rounded pebbles is less than 5 percent throughout the profile. Reaction is strongly acid or very strongly acid, except where the surface layer has been limed. Dark manganese concretions range from none to common in each horizon.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. Texture is silt loam or silty clay loam.

Some pedons have a transitional horizon between the Ap and Bt horizons.

The Bt horizon has hue of 7.5YR to 10YR, value of 4 or 5, and chroma of 3 to 6. Iron depletions with hue of 10YR, value of 6, and chroma of 2 or 3 are within the upper 30 inches of the horizon but not within the upper 10 inches. Texture is silty clay loam, silty clay, or clay.

Woodmont Series

The Woodmont series consists of very deep, somewhat poorly drained soils on low stream terraces. These soils have a fragipan in the subsoil. The soils formed in silty alluvium. Slopes range from 0 to 2 percent.

Typical pedon of Woodmont silt loam, rarely flooded; from Linden, Highway 13 south to Baptist Camp Road, southeast about 1 mile, east about 250 feet into a crop field; USGS Linden Quadrangle; lat. 35 degrees 31 minutes 42.7 seconds N. and long. 87 degrees 50 minutes 28 seconds W.

Ap—0 to 6 inches; brown (10YR 5/3) silt loam; moderate medium granular structure; friable; many very fine and fine roots throughout; many very fine and fine tubular pores; common medium rounded very dark gray (10YR 3/1) manganese concretions throughout; few fine yellowish red (5YR 5/8) soft masses of iron accumulation between peds; moderately acid; abrupt smooth boundary.

AB—6 to 9 inches; brown (10YR 5/3) silt loam; few fine distinct yellowish brown (10YR 5/6) and many coarse distinct light yellowish brown (2.5Y 6/4) mottles; weak medium subangular blocky structure; friable; few fine roots; many very fine and fine tubular pores; few medium rounded very dark gray (10YR 3/1) manganese concretions throughout; few fine brown (7.5YR 4/4) soft masses of iron accumulation between peds; moderately acid; abrupt smooth boundary.

E—9 to 14 inches; light yellowish brown (2.5Y 6/4) silt loam; many coarse faint olive yellow (2.5Y 6/6) mottles; weak medium subangular blocky structure; friable; few fine roots; common very fine and fine tubular pores; common medium light brownish gray (10YR 6/2) iron depletions; strongly acid; abrupt wavy boundary.

B/E—14 to 18 inches; 70 percent olive yellow (2.5Y 6/6) silt loam (Bw part) and 30 percent light gray (2.5Y 7/2) silt loam as vertical seams (E part); moderate medium subangular blocky structure; friable; few fine roots; few very fine tubular pores; brittle in about 20 percent of the mass; strongly acid; abrupt wavy boundary.

Bt—18 to 24 inches; light olive brown (2.5Y 5/3) silty clay loam; moderate medium subangular blocky structure; friable; few very fine and fine tubular pores; many distinct light brownish gray (2.5Y 6/2) clay films on faces of peds; common medium and coarse very dark gray (10YR 3/1) manganese nodules; many medium light brownish gray (2.5Y 6/2) iron depletions; slightly acid; brittle in 20 percent of the mass; slightly acid; clear wavy boundary.

Btx—24 to 79 inches; 70 percent brownish yellow (10YR 6/6) silt loam and 30 percent gray (2.5Y 6/1) silty clay loam; moderate very coarse prismatic structure parting to moderate medium angular blocky; firm; common very fine and fine discontinuous tubular pores; few distinct continuous gray (2.5Y 6/1) clay films along prism faces; common medium and coarse very dark gray (10YR 3/1) manganese nodules; brittle in 75 percent of the mass; neutral.

Depth to bedrock is more than 60 inches. Depth to the fragipan ranges from 20 to 36 inches. Reaction is strongly acid or moderately acid in the A and B horizons and ranges from strongly acid to mildly alkaline in the Btx horizon. The content of coarse fragments ranges from 0 to 3 percent above the fragipan and from 0 to 10 percent in the fragipan.

The Ap horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 or 3. Texture is silt loam.

Most pedons have thin transitional horizons between the Ap and Bw horizons.

The B/E horizon is a thin layer from which clay and free iron rinds have been removed. The B part has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 4 or less. The E part has hue of 10YR, value of 5 to 7, and chroma of 3 or less. It consists of vertical seams or tongues of silt loam. The horizon has few to many redoximorphic features in shades of brown, black, and gray. Texture is silt loam.

The Bw or Bt horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 or 6. Redoximorphic features with chroma of 2 or less occur within a depth of 16 inches. Texture is silt loam.

The Btx horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 to 6. It has few to many redoximorphic features in shades of red, brown, black, and gray. In some pedons the horizon occurs in an evenly mottled pattern without a dominant matrix color. Texture is silt loam or silty clay loam.

Formation of the Soils

This section discusses the five factors of soil formation—parent material, time, climate, topography, and living organisms. The combined influence of these factors determines the characteristics and properties of a soil.

Parent Material

Parent material is the mass from which a soil develops. The character of this material affects both the chemical and physical properties of the soil. The origins of some parent material are poorly understood. In Perry County, they are considered to be residuum of limestone, siltstone, and tripolitic chert. Transported parent material includes loess, colluvium, older alluvium, and recent alluvium.

A silty mantle, presumably loess (windblown silt), caps some of the uplands and stream terraces in the county and ranges in thickness from 2.5 feet to only several inches. This silty material is the parent material in which the upper part of Dickson, Paden, and Lax soils formed. The lower part of these soils formed in fine textured residuum of cherty limestone or old gravelly alluvium. These soils are silty in the upper part and have a layer with more clay and chert or gravel in the lower part.

Mimosa and Gladdice soils formed in residuum from limestone and are more clayey, have fewer coarse fragments, and have a higher reaction than Biffle, Hawthorne, and Sulphura soils, which weathered from more siliceous (cherty) materials.

Dellrose soils are on footslopes. The upper part of these soils formed in colluvium that is derived from soils at higher elevations with numerous chert fragments in the profile. The lower part of Dellrose soils formed in limestone residuum similar to that of Gladdice and Mimosa soils. Dellrose soils are gravelly in the upper part and clayey in the lower part.

Soils that formed in recent alluvium reflect the actively eroding material in the watershed. Ellisville soils on the Buffalo River flood plain are silty with little or no gravel. They reflect the dominantly silty surface layer of soils occurring in this watershed. Riverby soils also formed in recent gravelly alluvium washed mainly from upland soils with chert. They have layers of extremely gravelly, loamy, and sandy material which was deposited by swift floodwaters.

Wolftever, Beason, Gumdale, and Busseltown soils formed in older alluvium deposited by the Tennessee River. Flakes of mica, possibly from coastal plain sediments or mica-bearing rocks of North Carolina and eastern Tennessee, occur in some layers.

Armour and Arrington soils, in the Duck River valley, commonly have high phosphate levels because the alluvium has washed in part from phosphatic soils. Riverby, Lobelville, and Humphreys soils commonly have lower phosphate levels because their parent material is derived mainly from soils of less fertile, cherty uplands.

Time

The ages of soils vary considerably. The length of time that a soil has been forming is generally reflected in the profile development. Old soils generally have better defined horizons than young soils. In Perry County, soils on upland ridgetops have been weathering longer than soils on the active flood plains. Biffle, Ironcity, and Lax soils dominate the undulating ridges and exhibit significant profile development. Soil-forming processes have had sufficient time to create distinguishable horizons. There has been sufficient time for the surface layer to darken with organic matter from decayed plants, for the surface and subsurface layers to be depleted of iron and clay, and for these materials to accumulate in lower horizons. The youngest soils are on flood plains and formed in recent alluvium. Riverby and Arrington soils have not been in place long enough to develop distinct subsoil horizons and in some places are still acquiring new material.

Climate

Climate, primarily through the influence of precipitation and temperature, affects the physical, chemical, and biological relationships in the soil. These relationships exert much influence on the rates of soil weathering, erosion, and organic matter decomposition. The amount of leaching of nutrients in a soil is also related to the amount of rainfall and its movement through the soil. The effects of climate also control the kinds of plants and animals that can thrive in a region. Temperature influences the kind and growth of organisms and the speed of chemical and physical reactions in a soil.

Climate varies greatly in Tennessee; however, variances across Perry County are slight and do not cause distinct areas of different soils. The county has a warm, humid climate, which is characteristic of the climate of the southeastern part of the United States. The mild temperatures and abundant rainfall cause intense leaching of soluble and colloidal materials and rapid decomposition of organic matter. As these translocated materials move downward in a soil, some accumulate in lower layers and others move out of the soil. Generally, the older, well developed soils in Perry County are more weathered, leached, and acid and have clay accumulations in the subsoil. Soils such as Ironcity, Lax, and Minvale, as well as many others, have these properties. The formation of a fragipan is generally a soil phenomenon of a warm, humid climate. Busseltown, Dickson, Gumdale, Lax, Paden, Tarklin, and Woodmont soils all have fragipans.

Topography

Topography, including relief, slope, landform, and aspect, influences or modifies the effects of the other soil-forming factors. Gradient, shape, and length of slope directly influence the rates of water infiltration and runoff. The greater the runoff, the greater the erosion, assuming other things are equal. The steeper slopes in many areas are a result of rapid down cutting by stream action, which exposes the parent material to soil-forming factors. These areas have profiles that are not as deep as soils on more stable landscapes. Biffle, Hawthorne, and Sulphura soils are examples. Other areas below steeper side slopes have soils which formed as a result of various forms of deposition, such as creep, soil flow, slump, or stream deposits. Soils in these areas have deeper profiles because material accumulates at the base of slopes and on flood plains. Dellrose, Humphreys, Tarklin, Ellisville, Chenneby, and Lobelville soils are some examples.

Topography also effects changes in microclimate. For example, woodland and pasture on steeper slopes are generally more productive on north- and east-facing slopes than on south- and west-facing slopes. The microclimate on the north- and east-facing slopes is cooler and more moist because of the effect of shading. Some soils receive more water than adjacent soils because they are lower in elevation. They not only receive rainfall but also receive runoff from other soils. Some of these soils have wetness features in the profile. Lee and Woodmont soils are examples.

Living Organisms

Plants and animals, including humans, are active forces in the development of a soil. The effects are physical and chemical. Organisms transfer soil material in many ways from below ground to above ground. When a tree falls, the roots bring a mound of soil to the surface. Over time, the soil is mixed and rock fragments are pulled to the surface over a large area. Tree-throw mounds are common in areas of Biffle soils where chert beds restrict rooting. Ants and crawfish construct tunnels and mounds that generally contain material from the subsoil. The moving animals blend soil ingredients and make large pores for water to move through the soil. Lee and Chenneby soils commonly have crawfish tunnels.

Vegetation type affects the layers forming in a soil. Organic matter from a forest is deposited on the soil surface as leaf litter. Decaying oak and hickory leaves and twigs release organic acids that promote leaching and the development of a light-colored subsurface layer. Many of the soils in Perry County have this characteristic. Nutrient recycling through leaf and twig fall remains an important process in the productivity of the low-fertility woodland soils, such as Biffle, Hawthorne, Lax, and Ironcity. Some soils in this survey area probably formed in tall grassy vegetation. Tall grasses growing on soils high in calcium are conducive to the increase in stable organic matter. As organic matter increases, soils generally become darker. Staser and Egam soils are examples.

Humans have affected soils by clearing woodland, farming, and mining. Some soils are severely eroded due to intensive cultivation and minimal conservation. On some farms, soils with low natural fertility are highly fertile and productive because farmers have increased soil amendments and conservation measures. In other places, past iron and phosphate mining has entirely altered natural soil characteristics and subsequent land use.

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Glossary

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.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

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.

Aspect. The direction in which a slope faces.

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 40-inch profile or to a limiting layer is expressed as:

Very low	0 to 2
Low	2 to 4
Moderate	4 to 6
High	more than 6

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.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bottom land. The normal flood plain of a stream, subject to flooding.

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.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material but 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. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Coarse 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. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conservation 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.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. 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.

Cropping system. Growing crops according to a planned system of rotation and management practices.

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.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

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.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of 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.

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.

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 soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

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.

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. Synonym: scarp.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fine textured soil. Sandy clay, silty clay, or clay.

First bottom. The normal flood plain of a stream, subject to frequent or occasional 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. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

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.

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.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Head slope. 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.

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 natural elevation 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; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent 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.

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.

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.

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 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. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly. Also referred to as soil slippage.

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. Fine-grained material, dominantly of silt-sized particles, deposited by wind.

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.

Low strength. The soil is not strong enough to support loads.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

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.

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. An area 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).

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

No-till planting. Planting in a narrow slit or seedbed with a no-till planter. Crop residue from previous crops is used to protect the soil, and herbicides are used to control weeds.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

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:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

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.

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.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

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.

Sand. As a soil separate, individual rock or mineral fragments ranging 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.

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.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

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 position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

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. Sedimentary rock made up of dominantly silt-sized particles.

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 depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 5 percent
Sloping	5 to 12 percent
Moderately steep	12 to 20 percent
Steep	20 to 40 percent
Very steep	40 percent and higher

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 over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

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 grain* (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.
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."
Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.
Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.
Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.
Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."
Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.
Toeslope. The position that forms 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. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.
Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.
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 and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.
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 1961-90 at Linden, Tennessee)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January---	46.7	23.6	35.1	73	-7	19	4.51	2.14	6.56	6	2.8
February--	51.6	26.6	39.1	76	2	30	4.35	2.43	6.05	7	0.8
March-----	62.1	35.6	48.8	84	13	118	5.79	3.30	8.00	7	0.5
April-----	72.7	44.3	58.5	89	24	279	4.56	2.77	6.16	7	0.0
May-------	78.6	52.5	65.6	92	33	476	5.75	3.58	7.70	7	0.0
June------	86.4	61.0	73.7	97	44	702	4.17	1.70	6.26	5	0.0
July------	89.5	65.4	77.4	99	51	847	4.63	2.50	6.50	6	0.0
August----	88.4	63.5	76.0	98	48	803	3.71	1.77	5.39	5	0.0
September-	82.8	57.2	70.0	96	38	597	3.71	1.79	5.37	5	0.0
October---	72.9	43.3	58.1	89	24	273	3.34	1.81	4.91	4	0.0
November--	61.6	35.8	48.7	82	13	102	5.00	2.79	6.96	6	0.2
December--	50.8	27.7	39.3	74	2	32	5.58	2.77	8.02	7	1.2
Yearly:											
Average-	70.3	44.7	57.5	---	---	---	---	---	---	---	---
Extreme-	105	-18	---	100	-8	---	---	---	---	---	---
Total---	---	---	---	---	---	4,277	55.09	34.89	63.24	72	5.5

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minumum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1961-90 at Linden, Tennessee)

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--	Apr. 10	Apr. 18	May 2
2 years in 10 later than--	Apr. 5	Apr. 13	Apr. 27
5 years in 10 later than--	Mar. 25	Apr. 3	Apr. 17
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 28	Oct. 14	Oct. 2
2 years in 10 earlier than--	Nov. 1	Oct. 19	Oct. 7
5 years in 10 earlier than--	Nov. 1	Oct. 30	Oct. 18

Table 3.—Growing Season

(Recorded in the period 1961-90 at Linden, Tennessee)

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	214	191	166
8 years in 10	220	197	172
5 years in 10	232	210	183
2 years in 10	243	223	193
1 year in 10	249	230	199

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
AmA	Armour silt loam, 0 to 2 percent slopes, occasionally flooded	50	*
AmB	Armour silt loam, 2 to 5 percent slopes	325	0.1
ArA	Armour silt loam, 0 to 3 percent slopes, rarely flooded	1,136	0.4
At	Arrington silt loam, frequently flooded	39	*
BA	Beason and Chenneby soils, frequently flooded	1,950	0.7
BbC	Biffle gravelly silt loam, 5 to 15 percent slopes	34,719	12.8
BbD	Biffle gravelly silt loam, 15 to 30 percent slopes	12,879	4.8
BbF	Biffle gravelly silt loam, 30 to 60 percent slopes	67,671	25.0
BSF	Biffle, Hawthorne, and Sulphura soils, very steep, rocky	63,870	23.6
BtC	Braxton-Talbott complex, 5 to 15 percent slopes	490	0.2
BtC3	Braxton-Talbott complex, 5 to 15 percent slopes, severely eroded	448	0.2
BtE	Braxton-Talbott complex, 15 to 35 percent slopes	1,434	0.5
BtE3	Braxton-Talbott complex, 15 to 35 percent slopes, severely eroded	868	0.3
BuB2	Busseltown loam, 1 to 6 percent slopes, eroded, rarely flooded	977	0.4
BuC3	Busseltown sandy clay loam, 5 to 8 percent slopes, severely eroded, rarely flooded	116	*
Cb	Chenneby silt loam, frequently flooded	518	0.2
Ch	Chenneby silt loam, occasionally flooded	380	0.1
DeD2	Dellrose gravelly silt loam, 5 to 20 percent slopes, eroded	404	0.1
DeF	Dellrose-Mimosa complex, 20 to 60 percent slopes, very stony	7,279	2.7
DkB2	Dickson silt loam, 2 to 5 percent slopes, eroded	136	*
Eg	Egam silty clay loam, rarely flooded	114	*
Es	Ellisville silt loam, frequently flooded	3,235	1.2
Ev	Ellisville silt loam, occasionally flooded	390	0.1
GdF	Gladdice-Rock outcrop-Mimosa complex, 25 to 70 percent slopes	5,025	1.9
Gm	Gumdale silt loam, rarely flooded	873	0.3
HuA	Humphreys gravelly silt loam, 0 to 3 percent slopes, rarely flooded	2,967	1.1
HuB	Humphreys gravelly silt loam, 2 to 5 percent slopes	6,808	2.5
HuC	Humphreys gravelly silt loam, 5 to 12 percent slopes	67	*
IrC	Ironcity gravelly silt loam, 5 to 12 percent slopes	1,631	0.6
LaC	Lax-Ironcity complex, 5 to 12 percent slopes	3,003	1.1
LbB	Lax silt loam, 2 to 5 percent slopes	172	*
LbC	Lax silt loam, 5 to 12 percent slopes	1,030	0.4
Le	Lee silt loam, frequently flooded	369	0.1
Lo	Lobelville silt loam, occasionally flooded	1,826	0.7
MaE3	Marsh channery silt loam, 12 to 35 percent slopes, severely eroded	212	*
Mn	Minter silty clay loam, frequently flooded	481	0.2
PdA	Paden silt loam, 0 to 3 percent slopes, rarely flooded	1,304	0.5
PdB2	Paden silt loam, 1 to 5 percent slopes, eroded	1,508	0.6
PdC2	Paden silt loam, 5 to 12 percent slopes, eroded	438	0.2
PdC3	Paden silt loam, 5 to 12 percent slopes, severely eroded	342	0.1
PkB2	Pickwick silt loam, 2 to 5 percent slopes, eroded	286	0.1
PkC2	Pickwick silt loam, 5 to 12 percent slopes, eroded	571	0.2
PkC3	Pickwick silt loam, 5 to 12 percent slopes, severely eroded	988	0.4
Pt	Pits, gravel	304	0.1
Rb	Riverby gravelly sandy loam, frequently flooded	7,897	2.9
RoD	Rock outcrop-Barfield complex, 10 to 30 percent slopes	1,413	0.5
RoF	Rock outcrop-Barfield complex, very steep	716	0.3
Sa	Staser fine sandy loam, occasionally flooded	505	0.2
SeC3	Stiversville silty clay loam, 5 to 12 percent slopes, severely eroded	254	*
SgC	Sugargrove gravelly silt loam, 5 to 12 percent slopes	579	0.2
SgD	Sugargrove gravelly silt loam, 12 to 20 percent slopes	728	0.3
Sn	Sullivan silt loam, occasionally flooded	1,676	0.6
SpF	Sulphura gravelly silt loam, 20 to 60 percent slopes	324	0.1
SuF	Sulphura-Rock outcrop complex, 30 to 75 percent slopes	41	*
TbD	Talbott-Mimosa complex, 5 to 15 percent slopes, rocky	773	0.3
TbE	Talbott-Mimosa complex, 15 to 35 percent slopes, very rocky	6,122	2.3
ThC2	Tarklin-Humphreys complex, 5 to 12 percent slopes, eroded	38	*
TmC2	Tarklin-Minvale complex, 5 to 12 percent slopes, eroded	6,000	2.2
TmC3	Tarklin-Minvale complex, 5 to 12 percent slopes, severely eroded	832	0.3
TmE3	Tarklin-Minvale complex, 12 to 30 percent slopes, severely eroded	1,110	0.4
ToA	Trace silt loam, 0 to 2 percent slopes, occasionally flooded	7	*

See footnote at end of table.

Table 4.—Acreage and Proportionate Extent of the Soils—Continued

Map symbol	Soil name	Acres	Percent
TrA	Trace silt loam, 0 to 3 percent slopes, rarely flooded	2,102	0.8
Ua	Udalfs-Gullied land complex, 5 to 30 percent slopes	411	0.2
Ud	Udarents, clayey	173	*
W	Water	7,600	2.8
WfA	Wolftever silt loam, 0 to 2 percent slopes, occasionally flooded	741	0.3
WfB2	Wolftever silt loam, 1 to 6 percent slopes, eroded, occasionally flooded	512	0.2
WlB	Wolftever silty clay loam, 2 to 5 percent slopes	262	*
Wm	Woodmont silt loam, rarely flooded	651	0.2
	Total	271,100	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	Alfalfa hay	Corn	Soybeans	Tall fescue-ladino	Wheat
		Tons	Bu	Bu	AUM*	Bu
AmA:						
Armour	2w	---	110.00	50.00	9.00	---
AmB:						
Armour	2e	4.00	120.00	43.00	8.00	53.00
ArA:						
Armour	1	4.00	130.00	50.00	9.00	53.00
At:						
Arrington	3w	---	115.00	40.00	9.00	---
BA:						
Beason and Chenneby	4w	---	60.00	28.00	6.50	---
BbC:						
Biffle	4s	---	50.00	---	4.00	---
BbD:						
Biffle	6s	---	---	---	3.00	---
BbF:						
Biffle	7s	---	---	---	---	---
BSF:						
Biffle, Hawthorne, and Sulphura	7s	---	---	---	---	---
BtC:						
Braxton-Talbott	4e	---	---	---	6.50	45.00
BtC3:						
Braxton-Talbott	6e	---	---	---	5.50	35.00
BtE:						
Braxton-Talbott	6e	---	---	---	5.00	---
BtE3:						
Braxton-Talbott	7e	---	---	---	---	---
BuB2:						
Busseltown	2e	---	85.00	35.00	8.00	40.00
BuC3:						
Busseltown	4e	---	---	28.00	6.50	25.00
Cb:						
Chenneby	4w	---	60.00	30.00	7.00	---
Ch:						
Chenneby	3w	---	90.00	35.00	8.50	---
DeD2:						
Dellrose	4e	3.20	75.00	25.00	6.50	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	Alfalfa hay	Corn	Soybeans	Tall fescue-ladino	Wheat
		Tons	Bu	Bu	AUM*	Bu
DeF: Dellrose-Mimosa	7e	---	---	---	---	---
DkB2: Dickson	2e	---	90.00	35.00	7.00	50.00
Eg: Egam	2w	---	80.00	40.00	8.00	45.00
Es: Ellisville	3w	---	---	35.00	8.50	---
Ev: Ellisville	2w	---	130.00	43.00	9.00	---
GdF: Gladdice-Rock outcrop-Mimosa	7s	---	---	---	---	---
Gm: Gumdale	3w	---	70.00	28.00	6.50	30.00
HuA: Humphreys	2s	3.20	90.00	35.00	7.50	50.00
HuB: Humphreys	2e	3.00	85.00	32.00	7.00	45.00
HuC: Humphreys	3e	2.80	80.00	30.00	6.50	40.00
IrC: Ironcity	3e	2.00	75.00	30.00	6.50	40.00
LaC: Lax-Ironcity	3e	---	75.00	25.00	5.50	35.00
LbB: Lax	2e	---	80.00	30.00	6.50	40.00
LbC: Lax	3e	---	75.00	25.00	5.50	35.00
Le: Lee	5w	---	---	25.00	6.00	---
Lo: Lobelville	2w	---	85.00	36.00	7.50	40.00
MaE3: Marsh	6e	---	---	---	3.00	---
Mn: Minter	5w	---	---	---	5.00	---
PdA: Paden	2w	---	90.00	38.00	7.50	50.00
PdB2: Paden	2e	---	85.00	35.00	7.00	50.00

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	Alfalfa hay	Corn	Soybeans	Tall fescue-ladino	Wheat
		Tons	Bu	Bu	AUM*	Bu
PdC2: Paden	3e	---	75.00	25.00	6.50	45.00
PdC3: Paden	4e	---	55.00	20.00	5.50	25.00
PkB2: Pickwick	2e	4.00	100.00	40.00	8.00	55.00
PkC2: Pickwick	3e	3.80	95.00	35.00	7.50	50.00
PkC3: Pickwick	4e	3.00	85.00	30.00	7.00	45.00
Pt. Pits						
Rb: Riverby	4s	---	50.00	---	4.00	---
RoD: Rock outcrop-Barfield	7s	---	---	---	3.50	---
RoF: Rock outcrop-Barfield	7s	---	---	---	---	---
Sa: Staser	2w	---	115.00	40.00	8.50	---
SeC3: Stiversville	4e	---	70.00	22.00	5.50	35.00
SgC: Sugargrove	3e	---	75.00	22.00	5.50	35.00
SgD: Sugargrove	4e	---	65.00	20.00	5.00	28.00
Sn: Sullivan	2w	---	120.00	40.00	8.50	---
SpF: Sulphura	7s	---	---	---	---	---
SuF: Sulphura-Rock outcrop	7s	---	---	---	---	---
TbD: Talbott-Mimosa	6e	---	---	---	4.00	---
TbE: Talbott-Mimosa	7e	---	---	---	---	---
ThC2: Tarklin-Humphreys	3e	---	75.00	35.00	6.00	35.00
TmC2: Tarklin-Minvale	3e	---	70.00	30.00	6.00	35.00

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	Alfalfa hay	Corn	Soybeans	Tall fescue-ladino	Wheat
		Tons	Bu	Bu	AUM*	Bu
TmC3:						
Tarklin-Minvale---------	4e	---	60.00	25.00	5.00	25.00
TmE3:						
Tarklin-Minvale---------	6e	---	---	---	4.50	---
ToA:						
Trace-------------------	2w	---	120.00	50.00	9.00	---
TrA:						
Trace-------------------	1	4.00	120.00	50.00	9.00	53.00
Ua:						
Udalfs-Gullied land-----	7e	---	---	---	---	---
Ud.						
Udarents						
W.						
Water						
WfA:						
Wolftever---------------	2w	---	70.00	35.00	7.00	---
WfB2:						
Wolftever---------------	2e	---	75.00	30.00	7.50	---
WlB:						
Wolftever---------------	2e	---	75.00	30.00	7.50	43.00
Wm:						
Woodmont----------------	3w	---	65.00	30.00	6.50	---

* Animal unit month: The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Table 6.—Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland)

Map symbol	Soil name
AmA	Armour silt loam, 0 to 2 percent slopes, occasionally flooded
AmB	Armour silt loam, 2 to 5 percent slopes
ArA	Armour silt loam, 0 to 3 percent slopes, rarely flooded
BuB2	Busseltown loam, 1 to 6 percent slopes, eroded, rarely flooded
DkB2	Dickson silt loam, 2 to 5 percent slopes, eroded
Eg	Egam silty clay loam, rarely flooded
Ev	Ellisville silt loam, occasionally flooded
HuA	Humphreys gravelly silt loam, 0 to 3 percent slopes, rarely flooded
HuB	Humphreys gravelly silt loam, 2 to 5 percent slopes
LbB	Lax silt loam, 2 to 5 percent slopes
Lo	Lobelville silt loam, occasionally flooded
PdA	Paden silt loam, 0 to 3 percent slopes, rarely flooded
PdB2	Paden silt loam, 1 to 5 percent slopes, eroded
PkB2	Pickwick silt loam, 2 to 5 percent slopes, eroded
Sa	Staser fine sandy loam, occasionally flooded
Sn	Sullivan silt loam, occasionally flooded
ToA	Trace silt loam, 0 to 2 percent slopes, occasionally flooded
TrA	Trace silt loam, 0 to 3 percent slopes, rarely flooded
WfA	Wolftever silt loam, 0 to 2 percent slopes, occasionally flooded
WfB2	Wolftever silt loam, 1 to 6 percent slopes, eroded, occasionally flooded
WlB	Wolftever silty clay loam, 2 to 5 percent slopes

Table 7.—Forest Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
AmA, AmB, ArA:				
Armour	yellow-poplar	100	107	yellow-poplar,
	loblolly pine	90	144	loblolly pine,
	black walnut	85	75	black walnut,
	white oak	80	62	white oak,
	cherrybark oak	80	62	cherrybark oak
At:				
Arrington	yellow-poplar	100	107	yellow-poplar,
	black walnut	85	75	black walnut,
	sweetgum	85	70	sweetgum, white
	white oak	80	62	oak, cherrybark
	cherrybark oak	80	62	oak, loblolly pine
	loblolly pine	90	144	
BA:				
Beason	sweetgum	90	81	sweetgum, eastern
	eastern cottonwood	95	123	cottonwood, yellow-
	yellow-poplar	95	90	poplar, swamp
	swamp white oak	90	86	white oak, green
	green ash	90	86	ash, willow oak,
	willow oak	95	86	baldcypress
Chenneby	sweetgum	95	98	sweetgum, eastern
	eastern cottonwood	95	123	cottonwood, yellow-
	yellow-poplar	95	90	poplar, swamp
	swamp white oak	90	86	white oak, green
	green ash	90	86	ash, willow oak,
	willow oak	86	86	baldcypress
BbC, BbD:				
Biffle	shortleaf pine	65	113	shortleaf pine,
	loblolly pine	70	105	loblolly pine,
	chestnut oak	55	52	chestnut oak,
	southern red oak	55	52	southern red oak,
	eastern redcedar	40	35	eastern redcedar
BbF:				
Biffle	shortleaf pine	65	113	shortleaf pine,
	loblolly pine	65	95	loblolly pine,
	chestnut oak	55	45	chestnut oak,
	southern red oak	55	45	southern red oak,
	eastern redcedar	40	35	eastern redcedar
BSF:				
Biffle	eastern redcedar	40	35	Virginia pine,
	Virginia pine	60	75	eastern redcedar,
	chestnut oak	55	45	chestnut oak
Hawthorne	Virginia pine	60	75	Virginia pine,
	eastern redcedar	40	35	eastern redcedar
Sulphura	Virginia pine	60	75	eastern redcedar,
	eastern redcedar	40	35	Virginia pine

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
BtC, BtC3, BtE:				
Braxton	shortleaf pine	80	114	shortleaf pine, white oak, eastern redcedar
	white oak	60	43	
	eastern redcedar	50	57	
Talbott	shortleaf pine	80	114	shortleaf pine, white oak, eastern redcedar
	white oak	60	43	
	eastern redcedar	50	57	
BtE3:				
Braxton	shortleaf pine	80	114	shortleaf pine, eastern redcedar
	eastern redcedar	50	57	
Talbott	shortleaf pine	80	114	shortleaf pine, eastern redcedar
	eastern redcedar	50	57	
BuB2, BuC3:				
Busseltown	yellow-poplar	100	107	yellow-poplar, sweetgum, swamp white oak, cherrybark oak, Shumard's oak
	sweetgum	95	93	
	swamp white oak	85	62	
	cherrybark oak	95	62	
Cb, Ch:				
Chenneby	sweetgum	95	98	sweetgum, eastern cottonwood, willow oak, swamp white oak, green ash
	eastern cottonwood	95	123	
	willow oak	90	86	
	swamp white oak	90	86	
	green ash	90	86	
DeD2:				
Dellrose	yellow-poplar	100	100	yellow-poplar, shortleaf pine, white oak
	shortleaf pine	80	114	
	white oak	80	62	
DeF:				
Dellrose	yellow-poplar	100	100	yellow-poplar, shortleaf pine, white oak
	shortleaf pine	80	114	
	white oak	80	62	
Mimosa	shortleaf pine	80	114	shortleaf pine, chestnut oak, eastern redcedar
	chestnut oak	70	57	
	eastern redcedar	50	45	
DkB2:				
Dickson	yellow-poplar	90	90	yellow-poplar, southern red oak, white oak
	southern red oak	75	57	
	white oak	70	57	
Eg:				
Egam	yellow-poplar	95	98	yellow-poplar, sweetgum, cherrybark oak, swamp white oak
	sweetgum	90	70	
	cherrybark oak	85	57	
	swamp white oak	85	57	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
Es, Ev:				
Ellisville	yellow-poplar	100	107	yellow-poplar, black walnut, sweetgum, white oak, cherrybark oak
	black walnut	85	75	
	sweetgum	85	70	
	white oak	80	62	
	cherrybark oak	80	62	
GdF:				
Gladdice	Virginia pine	80	70	Virginia pine, eastern redcedar
	eastern redcedar	45	57	
Rock outcrop.				
Mimosa	Virginia pine	65	60	eastern redcedar, Virginia pine, chestnut oak
	eastern redcedar	45	35	
	chestnut oak	65	52	
Gm:				
Gumdale	yellow-poplar	95	98	yellow-poplar, sweetgum, swamp white oak, American sycamore, green ash, willow oak
	sweetgum	95	93	
	swamp white oak	63	63	
	American sycamore	80	75	
	green ash	90	75	
HuA, HuB, HuC:				
Humphreys	yellow-poplar	100	107	yellow-poplar, sweetgum, American sycamore, black walnut, white ash
	sweetgum	75	86	
	American sycamore	75	81	
	black walnut	85	75	
	white ash	80	75	
IrC:				
Ironcity	loblolly pine	80	123	loblolly pine, shortleaf pine, southern red oak, chestnut oak
	shortleaf pine	70	113	
	southern red oak	70	57	
	chestnut oak	70	52	
LaC:				
Lax	chestnut oak	70	57	chestnut oak, Virginia pine, white oak, eastern redcedar
	Virginia pine	70	92	
	white oak	70	51	
	eastern redcedar	40	40	
Ironcity	loblolly pine	80	123	loblolly pine, shortleaf pine, southern red oak, chestnut oak
	shortleaf pine	70	113	
	southern red oak	70	57	
	chestnut oak	70	52	
LbB, LbC:				
Lax	chestnut oak	70	57	chestnut oak, Virginia pine, white oak, eastern redcedar
	Virginia pine	70	92	
	white oak	70	51	
	eastern redcedar	40	40	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
Le:				
Lee	sweetgum	95	93	sweetgum, American sycamore, yellow-poplar, swamp white oak, green ash, willow oak
	American sycamore	100	85	
	yellow-poplar	70	85	
	swamp white oak	70	62	
	green ash	65	62	
Lo:				
Lobelville	yellow-poplar	100	107	yellow-poplar, eastern cottonwood, sweetgum, American sycamore, swamp white oak, cherrybark oak, willow oak
	eastern cottonwood	95	98	
	sweetgum	90	98	
	American sycamore	90	85	
	swamp white oak	85	62	
MaE3:				
Marsh	shortleaf pine	65	113	shortleaf pine, loblolly pine, eastern redcedar
	loblolly pine	60	92	
	eastern redcedar	50	45	
Mn:				
Minter	sweetgum	90	98	sweetgum, American sycamore, swamp white oak, overcup oak, green ash
	American sycamore	76	43	
	swamp white oak	80	43	
	overcup oak	80	62	
	green ash	72	43	
PdA, PdB2, PdC2:				
Paden	yellow-poplar	90	90	yellow-poplar, cherrybark oak, white oak
	cherrybark oak	75	57	
	white oak	70	57	
PdC3:				
Paden	yellow-poplar	85	85	yellow-poplar, cherrybark oak, white oak
	cherrybark oak	75	57	
	white oak	70	57	
PkB2, PkC2, PkC3:				
Pickwick	yellow-poplar	95	98	yellow-poplar, loblolly pine, white oak, cherrybark oak, black walnut
	loblolly pine	80	144	
	white oak	73	57	
	cherrybark oak	70	57	
	black walnut	85	75	
Pt.				
Pits				
Rb:				
Riverby	sweetgum	90	85	sweetgum, American sycamore, yellow-poplar
	American sycamore	85	80	
	yellow-poplar	80	80	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
RoD, RoF:				
Rock outcrop.				
Barfield	eastern redcedar	40	43	eastern redcedar, Virginia pine
	Virginia pine	55	41	
Sa:				
Staser	yellow-poplar	100	114	yellow-poplar, loblolly pine, white oak, black walnut, cherrybark oak
	loblolly pine	90	129	
	white oak	80	57	
	black walnut	80	57	
	cherrybark oak	85	62	
SeC3:				
Stiversville	yellow-poplar	88	90	yellow-poplar, southern red oak, loblolly pine, black walnut
	southern red oak	85	62	
	loblolly pine	80	123	
	black walnut	75	62	
SgC, SgD:				
Sugargrove	shortleaf pine	60	79	shortleaf pine, Virginia pine, chestnut oak, eastern redcedar
	Virginia pine	55	55	
	chestnut oak	50	41	
	eastern redcedar	45	45	
Sn:				
Sullivan	yellow-poplar	100	114	yellow-poplar, loblolly pine, white oak, black walnut, cherrybark oak
	loblolly pine	90	129	
	white oak	80	57	
	black walnut	80	57	
	cherrybark oak	85	62	
SpF:				
Sulphura	Virginia pine	50	41	Virginia pine, eastern redcedar
	eastern redcedar	35	40	
SuF:				
Sulphura	Virginia pine	50	41	Virginia pine, eastern redcedar
	eastern redcedar	30	40	
Rock outcrop.				
TbD, TbE:				
Talbott	shortleaf pine	80	114	shortleaf pine, southern red oak, eastern redcedar
	southern red oak	70	52	
	eastern redcedar	50	57	
Mimosa	shortleaf pine	80	114	shortleaf pine, chestnut oak, eastern redcedar
	chestnut oak	70	57	
	eastern redcedar	50	45	
ThC2:				
Tarklin	chestnut oak	80	57	chestnut oak, Virginia pine, white oak, eastern redcedar
	Virginia pine	70	85	
	white oak	65	57	
	eastern redcedar	40	40	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
ThC2:				
Humphreys	chestnut oak	80	57	chestnut oak, Virginia pine, white oak, eastern redcedar
	Virginia pine	70	85	
	white oak	65	57	
	eastern redcedar	40	40	
TmC2, TmC3, TmE3:				
Tarklin	chestnut oak	80	57	chestnut oak, Virginia pine, white oak, eastern redcedar
	Virginia pine	70	85	
	white oak	65	57	
	eastern redcedar	40	40	
Minvale	chestnut oak	80	57	chestnut oak, Virginia pine, white oak, eastern redcedar
	Virginia pine	70	85	
	white oak	65	57	
	eastern redcedar	40	40	
ToA, TrA:				
Trace	yellow-poplar	100	107	yellow-poplar, sweetgum, loblolly pine, cherrybark oak, black walnut
	sweetgum	85	95	
	loblolly pine	90	144	
	cherrybark oak	85	63	
	black walnut	80	62	
Ua:				
Udalfs	Virginia pine	70	93	Virginia pine, eastern redcedar, chestnut oak
	eastern redcedar	50	40	
	chestnut oak	50	52	
Gullied land	Virginia pine	70	93	Virginia pine, eastern redcedar, chestnut oak
	eastern redcedar	50	40	
	chestnut oak	50	52	
Ud:				
Udarents	Virginia pine	70	93	Virginia pine, eastern redcedar, chestnut oak
	eastern redcedar	50	40	
	chestnut oak	50	52	
W.				
Water				
WfA, WfB2, WlB:				
Wolftever	yellow-poplar	95	98	yellow-poplar, sweetgum, swamp white oak, cherrybark oak, Shumard's oak
	sweetgum	85	70	
	swamp white oak	70	57	
	cherrybark oak	70	57	
Wm:				
Woodmont	yellow-poplar	90	90	yellow-poplar, cherrybark oak, white oak, willow oak, green ash
	cherrybark oak	75	57	
	white oak	70	57	

Table 8.—Forestland Management (Part I)

(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
AmA:							
Armour	95	Severe:		Poorly suited:		Severe:	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
AmB:							
Armour	100	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
ArA:							
Armour	95	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
At:							
Arrington	100	Severe:		Poorly suited:		Severe:	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
BA:							
Beason	50	Severe:		Poorly suited:		Severe:	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
Chenneby	45	Severe:		Poorly suited:		Severe:	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
BbC:							
Biffle	95	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Slope	0.50	Strength	1.00
		Landslides	0.10	Strength	0.50		
				Landslides	0.10		
BbD:							
Biffle	95	Severe:		Poorly suited:		Severe:	
		Landslides	1.00	Slope	1.00	Strength	1.00
		Slope	0.50	Landslides	1.00		
		Strength	0.50	Strength	0.50		
BbF:							
Biffle	95	Severe:		Poorly suited:		Severe:	
		Landslides	1.00	Slope	1.00	Strength	1.00
		Slope	1.00	Landslides	1.00		
		Strength	0.50	Strength	0.50		

Table 8.—Forestland Management (Part I)—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
BSF:							
Biffle	36	Severe:		Poorly suited:		Severe:	
		Landslides	1.00	Slope	1.00	Strength	1.00
		Slope	1.00	Landslides	1.00		
		Strength	0.50	Strength	0.50		
Hawthorne	35	Severe:		Poorly suited:		Severe:	
		Landslides	1.00	Slope	1.00	Strength	1.00
		Slope	1.00	Landslides	1.00		
		Strength	0.50	Strength	0.50		
Sulphura	22	Severe:		Poorly suited:		Severe:	
		Landslides	1.00	Slope	1.00	Strength	1.00
		Slope	1.00	Landslides	1.00		
				Strength	0.50		
BtC:							
Braxton	60	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
Talbott	30	Moderate:		Moderately suited:		Severe:	
		Restrictive layer	0.50	Slope	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
BtC3:							
Braxton	60	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
Talbott	30	Moderate:		Moderately suited:		Severe:	
		Restrictive layer	0.50	Slope	0.50	Strength	1.00
		Stickiness/slope	0.50	Strength	0.50		
		Strength	0.50				
BtE, BtE3:							
Braxton	60	Moderate:		Poorly suited:		Severe:	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
Talbott	30	Moderate:		Poorly suited:		Severe:	
		Slope	0.50	Slope	1.00	Strength	1.00
		Restrictive layer	0.50	Strength	0.50		
		Stickiness/slope	0.50				
		Strength	0.50				
BuB2:							
Busseltown	90	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
BuC3:							
Busseltown	100	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
				Slope	0.50		

Table 8.—Forestland Management (Part I)—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
Cb, Ch:							
Chenneby	75	Severe:		Poorly suited:		Severe:	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
DeD2:							
Dellrose	90	Moderate:		Poorly suited:		Severe:	
		Landslides	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Landslides	0.50		
DeF:							
Dellrose	60	Severe:		Poorly suited:		Severe:	
		Landslides	1.00	Slope	1.00	Strength	1.00
		Slope	1.00	Landslides	1.00		
		Strength	0.50	Strength	0.50		
Mimosa	35	Severe:		Poorly suited:		Severe:	
		Slope	1.00	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
		Landslides	0.10	Landslides	0.10		
DkB2:							
Dickson	100	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
Eg:							
Egam	95	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
Es, Ev:							
Ellisville	90	Severe:		Poorly suited:		Severe:	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
GdF:							
Gladdice	40	Severe:		Poorly suited:		Severe:	
		Slope	1.00	Slope	1.00	Strength	1.00
		Landslides	0.50	Strength	0.50		
		Strength	0.50	Landslides	0.50		
Rock outcrop	30	Not rated		Not rated		Not rated	
Mimosa	25	Severe:		Poorly suited:		Severe:	
		Slope	1.00	Slope	1.00	Strength	1.00
		Landslides	0.50	Strength	0.50		
		Strength	0.50	Landslides	0.50		
Gm:							
Gumdale	90	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		

Table 8.--Forestland Management (Part I)—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
HuA, HuB:							
Humphreys	90	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
HuC:							
Humphreys	90	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
IrC:							
Ironcity	85	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
LaC:							
Lax	55	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
Ironcity	45	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
LbB:							
Lax	90	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
LbC:							
Lax	100	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
Le:							
Lee	90	Severe:		Poorly suited:		Severe:	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Wetness	1.00		
				Strength	0.50		
Lo:							
Lobelville	90	Moderate:		Moderately suited:		Severe:	
		Flooding	0.50	Flooding	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
MaE3:							
Marsh	95	Severe:		Poorly suited:		Severe:	
		Landslides	1.00	Landslides	1.00	Strength	1.00
		Slope	0.50	Slope	1.00		
		Strength	0.50	Strength	0.50		
Mn:							
Minter	90	Severe:		Poorly suited:		Severe:	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Wetness	1.00		
				Strength	0.50		

Table 8.—Forestland Management (Part I)—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
PdA:							
Paden	90	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
PdB2:							
Paden	90	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
PdC2:							
Paden	90	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
				Wetness	0.50		
PdC3:							
Paden	85	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
				Slope	0.50		
PkB2:							
Pickwick	90	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
PkC2:							
Pickwick	90	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
PkC3:							
Pickwick	85	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
Pt:							
Pits	90	Not rated		Not rated		Not rated	
Rb:							
Riverby	85	Severe:		Poorly suited:		Slight:	
		Flooding	1.00	Flooding	1.00	Strength	0.10
RoD:							
Rock outcrop	55	Not rated		Not rated		Not rated	
Barfield	35	Severe:		Poorly suited:		Severe:	
		Restrictive layer	1.00	Slope	1.00	Strength	1.00
		Slope	0.50	Strength	0.50		
		Stickiness/slope	0.50	Landslides	0.10		
		Strength	0.50				
		Landslides	0.10				

Table 8.—Forestland Management (Part I)—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
RoF:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Barfield	35	Severe:		Poorly suited:		Severe:	
		Slope	1.00	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
		Landslides	0.10	Landslides	0.10		
Sa:							
Staser	90	Severe:		Poorly suited:		Severe:	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
SeC3:							
Stiversville	100	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
SgC:							
Sugargrove	85	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
		Landslides	0.10	Slope	0.50		
				Landslides	0.10		
SgD:							
Sugargrove	85	Moderate:		Poorly suited:		Severe:	
		Landslides	0.50	Slope	1.00	Strength	1.00
		Slope	0.50	Strength	0.50		
		Strength	0.50	Landslides	0.50		
Sn:							
Sullivan	90	Severe:		Poorly suited:		Severe:	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
SpF:							
Sulphura	95	Severe:		Poorly suited:		Severe:	
		Landslides	1.00	Slope	1.00	Strength	1.00
		Slope	1.00	Landslides	1.00		
				Strength	0.50		
SuF:							
Sulphura	55	Severe:		Poorly suited:		Severe:	
		Landslides	1.00	Slope	1.00	Strength	1.00
		Slope	1.00	Landslides	1.00		
				Strength	0.50		
Rock outcrop	30	Not rated		Not rated		Not rated	
TbD:							
Talbott	50	Moderate:		Moderately suited:		Severe:	
		Restrictive layer	0.50	Slope	0.50	Strength	1.00
		Stickiness/slope	0.50	Strength	0.50		
		Strength	0.50				
Mimosa	42	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		

Table 8.—Forestland Management (Part I)—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
TbE:							
Talbott	50	Moderate:		Poorly suited:		Severe:	
		Slope	0.50	Slope	1.00	Strength	1.00
		Restrictive layer	0.50	Strength	0.50		
		Stickiness/slope	0.50	Landslides	0.10		
		Strength	0.50				
		Landslides	0.10				
Mimosa	42	Moderate:		Poorly suited:		Severe:	
		Slope	0.50	Slope	1.00	Strength	1.00
		Stickiness/slope	0.50	Strength	0.50		
		Strength	0.50	Landslides	0.10		
		Landslides	0.10				
ThC2:							
Tarklin	60	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
				Wetness	0.50		
Humphreys	30	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
TmC2, TmC3:							
Tarklin	60	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
				Wetness	0.50		
Minvale	40	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
TmE3:							
Tarklin	60	Moderate:		Poorly suited:		Severe:	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
Minvale	40	Moderate:		Poorly suited:		Severe:	
		Landslides	0.50	Slope	1.00	Strength	1.00
		Slope	0.50	Strength	0.50		
		Strength	0.50	Landslides	0.50		
ToA:							
Trace	90	Moderate:		Moderately suited:		Severe:	
		Flooding	0.50	Flooding	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
TrA:							
Trace	90	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00

Table 8.—Forestland Management (Part I)—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
Ua:							
Udalfs	70	Moderate:		Poorly suited:		Severe:	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
		Landslides	0.10	Landslides	0.10		
Gullied land	30	Not rated		Not rated		Not rated	
Ud:							
Udarents	80	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	
WfA:							
Wolftever	95	Severe:		Poorly suited:		Severe:	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
WfB2:							
Wolftever	90	Severe:		Poorly suited:		Severe:	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
WlB:							
Wolftever	85	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
Wm:							
Woodmont	90	Moderate:		Moderately suited:		Severe:	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		

Table 8.—Forestland Management (Part II)

(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
AmA:							
Armour	95	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	1.00
						Strength	0.50
AmB:							
Armour	100	Slight:		Moderate:		Moderately suited:	
		Slope/erodibility	0.10	Slope/erodibility	0.44	Strength	0.50
ArA:							
Armour	95	Slight:		Slight:		Moderately suited:	
		Slope/erodibility	0.04	Slope/erodibility	0.17	Strength	0.50
At:							
Arrington	100	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	1.00
						Strength	0.50
BA:							
Beason	50	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	1.00
						Strength	0.50
						Wetness	0.50
Chenneby	45	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	1.00
						Strength	0.50
						Wetness	0.50
BbC:							
Biffle	95	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.20	Slope/erodibility	1.00	Slope	0.50
						Strength	0.50
						Landslides	0.10
BbD:							
Biffle	95	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.45	Slope/erodibility	1.00	Slope	1.00
						Landslides	1.00
						Strength	0.50
BbF:							
Biffle	95	Severe:		Severe:		Poorly suited:	
		Slope/erodibility	0.88	Slope/erodibility	1.00	Slope	1.00
						Landslides	1.00
						Strength	0.50
BSF:							
Biffle	36	Very severe:		Severe:		Poorly suited:	
		Slope/erodibility	1.00	Slope/erodibility	1.00	Slope	1.00
						Landslides	1.00
						Strength	0.50

Table 8.—Forestland Management (Part II)—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
BSF:							
Hawthorne	35	Very severe:		Severe:		Poorly suited:	
		Slope/erodibility	1.00	Slope/erodibility	1.00	Slope	1.00
						Landslides	1.00
						Strength	0.50
Sulphura	22	Very severe:		Severe:		Poorly suited:	
		Slope/erodibility	1.00	Slope/erodibility	1.00	Slope	1.00
						Landslides	1.00
						Strength	0.50
BtC:							
Braxton	60	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.20	Slope/erodibility	1.00	Slope	0.50
						Strength	0.50
Talbott	30	Moderate:		Severe:		Moderately suited:	
		Slope/erodibility	0.24	Slope/erodibility	1.00	Slope	0.50
						Strength	0.50
BtC3:							
Braxton	60	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.20	Slope/erodibility	1.00	Slope	0.50
						Strength	0.50
Talbott	30	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.20	Slope/erodibility	1.00	Slope	0.50
						Strength	0.50
BtE:							
Braxton	60	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.49	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
Talbott	30	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.61	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
BtE3:							
Braxton	60	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.49	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
Talbott	30	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.49	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
BuB2:							
Busseltown	90	Slight:		Moderate:		Moderately suited:	
		Slope/erodibility	0.08	Slope/erodibility	0.44	Strength	0.50
						Wetness	0.50
BuC3:							
Busseltown	100	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.18	Slope/erodibility	1.00	Strength	0.50
						Wetness	0.50
						Slope	0.50

Table 8.—Forestland Management (Part II)—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
Cb:							
Chenneby	75	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Flooding	1.00
						Strength	0.50
						Wetness	0.50
Ch:							
Chenneby	75	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	1.00
						Strength	0.50
						Wetness	0.50
DeD2:							
Dellrose	90	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.25	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.50
DeF:							
Dellrose	60	Severe:		Severe:		Poorly suited:	
		Slope/erodibility	0.78	Slope/erodibility	1.00	Slope	1.00
						Landslides	1.00
						Strength	0.50
Mimosa	35	Severe:		Severe:		Poorly suited:	
		Slope/erodibility	0.78	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.10
DkB2:							
Dickson	100	Slight:		Moderate:		Moderately suited:	
		Slope/erodibility	0.10	Slope/erodibility	0.44	Strength	0.50
						Wetness	0.50
Eg:							
Egam	95	Slight:		Slight:		Moderately suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Strength	0.50
Es, Ev:							
Ellisville	90	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	1.00
						Strength	0.50
GdF:							
Gladdice	40	Severe:		Severe:		Poorly suited:	
		Slope/erodibility	0.92	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.50
Rock outcrop	30	Not rated		Not rated		Not rated	
Mimosa	25	Severe:		Severe:		Poorly suited:	
		Slope/erodibility	0.92	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.50

Table 8.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Gm:							
Gumdale	90	Slight:		Slight:		Moderately suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Strength	0.50
						Wetness	0.50
HuA:							
Humphreys	90	Slight:		Slight:		Moderately suited:	
		Slope/erodibility	0.03	Slope/erodibility	0.17	Strength	0.50
HuB:							
Humphreys	90	Slight:		Moderate:		Moderately suited:	
		Slope/erodibility	0.08	Slope/erodibility	0.44	Strength	0.50
HuC:							
Humphreys	90	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.18	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
IrC:							
Ironcity	85	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.18	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
LaC:							
Lax	55	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.22	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
Ironcity	45	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.18	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
LbB:							
Lax	90	Slight:		Moderate:		Moderately suited:	
		Slope/erodibility	0.10	Slope/erodibility	0.44	Strength	0.50
LbC:							
Lax	100	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.22	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
Le:							
Lee	90	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Flooding	1.00
						Wetness	1.00
						Strength	0.50
Lo:							
Lobelville	90	Slight:		Slight:		Moderately suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	0.50
						Strength	0.50
						Wetness	0.50
MaE3:							
Marsh	95	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.57	Slope/erodibility	1.00	Landslides	1.00
						Slope	1.00
						Strength	0.50

Table 8.—Forestland Management (Part II)—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
Mn:							
Minter	90	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Flooding	1.00
						Wetness	1.00
						Strength	0.50
PdA:							
Paden	90	Slight:		Slight:		Moderately suited:	
		Slope/erodibility	0.04	Slope/erodibility	0.17	Strength	0.50
PdB2:							
Paden	90	Slight:		Moderate:		Moderately suited:	
		Slope/erodibility	0.07	Slope/erodibility	0.33	Strength	0.50
						Wetness	0.50
PdC2:							
Paden	90	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.22	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
						Wetness	0.50
PdC3:							
Paden	85	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.22	Slope/erodibility	1.00	Strength	0.50
						Wetness	0.50
						Slope	0.50
PkB2:							
Pickwick	90	Slight:		Moderate:		Moderately suited:	
		Slope/erodibility	0.10	Slope/erodibility	0.44	Strength	0.50
PkC2:							
Pickwick	90	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.22	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
PkC3:							
Pickwick	85	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.22	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
Pt:							
Pits	90	Not rated		Not rated		Not rated	
Rb:							
Riverby	85	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.03	Slope/erodibility	0.09	Flooding	1.00
RoD:							
Rock outcrop	55	Not rated		Not rated		Not rated	
Barfield	35	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.39	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.10

Table 8.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RoF:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Barfield	35	Very severe:		Severe:		Poorly suited:	
		Slope/erodibility	1.00	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.10
Sa:							
Staser	90	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	1.00
						Strength	0.50
SeC3:							
Stiversville	100	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.18	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
SgC:							
Sugargrove	85	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.18	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
						Landslides	0.10
SgD:							
Sugargrove	85	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.31	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.50
Sn:							
Sullivan	90	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	1.00
						Strength	0.50
SpF:							
Sulphura	95	Severe:		Severe:		Poorly suited:	
		Slope/erodibility	0.78	Slope/erodibility	1.00	Slope	1.00
						Landslides	1.00
						Strength	0.50
SuF:							
Sulphura	55	Very severe:		Severe:		Poorly suited:	
		Slope/erodibility	0.98	Slope/erodibility	1.00	Slope	1.00
						Landslides	1.00
						Strength	0.50
Rock outcrop	30	Not rated		Not rated		Not rated	
TbD:							
Talbott	50	Moderate:		Severe:		Moderately suited:	
		Slope/erodibility	0.24	Slope/erodibility	1.00	Slope	0.50
						Strength	0.50
Mimosa	42	Moderate:		Severe:		Moderately suited:	
		Slope/erodibility	0.24	Slope/erodibility	1.00	Slope	0.50
						Strength	0.50

Table 8.—Forestland Management (Part II)—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
TbE:							
Talbott	50	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.61	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.10
Mimosa	42	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.61	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.10
ThC2:							
Tarklin	60	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.18	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
						Wetness	0.50
Humphreys	30	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.18	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
TmC2, TmC3:							
Tarklin	60	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.18	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
						Wetness	0.50
Minvale	40	Slight:		Severe:		Moderately suited:	
		Slope/erodibility	0.18	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
TmE3:							
Tarklin	60	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.41	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Wetness	0.50
						Landslides	0.10
Minvale	40	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.41	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.50
ToA:							
Trace	90	Slight:		Slight:		Moderately suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	0.50
						Strength	0.50
TrA:							
Trace	90	Slight:		Slight:		Moderately suited:	
		Slope/erodibility	0.05	Slope/erodibility	0.22	Strength	0.50

Table 8.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ua:							
Udalfs	70	Moderate:		Severe:		Poorly suited:	
		Slope/erodibility	0.35	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.10
Gullied land	30	Not rated		Not rated		Not rated	
Ud:							
Udarents	80	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	
WfA:							
Wolftever	95	Slight:		Slight:		Poorly suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	1.00
						Strength	0.50
WfB2:							
Wolftever	90	Slight:		Moderate:		Poorly suited:	
		Slope/erodibility	0.10	Slope/erodibility	0.44	Flooding	1.00
						Strength	0.50
WlB:							
Wolftever	85	Slight:		Moderate:		Moderately suited:	
		Slope/erodibility	0.10	Slope/erodibility	0.44	Strength	0.50
Wm:							
Woodmont	90	Slight:		Slight:		Moderately suited:	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Strength	0.50
						Wetness	0.50

Table 8.—Forestland Management (Part III)

(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
AmA:							
Armour	95	Well suited		Well suited		Moderately suited:	
						Strength	0.50
AmB:							
Armour	100	Well suited		Well suited		Moderately suited:	
						Strength	0.50
ArA:							
Armour	95	Well suited		Well suited		Moderately suited:	
						Strength	0.50
At:							
Arrington	100	Well suited		Well suited		Moderately suited:	
						Strength	0.50
BA:							
Beason	50	Well suited		Well suited		Moderately suited:	
						Strength	0.50
Chenneby	45	Well suited		Well suited		Moderately suited:	
						Strength	0.50
BbC:							
Biffle	95	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
BbD:							
Biffle	95	Well suited		Poorly suited:		Moderately suited:	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
BbF:							
Biffle	95	Moderately suited:		Unsuited:		Poorly suited:	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
BSF:							
Biffle	36	Moderately suited:		Unsuited:		Poorly suited:	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
Hawthorne	35	Moderately suited:		Unsuited:		Poorly suited:	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
Sulphura	22	Moderately suited:		Unsuited:		Poorly suited:	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50

Table 8.—Forestland Management (Part III)—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
BtC:							
Braxton	60	Moderately suited:		Moderately suited:		Moderately suited:	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
Talbott	30	Poorly suited:		Poorly suited:		Moderately suited:	
		Stickiness	0.75	Stickiness	0.75	Strength	0.50
				Slope	0.50		
BtC3:							
Braxton	60	Moderately suited:		Moderately suited:		Moderately suited:	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
				Slope	0.50		
Talbott	30	Poorly suited:		Poorly suited:		Moderately suited:	
		Stickiness	0.75	Stickiness	0.75	Strength	0.50
				Slope	0.50		
BtE:							
Braxton	60	Moderately suited:		Poorly suited:		Moderately suited:	
		Stickiness	0.50	Slope	0.75	Strength	0.50
				Stickiness	0.50	Slope	0.50
				Rock fragments	0.50		
Talbott	30	Poorly suited:		Poorly suited:		Moderately suited:	
		Stickiness	0.75	Slope	0.75	Strength	0.50
				Stickiness	0.75	Slope	0.50
BtE3:							
Braxton	60	Moderately suited:		Poorly suited:		Moderately suited:	
		Stickiness	0.50	Slope	0.75	Strength	0.50
				Stickiness	0.50	Slope	0.50
Talbott	30	Poorly suited:		Poorly suited:		Moderately suited:	
		Stickiness	0.75	Slope	0.75	Strength	0.50
				Stickiness	0.75	Slope	0.50
BuB2:							
Busseltown	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50
BuC3:							
Busseltown	100	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
Cb, Ch:							
Chenneby	75	Well suited		Well suited		Moderately suited:	
						Strength	0.50
DeD2:							
Dellrose	90	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		

Table 8.—Forestland Management (Part III)—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
DeF:							
Dellrose	60	Moderately suited:		Unsuited:		Poorly suited:	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
Mimosa	35	Moderately suited:		Unsuited:		Poorly suited:	
		Slope	0.50	Slope	1.00	Slope	1.00
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
				Rock fragments	0.50		
DkB2:							
Dickson	100	Well suited		Well suited		Moderately suited:	
						Strength	0.50
Eg:							
Egam	95	Moderately suited:		Moderately suited:		Moderately suited:	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
Es, Ev:							
Ellisville	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50
GdF:							
Gladdice	40	Moderately suited:		Unsuited:		Poorly suited:	
		Stickiness	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Stickiness	0.50	Strength	0.50
				Rock fragments	0.50		
Rock outcrop	30	Not rated		Not rated		Not rated	
Mimosa	25	Moderately suited:		Unsuited:		Poorly suited:	
		Slope	0.50	Slope	1.00	Slope	1.00
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
				Rock fragments	0.50		
Gm:							
Gumdale	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50
HuA, HuB:							
Humphreys	90	Well suited		Moderately suited:		Moderately suited:	
				Rock fragments	0.50	Strength	0.50
HuC:							
Humphreys	90	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
IrC:							
Ironcity	85	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50

Table 8.—Forestland Management (Part III)—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
LaC:							
Lax	55	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
Ironcity	45	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
LbB:							
Lax	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50
LbC:							
Lax	100	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
Le:							
Lee	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50
Lo:							
Lobelville	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50
MaE3:							
Marsh	95	Well suited		Poorly suited:		Moderately suited:	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
Mn:							
Minter	90	Moderately suited:		Moderately suited:		Moderately suited:	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
PdA, PdB2:							
Paden	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50
PdC2:							
Paden	90	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
PdC3:							
Paden	85	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
PkB2:							
Pickwick	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50
PkC2:							
Pickwick	90	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
PkC3:							
Pickwick	85	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50

Table 8.—Forestland Management (Part III)—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
Pt:							
Pits	90	Not rated		Not rated		Not rated	
Rb:							
Riverby	85	Well suited		Moderately suited:		Well suited	
				Rock fragments	0.50		
RoD:							
Rock outcrop	55	Not rated		Not rated		Not rated	
Barfield	35	Poorly suited:		Poorly suited:		Moderately suited:	
		Stickiness	0.75	Slope	0.75	Strength	0.50
				Stickiness	0.75	Slope	0.50
				Rock fragments	0.50		
RoF:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Barfield	35	Poorly suited:		Unsuited:		Poorly suited:	
		Stickiness	0.75	Slope	1.00	Slope	1.00
		Slope	0.50	Stickiness	0.75	Strength	0.50
				Rock fragments	0.50		
Sa:							
Staser	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50
SeC3:							
Stiversville	100	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
SgC:							
Sugargrove	85	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
SgD:							
Sugargrove	85	Well suited		Poorly suited:		Moderately suited:	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50		
Sn:							
Sullivan	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50
SpF:							
Sulphura	95	Moderately suited:		Unsuited:		Poorly suited:	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
SuF:							
Sulphura	55	Moderately suited:		Unsuited:		Poorly suited:	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
Rock outcrop	30	Not rated		Not rated		Not rated	

Table 8.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TbD:							
Talbott	50	Poorly suited:		Poorly suited:		Moderately suited:	
		Stickiness	0.75	Stickiness	0.75	Strength	0.50
				Slope	0.50		
Mimosa	42	Moderately suited:		Moderately suited:		Moderately suited:	
		Stickiness	0.50	Slope	0.50	Strength	0.50
				Stickiness	0.50		
TbE:							
Talbott	50	Poorly suited:		Poorly suited:		Moderately suited:	
		Stickiness	0.75	Slope	0.75	Strength	0.50
				Stickiness	0.75	Slope	0.50
Mimosa	42	Moderately suited:		Poorly suited:		Moderately suited:	
		Stickiness	0.50	Slope	0.75	Strength	0.50
				Stickiness	0.50	Slope	0.50
ThC2:							
Tarklin	60	Unsuited:		Moderately suited:		Moderately suited:	
		Restrictive layer	1.00	Slope	0.50	Strength	0.50
				Rock fragments	0.50		
				Restrictive layer	0.50		
Humphreys	30	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
TmC2, TmC3:							
Tarklin	60	Unsuited:		Moderately suited:		Moderately suited:	
		Restrictive layer	1.00	Slope	0.50	Strength	0.50
				Rock fragments	0.50		
				Restrictive layer	0.50		
Minvale	40	Well suited		Moderately suited:		Moderately suited:	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
TmE3:							
Tarklin	60	Unsuited:		Poorly suited:		Moderately suited:	
		Restrictive layer	1.00	Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
				Restrictive layer	0.50		
Minvale	40	Well suited		Poorly suited:		Moderately suited:	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
ToA, TrA:							
Trace	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50

Table 8.—Forestland Management (Part III)—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
Ua:							
Udalfs	70	Moderately suited:		Poorly suited:		Moderately suited:	
		Stickiness	0.50	Slope	0.75	Strength	0.50
				Stickiness	0.50		
Gullied land	30	Not rated		Not rated		Not rated	
Ud:							
Udarents	80	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	
WfA:							
Wolftever	95	Well suited		Well suited		Moderately suited:	
						Strength	0.50
WfB2:							
Wolftever	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50
WlB:							
Wolftever	85	Well suited		Well suited		Moderately suited:	
						Strength	0.50
Wm:							
Woodmont	90	Well suited		Well suited		Moderately suited:	
						Strength	0.50

Table 8.—Forestland Management (Part IV)

(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): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
AmA:					
Armour	95	Well suited		Well suited	
AmB:					
Armour	100	Well suited		Well suited	
ArA:					
Armour	95	Well suited		Well suited	
At:					
Arrington	100	Well suited		Well suited	
BA:					
Beason	50	Well suited		Well suited	
Chenneby	45	Well suited		Well suited	
BbC:					
Biffle	95	Well suited		Unsuited:	
				Restrictive layer	1.00
BbD:					
Biffle	95	Poorly suited:		Unsuited:	
		Slope	0.50	Restrictive layer	1.00
				Slope	0.50
BbF:					
Biffle	95	Unsuited:		Unsuited:	
		Slope	1.00	Restrictive layer	1.00
				Slope	1.00
BSF:					
Biffle	36	Unsuited:		Unsuited:	
		Slope	1.00	Restrictive layer	1.00
				Slope	1.00
Hawthorne	35	Unsuited:		Unsuited:	
		Slope	1.00	Restrictive layer	1.00
				Slope	1.00
Sulphura	22	Unsuited:		Unsuited:	
		Slope	1.00	Slope	1.00
BtC, BtC3:					
Braxton	60	Well suited		Well suited	
Talbott	30	Poorly suited:		Well suited	
		Stickiness	0.50		

Table 8.—Forestland Management (Part IV)—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
BtE, BtE3:					
Braxton	60	Poorly suited:		Poorly suited:	
		Slope	0.50	Slope	0.50
Talbott	30	Poorly suited:		Poorly suited:	
		Slope	0.50	Slope	0.50
		Stickiness	0.50		
BuB2:					
Busseltown	90	Well suited		Well suited	
BuC3:					
Busseltown	100	Well suited		Well suited	
Cb, Ch:					
Chenneby	75	Well suited		Well suited	
DeD2:					
Dellrose	90	Well suited		Well suited	
DeF:					
Dellrose	60	Unsuited:		Unsuited:	
		Slope	1.00	Slope	1.00
Mimosa	35	Unsuited:		Unsuited:	
		Slope	1.00	Slope	1.00
DkB2:					
Dickson	100	Well suited		Well suited	
Eg:					
Egam	95	Well suited		Well suited	
Es, Ev:					
Ellisville	90	Well suited		Well suited	
GdF:					
Gladdice	40	Unsuited:		Unsuited:	
		Slope	1.00	Slope	1.00
		Stickiness	0.50	Restrictive layer	0.50
Rock outcrop	30	Not rated		Not rated	
Mimosa	25	Unsuited:		Unsuited:	
		Slope	1.00	Slope	1.00
Gm:					
Gumdale	90	Well suited		Well suited	
HuA, HuB, HuC:					
Humphreys	90	Well suited		Well suited	
IrC:					
Ironcity	85	Well suited		Well suited	

Table 8.—Forestland Management (Part IV)—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
LaC:					
Lax	55	Well suited		Well suited	
Ironcity	45	Well suited		Well suited	
LbB:					
Lax	90	Well suited		Well suited	
LbC:					
Lax	100	Well suited		Well suited	
Le:					
Lee	90	Well suited		Well suited	
Lo:					
Lobelville	90	Well suited		Well suited	
MaE3:					
Marsh	95	Poorly suited:		Unsuited:	
		Slope	0.50	Restrictive layer	1.00
				Slope	0.50
Mn:					
Minter	90	Well suited		Well suited	
PdA, PdB2, PdC2:					
Paden	90	Well suited		Well suited	
PdC3:					
Paden	85	Well suited		Well suited	
PkB2, PkC2:					
Pickwick	90	Well suited		Well suited	
PkC3:					
Pickwick	85	Well suited		Well suited	
Pt:					
Pits	90	Not rated		Not rated	
Rb:					
Riverby	85	Well suited		Well suited	
RoD:					
Rock outcrop	55	Not rated		Not rated	
Barfield	35	Poorly suited:		Unsuited:	
		Slope	0.50	Restrictive layer	1.00
		Stickiness	0.50	Slope	0.50
RoF:					
Rock outcrop	60	Not rated		Not rated	
Barfield	35	Unsuited:		Unsuited:	
		Slope	1.00	Slope	1.00
		Stickiness	0.50		

Table 8.—Forestland Management (Part IV)—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
Sa:					
Staser	90	Well suited		Well suited	
SeC3:					
Stiversville	100	Well suited		Well suited	
SgC:					
Sugargrove	85	Well suited		Well suited	
SgD:					
Sugargrove	85	Poorly suited:		Poorly suited:	
		Slope	0.50	Slope	0.50
Sn:					
Sullivan	90	Well suited		Well suited	
SpF:					
Sulphura	95	Unsuited:		Unsuited:	
		Slope	1.00	Slope	1.00
				Restrictive layer	0.50
SuF:					
Sulphura	55	Unsuited:		Unsuited:	
		Slope	1.00	Slope	1.00
Rock outcrop	30	Not rated		Not rated	
TbD:					
Talbott	50	Poorly suited:		Poorly suited:	
		Stickiness	0.50	Restrictive layer	0.50
Mimosa	42	Well suited		Well suited	
TbE:					
Talbott	50	Poorly suited:		Poorly suited:	
		Slope	0.50	Slope	0.50
		Stickiness	0.50		
Mimosa	42	Poorly suited:		Poorly suited:	
		Slope	0.50	Slope	0.50
ThC2:					
Tarklin	60	Poorly suited:		Well suited	
		Restrictive layer	0.50		
Humphreys	30	Well suited		Well suited	
TmC2, TmC3:					
Tarklin	60	Poorly suited:		Well suited	
		Restrictive layer	0.50		
Minvale	40	Well suited		Well suited	
TmE3:					
Tarklin	60	Poorly suited:		Poorly suited:	
		Slope	0.50	Slope	0.50
		Restrictive layer	0.50		

Table 8.—Forestland Management (Part IV)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
TmE3:					
Minvale	40	Poorly suited:		Poorly suited:	
		Slope	0.50	Slope	0.50
ToA, TrA:					
Trace	90	Well suited		Well suited	
Ua:					
Udalfs	70	Poorly suited:		Poorly suited:	
		Slope	0.50	Slope	0.50
Gullied land	30	Not rated		Not rated	
Ud:					
Udarents	80	Not rated		Not rated	
W:					
Water	100	Not rated		Not rated	
WfA:					
Wolftever	95	Well suited		Well suited	
WfB2:					
Wolftever	90	Well suited		Well suited	
WlB:					
Wolftever	85	Well suited		Well suited	
Wm:					
Woodmont	90	Well suited		Well suited	

Table 8.—Forestland Management (Part V)

(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	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
AmA:					
Armour	95	Moderate:		Low	
		Texture/coarse fragments	0.50		
AmB:					
Armour	100	Moderate:		Low	
		Texture/coarse fragments	0.50		
ArA:					
Armour	95	Moderate:		Low	
		Texture/coarse fragments	0.50		
At:					
Arrington	100	Low:		Low	
		Texture/coarse fragments	0.10		
BA:					
Beason	50	Low		High:	
				Wetness	1.00
Chenneby	45	Low:		High:	
		Texture/coarse fragments	0.10	Wetness	1.00
BbC, BbD, BbF:					
Biffle	95	Moderate:		High:	
		Texture/coarse fragments	0.50	Droughty	1.00
BSF:					
Biffle	36	Moderate:		High:	
		Texture/coarse fragments	0.50	Droughty	1.00
Hawthorne	35	Low:		High:	
		Texture/coarse fragments	0.10	Droughty	1.00
Sulphura	22	High:		High:	
		Texture/slope/ coarse fragments	1.00	Droughty	1.00
BtC:					
Braxton	60	Moderate:		Low	
		Texture/coarse fragments	0.50		

Table 8.—Forestland Management (Part V)—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
BtC:					
Talbott	30	Moderate:		Low	
		Texture/coarse fragments	0.50		
BtC3:					
Braxton	60	Moderate:		Low	
		Texture/surface depth/coarse fragments	0.50		
Talbott	30	High:		Low	
		Texture/surface depth/coarse fragments	1.00		
BtE:					
Braxton	60	Moderate:		Moderate:	
		Texture/coarse fragments	0.50	Droughty	0.75
Talbott	30	Moderate:		Moderate:	
		Texture/coarse fragments	0.50	Droughty	0.75
BtE3:					
Braxton	60	High:		High:	
		Texture/surface depth/coarse fragments	1.00	Droughty	1.00
Talbott	30	High:		High:	
		Texture/surface depth/coarse fragments	1.00	Droughty	1.00
BuB2:					
Busseltown	90	Low:		Low	
		Texture/coarse fragments	0.10		
BuC3:					
Busseltown	100	Low		Moderate:	
				Restrictive layer	0.75
Cb, Ch:					
Chenneby	75	Moderate:		High:	
		Texture/coarse fragments	0.50	Wetness	1.00
DeD2:					
Dellrose	90	Moderate:		Low	
		Texture/coarse fragments	0.50		

Table 8.—Forestland Management (Part V)—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
DeF:					
Dellrose	60	Moderate: Texture/coarse fragments	0.50	Moderate: Droughty	0.50
Mimosa	35	High: Texture/slope/ coarse fragments	1.00	Moderate: Droughty	0.75
DkB2:					
Dickson	100	Moderate: Texture/coarse fragments	0.50	Low	
Eg:					
Egam	95	Low		Low	
Es, Ev:					
Ellisville	90	Moderate: Texture/coarse fragments	0.50	Low	
GdF:					
Gladdice	40	High: Texture/slope/ coarse fragments	1.00	Moderate: Droughty	0.75
Rock outcrop	30	Not rated		Not rated	
Mimosa	25	High: Texture/slope/ coarse fragments	1.00	Moderate: Droughty	0.75
Gm:					
Gumdale	90	Moderate: Texture/coarse fragments	0.50	Low	
HuA, HuB, HuC:					
Humphreys	90	Moderate: Texture/coarse fragments	0.50	Low	
IrC:					
Ironcity	85	Moderate: Texture/coarse fragments	0.50	Low	
LaC:					
Lax	55	Moderate: Texture/coarse fragments	0.50	Moderate: Droughty	0.50
Ironcity	45	Moderate: Texture/coarse fragments	0.50	Low	

Table 8.—Forestland Management (Part V)—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
LbB:					
Lax	90	Moderate:		Moderate:	
		Texture/coarse fragments	0.50	Droughty	0.50
LbC:					
Lax	100	Moderate:		Moderate:	
		Texture/coarse fragments	0.50	Droughty	0.50
Le:					
Lee	90	Moderate:		High:	
		Texture/surface depth/coarse fragments	0.50	Wetness	1.00
Lo:					
Lobelville	90	Moderate:		Low	
		Texture/coarse fragments	0.50		
MaE3:					
Marsh	95	High:		High:	
		Texture/surface depth/coarse fragments	1.00	Restrictive layer	1.00
Mn:					
Minter	90	Low		High:	
				Wetness	1.00
PdA, PdB2, PdC2:					
Paden	90	Moderate:		Low	
		Texture/coarse fragments	0.50		
PdC3:					
Paden	85	Moderate:		Moderate:	
		Texture/coarse fragments	0.50	Restrictive layer	0.75
PkB2, PkC2:					
Pickwick	90	Moderate:		Low	
		Texture/coarse fragments	0.50		
PkC3:					
Pickwick	85	High:		Low	
		Texture/surface depth/coarse fragments	1.00		
Pt:					
Pits	90	Not rated		Not rated	

Table 8.—Forestland Management (Part V)—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
Rb:					
Riverby	85	Low		High:	
				Droughty	1.00
RoD:					
Rock outcrop	55	Not rated		Not rated	
Barfield	35	Low		High:	
				Droughty	1.00
RoF:					
Rock outcrop	60	Not rated		Not rated	
Barfield	35	High:		High:	
		Texture/slope/ coarse fragments	1.00	Droughty	1.00
Sa:					
Staser	90	Moderate:		Low	
		Texture/coarse fragments	0.50		
SeC3:					
Stiversville	100	High:		Low	
		Texture/surface depth/coarse fragments	1.00		
SgC:					
Sugargrove	85	Low:		Low	
		Texture/coarse fragments	0.10		
SgD:					
Sugargrove	85	Moderate:		Low	
		Texture/coarse fragments	0.50		
Sn:					
Sullivan	90	Low:		Low	
		Texture/coarse fragments	0.10		
SpF:					
Sulphura	95	High:		High:	
		Texture/slope/ coarse fragments	1.00	Droughty	1.00
SuF:					
Sulphura	55	High:		High:	
		Texture/slope/ coarse fragments	1.00	Droughty	1.00
Rock outcrop	30	Not rated		Not rated	
TbD:					
Talbott	50	Moderate:		Moderate:	
		Texture/coarse fragments	0.50	Droughty	0.75

Table 8.—Forestland Management (Part V)—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
TbD:					
Mimosa	42	Moderate: Texture/coarse fragments	0.50	Moderate: Droughty	0.75
TbE:					
Talbott	50	Moderate: Texture/coarse fragments	0.50	High: Droughty	1.00
Mimosa	42	Low: Texture/coarse fragments	0.10	High: Droughty	1.00
ThC2:					
Tarklin	60	Moderate: Texture/coarse fragments	0.50	Low	
Humphreys	30	Moderate: Texture/coarse fragments	0.50	Low	
TmC2:					
Tarklin	60	Moderate: Texture/coarse fragments	0.50	Low	
Minvale	40	Moderate: Texture/coarse fragments	0.50	Low	
TmC3, TmE3:					
Tarklin	60	High: Texture/surface depth/coarse fragments	1.00	Moderate: Droughty	0.50
Minvale	40	High: Texture/surface depth/coarse fragments	1.00	Low	
ToA, TrA:					
Trace	90	Moderate: Texture/coarse fragments	0.50	Low	
Ua:					
Udalfs	70	Low		Low	
Gullied land	30	Not rated		Not rated	
Ud:					
Udarents	80	Not rated		Not rated	

Table 8.—Forestland Management (Part V)—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
W:					
Water	100	Not rated		Not rated	
WfA:					
Wolftever	95	Moderate:		Low	
		Texture/coarse fragments	0.50		
WfB2:					
Wolftever	90	High:		Low	
		Texture/surface depth/coarse fragments	1.00		
WlB:					
Wolftever	85	Low		Low	
Wm:					
Woodmont	90	Moderate:		High:	
		Texture/coarse fragments	0.50	Wetness	1.00

Table 9.—Recreation (Part I)

(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
AmA:							
Armour	95	Very limited:		Not limited		Somewhat limited:	
		Flooding	1.00			Flooding	0.60
AmB:							
Armour	100	Not limited		Not limited		Somewhat limited:	
						Slope	0.48
ArA:							
Armour	95	Very limited:		Not limited		Somewhat limited:	
		Flooding	1.00			Slope	0.01
At:							
Arrington	100	Very limited:		Somewhat limited:		Very limited:	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
BA:							
Beason	50	Very limited:		Somewhat limited:		Very limited:	
		Flooding	1.00	Depth to saturated zone	0.88	Flooding	1.00
		Depth to saturated zone	1.00	Flooding	0.40	Depth to saturated zone	1.00
				Flooding	0.40		
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Chenneby	45	Very limited:		Somewhat limited:		Very limited:	
		Flooding	1.00	Depth to saturated zone	0.88	Flooding	1.00
		Depth to saturated zone	1.00	Flooding	0.40	Depth to saturated zone	1.00
BbC:							
Biffle	95	Very limited:		Very limited:		Very limited:	
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Gravel content	0.59	Gravel content	0.59	Slope	1.00
		Slope	0.16	Slope	0.16	Gravel content	1.00
						Depth to bedrock	0.42
BbD:							
Biffle	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.59	Gravel content	0.59	Gravel content	1.00
						Depth to bedrock	0.97

Table 9.—Recreation (Part I)—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
BbF:							
Biffle	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Gravel content	0.59	Gravel content	0.59	Gravel content	1.00
						Depth to bedrock	0.42
BSF:							
Biffle	36	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Gravel content	0.59	Gravel content	0.59	Gravel content	1.00
						Depth to bedrock	0.42
Hawthorne	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.99	Restricted permeability	0.99	Gravel content	1.00
		Gravel content	0.22	Gravel content	0.22	Restricted permeability	0.99
						Depth to bedrock	0.42
						Content of large stones	0.01
Sulphura	22	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
						Gravel content	0.99
						Depth to bedrock	0.42
BtC:							
Braxton	60	Somewhat limited:		Somewhat limited:		Very limited:	
		Restricted permeability	0.96	Restricted permeability	0.96	Gravel content	1.00
		Gravel content	0.47	Gravel content	0.47	Slope	1.00
		Slope	0.16	Slope	0.16	Restricted permeability	0.96
Talbott	30	Very limited:		Very limited:		Very limited:	
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Slope	0.16	Slope	0.16	Slope	1.00
						Depth to bedrock	0.42
						Content of large stones	0.01
BtC3:							
Braxton	60	Somewhat limited:		Somewhat limited:		Very limited:	
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	1.00
		Slope	0.16	Slope	0.16	Restricted permeability	0.26
						Gravel content	0.06

Table 9.—Recreation (Part I)—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
BtC3:							
Talbott	30	Somewhat limited:		Somewhat limited:		Very limited:	
		Restricted permeability	0.21	Restricted permeability	0.21	Slope	1.00
		Slope	0.16	Slope	0.16	Depth to bedrock	0.42
						Restricted permeability	0.21
BtE:							
Braxton	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Gravel content	1.00
		Gravel content	0.47	Gravel content	0.47	Restricted permeability	0.96
Talbott	30	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
						Depth to bedrock	0.42
						Content of large stones	0.01
BtE3:							
Braxton	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
						Gravel content	0.06
Talbott	30	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.21	Restricted permeability	0.21	Depth to bedrock	0.42
						Restricted permeability	0.21
BuB2:							
Busseltown	90	Very limited:		Somewhat limited:		Somewhat limited:	
		Flooding	1.00	Depth to saturated zone	0.56	Depth to cemented pan	1.00
		Depth to saturated zone	0.92			Depth to saturated zone	0.92
						Slope	0.48
BuC3:							
Busseltown	100	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Depth to cemented pan	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.88	Slope	1.00
		Depth to cemented pan	1.00	Slope	0.04	Depth to cemented pan	1.00
		Slope	0.04				
Cb:							
Chenneby	75	Very limited:		Somewhat limited:		Very limited:	
		Flooding	1.00	Depth to saturated zone	0.88	Flooding	1.00
		Depth to saturated zone	1.00	Flooding	0.40	Depth to saturated zone	1.00

Table 9.—Recreation (Part I)—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
Ch:							
Chenneby	75	Very limited:		Somewhat limited:		Very limited:	
		Flooding	1.00	Depth to saturated zone	0.88	Depth to saturated zone	1.00
		Depth to saturated zone	1.00			Flooding	0.60
DeD2:							
Dellrose	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.84	Slope	0.84	Slope	1.00
		Gravel content	0.04	Gravel content	0.04	Gravel content	1.00
						Content of large stones	0.01
DeF:							
Dellrose	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too stony	0.76	Too stony	0.76	Gravel content	1.00
		Gravel content	0.04	Gravel content	0.04	Too stony	0.76
						Content of large stones	0.01
Mimosa	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
						Content of large stones	0.08
DkB2:							
Dickson	100	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Depth to saturated zone	0.92	Depth to saturated zone	0.56	Depth to cemented pan	1.00
						Depth to saturated zone	0.92
						Slope	0.48
Eg:							
Egam	95	Very limited:		Somewhat limited:		Somewhat limited:	
		Flooding	1.00	Restricted permeability	0.21	Restricted permeability	0.21
		Restricted permeability	0.21				
Es:							
Ellisville	90	Very limited:		Somewhat limited:		Very limited:	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
Ev:							
Ellisville	90	Very limited:		Not limited		Somewhat limited:	
		Flooding	1.00			Flooding	0.60

Table 9.—Recreation (Part I)—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
GdF:							
Gladdice	40	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
						Depth to bedrock	0.42
						Content of large stones	0.03
Rock outcrop	30	Not rated		Not rated		Not rated	
Mimosa	25	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
						Content of large stones	0.08
Gm:							
Gumdale	90	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00	Restricted permeability	0.99	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.75	Restricted permeability	0.99
		Restricted permeability	0.99				
HuA:							
Humphreys	90	Very limited:		Somewhat limited:		Very limited:	
		Flooding	1.00	Gravel content	0.25	Gravel content	1.00
		Gravel content	0.25			Slope	0.01
HuB:							
Humphreys	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Gravel content	0.25	Gravel content	0.25	Gravel content	1.00
						Slope	0.48
HuC:							
Humphreys	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Gravel content	0.25	Gravel content	0.25	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
IrC:							
Ironcity	85	Somewhat limited:		Somewhat limited:		Very limited:	
		Gravel content	0.11	Gravel content	0.11	Slope	1.00
		Slope	0.04	Slope	0.04	Gravel content	1.00
						Content of large stones	0.01
LaC:							
Lax	55	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.44	Depth to saturated zone	0.19	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to cemented pan	0.74
						Depth to saturated zone	0.44
						Gravel content	0.06

Table 9.—Recreation (Part I)—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
LaC:							
Ironcity	45	Somewhat limited:		Somewhat limited:		Very limited:	
		Gravel content	0.11	Gravel content	0.11	Slope	1.00
		Slope	0.04	Slope	0.04	Gravel content	1.00
						Content of large stones	0.01
LbB:							
Lax	90	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Depth to saturated zone	0.44	Depth to saturated zone	0.19	Depth to cemented pan	0.74
						Slope	0.48
						Depth to saturated zone	0.44
						Gravel content	0.06
LbC:							
Lax	100	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.44	Depth to saturated zone	0.19	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to cemented pan	0.74
						Depth to saturated zone	0.44
						Gravel content	0.06
Le:							
Lee	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	0.40	Flooding	1.00
						Gravel content	0.21
Lo:							
Lobelville	90	Very limited:		Somewhat limited:		Somewhat limited:	
		Flooding	1.00	Depth to saturated zone	0.68	Depth to saturated zone	0.98
		Depth to saturated zone	0.98			Flooding	0.60
						Gravel content	0.21
MaE3:							
Marsh	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.71
Mn:							
Minter	90	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	Restricted permeability	0.99	Ponding	1.00
		Restricted permeability	0.99	Flooding	0.40	Restricted permeability	0.99

Table 9.—Recreation (Part I)—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
PdA:							
Paden	90	Very limited:		Somewhat limited:		Somewhat limited:	
		Flooding	1.00	Depth to saturated zone	0.19	Depth to saturated zone	0.44
		Depth to saturated zone	0.44			Slope	0.01
PdB2:							
Paden	90	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Depth to saturated zone	0.92	Depth to saturated zone	0.56	Depth to cemented pan	0.99
						Depth to saturated zone	0.92
						Slope	0.21
PdC2:							
Paden	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.92	Depth to saturated zone	0.56	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to cemented pan	0.99
						Depth to saturated zone	0.92
PdC3:							
Paden	85	Very limited:		Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Restricted permeability	0.99	Slope	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.94	Depth to cemented pan	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.99
PkB2:							
Pickwick	90	Not limited		Not limited		Somewhat limited:	
						Slope	0.48
PkC2:							
Pickwick	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Slope	0.04	Slope	1.00
PkC3:							
Pickwick	85	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Slope	0.04	Slope	1.00
Pt:							
Pits	90	Not rated		Not rated		Not rated	
Rb:							
Riverby	85	Very limited:		Somewhat limited:		Very limited:	
		Flooding	1.00	Gravel content	0.62	Flooding	1.00
		Gravel content	0.62	Flooding	0.40	Gravel content	1.00
						Content of large stones	0.03
						Slope	0.01

Table 9.—Recreation (Part I)—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
RoD:							
Rock outcrop	55	Not rated		Not rated		Not rated	
Barfield	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
		Too stony	0.76	Too stony	0.76	Too stony	0.76
						Content of large stones	0.54
RoF:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Barfield	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
		Too stony	0.76	Too stony	0.76	Too stony	0.76
						Content of large stones	0.54
Sa:							
Staser	90	Very limited:		Not limited		Somewhat limited:	
		Flooding	1.00			Flooding	0.60
SeC3:							
Stiversville	100	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Slope	0.04	Slope	1.00
						Gravel content	0.05
SgC:							
Sugargrove	85	Somewhat limited:		Somewhat limited:		Very limited:	
		Gravel content	0.11	Gravel content	0.11	Slope	1.00
		Slope	0.04	Slope	0.04	Gravel content	1.00
						Content of large stones	0.01
SgD:							
Sugargrove	85	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.11	Gravel content	0.11	Gravel content	1.00
						Content of large stones	0.01
Sn:							
Sullivan	90	Very limited:		Not limited		Somewhat limited:	
		Flooding	1.00			Flooding	0.60
						Gravel content	0.06

Table 9.—Recreation (Part I)—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
SpF:							
Sulphura------------	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Restricted permeability	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
						Gravel content	0.99
						Depth to bedrock	0.42
SuF:							
Sulphura------------	55	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Restricted permeability	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
						Gravel content	0.99
						Depth to bedrock	0.42
Rock outcrop--------	30	Not rated		Not rated		Not rated	
TbD:							
Talbott-------------	50	Somewhat limited:		Somewhat limited:		Very limited:	
		Restricted permeability	0.21	Restricted permeability	0.21	Slope	1.00
		Slope	0.16	Slope	0.16	Depth to bedrock	0.42
						Restricted permeability	0.21
Mimosa--------------	42	Somewhat limited:		Somewhat limited:		Very limited:	
		Restricted permeability	0.99	Restricted permeability	0.99	Gravel content	1.00
		Slope	0.16	Slope	0.16	Slope	1.00
		Gravel content	0.01	Gravel content	0.01	Restricted permeability	0.99
						Content of large stones	0.08
TbE:							
Talbott-------------	50	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.21	Restricted permeability	0.21	Depth to bedrock	0.42
						Restricted permeability	0.21
Mimosa--------------	42	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.99	Restricted permeability	0.99	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Restricted permeability	0.99
						Content of large stones	0.08
ThC2:							
Tarklin-------------	60	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.82	Depth to saturated zone	0.43	Gravel content	1.00
		Gravel content	0.22	Gravel content	0.22	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to cemented pan	0.84
						Depth to saturated zone	0.82
						Content of large stones	0.01

Table 9.—Recreation (Part I)—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
ThC2:							
Humphreys	30	Somewhat limited:		Somewhat limited:		Very limited:	
		Gravel content	0.25	Gravel content	0.25	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
TmC2:							
Tarklin	60	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.82	Depth to saturated zone	0.43	Gravel content	1.00
		Gravel content	0.22	Gravel content	0.22	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to cemented pan	0.84
						Depth to saturated zone	0.82
						Content of large stones	0.01
Minvale	40	Somewhat limited:		Somewhat limited:		Very limited:	
		Gravel content	0.41	Gravel content	0.41	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
TmC3:							
Tarklin	60	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.92	Depth to saturated zone	0.56	Gravel content	1.00
		Gravel content	0.22	Gravel content	0.22	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to cemented pan	1.00
						Depth to saturated zone	0.92
						Content of large stones	0.01
Minvale	40	Somewhat limited:		Somewhat limited:		Very limited:	
		Gravel content	0.41	Gravel content	0.41	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
TmE3:							
Tarklin	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.92	Depth to saturated zone	0.56	Gravel content	1.00
		Gravel content	0.22	Gravel content	0.22	Depth to cemented pan	1.00
							1.00
						Depth to saturated zone	0.92
						Content of large stones	0.01
Minvale	40	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.41	Gravel content	0.41	Gravel content	1.00
ToA:							
Trace	90	Very limited:		Not limited		Somewhat limited:	
		Flooding	1.00			Flooding	0.60
TrA:							
Trace	90	Very limited:		Not limited		Somewhat limited:	
		Flooding	1.00			Slope	0.05

Table 9.—Recreation (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ua:							
Udalfs	70	Very limited:		Very limited:		Very limited:	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.85	Restricted permeability	0.85	Restricted permeability	0.85
						Gravel content	0.06
Gullied land	30	Not rated		Not rated		Not rated	
Ud:							
Udarents	80	Very limited:		Very limited:		Very limited:	
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
W:							
Water	100	Not rated		Not rated		Not rated	
WfA:							
Wolftever	95	Very limited:		Somewhat limited:		Somewhat limited:	
		Flooding	1.00	Restricted permeability	0.21	Flooding	0.60
		Restricted permeability	0.21			Restricted permeability	0.21
WfB2:							
Wolftever	90	Very limited:		Somewhat limited:		Somewhat limited:	
		Flooding	1.00	Restricted permeability	0.21	Flooding	0.60
		Restricted permeability	0.21			Slope	0.48
						Restricted permeability	0.21
WlB:							
Wolftever	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.48
						Restricted permeability	0.21
Wm:							
Woodmont	90	Very limited:		Somewhat limited:		Very limited:	
		Flooding	1.00	Depth to saturated zone	0.88	Depth to saturated zone	1.00
		Depth to saturated zone	1.00				

Table 9.—Recreation (Part II)

(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
AmA:							
Armour	95	Not limited		Not limited		Somewhat limited:	
						Flooding	0.60
AmB:							
Armour	100	Not limited		Not limited		Not limited	
ArA:							
Armour	95	Not limited		Not limited		Not limited	
At:							
Arrington	100	Somewhat limited:		Somewhat limited:		Very limited:	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
BA:							
Beason	50	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.73	Depth to saturated zone	0.73	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.88
Chenneby	45	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.73	Depth to saturated zone	0.73	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.88
BbC:							
Biffle	95	Not limited		Not limited		Somewhat limited:	
						Droughty	0.79
						Gravel content	0.59
						Depth to bedrock	0.42
						Slope	0.16
BbD:							
Biffle	95	Somewhat limited:		Not limited		Very limited:	
		Slope	0.92			Slope	1.00
						Depth to bedrock	0.97
						Droughty	0.79
						Gravel content	0.59
BbF:							
Biffle	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
						Droughty	0.79
						Gravel content	0.59
						Depth to bedrock	0.42

Table 9.—Recreation (Part II)—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
BSF:							
Biffle	36	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
						Droughty	0.79
						Gravel content	0.59
						Depth to bedrock	0.42
Hawthorne	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
						Droughty	0.65
						Depth to bedrock	0.42
						Gravel content	0.22
						Content of large stones	0.01
Sulphura	22	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
						Droughty	0.49
						Depth to bedrock	0.42
BtC:							
Braxton	60	Not limited		Not limited		Somewhat limited:	
						Gravel content	0.47
						Slope	0.16
Talbott	30	Not limited		Not limited		Somewhat limited:	
						Depth to bedrock	0.42
						Slope	0.16
						Droughty	0.01
						Content of large stones	0.01
BtC3:							
Braxton	60	Not limited		Not limited		Somewhat limited:	
						Slope	0.16
Talbott	30	Not limited		Not limited		Somewhat limited:	
						Depth to bedrock	0.42
						Slope	0.16
						Droughty	0.01
BtE:							
Braxton	60	Very limited:		Not limited		Very limited:	
		Slope	1.00			Slope	1.00
						Gravel content	0.47
Talbott	30	Very limited:		Not limited		Very limited:	
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.42
						Droughty	0.01
						Content of large stones	0.01
BtE3:							
Braxton	60	Very limited:		Not limited		Very limited:	
		Slope	1.00			Slope	1.00

Table 9.—Recreation (Part II)—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
BtE3:							
Talbott	30	Very limited:		Not limited		Very limited:	
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.42
						Droughty	0.01
BuB2:							
Busseltown	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to cemented pan	1.00
						Depth to saturated zone	0.56
						Droughty	0.29
BuC3:							
Busseltown	100	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.73	Depth to saturated zone	0.73	Droughty	1.00
						Depth to cemented pan	1.00
						Depth to saturated zone	0.88
						Slope	0.04
Cb:							
Chenneby	75	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.73	Depth to saturated zone	0.73	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.88
Ch:							
Chenneby	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Depth to saturated zone	0.73	Depth to saturated zone	0.73	Depth to saturated zone	0.88
						Flooding	0.60
DeD2:							
Dellrose	90	Not limited		Not limited		Somewhat limited:	
						Slope	0.84
						Gravel content	0.04
						Content of large stones	0.01
DeF:							
Dellrose	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too stony	0.76	Too stony	0.76	Gravel content	0.04
						Content of large stones	0.01
Mimosa	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
						Content of large stones	0.08
						Gravel content	0.01

Table 9.—Recreation (Part II)—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
DkB2:							
Dickson	100	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to cemented pan	1.00
						Depth to saturated zone	0.56
						Droughty	0.01
Eg:							
Egam	95	Not limited		Not limited		Not limited	
Es:							
Ellisville	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
Ev:							
Ellisville	90	Not limited		Not limited		Somewhat limited:	
						Flooding	0.60
GdF:							
Gladdice	40	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.42
						Content of large stones	0.03
Rock outcrop	30	Not rated		Not rated		Not rated	
Mimosa	25	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
						Content of large stones	0.08
						Gravel content	0.01
Gm:							
Gumdale	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to cemented pan	1.00
						Depth to saturated zone	0.75
						Droughty	0.14
HuA, HuB:							
Humphreys	90	Not limited		Not limited		Somewhat limited:	
						Gravel content	0.25
HuC:							
Humphreys	90	Not limited		Not limited		Somewhat limited:	
						Gravel content	0.25
						Slope	0.04
IrC:							
Ironcity	85	Not limited		Not limited		Somewhat limited:	
						Gravel content	0.11
						Slope	0.04
						Content of large stones	0.01

Table 9.—Recreation (Part II)—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
LaC:							
Lax	55	Not limited		Not limited		Somewhat limited:	
						Depth to cemented pan	0.74
						Depth to saturated zone	0.19
						Slope	0.04
Ironcity	45	Not limited		Not limited		Somewhat limited:	
						Gravel content	0.11
						Slope	0.04
						Content of large stones	0.01
LbB:							
Lax	90	Not limited		Not limited		Somewhat limited:	
						Depth to cemented pan	0.74
						Depth to saturated zone	0.19
LbC:							
Lax	100	Not limited		Not limited		Somewhat limited:	
						Depth to cemented pan	0.74
						Depth to saturated zone	0.19
						Slope	0.04
Le:							
Lee	90	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
Lo:							
Lobelville	90	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Depth to saturated zone	0.32	Depth to saturated zone	0.32	Depth to saturated zone	0.68
						Flooding	0.60
MaE3:							
Marsh	95	Somewhat limited:		Not limited		Very limited:	
		Slope	0.95			Slope	1.00
						Depth to bedrock	0.71
						Droughty	0.02
Mn:							
Minter	90	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

Table 9.—Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PdA:							
Paden	90	Not limited		Not limited		Somewhat limited:	
						Depth to cemented pan	0.90
						Depth to saturated zone	0.19
PdB2:							
Paden	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to cemented pan	0.99
						Depth to saturated zone	0.56
PdC2:							
Paden	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to cemented pan	0.99
						Depth to saturated zone	0.56
						Slope	0.04
PdC3:							
Paden	85	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to cemented pan	1.00
						Depth to saturated zone	0.94
						Droughty	0.39
						Slope	0.04
PkB2:							
Pickwick	90	Not limited		Not limited		Not limited	
PkC2:							
Pickwick	90	Not limited		Not limited		Somewhat limited:	
						Slope	0.04
PkC3:							
Pickwick	85	Not limited		Not limited		Somewhat limited:	
						Slope	0.04
Pt:							
Pits	90	Not rated		Not rated		Not rated	
Rb:							
Riverby	85	Somewhat limited:		Somewhat limited:		Very limited:	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Droughty	0.88
						Gravel content	0.62
						Content of large stones	0.03

Table 9.—Recreation (Part II)—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
RoD:							
Rock outcrop	55	Not rated		Not rated		Not rated	
Barfield	35	Somewhat limited:		Somewhat limited:		Very limited:	
		Too stony	0.76	Too stony	0.76	Depth to bedrock	1.00
		Slope	0.50			Droughty	1.00
						Slope	1.00
						Content of large stones	0.54
RoF:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Barfield	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too stony	0.76	Too stony	0.76	Depth to bedrock	1.00
						Droughty	1.00
						Content of large stones	0.54
Sa:							
Staser	90	Not limited		Not limited		Somewhat limited:	
						Flooding	0.60
SeC3:							
Stiversville	100	Not limited		Not limited		Somewhat limited:	
						Slope	0.04
SgC:							
Sugargrove	85	Not limited		Not limited		Somewhat limited:	
						Gravel content	0.11
						Slope	0.04
						Content of large stones	0.01
SgD:							
Sugargrove	85	Somewhat limited:		Not limited		Very limited:	
		Slope	0.02			Slope	1.00
						Gravel content	0.11
						Content of large stones	0.01
Sn:							
Sullivan	90	Not limited		Not limited		Somewhat limited:	
						Flooding	0.60
SpF:							
Sulphura	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
						Droughty	0.49
						Depth to bedrock	0.42
SuF:							
Sulphura	55	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
						Droughty	0.49
						Depth to bedrock	0.42
Rock outcrop	30	Not rated		Not rated		Not rated	

Table 9.—Recreation (Part II)—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
TbD:							
Talbott	50	Not limited		Not limited		Somewhat limited:	
						Depth to bedrock	0.42
						Slope	0.16
Mimosa	42	Not limited		Not limited		Somewhat limited:	
						Slope	0.16
						Content of large stones	0.08
						Gravel content	0.01
TbE:							
Talbott	50	Very limited:		Not limited		Very limited:	
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.42
Mimosa	42	Very limited:		Not limited		Very limited:	
		Slope	1.00			Slope	1.00
						Content of large stones	0.08
						Gravel content	0.01
ThC2:							
Tarklin	60	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Depth to saturated zone	0.08	Depth to saturated zone	0.08	Depth to cemented pan	0.84
						Depth to saturated zone	0.43
						Gravel content	0.22
						Slope	0.04
						Content of large stones	0.01
Humphreys	30	Not limited		Not limited		Somewhat limited:	
						Gravel content	0.25
						Slope	0.04
TmC2:							
Tarklin	60	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Depth to saturated zone	0.08	Depth to saturated zone	0.08	Depth to cemented pan	0.84
						Depth to saturated zone	0.43
						Gravel content	0.22
						Slope	0.04
						Content of large stones	0.01
Minvale	40	Not limited		Not limited		Somewhat limited:	
						Gravel content	0.41
						Slope	0.04

Table 9.—Recreation (Part II)—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
TmC3:							
Tarklin	60	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to cemented pan	1.00
						Depth to saturated zone	0.56
						Droughty	0.29
						Gravel content	0.22
						Slope	0.04
Minvale	40	Not limited		Not limited		Somewhat limited:	
						Gravel content	0.41
						Slope	0.04
TmE3:							
Tarklin	60	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.68	Depth to saturated zone	0.18	Slope	1.00
		Depth to saturated zone	0.18			Depth to cemented pan	1.00
						Depth to saturated zone	0.56
						Droughty	0.29
						Gravel content	0.22
Minvale	40	Somewhat limited:		Not limited		Very limited:	
		Slope	0.68			Slope	1.00
						Gravel content	0.41
ToA:							
Trace	90	Not limited		Not limited		Somewhat limited:	
						Flooding	0.60
TrA:							
Trace	90	Not limited		Not limited		Not limited	
Ua:							
Udalfs	70	Very limited:		Very limited:		Very limited:	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Slope	0.18			Slope	1.00
Gullied land	30	Not rated		Not rated		Not rated	
Ud:							
Udarents	80	Very limited:		Very limited:		Very limited:	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
W:							
Water	100	Not rated		Not rated		Not rated	
WfA:							
Wolftever	95	Not limited		Not limited		Somewhat limited:	
						Flooding	0.60
WfB2:							
Wolftever	90	Not limited		Not limited		Somewhat limited:	
						Flooding	0.60

Table 9.—Recreation (Part II)—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
WlB:							
Wolftever	85	Not limited		Not limited		Not limited	
Wm:							
Woodmont	90	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Depth to saturated zone	0.73	Depth to saturated zone	0.73	Depth to cemented pan	0.90
						Depth to saturated zone	0.88

Table 10.—Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
AmA:										
Armour	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
AmB:										
Armour	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
ArA:										
Armour	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
At:										
Arrington	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BA:										
Beason	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair
Chenneby	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair
BbC:										
Biffle	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
BbD:										
Biffle	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
BbF:										
Biffle	Very poor	Poor	Poor	Fair	Fair	Very poor	Very poor	Poor	Poor	Very poor
BSF:										
Biffle	Very poor	Poor	Poor	Fair	Fair	Very poor	Very poor	Poor	Poor	Very poor
Hawthorne	Very poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Sulphura	Very poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
BtC, BtC3:										
Braxton	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Talbott	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
BtE, BtE3:										
Braxton	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Talbott	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor

Table 10.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
BuB2:										
Busseltown	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BuC3:										
Busseltown	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Cb:										
Chenneby	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair
Ch:										
Chenneby	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
DeD2:										
Dellrose	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
DeF:										
Dellrose	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Mimosa	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
DkB2:										
Dickson	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Eg:										
Egam	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Es:										
Ellisville	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair
Ev:										
Ellisville	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
GdF:										
Gladdice	Very poor	Fair	Poor	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Rock outcrop.										
Mimosa	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Gm:										
Gumdale	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
HuA, HuB:										
Humphreys	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
HuC:										
Humphreys	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 10.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
IrC:										
Ironcity	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
LaC:										
Lax	Fair	Good	Good	Good	Poor	Poor	Very poor	Good	Good	Very poor
Ironcity	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
LbB:										
Lax	Good	Good	Good	Good	Poor	Poor	Very poor	Good	Good	Very poor
LbC:										
Lax	Fair	Good	Good	Good	Poor	Poor	Very poor	Good	Good	Very poor
Le:										
Lee	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair
Lo:										
Lobelville	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
MaE3:										
Marsh	Very poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Mn:										
Minter	Very poor	Poor	Poor	Very poor	Very poor	Good	Good	Poor	Poor	Good
PdA:										
Paden	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
PdB2:										
Paden	Fair	Good	Good	Poor	Good	Poor	Very poor	Good	Good	Very poor
PdC2, PdC3:										
Paden	Fair	Good	Good	Good	Poor	Poor	Very poor	Good	Good	Very poor
PkB2:										
Pickwick	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
PkC2, PkC3:										
Pickwick	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Pt.										
Pits										
Rb:										
Riverby	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor

Table 10.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
RoD:										
Rock outcrop.										
Barfield	Very poor	Very poor	Poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
RoF:										
Rock outcrop.										
Barfield	Very poor	Very poor	Poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
Sa:										
Staser	Poor	Fair	Fair	Good	Good	Poor	Very poor	Fair	Good	Very poor
SeC3:										
Stiversville	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
SgC:										
Sugargrove	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
SgD:										
Sugargrove	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Sn:										
Sullivan	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
SpF:										
Sulphura	Very poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
SuF:										
Sulphura	Very poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Rock outcrop.										
TbD:										
Talbott	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Mimosa	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
TbE:										
Talbott	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Mimosa	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor

Table 10.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
ThC2, TmC3:										
Tarklin	Fair	Good	Good	Good	Fair	Very poor	Very poor	Good	Good	Very poor
Humphreys	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
TmC3:										
Tarklin	Fair	Good	Good	Good	Fair	Very poor	Very poor	Good	Good	Very poor
TmC3:										
Minvale	Fair	Good	Good	Good	Fair	Very poor	Very poor	Good	Good	Very poor
TmE3:										
Tarklin	Poor	Fair	Good	Good	Poor	Very poor	Very poor	Fair	Good	Very poor
Minvale	Poor	Fair	Good	Good	Poor	Very poor	Very poor	Fair	Good	Very poor
ToA, TrA:										
Trace	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Ua:										
Udalfs	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Gullied land	Poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Ud:										
Udarents	Very poor	Very poor	Fair	Fair	Poor	Very poor	Very poor	Poor	Poor	Very poor
W.										
Water										
WfA, WfB2, WlB:										
Wolftever	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Wm:										
Woodmont	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair

Table 11.—Building Site Development (Part I)

(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		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AmA:							
Armour	95	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
AmB:							
Armour	100	Not limited		Not limited		Not limited	
ArA:							
Armour	95	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
At:							
Arrington	100	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.15		
BA:							
Beason	50	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
Chenneby	45	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
BbC:							
Biffle	95	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.16	Depth to soft bedrock	0.42	Slope	1.00
				Slope	0.16		
BbD:							
Biffle	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.97		
BbF:							
Biffle	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.42		
BSF:							
Biffle	36	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.42		

Table 11.—Building Site Development (Part I)—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
BSF:							
Hawthorne	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.42		
Sulphura	22	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.42	Depth to hard bedrock	1.00	Depth to hard bedrock	0.42
BtC, BtC3:							
Braxton	60	Somewhat limited:		Somewhat limited:		Very limited:	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.16	Slope	0.16	Shrink-swell	0.50
Talbott	30	Somewhat limited:		Very limited:		Very limited:	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.42	Shrink-swell	0.50	Shrink-swell	0.50
		Slope	0.16	Slope	0.16	Depth to hard bedrock	0.42
BtE, BtE3:							
Braxton	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Talbott	30	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.42	Shrink-swell	0.50	Depth to hard bedrock	0.42
BuB2:							
Busseltown	90	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	0.92	Depth to thick cemented pan	1.00	Depth to saturated zone	0.92
BuC3:							
Busseltown	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
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to thick cemented pan	1.00
Cb, Ch:							
Chenneby	75	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

Table 11.—Building Site Development (Part I)—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
DeD2:							
Dellrose	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.84	Slope	0.84	Slope	1.00
				Shrink-swell	0.50		
DeF:							
Dellrose	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
Mimosa	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
DkB2:							
Dickson	100	Very limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	0.92	Depth to thick cemented pan	1.00	Depth to saturated zone	0.92
Eg:							
Egam	95	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
				Shrink-swell	0.50		
Es, Ev:							
Ellisville	90	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.15		
GdF:							
Gladdice	40	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.42	Depth to hard bedrock	1.00	Depth to hard bedrock	0.42
Rock outcrop	30	Not rated		Not rated		Not rated	
Mimosa	25	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.42		
Gm:							
Gumdale	90	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00	Depth to saturated zone	1.00

Table 11.—Building Site Development (Part I)—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
HuA:							
Humphreys-----------	90	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.03		
HuB:							
Humphreys-----------	90	Not limited		Somewhat limited:		Not limited	
				Depth to saturated zone	0.03		
HuC:							
Humphreys-----------	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Slope	0.04	Slope	1.00
				Depth to saturated zone	0.03		
IrC:							
Ironcity------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Shrink-swell	0.50	Slope	1.00
				Slope	0.04		
LaC:							
Lax-----------------	55	Somewhat limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	0.74	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.44	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.74
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.44
Ironcity------------	45	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Shrink-swell	0.50	Slope	1.00
				Slope	0.04		
LbB:							
Lax-----------------	90	Somewhat limited:		Very limited:		Somewhat limited:	
		Depth to thick cemented pan	0.74	Depth to saturated zone	1.00	Depth to thick cemented pan	0.74
		Depth to saturated zone	0.44	Depth to thick cemented pan	1.00	Depth to saturated zone	0.44
LbC:							
Lax-----------------	100	Somewhat limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	0.74	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.44	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.74
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.44
Le:							
Lee-----------------	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

Table 11.—Building Site Development (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Lo:							
Lobelville----------	90	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
MaE3:							
Marsh---------------	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.71		
Mn:							
Minter--------------	90	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
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
PdA:							
Paden---------------	90	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to thick cemented pan	0.90	Depth to saturated zone	1.00	Depth to thick cemented pan	0.90
		Depth to saturated zone	0.44	Depth to thick cemented pan	1.00	Depth to saturated zone	0.44
PdB2:							
Paden---------------	90	Somewhat limited:		Very limited:		Somewhat limited:	
		Depth to saturated zone	0.92	Depth to saturated zone	1.00	Depth to saturated zone	0.92
				Depth to thin cemented pan	0.99		
PdC2:							
Paden---------------	90	Somewhat limited:		Very limited:		Very limited:	
		Depth to saturated zone	0.92	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Depth to thin cemented pan	0.99	Depth to saturated zone	0.92
				Slope	0.04		
PdC3:							
Paden---------------	85	Very limited:		Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
PkB2:							
Pickwick------------	90	Not limited		Not limited		Not limited	
PkC2:							
Pickwick------------	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Slope	0.04	Slope	1.00
PkC3:							
Pickwick------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Slope	0.04	Slope	1.00

Table 11.—Building Site Development (Part I)—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
Pt:							
Pits	90	Not rated		Not rated		Not rated	
Rb:							
Riverby	85	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.35		
RoD:							
Rock outcrop	55	Not rated		Not rated		Not rated	
Barfield	35	Very limited:		Very limited:		Very limited:	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Slope	1.00	Slope	1.00	Depth to hard bedrock	1.00
RoF:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Barfield	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Sa:							
Staser	90	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
SeC3:							
Stiversville	100	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Slope	0.04	Slope	1.00
SgC:							
Sugargrove	85	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Slope	0.04	Slope	1.00
SgD:							
Sugargrove	85	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
Sn:							
Sullivan	90	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
SpF:							
Sulphura	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.42	Depth to hard bedrock	1.00	Depth to hard bedrock	0.42
SuF:							
Sulphura	55	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.42	Depth to hard bedrock	1.00	Depth to hard bedrock	0.42
Rock outcrop	30	Not rated		Not rated		Not rated	

Table 11.—Building Site Development (Part I)—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
TbD:							
Talbott	50	Somewhat limited:		Very limited:		Very limited:	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.42	Shrink-swell	0.50	Shrink-swell	0.50
		Slope	0.16	Slope	0.16	Depth to hard bedrock	0.42
Mimosa	42	Very limited:		Very limited:		Very limited:	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.16	Slope	0.16	Slope	1.00
TbE:							
Talbott	50	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.42	Shrink-swell	0.50	Depth to hard bedrock	0.42
Mimosa	42	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
ThC2:							
Tarklin	60	Somewhat limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	0.84	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.82	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.84
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.82
Humphreys	30	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Slope	0.04	Slope	1.00
				Depth to saturated zone	0.03		
TmC2:							
Tarklin	60	Somewhat limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	0.84	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.82	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.84
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.82
Minvale	40	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Slope	0.04	Slope	1.00
TmC3:							
Tarklin	60	Very limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.92	Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.92
Minvale	40	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.04	Slope	0.04	Slope	1.00

Table 11.—Building Site Development (Part I)—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
TmE3:							
Tarklin	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to thick cemented pan	1.00	Slope	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	0.92	Depth to thick cemented pan	1.00	Depth to saturated zone	0.92
Minvale	40	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
ToA, TrA:							
Trace	90	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Ua:							
Udalfs	70	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Gullied land	30	Not rated		Not rated		Not rated	
Ud:							
Udarents	80	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
W:							
Water	100	Not rated		Not rated		Not rated	
WfA:							
Wolftever	95	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	0.95	Shrink-swell	0.50
				Shrink-swell	0.50		
WfB2:							
Wolftever	90	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	0.95	Shrink-swell	0.50
				Shrink-swell	0.50		
WlB:							
Wolftever	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Shrink-swell	0.50	Depth to saturated zone	0.95	Shrink-swell	0.50
				Shrink-swell	0.50		
Wm:							
Woodmont	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
		Depth to thick cemented pan	0.90	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.90

Table 11.—Building Site Development (Part II)

(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
AmA:							
Armour	95	Very limited:		Somewhat limited:		Somewhat limited:	
		Flooding	1.00	Flooding	0.60	Flooding	0.60
				Cutbanks cave	0.10		
AmB:							
Armour	100	Not limited		Somewhat limited:		Not limited	
				Cutbanks cave	0.10		
ArA:							
Armour	95	Somewhat limited:		Somewhat limited:		Not limited	
		Flooding	0.40	Cutbanks cave	0.10		
At:							
Arrington	100	Very limited:		Somewhat limited:		Very limited:	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Depth to saturated zone	0.15		
				Cutbanks cave	0.10		
BA:							
Beason	50	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	0.88	Flooding	0.80	Depth to saturated zone	0.88
				Cutbanks cave	0.10		
Chenneby	45	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	0.88	Flooding	0.80	Depth to saturated zone	0.88
				Cutbanks cave	0.10		
BbC:							
Biffle	95	Somewhat limited:		Very limited:		Somewhat limited:	
		Slope	0.16	Cutbanks cave	1.00	Droughty	0.79
				Depth to soft bedrock	0.42	Gravel content	0.59
						Depth to bedrock	0.42
				Slope	0.16	Slope	0.16
BbD:							
Biffle	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Depth to bedrock	0.97
				Depth to soft bedrock	0.97	Droughty	0.79
						Gravel content	0.59

Table 11.—Building Site Development (Part II)—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
BbF:							
Biffle	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Droughty	0.79
				Depth to soft bedrock	0.42	Gravel content	0.59
						Depth to bedrock	0.42
BSF:							
Biffle	36	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Droughty	0.79
				Depth to soft bedrock	0.42	Gravel content	0.59
						Depth to bedrock	0.42
Hawthorne	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Droughty	0.65
				Depth to soft bedrock	0.42	Depth to bedrock	0.42
						Gravel content	0.22
						Content of large stones	0.01
Sulphura	22	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.42	Cutbanks cave	1.00	Droughty	0.49
				Depth to hard bedrock	1.00	Depth to bedrock	0.42
BtC:							
Braxton	60	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Shrink-swell	0.50	Too clayey	0.88	Gravel content	0.47
		Slope	0.16	Slope	0.16	Slope	0.16
				Cutbanks cave	0.10		
Talbott	30	Somewhat limited:		Very limited:		Somewhat limited:	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Depth to bedrock	0.42
		Depth to hard bedrock	0.42			Slope	0.16
				Too clayey	0.50	Droughty	0.01
		Slope	0.16	Slope	0.16	Content of large stones	0.01
				Cutbanks cave	0.10		
BtC3:							
Braxton	60	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Shrink-swell	0.50	Too clayey	0.88	Slope	0.16
		Slope	0.16	Slope	0.16		
				Cutbanks cave	0.10		
Talbott	30	Somewhat limited:		Very limited:		Somewhat limited:	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Depth to bedrock	0.42
		Depth to hard bedrock	0.42			Slope	0.16
				Too clayey	0.50	Droughty	0.01
		Slope	0.16	Slope	0.16		
				Cutbanks cave	0.10		

Table 11.—Building Site Development (Part II)—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
BtE:							
Braxton	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.88	Gravel content	0.47
				Cutbanks cave	0.10		
Talbott	30	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Depth to bedrock	0.42
		Depth to hard bedrock	0.42	Too clayey	0.50	Droughty	0.01
				Cutbanks cave	0.10	Content of large stones	0.01
BtE3:							
Braxton	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.88		
				Cutbanks cave	0.10		
Talbott	30	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Depth to bedrock	0.42
		Depth to hard bedrock	0.42	Too clayey	0.50	Droughty	0.01
				Cutbanks cave	0.10		
BuB2:							
Busseltown	90	Very limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	0.56	Depth to thick cemented pan	1.00	Depth to saturated zone	0.56
		Flooding	0.40	Cutbanks cave	0.10	Droughty	0.29
BuC3:							
Busseltown	100	Very limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Droughty	1.00
		Depth to saturated zone	0.88	Depth to thick cemented pan	1.00	Depth to cemented pan	1.00
		Flooding	0.40	Cutbanks cave	0.10	Depth to saturated zone	0.88
		Slope	0.04	Slope	0.04	Slope	0.04
Cb:							
Chenneby	75	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	0.88	Flooding	0.80	Depth to saturated zone	0.88
				Cutbanks cave	0.10		
Ch:							
Chenneby	75	Very limited:		Very limited:		Somewhat limited:	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.88
		Depth to saturated zone	0.88	Flooding	0.60	Flooding	0.60
				Cutbanks cave	0.10		

Table 11.—Building Site Development (Part II)—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
DeD2:							
Dellrose	90	Somewhat limited:		Very limited:		Somewhat limited:	
		Slope	0.84	Cutbanks cave	1.00	Slope	0.84
				Slope	0.84	Gravel content	0.04
				Too clayey	0.50	Content of large stones	0.01
DeF:							
Dellrose	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	0.04
				Too clayey	0.50	Content of large stones	0.01
Mimosa	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.72	Content of large stones	0.08
				Cutbanks cave	0.10	Gravel content	0.01
DkB2:							
Dickson	100	Very limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	0.56	Depth to thick cemented pan	1.00	Depth to saturated zone	0.56
				Cutbanks cave	0.10	Droughty	0.01
				Too clayey	0.03		
Eg:							
Egam	95	Somewhat limited:		Very limited:		Not limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00		
		Flooding	0.40	Cutbanks cave	0.10		
				Too clayey	0.03		
Es:							
Ellisville	90	Very limited:		Somewhat limited:		Very limited:	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Depth to saturated zone	0.15		
				Cutbanks cave	0.10		
Ev:							
Ellisville	90	Very limited:		Somewhat limited:		Somewhat limited:	
		Flooding	1.00	Flooding	0.60	Flooding	0.60
				Depth to saturated zone	0.15		
				Cutbanks cave	0.10		
GdF:							
Gladdice	40	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.42
		Depth to hard bedrock	0.42	Too clayey	0.50	Content of large stones	0.03
				Cutbanks cave	0.10		

Table 11.—Building Site Development (Part II)—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
GdF:							
Rock outcrop	30	Not rated		Not rated		Not rated	
Mimosa	25	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.72	Content of large stones	0.08
				Depth to hard bedrock	0.42	Gravel content	0.01
				Cutbanks cave	0.10		
Gm:							
Gumdale	90	Very limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	0.75	Depth to thick cemented pan	1.00	Depth to saturated zone	0.75
		Flooding	0.40	Cutbanks cave	0.10	Droughty	0.14
HuA:							
Humphreys	90	Somewhat limited:		Very limited:		Somewhat limited:	
		Flooding	0.40	Cutbanks cave	1.00	Gravel content	0.25
				Depth to saturated zone	0.03		
HuB:							
Humphreys	90	Not limited		Very limited:		Somewhat limited:	
				Cutbanks cave	1.00	Gravel content	0.25
				Depth to saturated zone	0.03		
HuC:							
Humphreys	90	Somewhat limited:		Very limited:		Somewhat limited:	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	0.25
				Slope	0.04	Slope	0.04
				Depth to saturated zone	0.03		
IrC:							
Ironcity	85	Somewhat limited:		Very limited:		Somewhat limited:	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	0.11
				Slope	0.04	Slope	0.04
				Too clayey	0.03	Content of large stones	0.01
LaC:							
Lax	55	Somewhat limited:		Very limited:		Somewhat limited:	
		Depth to thick cemented pan	0.74	Cutbanks cave	1.00	Depth to cemented pan	0.74
		Depth to saturated zone	0.19	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Slope	0.04	Depth to thick cemented pan	1.00	Slope	0.04
				Slope	0.04		
Ironcity	45	Somewhat limited:		Very limited:		Somewhat limited:	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	0.11
				Slope	0.04	Slope	0.04
				Too clayey	0.03	Content of large stones	0.01

Table 11.—Building Site Development (Part II)—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
LbB:							
Lax	90	Somewhat limited:		Very limited:		Somewhat limited:	
		Depth to thick cemented pan	0.74	Cutbanks cave	1.00	Depth to cemented pan	0.74
		Depth to saturated zone	0.19	Depth to saturated zone	1.00	Depth to saturated zone	0.19
				Depth to thick cemented pan	1.00		
LbC:							
Lax	100	Somewhat limited:		Very limited:		Somewhat limited:	
		Depth to thick cemented pan	0.74	Cutbanks cave	1.00	Depth to cemented pan	0.74
		Depth to saturated zone	0.19	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Slope	0.04	Depth to thick cemented pan	1.00	Slope	0.04
				Slope	0.04		
Le:							
Lee	90	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		
Lo:							
Lobelville	90	Very limited:		Very limited:		Somewhat limited:	
		Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	0.68
		Depth to saturated zone	0.68	Depth to saturated zone	1.00	Flooding	0.60
				Flooding	0.60		
MaE3:							
Marsh	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.71	Depth to bedrock	0.71
				Cutbanks cave	0.10	Droughty	0.02
Mn:							
Minter	90	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
		Shrink-swell	0.50	Too clayey	0.28		
				Cutbanks cave	0.10		
PdA:							
Paden	90	Somewhat limited:		Very limited:		Somewhat limited:	
		Depth to thick cemented pan	0.90	Depth to saturated zone	1.00	Depth to cemented pan	0.90
		Flooding	0.40	Cutbanks cave	1.00	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Depth to thick cemented pan	1.00		

Table 11.—Building Site Development (Part II)—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
PdB2:							
Paden---------------	90	Somewhat limited:		Very limited:		Very limited:	
		Depth to saturated zone	0.56	Depth to saturated zone	1.00	Depth to cemented pan	0.99
				Cutbanks cave	1.00	Depth to saturated zone	0.56
				Depth to thin cemented pan	0.99		
PdC2:							
Paden---------------	90	Somewhat limited:		Very limited:		Very limited:	
		Depth to saturated zone	0.56	Depth to saturated zone	1.00	Depth to cemented pan	0.99
		Slope	0.04	Cutbanks cave	1.00	Depth to saturated zone	0.56
				Depth to thin cemented pan	0.99	Slope	0.04
				Slope	0.04		
PdC3:							
Paden---------------	85	Somewhat limited:		Very limited:		Very limited:	
		Depth to saturated zone	0.94	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Slope	0.04	Cutbanks cave	1.00	Depth to saturated zone	0.94
				Slope	0.04	Droughty	0.39
						Slope	0.04
PkB2:							
Pickwick------------	90	Not limited		Somewhat limited:		Not limited	
				Cutbanks cave	0.10		
PkC2:							
Pickwick------------	90	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Slope	0.04	Cutbanks cave	0.10	Slope	0.04
				Slope	0.04		
PkC3:							
Pickwick------------	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Slope	0.04	Too clayey	0.12	Slope	0.04
				Cutbanks cave	0.10		
				Slope	0.04		
Pt:							
Pits----------------	90	Not rated		Not rated		Not rated	
Rb:							
Riverby-------------	85	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Droughty	0.88
				Depth to saturated zone	0.35	Gravel content	0.62
						Content of large stones	0.03
RoD:							
Rock outcrop--------	55	Not rated		Not rated		Not rated	
Barfield------------	35	Very limited:		Very limited:		Very limited:	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to hard bedrock	1.00	Slope	1.00	Droughty	1.00
		Slope	1.00	Too clayey	0.28	Slope	1.00
				Cutbanks cave	0.10	Content of large stones	0.54

Table 11.—Building Site Development (Part II)—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
RoF:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Barfield	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to hard bedrock	1.00	Too clayey	0.28	Droughty	1.00
				Cutbanks cave	0.10	Content of large stones	0.54
Sa:							
Staser	90	Very limited:		Somewhat limited:		Somewhat limited:	
		Flooding	1.00	Flooding	0.60	Flooding	0.60
				Cutbanks cave	0.10		
SeC3:							
Stiversville	100	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Slope	0.04	Cutbanks cave	0.10	Slope	0.04
				Slope	0.04		
SgC:							
Sugargrove	85	Somewhat limited:		Very limited:		Somewhat limited:	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	0.11
				Slope	0.04	Slope	0.04
						Content of large stones	0.01
SgD:							
Sugargrove	85	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
				Slope	1.00	Gravel content	0.11
						Content of large stones	0.01
Sn:							
Sullivan	90	Very limited:		Very limited:		Somewhat limited:	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
				Flooding	0.60		
SpF:							
Sulphura	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.42	Cutbanks cave	1.00	Droughty	0.49
				Depth to hard bedrock	1.00	Depth to bedrock	0.42
SuF:							
Sulphura	55	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.42	Cutbanks cave	1.00	Droughty	0.49
				Depth to hard bedrock	1.00	Depth to bedrock	0.42
Rock outcrop	30	Not rated		Not rated		Not rated	

Table 11.—Building Site Development (Part II)—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
TbD:							
Talbott	50	Somewhat limited:		Very limited:		Somewhat limited:	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Depth to bedrock	0.42
		Depth to hard bedrock	0.42	Too clayey	0.50	Slope	0.16
		Slope	0.16	Slope	0.16		
				Cutbanks cave	0.10		
Mimosa	42	Very limited:		Somewhat limited:		Somewhat limited:	
		Shrink-swell	1.00	Too clayey	0.72	Slope	0.16
		Slope	0.16	Slope	0.16	Content of large stones	0.08
				Cutbanks cave	0.10	Gravel content	0.01
TbE:							
Talbott	50	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Depth to bedrock	0.42
		Depth to hard bedrock	0.42	Too clayey	0.50		
				Cutbanks cave	0.10		
Mimosa	42	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	0.72	Content of large stones	0.08
				Cutbanks cave	0.10	Gravel content	0.01
ThC2:							
Tarklin	60	Somewhat limited:		Very limited:		Somewhat limited:	
		Depth to thick cemented pan	0.84	Depth to saturated zone	1.00	Depth to cemented pan	0.84
		Depth to saturated zone	0.43	Cutbanks cave	1.00	Depth to saturated zone	0.43
		Slope	0.04	Depth to thick cemented pan	1.00	Gravel content	0.22
				Slope	0.04	Slope	0.04
						Content of large stones	0.01
Humphreys	30	Somewhat limited:		Very limited:		Somewhat limited:	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	0.25
				Slope	0.04	Slope	0.04
				Depth to saturated zone	0.03		
TmC2:							
Tarklin	60	Somewhat limited:		Very limited:		Somewhat limited:	
		Depth to thick cemented pan	0.84	Depth to saturated zone	1.00	Depth to cemented pan	0.84
		Depth to saturated zone	0.43	Cutbanks cave	1.00	Depth to saturated zone	0.43
		Slope	0.04	Depth to thick cemented pan	1.00	Gravel content	0.22
				Slope	0.04	Slope	0.04
						Content of large stones	0.01
Minvale	40	Somewhat limited:		Very limited:		Somewhat limited:	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	0.41
				Slope	0.04	Slope	0.04

Table 11.—Building Site Development (Part II)—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
TmC3:							
Tarklin	60	Very limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	0.56	Cutbanks cave	1.00	Depth to saturated zone	0.56
		Slope	0.04	Depth to thick cemented pan	1.00	Droughty	0.29
				Slope	0.04	Gravel content	0.22
						Slope	0.04
Minvale	40	Somewhat limited:		Very limited:		Somewhat limited:	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	0.41
				Slope	0.04	Slope	0.04
TmE3:							
Tarklin	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to thick cemented pan	1.00	Cutbanks cave	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	0.56	Slope	1.00	Depth to saturated zone	0.56
				Depth to thick cemented pan	1.00	Droughty	0.29
						Gravel content	0.22
Minvale	40	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
				Slope	1.00	Gravel content	0.41
ToA:							
Trace	90	Very limited:		Very limited:		Somewhat limited:	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
				Flooding	0.60		
TrA:							
Trace	90	Somewhat limited:		Very limited:		Not limited	
		Flooding	0.40	Cutbanks cave	1.00		
Ua:							
Udalfs	70	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Too clayey	1.00
		Shrink-swell	1.00	Too clayey	0.88	Slope	1.00
				Cutbanks cave	0.10		
Gullied land	30	Not rated		Not rated		Not rated	
Ud:							
Udarents	80	Very limited:		Very limited:		Very limited:	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Cutbanks cave	0.10		
W:							
Water	100	Not rated		Not rated		Not rated	
WfA:							
Wolftever	95	Very limited:		Somewhat limited:		Somewhat limited:	
		Flooding	1.00	Depth to saturated zone	0.95	Flooding	0.60
		Shrink-swell	0.50	Flooding	0.60		
				Too clayey	0.12		
				Cutbanks cave	0.10		

Table 11.—Building Site Development (Part II)—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
WfB2:							
Wolftever-----------	90	Very limited:		Somewhat limited:		Somewhat limited:	
		Flooding	1.00	Depth to saturated zone	0.95	Flooding	0.60
		Shrink-swell	0.50	Flooding	0.60		
				Too clayey	0.12		
				Cutbanks cave	0.10		
WlB:							
Wolftever-----------	85	Somewhat limited:		Somewhat limited:		Not limited	
		Shrink-swell	0.50	Depth to saturated zone	0.95		
				Too clayey	0.12		
				Cutbanks cave	0.10		
Wm:							
Woodmont------------	90	Somewhat limited:		Very limited:		Somewhat limited:	
		Depth to thick cemented pan	0.90	Depth to saturated zone	1.00	Depth to cemented pan	0.90
		Depth to saturated zone	0.88	Depth to thick cemented pan	1.00	Depth to saturated zone	0.88
		Flooding	0.40	Cutbanks cave	0.10		

Table 12.—Sanitary Facilities (Part I)

(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: Rating class and limiting features	Septic tank absorption fields: Value	Sewage lagoons: Rating class and limiting features	Sewage lagoons: Value
AmA:					
Armour	95	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	0.46	Seepage	0.53
AmB:					
Armour	100	Somewhat limited:		Somewhat limited:	
		Restricted permeability	0.46	Seepage	0.53
				Slope	0.33
ArA:					
Armour	95	Somewhat limited:		Very limited:	
		Restricted permeability	0.46	Seepage	1.00
				Flooding	0.40
		Flooding	0.40		
At:					
Arrington	100	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	0.46	Seepage	0.53
		Depth to saturated zone	0.40		
BA:					
Beason	50	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	1.00	Seepage	0.53
Chenneby	45	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	1.00	Seepage	0.53
BbC:					
Biffle	95	Very limited:		Very limited:	
		Depth to bedrock	1.00	Seepage	1.00
		Slope	0.16	Depth to soft bedrock	1.00
				Slope	1.00

Table 12.—Sanitary Facilities (Part I)—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
BbD, BbF:					
Biffle	95	Very limited:		Very limited:	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00
				Depth to soft bedrock	1.00
BSF:					
Biffle	36	Very limited:		Very limited:	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00
				Depth to soft bedrock	1.00
Hawthorne	35	Very limited:		Very limited:	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00
				Depth to soft bedrock	1.00
Sulphura	22	Very limited:		Very limited:	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
BtC, BtC3:					
Braxton	60	Very limited:		Very limited:	
		Restricted permeability	1.00	Slope	1.00
		Slope	0.16		
Talbott	30	Very limited:		Very limited:	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.16	Slope	1.00
BtE, BtE3:					
Braxton	60	Very limited:		Very limited:	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00		
Talbott	30	Very limited:		Very limited:	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
BuB2:					
Busseltown	90	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00	Seepage	0.50
		Flooding	0.40	Flooding	0.40
				Slope	0.33
				Depth to saturated zone	0.04

Table 12.—Sanitary Facilities (Part I)—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
BuC3:					
Busseltown----------	100	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Slope	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Flooding	0.40	Flooding	0.40
		Slope	0.04		
Cb, Ch:					
Chenneby------------	75	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	1.00	Seepage	0.53
DeD2:					
Dellrose------------	90	Very limited:		Very limited:	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.84	Slope	1.00
DeF:					
Dellrose------------	60	Very limited:		Very limited:	
		Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Seepage	1.00
Mimosa--------------	35	Very limited:		Very limited:	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00		
DkB2:					
Dickson-------------	100	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00	Seepage	0.53
				Slope	0.33
				Depth to saturated zone	0.04
Eg:					
Egam----------------	95	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	1.00	Flooding	0.40
		Flooding	0.40		
Es, Ev:					
Ellisville----------	90	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	0.50	Seepage	0.50
		Depth to saturated zone	0.40		

Table 12.—Sanitary Facilities (Part I)—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
GdF:					
Gladdice	40	Very limited:		Very limited:	
		Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00		
Rock outcrop	30	Not rated		Not rated	
Mimosa	25	Very limited:		Very limited:	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	0.42
		Depth to bedrock	0.78		
Gm:					
Gumdale	90	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00	Seepage	0.53
		Flooding	0.40	Flooding	0.40
				Depth to saturated zone	0.01
HuA:					
Humphreys	90	Very limited:		Very limited:	
		Filtering capacity	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40
		Depth to saturated zone	0.08		
HuB:					
Humphreys	90	Very limited:		Very limited:	
		Filtering capacity	1.00	Seepage	1.00
		Depth to saturated zone	0.08	Slope	0.33
HuC:					
Humphreys	90	Very limited:		Very limited:	
		Filtering capacity	1.00	Seepage	1.00
		Depth to saturated zone	0.08	Slope	1.00
		Slope	0.04		
IrC:					
Ironcity	85	Somewhat limited:		Very limited:	
		Restricted permeability	0.71	Slope	1.00
		Slope	0.04	Seepage	0.53

Table 12.—Sanitary Facilities (Part I)—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
LaC:					
Lax	55	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Slope	1.00
		Depth to cemented pan	1.00	Seepage	1.00
		Slope	0.04	Depth to cemented pan	1.00
				Depth to saturated zone	0.25
Ironcity	45	Somewhat limited:		Very limited:	
		Restricted permeability	0.71	Slope	1.00
		Slope	0.04	Seepage	0.53
LbB:					
Lax	90	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Seepage	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	0.33
				Depth to saturated zone	0.25
LbC:					
Lax	100	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Slope	1.00
		Depth to cemented pan	1.00	Seepage	1.00
		Slope	0.04	Depth to cemented pan	1.00
				Depth to saturated zone	0.25
Le:					
Lee	90	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.46	Seepage	0.53
Lo:					
Lobelville	90	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Restricted permeability	0.46	Depth to saturated zone	1.00
MaE3:					
Marsh	95	Very limited:		Very limited:	
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Seepage	1.00

Table 12.—Sanitary Facilities (Part I)—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
Mn:					
Minter	90	Very limited:		Very limited:	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
PdA:					
Paden	90	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00	Seepage	0.53
		Restricted permeability	0.46	Flooding	0.40
		Flooding	0.40	Depth to saturated zone	0.25
PdB2:					
Paden	90	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00	Seepage	0.53
				Slope	0.09
				Depth to saturated zone	0.04
PdC2:					
Paden	90	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Slope	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Seepage	0.53
				Depth to saturated zone	0.04
PdC3:					
Paden	85	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Slope	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Seepage	0.53
PkB2:					
Pickwick	90	Somewhat limited:		Somewhat limited:	
		Restricted permeability	0.71	Seepage	0.53
				Slope	0.33
PkC2:					
Pickwick	90	Somewhat limited:		Very limited:	
		Restricted permeability	0.71	Slope	1.00
		Slope	0.04	Seepage	0.53

Table 12.—Sanitary Facilities (Part I)—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
PkC3:					
Pickwick	85	Somewhat limited:		Very limited:	
		Restricted permeability	0.46	Slope	1.00
		Slope	0.04	Seepage	0.53
Pt:					
Pits	90	Not rated		Not rated	
Rb:					
Riverby	85	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
		Depth to saturated zone	0.84	Depth to saturated zone	0.17
RoD:					
Rock outcrop	55	Not rated		Not rated	
Barfield	35	Very limited:		Very limited:	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
RoF:					
Rock outcrop	60	Not rated		Not rated	
Barfield	35	Very limited:		Very limited:	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Sa:					
Staser	90	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	1.00		
SeC3:					
Stiversville	100	Somewhat limited:		Very limited:	
		Depth to bedrock	0.94	Slope	1.00
		Restricted permeability	0.91	Depth to soft bedrock	0.84
		Slope	0.04	Seepage	0.53
SgC:					
Sugargrove	85	Very limited:		Very limited:	
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.04	Depth to soft bedrock	1.00
				Seepage	0.52
SgD:					
Sugargrove	85	Very limited:		Very limited:	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Seepage	0.52

Table 12.—Sanitary Facilities (Part I)—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
Sn:					
Sullivan	90	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	0.46	Seepage	1.00
SpF:					
Sulphura	95	Very limited:		Very limited:	
		Restricted permeability	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00		
SuF:					
Sulphura	55	Very limited:		Very limited:	
		Restricted permeability	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00		
Rock outcrop	30	Not rated		Not rated	
TbD:					
Talbott	50	Very limited:		Very limited:	
		Restricted permeability	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.16		
Mimosa	42	Somewhat limited:		Very limited:	
		Depth to bedrock	0.27	Slope	1.00
		Slope	0.16		
TbE:					
Talbott	50	Very limited:		Very limited:	
		Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00		
Mimosa	42	Very limited:		Very limited:	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.27		
ThC2:					
Tarklin	60	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Slope	1.00
				Seepage	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Depth to saturated zone	0.08
		Depth to bedrock	0.01		
Humphreys	30	Very limited:		Very limited:	
		Filtering capacity	1.00	Seepage	1.00
				Slope	1.00
		Depth to saturated zone	0.08		
		Slope	0.04		

Table 12.—Sanitary Facilities (Part I)—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
TmC2:					
Tarklin	60	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Slope	1.00
				Seepage	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Depth to saturated zone	0.08
		Depth to bedrock	0.01		
Minvale	40	Somewhat limited:		Very limited:	
		Restricted permeability	0.46	Slope	1.00
				Seepage	0.53
		Slope	0.04		
TmC3:					
Tarklin	60	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Slope	1.00
				Seepage	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to bedrock	0.18	Depth to saturated zone	0.04
		Slope	0.04		
Minvale	40	Somewhat limited:		Very limited:	
		Restricted permeability	0.46	Slope	1.00
				Seepage	0.53
		Slope	0.04		
TmE3:					
Tarklin	60	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00		
				Depth to saturated zone	0.04
		Depth to bedrock	0.18		
Minvale	40	Very limited:		Very limited:	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.46	Seepage	0.53
ToA:					
Trace	90	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
		Restricted permeability	0.46		
TrA:					
Trace	90	Very limited:		Very limited:	
		Filtering capacity	1.00	Seepage	1.00
				Flooding	0.40
		Restricted permeability	0.46	Slope	0.01
		Flooding	0.40		

Table 12.—Sanitary Facilities (Part I)—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
Ua:					
Udalfs	70	Very limited:		Very limited:	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00		
Gullied land	30	Not rated		Not rated	
Ud:					
Udarents	80	Very limited:		Very limited:	
		Slope	1.00	Slope	1.00
W:					
Water	100	Not rated		Not rated	
WfA:					
Wolftever	95	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	1.00		
WfB2:					
Wolftever	90	Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	1.00	Slope	0.33
WlB:					
Wolftever	85	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	1.00	Slope	0.33
Wm:					
Woodmont	90	Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00	Seepage	0.53
		Restricted permeability	0.46	Flooding	0.40
		Flooding	0.40		

Table 12.—Sanitary Facilities (Part II)

(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		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AmA:							
Armour	95	Very limited:		Very limited:		Not limited	
		Flooding	1.00	Flooding	1.00		
		Seepage	1.00				
AmB:							
Armour	100	Not limited		Not limited		Not limited	
ArA:							
Armour	95	Very limited:		Somewhat limited:		Not limited	
		Seepage	1.00	Flooding	0.40		
		Flooding	0.40				
At:							
Arrington	100	Very limited:		Very limited:		Not limited	
		Flooding	1.00	Flooding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
BA:							
Beason	50	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	Depth to saturated zone	1.00
		Too clayey	1.00				
Chenneby	45	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	Hard to compact	1.00
BbC:							
Biffle	95	Very limited:		Very limited:		Very limited:	
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
		Slope	0.16	Depth to bedrock	1.00	Seepage	0.52
				Slope	0.16	Slope	0.16
						Gravel content	0.02
BbD:							
Biffle	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
		Seepage	1.00	Depth to bedrock	1.00	Seepage	0.52
						Gravel content	0.50
BbF:							
Biffle	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
				Depth to bedrock	1.00	Seepage	0.52
						Gravel content	0.02

Table 12.—Sanitary Facilities (Part II)—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
BSF:							
Biffle	36	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
				Depth to bedrock	1.00	Seepage	0.52
						Gravel content	0.02
Hawthorne	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
				Depth to bedrock	1.00	Seepage	0.52
						Gravel content	0.12
Sulphura	22	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
				Depth to bedrock	1.00	Seepage	0.50
						Gravel content	0.30
BtC, BtC3:							
Braxton	60	Very limited:		Somewhat limited:		Very limited:	
		Too clayey	1.00	Slope	0.16	Too clayey	1.00
		Slope	0.16			Hard to compact	1.00
						Slope	0.16
Talbott	30	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	0.16	Depth to bedrock	1.00
		Slope	0.16			Hard to compact	1.00
						Slope	0.16
BtE, BtE3:							
Braxton	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Talbott	30	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Depth to bedrock	1.00
						Hard to compact	1.00
BuB2:							
Busseltown	90	Very limited:		Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	0.96	Depth to saturated zone	0.98
		Flooding	0.40	Flooding	0.40		

Table 12.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BuC3:							
Busseltown	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
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Flooding	0.40	Flooding	0.40	Slope	0.04
		Slope	0.04	Slope	0.04		
Cb, Ch:							
Chenneby	75	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	Hard to compact	1.00
DeD2:							
Dellrose	90	Very limited:		Very limited:		Very limited:	
		Too clayey	1.00	Seepage	1.00	Hard to compact	1.00
		Slope	0.84	Slope	0.84	Slope	0.84
						Too clayey	0.50
DeF:							
Dellrose	60	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50	Seepage	1.00	Seepage	0.52
						Too clayey	0.50
						Gravel content	0.01
Mimosa	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
DkB2:							
Dickson	100	Very limited:		Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	0.96	Hard to compact	1.00
						Depth to saturated zone	0.98
Eg:							
Egam	95	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	Flooding	0.40	Hard to compact	1.00
		Flooding	0.40			Depth to saturated zone	0.47
Es, Ev:							
Ellisville	90	Very limited:		Very limited:		Not limited	
		Flooding	1.00	Flooding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		

Table 12.—Sanitary Facilities (Part II)—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
GdF:							
Gladdice	40	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		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
Rock outcrop	30	Not rated		Not rated		Not rated	
Mimosa	25	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.42	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.42
Gm:							
Gumdale	90	Very limited:		Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50	Flooding	0.40	Too clayey	0.50
		Flooding	0.40				
HuA:							
Humphreys	90	Very limited:		Very limited:		Somewhat limited:	
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Gravel content	0.42
		Flooding	0.40	Flooding	0.40		
HuB:							
Humphreys	90	Very limited:		Very limited:		Somewhat limited:	
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Gravel content	0.42
HuC:							
Humphreys	90	Very limited:		Very limited:		Somewhat limited:	
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Gravel content	0.42
		Slope	0.04	Slope	0.04	Slope	0.04
IrC:							
Ironcity	85	Very limited:		Somewhat limited:		Very limited:	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Gravel content	0.29
						Slope	0.04

Table 12.—Sanitary Facilities (Part II)—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
LaC:							
Lax	55	Very limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.75	Hard to compact	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.86
						Slope	0.04
Ironcity	45	Very limited:		Somewhat limited:		Very limited:	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Gravel content	0.29
						Slope	0.04
LbB:							
Lax	90	Very limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.75	Hard to compact	1.00
						Depth to saturated zone	0.86
LbC:							
Lax	100	Very limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.75	Hard to compact	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.86
						Slope	0.04
Le:							
Lee	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	Gravel content	0.39
Lo:							
Lobelville	90	Very limited:		Very limited:		Somewhat limited:	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.52
		Seepage	1.00	Seepage	1.00	Gravel content	0.50
MaE3:							
Marsh	95	Very limited:		Very limited:		Very limited:	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage	1.00	Seepage	1.00	Too clayey	0.50
		Too clayey	0.50			Seepage	0.22

Table 12.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Mn:							
Minter	90	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	1.00
		Too clayey	1.00			Hard to compact	1.00
PdA:							
Paden	90	Very limited:		Very limited:		Very limited:	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
		Flooding	0.40	Flooding	0.40		
PdB2:							
Paden	90	Very limited:		Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.96	Depth to saturated zone	0.98
PdC2:							
Paden	90	Very limited:		Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.96	Depth to saturated zone	0.98
		Slope	0.04	Slope	0.04	Slope	0.04
PdC3:							
Paden	85	Very limited:		Very limited:		Very limited:	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	0.04	Slope	0.04
PkB2:							
Pickwick	90	Somewhat limited:		Not limited		Very limited:	
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
PkC2:							
Pickwick	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Too clayey	0.50	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Too clayey	0.50
						Slope	0.04
PkC3:							
Pickwick	85	Very limited:		Somewhat limited:		Very limited:	
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Too clayey	0.50
						Slope	0.04
Pt:							
Pits	90	Not rated		Not rated		Not rated	

Table 12.—Sanitary Facilities (Part II)—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
Rb:							
Riverby	85	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Too sandy	0.50
		Too sandy	1.00	Depth to saturated zone	1.00	Gravel content	0.32
		Depth to saturated zone	1.00			Content of large stones	0.01
		Content of large stones	0.01				
RoD:							
Rock outcrop	55	Not rated		Not rated		Not rated	
Barfield	35	Very limited:		Very limited:		Very limited:	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Slope	1.00
						Hard to compact	1.00
RoF:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Barfield	35	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Sa:							
Staser	90	Very limited:		Very limited:		Not limited	
		Flooding	1.00	Flooding	1.00		
SeC3:							
Stiversville	100	Very limited:		Somewhat limited:		Somewhat limited:	
		Depth to bedrock	1.00	Depth to bedrock	0.84	Depth to bedrock	0.84
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
SgC:							
Sugargrove	85	Very limited:		Somewhat limited:		Somewhat limited:	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Slope	0.04	Gravel content	0.09
						Slope	0.04
SgD:							
Sugargrove	85	Very limited:		Very limited:		Very limited:	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.09
Sn:							
Sullivan	90	Very limited:		Very limited:		Not limited	
		Flooding	1.00	Flooding	1.00		
		Seepage	1.00				

Table 12.—Sanitary Facilities (Part II)—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
SpF:							
Sulphura	95	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
				Depth to bedrock	1.00	Seepage	0.52
						Gravel content	0.15
SuF:							
Sulphura	55	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
				Depth to bedrock	1.00	Seepage	0.52
						Gravel content	0.15
Rock outcrop	30	Not rated		Not rated		Not rated	
TbD:							
Talbott	50	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	0.16	Depth to bedrock	1.00
		Slope	0.16			Hard to compact	1.00
						Slope	0.16
Mimosa	42	Very limited:		Somewhat limited:		Very limited:	
		Too clayey	1.00	Slope	0.16	Too clayey	1.00
		Depth to bedrock	1.00			Hard to compact	1.00
		Slope	0.16			Slope	0.16
TbE:							
Talbott	50	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Depth to bedrock	1.00
						Hard to compact	1.00
Mimosa	42	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
		Depth to bedrock	1.00			Hard to compact	1.00
ThC2:							
Tarklin	60	Very limited:		Very limited:		Very limited:	
		Depth to saturated zone	1.00	Seepage	1.00	Depth to cemented pan	1.00
		Depth to bedrock	1.00	Depth to cemented pan	1.00	Depth to saturated zone	0.95
		Depth to thick cemented pan	1.00	Depth to saturated zone	0.92	Too clayey	0.50
		Seepage	1.00	Slope	0.04	Seepage	0.22
		Too clayey	0.50			Slope	0.04
Humphreys	30	Very limited:		Very limited:		Somewhat limited:	
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50	Slope	0.04	Gravel content	0.44
		Slope	0.04			Slope	0.04

Table 12.—Sanitary Facilities (Part II)—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
TmC2:							
Tarklin-------------	60	Very limited:		Very limited:		Very limited:	
		Depth to saturated zone	1.00	Seepage	1.00	Depth to cemented pan	1.00
		Depth to bedrock	1.00	Depth to cemented pan	1.00	Depth to saturated zone	0.95
		Depth to thick cemented pan	1.00	Depth to saturated zone	0.92	Too clayey	0.50
		Seepage	1.00	Slope	0.04	Seepage	0.22
		Too clayey	0.50			Slope	0.04
Minvale-------------	40	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Slope	0.04	Slope	0.04	Gravel content	0.41
						Slope	0.04
TmC3:							
Tarklin-------------	60	Very limited:		Very limited:		Very limited:	
		Depth to saturated zone	1.00	Seepage	1.00	Depth to cemented pan	1.00
		Depth to bedrock	1.00	Depth to cemented pan	1.00	Depth to saturated zone	0.98
		Depth to thick cemented pan	1.00	Depth to saturated zone	0.96	Too clayey	0.50
		Seepage	1.00	Slope	0.04	Seepage	0.22
		Too clayey	0.50			Slope	0.04
Minvale-------------	40	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Gravel content	0.41
						Slope	0.04
TmE3:							
Tarklin-------------	60	Very limited:		Very limited:		Very limited:	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00	Depth to cemented pan	1.00
		Depth to bedrock	1.00	Depth to cemented pan	1.00	Depth to saturated zone	0.98
		Depth to thick cemented pan	1.00	Depth to saturated zone	0.96	Too clayey	0.50
		Seepage	1.00			Seepage	0.22
Minvale-------------	40	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
						Gravel content	0.41
ToA:							
Trace---------------	90	Very limited:		Very limited:		Very limited:	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	0.23
TrA:							
Trace---------------	90	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40	Gravel content	0.23

Table 12.—Sanitary Facilities (Part II)—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
Ua:							
Udalfs	70	Very limited:		Very limited:		Very limited:	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Slope	1.00
						Hard to compact	1.00
Gullied land	30	Not rated		Not rated		Not rated	
Ud:							
Udarents	80	Very limited:		Very limited:		Very limited:	
		Slope	1.00	Slope	1.00	Slope	1.00
W:							
Water	100	Not rated		Not rated		Not rated	
WfA:							
Wolftever	95	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	0.09
WfB2:							
Wolftever	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	0.09
WlB:							
Wolftever	85	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	0.09
Wm:							
Woodmont	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
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Flooding	0.40	Flooding	0.40		

Table 13.—Construction Materials (Part I)

(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
AmA:					
Armour	95	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
AmB:					
Armour	100	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
ArA:					
Armour	95	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
At:					
Arrington	100	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BA:					
Beason	50	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Chenneby	45	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BbC, BbD, BbF:					
Biffle	95	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BSF:					
Biffle	36	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hawthorne	35	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sulphura	22	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
BtC, BtC3, BtE, BtE3:					
Braxton-------------	60	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Talbott-------------	30	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BuB2:					
Busseltown----------	90	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BuC3:					
Busseltown----------	100	Poor:		Fair:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.03
Cb, Ch:					
Chenneby------------	75	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
DeD2:					
Dellrose------------	90	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
DeF:					
Dellrose------------	60	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mimosa--------------	35	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
DkB2:					
Dickson-------------	100	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Eg:					
Egam----------------	95	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Es, Ev:					
Ellisville----------	90	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
GdF:					
Gladdice------------	40	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
GdF:					
Rock outcrop	30	Not rated		Not rated	
Mimosa	25	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gm:					
Gumdale	90	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HuA, HuB, HuC:					
Humphreys	90	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
IrC:					
Ironcity	85	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LaC:					
Lax	55	Poor:		Poor:	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Ironcity	45	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LbB:					
Lax	90	Poor:		Poor:	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
LbC:					
Lax	100	Poor:		Poor:	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Le:					
Lee	90	Poor:		Poor:	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Lo:					
Lobelville	90	Fair:		Fair:	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.08
MaE3:					
Marsh	95	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mn:					
Minter	90	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
PdA:					
Paden	90	Poor:		Fair:	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
PdB2, PdC2:					
Paden	90	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
PdC3:					
Paden	85	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
PkB2, PkC2:					
Pickwick	90	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
PkC3:					
Pickwick	85	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Pt:					
Pits	90	Not rated		Not rated	
Rb:					
Riverby	85	Poor:		Fair:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.09
RoD:					
Rock outcrop	55	Not rated		Not rated	
Barfield	35	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
RoF:					
Rock outcrop	60	Not rated		Not rated	
Barfield	35	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sa:					
Staser	90	Poor:		Fair:	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.05
SeC3:					
Stiversville	100	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SgC, SgD:					
Sugargrove	85	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Sn:					
Sullivan	90	Poor:		Fair:	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
SpF:					
Sulphura	95	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SuF:					
Sulphura	55	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	30	Not rated		Not rated	
TbD, TbE:					
Talbott	50	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mimosa	42	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
ThC2:					
Tarklin	60	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Humphreys	30	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
TmC2, TmC3, TmE3:					
Tarklin	60	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Minvale	40	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
ToA, TrA:					
Trace	90	Fair:		Poor:	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.44	Thickest layer	0.00
Ua:					
Udalfs	70	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gullied land	30	Not rated		Not rated	
Ud:					
Udarents	80	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
W:					
Water	100	Not rated		Not rated	
WfA:					
Wolftever	95	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
WfB2:					
Wolftever	90	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
WlB:					
Wolftever	85	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wm:					
Woodmont	90	Poor:		Poor:	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials (Part II)

(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 0.00 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
AmA:							
Armour	95	Fair:		Good		Good	
		Too acid	0.74				
		Low content of organic matter	0.88				
		Water erosion	0.90				
AmB:							
Armour	100	Fair:		Good		Good	
		Low content of organic matter	0.12				
		Too acid	0.74				
		Water erosion	0.90				
ArA:							
Armour	95	Fair:		Good		Fair:	
		Too acid	0.74			Hard to reclaim	0.68
		Low content of organic matter	0.88				
		Water erosion	0.90				
At:							
Arrington	100	Fair:		Good		Good	
		No water erosion limitation	0.99				
BA:							
Beason	50	Poor:		Fair:		Poor:	
		Too clayey	0.00	Depth to saturated zone	0.07	Too clayey	0.00
		Low content of organic matter	0.12			Depth to saturated zone	0.07
		Too acid	0.32				
		No water erosion limitation	0.99				
Chenneby	45	Poor:		Fair:		Fair:	
		Low content of organic matter	0.00	Depth to saturated zone	0.07	Depth to saturated zone	0.07
		Too acid	0.54			Too acid	0.98
		No water erosion limitation	0.99				
BbC:							
Biffle	95	Poor:		Poor:		Poor:	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Low content of organic matter	0.12			Depth to bedrock	0.58
		Too acid	0.32			Slope	0.84
		Depth to bedrock	0.58			Too acid	0.88

Table 13.—Construction Materials (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BbD:							
Biffle	95	Poor:		Poor:		Poor:	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.03	Slope	0.08	Rock fragments	0.00
		Low content of organic matter	0.12			Depth to bedrock	0.03
		Too acid	0.32			Too acid	0.88
BbF:							
Biffle	95	Poor:		Poor:		Poor:	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.32			Depth to bedrock	0.58
		Depth to bedrock	0.58			Too acid	0.88
BSF:							
Biffle	36	Poor:		Poor:		Poor:	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.32			Depth to bedrock	0.58
		Depth to bedrock	0.58			Too acid	0.88
Hawthorne	35	Poor:		Poor:		Poor:	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.20			Depth to bedrock	0.58
		Depth to bedrock	0.58			Too acid	0.76
Sulphura	22	Poor:		Poor:		Poor:	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.58			Depth to bedrock	0.58
		Too acid	0.74				
BtC:							
Braxton	60	Poor:		Fair:		Poor:	
		Too clayey	0.00	Shrink-swell	0.87	Too clayey	0.00
		Low content of organic matter	0.12			Slope	0.84
		Too acid	0.74			Rock fragments	0.97
Talbott	30	Poor:		Poor:		Poor:	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Shrink-swell	0.87	Depth to bedrock	0.58
		Droughty	0.24			Slope	0.84
		Depth to bedrock	0.58				
		Too acid	0.84				
		No water erosion limitation	0.99				

Table 13.—Construction Materials (Part II)—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
BtC3:							
Braxton	60	Poor:		Fair:		Poor:	
		Too clayey	0.00	Shrink-swell	0.87	Too clayey	0.00
		Low content of organic matter	0.12			Slope	0.84
						Rock fragments	0.97
		Too acid	0.74				
Talbott	30	Poor:		Poor:		Poor:	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Shrink-swell	0.87	Depth to bedrock	0.58
						Slope	0.84
		Droughty	0.17				
		Depth to bedrock	0.58				
		Too acid	0.84				
BtE:							
Braxton	60	Poor:		Poor:		Poor:	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Shrink-swell	0.87	Too clayey	0.00
						Rock fragments	0.97
		Too acid	0.74				
Talbott	30	Poor:		Poor:		Poor:	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Low content of organic matter	0.12	Slope	0.00	Too clayey	0.00
				Shrink-swell	0.87	Depth to bedrock	0.58
		Droughty	0.24				
		Depth to bedrock	0.58				
		Too acid	0.84				
		No water erosion limitation	0.99				
BtE3:							
Braxton	60	Poor:		Poor:		Poor:	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Shrink-swell	0.87	Too clayey	0.00
						Rock fragments	0.97
		Too acid	0.74				
Talbott	30	Poor:		Poor:		Poor:	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Low content of organic matter	0.12	Slope	0.00	Too clayey	0.00
				Shrink-swell	0.87	Depth to bedrock	0.58
		Droughty	0.17				
		Depth to bedrock	0.58				
		Too acid	0.84				
BuB2:							
Busseltown	90	Poor:		Poor:		Poor:	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Droughty	0.02	Depth to saturated zone	0.24	Depth to saturated zone	0.24
		Low content of organic matter	0.12			Too acid	0.88
		Too acid	0.32				

Table 13.—Construction Materials (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BuC3:							
Busseltown	100	Poor:		Poor:		Poor:	
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Depth to cemented pan	0.00	Depth to saturated zone	0.07	Depth to saturated zone	0.07
		Low content of organic matter	0.12			Too acid	0.88
		Too acid	0.32			Slope	0.96
Cb, Ch:							
Chenneby	75	Poor:		Fair:		Fair:	
		Low content of organic matter	0.00	Depth to saturated zone	0.07	Depth to saturated zone	0.07
		Too acid	0.54			Too acid	0.98
		No water erosion limitation	0.99				
DeD2:							
Dellrose	90	Fair:		Good		Fair:	
		Low content of organic matter	0.12			Rock fragments	0.03
		Too acid	0.54			Slope	0.16
						Too acid	0.98
DeF:							
Dellrose	60	Fair:		Poor:		Poor:	
		Low content of organic matter	0.12	Slope	0.00	Slope	0.00
		Too acid	0.54			Rock fragments	0.03
						Too acid	0.98
Mimosa	35	Poor:		Poor:		Poor:	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Shrink-swell	0.91	Too clayey	0.00
		Too acid	0.54			Too acid	0.98
DkB2:							
Dickson	100	Poor:		Poor:		Poor:	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Low content of organic matter	0.12	Depth to saturated zone	0.24	Depth to saturated zone	0.24
		Droughty	0.21			Too acid	0.88
		Too acid	0.32				
		Water erosion	0.90				
Eg:							
Egam	95	Poor:		Fair:		Poor:	
		Low content of organic matter	0.00	Shrink-swell	0.87	Too clayey	0.00
		Too clayey	0.00	Depth to saturated zone	0.89	Depth to saturated zone	0.89

Table 13.—Construction Materials (Part II)—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
Es, Ev:							
Ellisville	90	Poor:		Good		Fair:	
		Low content of organic matter	0.00			Too acid	0.98
		Too acid	0.54				
		No water erosion limitation	0.99				
GdF:							
Gladdice	40	Poor:		Poor:		Poor:	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Droughty	0.41	Depth to bedrock	0.00	Too clayey	0.00
		Depth to bedrock	0.58	Shrink-swell	0.15	Depth to bedrock	0.58
		Low content of organic matter	0.88			Rock fragments	0.95
Rock outcrop	30	Not rated		Not rated		Not rated	
Mimosa	25	Poor:		Poor:		Poor:	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Depth to bedrock	0.58	Too clayey	0.00
				Shrink-swell	0.87	Too acid	0.98
		Too acid	0.54				
Gm:							
Gumdale	90	Poor:		Poor:		Poor:	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Droughty	0.06	Depth to saturated zone	0.14	Depth to saturated zone	0.14
		Too acid	0.74				
		No water erosion limitation	0.99				
HuA, HuB:							
Humphreys	90	Poor:		Good		Poor:	
		Low content of organic matter	0.00			Rock fragments	0.00
						Hard to reclaim	0.50
		Too acid	0.84				
HuC:							
Humphreys	90	Poor:		Good		Poor:	
		Low content of organic matter	0.00			Rock fragments	0.00
						Hard to reclaim	0.50
		Too acid	0.84			Slope	0.96
IrC:							
Ironcity	85	Fair:		Fair:		Poor:	
		Low content of organic matter	0.12	Shrink-swell	0.99	Rock fragments	0.00
						Hard to reclaim	0.18
		Too acid	0.32			Too acid	0.88
						Slope	0.96

Table 13.—Construction Materials (Part II)—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
LaC:							
Lax	55	Fair:		Poor:		Fair:	
		Low content of organic matter	0.12	Depth to cemented pan	0.00	Depth to cemented pan	0.26
		Depth to cemented pan	0.26	Depth to saturated zone	0.53	Depth to saturated zone	0.53
		Too acid	0.32			Too acid	0.88
		Droughty	0.82			Slope	0.96
		Water erosion	0.90			Rock fragments	0.97
Ironcity	45	Fair:		Fair:		Poor:	
		Low content of organic matter	0.12	Shrink-swell	0.99	Rock fragments	0.00
						Hard to reclaim	0.18
		Too acid	0.32			Too acid	0.88
						Slope	0.96
LbB:							
Lax	90	Fair:		Poor:		Fair:	
		Low content of organic matter	0.12	Depth to cemented pan	0.00	Depth to cemented pan	0.26
		Depth to cemented pan	0.26	Depth to saturated zone	0.53	Depth to saturated zone	0.53
		Too acid	0.32			Too acid	0.88
		Droughty	0.82			Rock fragments	0.97
		Water erosion	0.90				
LbC:							
Lax	100	Fair:		Poor:		Fair:	
		Low content of organic matter	0.12	Depth to cemented pan	0.00	Depth to cemented pan	0.26
		Depth to cemented pan	0.26	Depth to saturated zone	0.53	Depth to saturated zone	0.53
		Too acid	0.32			Too acid	0.88
		Droughty	0.82			Slope	0.96
		Water erosion	0.90			Rock fragments	0.97
Le:							
Lee	90	Poor:		Poor:		Poor:	
		Low content of organic matter	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too acid	0.74			Rock fragments	0.00
						Hard to reclaim	0.02
Lo:							
Lobelville	90	Fair:		Fair:		Poor:	
		Low content of organic matter	0.12	Depth to saturated zone	0.18	Hard to reclaim	0.00
						Rock fragments	0.00
		Too acid	0.54			Depth to saturated zone	0.18
						Too acid	0.98
MaE3:							
Marsh	95	Fair:		Poor:		Poor:	
		Low content of organic matter	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.05	Depth to bedrock	0.29
		Droughty	0.15			Rock fragments	0.50
		Depth to bedrock	0.29				
		Too acid	0.68				
		No water erosion limitation	0.99				

Table 13.—Construction Materials (Part II)—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
Mn:							
Minter	90	Poor:		Poor:		Poor:	
		Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Low content of organic matter	0.18	Shrink-swell	0.87	Too clayey	0.00
		Too acid	0.32			Too acid	0.88
PdA:							
Paden	90	Fair:		Poor:		Fair:	
		Depth to cemented pan	0.10	Depth to cemented pan	0.00	Depth to cemented pan	0.10
		Low content of organic matter	0.12	Depth to saturated zone	0.53	Depth to saturated zone	0.53
		Too acid	0.32			Too acid	0.88
		Droughty	0.76				
		Water erosion	0.90				
PdB2:							
Paden	90	Fair:		Poor:		Fair:	
		Depth to cemented pan	0.01	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Low content of organic matter	0.12	Depth to saturated zone	0.24	Depth to saturated zone	0.24
		Too acid	0.32			Too acid	0.88
		Droughty	0.38				
		Water erosion	0.90				
PdC2:							
Paden	90	Fair:		Poor:		Fair:	
		Depth to cemented pan	0.01	Depth to cemented pan	0.00	Depth to cemented pan	0.01
		Low content of organic matter	0.12	Depth to saturated zone	0.24	Depth to saturated zone	0.24
		Too acid	0.32			Too acid	0.88
		Droughty	0.38			Slope	0.96
		Water erosion	0.90				
PdC3:							
Paden	85	Poor:		Poor:		Poor:	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Droughty	0.00	Depth to saturated zone	0.04	Depth to saturated zone	0.04
		Low content of organic matter	0.12			Too acid	0.88
		Too acid	0.32			Slope	0.96
		Water erosion	0.90				
PkB2:							
Pickwick	90	Fair:		Good		Fair:	
		Low content of organic matter	0.12			Too acid	0.88
		Too acid	0.32				
		Water erosion	0.90				

Table 13.—Construction Materials (Part II)—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
PkC2:							
Pickwick	90	Fair:		Good		Fair:	
		Low content of organic matter	0.12			Too acid	0.88
		Too acid	0.32			Slope	0.96
		Water erosion	0.90				
PkC3:							
Pickwick	85	Fair:		Good		Fair:	
		Low content of organic matter	0.12			Too clayey	0.53
		Too acid	0.32			Too acid	0.88
		Too clayey	0.92			Slope	0.96
		No water erosion limitation	0.99				
Pt:							
Pits	90	Not rated		Not rated		Not rated	
Rb:							
Riverby	85	Fair:		Fair:		Poor:	
		Droughty	0.51	Cobble content	0.84	Rock fragments	0.00
		Too acid	0.97			Hard to reclaim	0.00
RoD:							
Rock outcrop	55	Not rated		Not rated		Not rated	
Barfield	35	Poor:		Poor:		Poor:	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Low content of organic matter	0.00	Shrink-swell	0.12	Too clayey	0.00
		Depth to bedrock	0.00	Slope	0.50	Slope	0.00
		Too clayey	0.00	No cobble limitation	0.99	Rock fragments	0.24
RoF:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Barfield	35	Poor:		Poor:		Poor:	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Low content of organic matter	0.00	Slope	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Shrink-swell	0.12	Too clayey	0.00
		Too clayey	0.00	No cobble limitation	0.99	Rock fragments	0.24
Sa:							
Staser	90	Good		Good		Fair:	
						Hard to reclaim	0.92
SeC3:							
Stiversville	100	Poor:		Fair:		Poor:	
		Low content of organic matter	0.00	Depth to bedrock	0.16	Hard to reclaim	0.00
		Too acid	0.46			Too acid	0.95
						Slope	0.96
						Rock fragments	0.97
SgC:							
Sugargrove	85	Fair:		Poor:		Poor:	
		Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.32			Hard to reclaim	0.82
						Too acid	0.88
						Slope	0.96

Table 13.—Construction Materials (Part II)—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
SgD:							
Sugargrove	85	Fair:		Poor:		Poor:	
		Low content of organic matter	0.12	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.32	Slope	0.98	Rock fragments	0.00
						Hard to reclaim	0.82
						Too acid	0.88
Sn:							
Sullivan	90	Fair:		Good		Fair:	
		Too acid	0.99			Rock fragments	0.97
SpF:							
Sulphura	95	Poor:		Poor:		Poor:	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Low content of organic matter	0.12	Slope	0.00	Rock fragments	0.00
		Depth to bedrock	0.58	Stone content	0.99	Depth to bedrock	0.58
		Too acid	0.74				
		Stone content	0.99				
SuF:							
Sulphura	55	Poor:		Poor:		Poor:	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.58	Stone content	0.99	Depth to bedrock	0.58
		Too acid	0.74				
		Stone content	0.99				
Rock outcrop	30	Not rated		Not rated		Not rated	
TbD:							
Talbott	50	Poor:		Poor:		Poor:	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Shrink-swell	0.87	Depth to bedrock	0.58
		Droughty	0.25			Slope	0.84
		Depth to bedrock	0.58				
		Too acid	0.84				
		No water erosion limitation	0.99				
Mimosa	42	Poor:		Fair:		Poor:	
		Too clayey	0.00	Shrink-swell	0.18	Too clayey	0.00
		Low content of organic matter	0.12			Slope	0.84
		Too acid	0.54			Too acid	0.98
		No water erosion limitation	0.99				
TbE:							
Talbott	50	Poor:		Poor:		Poor:	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Low content of organic matter	0.12	Slope	0.00	Too clayey	0.00
		Droughty	0.25	Shrink-swell	0.87	Depth to bedrock	0.58
		Depth to bedrock	0.58				
		Too acid	0.84				
		No water erosion limitation	0.99				

Table 13.—Construction Materials (Part II)—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
TbE:							
Mimosa	42	Poor:		Poor:		Poor:	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Shrink-swell	0.18	Too clayey	0.00
		Too acid	0.54			Too acid	0.98
		No water erosion limitation	0.99				
ThC2:							
Tarklin	60	Fair:		Poor:		Fair:	
		Too acid	0.12	Depth to cemented pan	0.00	Depth to cemented pan	0.16
		Low content of organic matter	0.12	Depth to saturated zone	0.32	Rock fragments	0.28
		Depth to cemented pan	0.16			Depth to saturated zone	0.32
		Droughty	0.27			Too acid	0.59
						Slope	0.96
Humphreys	30	Fair:		Good		Poor:	
		Low content of organic matter	0.12			Rock fragments	0.00
		Too acid	0.54			Hard to reclaim	0.02
						Slope	0.96
						Too acid	0.98
TmC2:							
Tarklin	60	Fair:		Poor:		Fair:	
		Too acid	0.12	Depth to cemented pan	0.00	Depth to cemented pan	0.16
		Low content of organic matter	0.12	Depth to saturated zone	0.32	Rock fragments	0.28
		Depth to cemented pan	0.16			Depth to saturated zone	0.32
		Droughty	0.27			Too acid	0.59
						Slope	0.96
Minvale	40	Fair:		Good		Poor:	
		Low content of organic matter	0.12			Rock fragments	0.00
		Too acid	0.32			Hard to reclaim	0.50
						Too acid	0.88
						Slope	0.96
TmC3:							
Tarklin	60	Poor:		Poor:		Poor:	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Droughty	0.02	Depth to saturated zone	0.24	Depth to saturated zone	0.24
		Too acid	0.12			Rock fragments	0.28
		Low content of organic matter	0.12			Too acid	0.59
						Slope	0.96
Minvale	40	Fair:		Good		Poor:	
		Low content of organic matter	0.12			Rock fragments	0.00
		Too acid	0.32			Hard to reclaim	0.50
						Too acid	0.88
						Slope	0.96

Table 13.—Construction Materials (Part II)—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
TmE3:							
Tarklin	60	Poor:		Poor:		Poor:	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Slope	0.00
		Droughty	0.02	Depth to saturated zone	0.24	Depth to cemented pan	0.00
		Too acid	0.12	Slope	0.32	Depth to saturated zone	0.24
		Low content of organic matter	0.12			Rock fragments	0.28
						Too acid	0.59
Minvale	40	Fair:		Fair:		Poor:	
		Low content of organic matter	0.12	Slope	0.32	Rock fragments	0.00
		Too acid	0.32			Slope	0.00
						Hard to reclaim	0.50
						Too acid	0.88
ToA, TrA:							
Trace	90	Fair:		Good		Poor:	
		Low content of organic matter	0.12			Hard to reclaim	0.00
		Too acid	0.74				
		No water erosion limitation	0.99				
Ua:							
Udalfs	70	Poor:		Fair:		Poor:	
		Too clayey	0.00	Shrink-swell	0.50	Too clayey	0.00
		Low content of organic matter	0.12	Slope	0.82	Slope	0.00
		Too acid	0.84			Rock fragments	0.97
Gullied land	30	Not rated		Not rated		Not rated	
Ud:							
Udarents	80	Poor:		Poor:		Poor:	
		Low content of organic matter	0.00	Low strength	0.00	Slope	0.00
				Slope	0.98		
W:							
Water	100	Not rated		Not rated		Not rated	
WfA:							
Wolftever	95	Poor:		Fair:		Poor:	
		Too clayey	0.00	Shrink-swell	0.93	Too clayey	0.00
		Low content of organic matter	0.12			Too acid	0.88
		Too acid	0.32				
		No water erosion limitation	0.99				
WfB2:							
Wolftever	90	Poor:		Fair:		Poor:	
		Too clayey	0.00	Shrink-swell	0.93	Too clayey	0.00
		Low content of organic matter	0.12			Too acid	0.88
		Too acid	0.32				
		No water erosion limitation	0.99				

Table 13.—Construction Materials (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WlB:							
Wolftever-----------	85	Poor:		Fair:		Poor:	
		Too clayey	0.00	Shrink-swell	0.93	Too clayey	0.00
		Low content of organic matter	0.12			Too acid	0.88
		Too acid	0.32				
		No water erosion limitation	0.99				
Wm:							
Woodmont------------	90	Fair:		Poor:		Fair:	
		Depth to cemented pan	0.10	Depth to cemented pan	0.00	Depth to saturated zone	0.07
		Low content of organic matter	0.12	Depth to saturated zone	0.07	Depth to cemented pan	0.10
		Droughty	0.59				
		Too acid	0.74				
		Water erosion	0.90				

Table 14.—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
AmA:							
Armour	95	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Piping	0.95	Deep to water	1.00
AmB:							
Armour	100	Somewhat limited:		Somewhat limited:		Very limited:	
		Seepage	0.72	Piping	0.82	Deep to water	1.00
ArA:							
Armour	95	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Piping	1.00	Deep to water	1.00
At:							
Arrington	100	Somewhat limited:		Very limited:		Very limited:	
		Seepage	0.72	Piping	1.00	Deep to water	1.00
BA:							
Beason	50	Somewhat limited:		Very limited:		Somewhat limited:	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.11		
Chenneby	45	Somewhat limited:		Very limited:		Somewhat limited:	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.38		
BbC:							
Biffle	95	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Thin layer	0.85	Deep to water	1.00
		Depth to bedrock	0.11				
BbD:							
Biffle	95	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Piping	1.00	Deep to water	1.00
		Depth to bedrock	0.37	Thin layer	0.99		
		Slope	0.21				
BbF:							
Biffle	95	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Thin layer	0.85	Deep to water	1.00
		Slope	0.97				
		Depth to bedrock	0.11				
BSF:							
Biffle	36	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Thin layer	0.85	Deep to water	1.00
		Slope	1.00				
		Depth to bedrock	0.11				

Table 14.—Water Management—Continued

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
BSF:							
Hawthorne-----------	35	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Thin layer	0.85	Deep to water	1.00
		Slope	1.00				
		Depth to bedrock	0.11				
Sulphura------------	22	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Thin layer	0.85	Deep to water	1.00
		Slope	1.00				
		Depth to bedrock	0.85				
BtC:							
Braxton-------------	60	Not limited		Somewhat limited:		Very limited:	
				Hard to pack	0.32	Deep to water	1.00
Talbott-------------	30	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to bedrock	0.85	Thin layer	0.85	Deep to water	1.00
				Hard to pack	0.72		
BtC3:							
Braxton-------------	60	Somewhat limited:		Somewhat limited:		Very limited:	
		Seepage	0.03	Hard to pack	0.32	Deep to water	1.00
Talbott-------------	30	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to bedrock	0.85	Thin layer	0.85	Deep to water	1.00
		Seepage	0.04	Hard to pack	0.72		
BtE:							
Braxton-------------	60	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.28	Hard to pack	0.32	Deep to water	1.00
Talbott-------------	30	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to bedrock	0.85	Thin layer	0.85	Deep to water	1.00
		Slope	0.28	Hard to pack	0.72		
BtE3:							
Braxton-------------	60	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.28	Hard to pack	0.32	Deep to water	1.00
		Seepage	0.03				
Talbott-------------	30	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to bedrock	0.85	Thin layer	0.85	Deep to water	1.00
		Slope	0.28	Hard to pack	0.72		
		Seepage	0.04				
BuB2:							
Busseltown----------	90	Somewhat limited:		Very limited:		Very limited:	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Deep to water	1.00
		Seepage	0.70	Piping	1.00		
				Thin layer	1.00		
BuC3:							
Busseltown----------	100	Very limited:		Very limited:		Very limited:	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Deep to water	1.00
				Piping	1.00		
				Thin layer	1.00		
				Seepage	0.03		

Table 14.—Water Management—Continued

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
Cb, Ch:							
Chenneby	75	Somewhat limited:		Very limited:		Somewhat limited:	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.38		
DeD2:							
Dellrose	90	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Hard to pack	0.01	Deep to water	1.00
		Slope	0.01				
DeF:							
Dellrose	60	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Piping	0.13	Deep to water	1.00
		Slope	0.88				
Mimosa	35	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.88	Hard to pack	0.29	Deep to water	1.00
DkB2:							
Dickson	100	Somewhat limited:		Very limited:		Very limited:	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Deep to water	1.00
		Seepage	0.72	Thin layer	1.00		
				Piping	0.98		
Eg:							
Egam	95	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Seepage	0.04	Depth to saturated zone	0.86	Slow refill	0.96
						Cutbanks cave	0.10
						Deep to water	0.06
Es, Ev:							
Ellisville	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Seepage	0.70	Piping	0.95	Deep to water	1.00
GdF:							
Gladdice	40	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.99	Thin layer	0.85	Deep to water	1.00
		Depth to bedrock	0.85	Hard to pack	0.44		
		Seepage	0.02				
Rock outcrop	30	Not rated		Not rated		Not rated	
Mimosa	25	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.99	Hard to pack	0.40	Deep to water	1.00
		Depth to bedrock	0.10	Thin layer	0.11		
Gm:							
Gumdale	90	Very limited:		Very limited:		Very limited:	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Deep to water	1.00
				Thin layer	1.00		
				Piping	0.97		
HuA, HuB, HuC:							
Humphreys	90	Very limited:		Not limited		Very limited:	
		Seepage	1.00			Deep to water	1.00

Table 14.—Water Management—Continued

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
IrC:							
Ironcity------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		Seepage	0.72	Hard to pack	0.13	Deep to water	1.00
LaC:							
Lax-----------------	55	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Thin layer	1.00	Deep to water	1.00
		Depth to cemented pan	0.94	Depth to saturated zone	1.00		
				Piping	0.92		
Ironcity------------	45	Somewhat limited:		Somewhat limited:		Very limited:	
		Seepage	0.72	Hard to pack	0.13	Deep to water	1.00
LbB:							
Lax-----------------	90	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Thin layer	1.00	Deep to water	1.00
		Depth to cemented pan	0.94	Depth to saturated zone	1.00		
				Piping	0.92		
LbC:							
Lax-----------------	100	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Thin layer	1.00	Deep to water	1.00
		Depth to cemented pan	0.94	Depth to saturated zone	1.00		
				Piping	0.92		
Le:							
Lee-----------------	90	Somewhat limited:		Very limited:		Very limited:	
		Seepage	0.72	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.28
Lo:							
Lobelville----------	90	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.08		
MaE3:							
Marsh---------------	95	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Piping	0.98	Deep to water	1.00
		Slope	0.23	Thin layer	0.93		
		Depth to bedrock	0.19				
Mn:							
Minter--------------	90	Not limited		Very limited:		Very limited:	
				Ponding	1.00	Slow refill	1.00
				Depth to saturated zone	1.00	Cutbanks cave	0.10
PdA:							
Paden---------------	90	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Thin layer	1.00	Deep to water	1.00
		Depth to cemented pan	0.98	Depth to saturated zone	1.00		
				Piping	0.99		
				Seepage	0.08		

Table 14.—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
PdB2, PdC2:							
Paden	90	Somewhat limited:		Very limited:		Very limited:	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Deep to water	1.00
		Seepage	0.72	Thin layer	1.00		
				Piping	0.99		
PdC3:							
Paden	85	Very limited:		Very limited:		Very limited:	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Deep to water	1.00
		Seepage	0.72	Thin layer	1.00		
				Piping	0.99		
PkB2, PkC2:							
Pickwick	90	Somewhat limited:		Somewhat limited:		Very limited:	
		Seepage	0.72	Piping	0.16	Deep to water	1.00
PkC3:							
Pickwick	85	Somewhat limited:		Somewhat limited:		Very limited:	
		Seepage	0.72	Piping	0.10	Deep to water	1.00
Pt:							
Pits	90	Not rated		Not rated		Not rated	
Rb:							
Riverby	85	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Seepage	0.09	Cutbanks cave	1.00
						Deep to water	0.96
RoD:							
Rock outcrop	55	Not rated		Not rated		Not rated	
Barfield	35	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Thin layer	1.00	Deep to water	1.00
		Depth to bedrock	1.00	Hard to pack	0.59		
		Slope	0.12				
RoF:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Barfield	35	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Thin layer	1.00	Deep to water	1.00
		Depth to bedrock	1.00	Hard to pack	0.59		
		Slope	1.00				
Sa:							
Staser	90	Somewhat limited:		Very limited:		Very limited:	
		Seepage	0.72	Piping	1.00	Deep to water	1.00
				Seepage	0.05		
SeC3:							
Stiversville	100	Somewhat limited:		Very limited:		Very limited:	
		Seepage	0.72	Piping	1.00	Deep to water	1.00
		Depth to bedrock	0.01	Thin layer	0.26		
SgC:							
Sugargrove	85	Somewhat limited:		Somewhat limited:		Very limited:	
		Seepage	0.72	Piping	0.86	Deep to water	1.00
		Depth to bedrock	0.01	Thin layer	0.46		

Table 14.—Water Management—Continued

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
SgD:							
Sugargrove	85	Somewhat limited:		Somewhat limited:		Very limited:	
		Seepage	0.72	Piping	0.86	Deep to water	1.00
		Slope	0.04	Thin layer	0.46		
		Depth to bedrock	0.01				
Sn:							
Sullivan	90	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Piping	1.00	Deep to water	1.00
				Seepage	0.08		
SpF:							
Sulphura	95	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Thin layer	0.85	Deep to water	1.00
		Slope	0.88				
		Depth to bedrock	0.85				
SuF:							
Sulphura	55	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Thin layer	0.85	Deep to water	1.00
		Slope	1.00				
		Depth to bedrock	0.85				
Rock outcrop	30	Not rated		Not rated		Not rated	
TbD:							
Talbott	50	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to bedrock	0.85	Thin layer	0.85	Deep to water	1.00
		Seepage	0.04	Hard to pack	0.72		
Mimosa	42	Not limited		Somewhat limited:		Very limited:	
				Hard to pack	0.43	Deep to water	1.00
TbE:							
Talbott	50	Somewhat limited:		Somewhat limited:		Very limited:	
		Depth to bedrock	0.85	Thin layer	0.85	Deep to water	1.00
		Slope	0.28	Hard to pack	0.72		
		Seepage	0.04				
Mimosa	42	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.28	Hard to pack	0.43	Deep to water	1.00
ThC2:							
Tarklin	60	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Depth to saturated zone	1.00	Deep to water	1.00
		Depth to cemented pan	0.96	Thin layer	1.00		
				Piping	0.98		
Humphreys	30	Very limited:		Not limited		Very limited:	
		Seepage	1.00			Deep to water	1.00
TmC2:							
Tarklin	60	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Depth to saturated zone	1.00	Deep to water	1.00
		Depth to cemented pan	0.96	Thin layer	1.00		
				Piping	0.98		
Minvale	40	Somewhat limited:		Very limited:		Very limited:	
		Seepage	0.72	Piping	1.00	Deep to water	1.00

Table 14.—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
TmC3:							
Tarklin	60	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Depth to saturated zone	1.00	Deep to water	1.00
		Depth to cemented pan	1.00	Thin layer	1.00		
				Piping	0.98		
Minvale	40	Somewhat limited:		Very limited:		Very limited:	
		Seepage	0.72	Piping	1.00	Deep to water	1.00
TmE3:							
Tarklin	60	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Depth to saturated zone	1.00	Deep to water	1.00
		Depth to cemented pan	1.00	Thin layer	1.00		
		Slope	0.15	Piping	0.98		
Minvale	40	Somewhat limited:		Very limited:		Very limited:	
		Seepage	0.72	Piping	1.00	Deep to water	1.00
		Slope	0.15				
ToA, TrA:							
Trace	90	Very limited:		Somewhat limited:		Very limited:	
		Seepage	1.00	Seepage	0.44	Deep to water	1.00
Ua:							
Udalfs	70	Somewhat limited:		Somewhat limited:		Very limited:	
		Slope	0.08	Hard to pack	0.32	Deep to water	1.00
		Seepage	0.01				
Gullied land	30	Not rated		Not rated		Not rated	
Ud:							
Udarents	80	Very limited:		Very limited:		Very limited:	
		Seepage	1.00	Hard to pack	1.00	Deep to water	1.00
		Slope	0.04				
W:							
Water	100	Not rated		Not rated		Not rated	
WfA:							
Wolftever	95	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Seepage	0.04	Piping	0.60	Slow refill	0.96
				Depth to saturated zone	0.43	Deep to water	0.25
						Cutbanks cave	0.10
WfB2:							
Wolftever	90	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Seepage	0.04	Piping	0.60	Slow refill	0.96
				Depth to saturated zone	0.43	Deep to water	0.25
						Cutbanks cave	0.10
WlB:							
Wolftever	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		Seepage	0.04	Piping	0.60	Slow refill	0.96
				Depth to saturated zone	0.43	Deep to water	0.25
						Cutbanks cave	0.10

Table 14.—Water Management—Continued

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
Wm:							
Woodmont------------	90	Somewhat limited:		Very limited:		Very limited:	
		Depth to cemented pan	0.98	Depth to saturated zone	1.00	Deep to water	1.00
		Seepage	0.72	Thin layer	1.00		
				Piping	0.98		

Table 15.—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	
AmA:												
Armour----------	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	90-100	85-100	80-95	25-35	5-10
	10-65	Silt loam, silty clay loam	CL	A-4, A-6	0	0	95-100	90-100	85-100	85-100	28-40	8-18
	65-79	Loam, gravelly sandy loam, gravelly silt loam	CL-ML, GC-GM, GM, ML	A-2, A-4, A-6	0	0-5	50-80	50-80	40-70	20-65	15-30	NP-12
AmB:												
Armour----------	0-8	Silt loam	ML, CL-ML, CL	A-4	0	0	90-100	80-100	75-95	70-90	25-35	5-10
	8-65	Silt loam, silty clay loam	CL	A-4, A-6	0	0	90-100	80-100	75-95	70-95	30-40	8-18
ArA:												
Armour----------	0-18	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	90-100	85-100	80-95	25-35	5-10
	18-50	Silt loam, silty clay loam	CL	A-4, A-6	0	0	95-100	90-100	85-100	85-100	28-40	8-18
	50-79	Loam, gravelly sandy loam, gravelly silt loam	GM, GC-GM, ML, CL-ML	A-2, A-4, A-6	0	0-5	50-80	50-80	40-70	20-65	15-30	NP-12
At:												
Arrington-------	0-10	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	90-100	85-95	75-95	25-40	4-15
	10-60	Silt loam, silty clay loam	ML, CL, CL-ML	A-4, A-6	0	0	95-100	90-100	85-100	75-95	25-40	4-15
BA:												
Beason----------	0-7	Silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	90-100	75-90	25-40	5-15
	7-18	Silty clay loam, silt loam	CL	A-6	0	0	100	95-100	90-100	80-95	25-40	11-20
	18-79	Silty clay, silty clay loam	CL	A-6, A-7	0	0	100	95-100	90-95	80-95	30-49	11-25

Table 15.—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	
BA:												
Chenneby--------	0-12	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	95-100	90-100	60-90	20-35	3-15
	12-48	Silt loam, silty clay loam	CL, MH, ML, CH	A-4, A-6, A-7	0	0	100	95-100	90-100	75-95	30-55	8-20
	48-79	Silty clay loam	CL, ML, SC, SM	A-2-4, A-4	0	0	100	95-100	90-100	75-95	30-55	11-25
BbC, BbD, BbF:												
Biffle----------	0-10	Gravelly silt loam	CL-ML, GC, GC-GM, CL	A-1, A-2, A-4	0	0-5	50-90	40-80	37-70	20-60	20-28	3-9
	10-22	Gravelly silt loam, gravelly silty clay loam	GC, CL-ML, CL, GC-GM	A-4, A-6	0	0-5	50-75	50-75	40-70	36-65	20-32	5-12
	22-79	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
BSF:												
Biffle----------	0-10	Gravelly silt loam	CL, CL-ML, GC, GC-GM	A-1, A-2, A-4	0	0-5	50-90	40-80	37-70	20-60	20-28	3-9
	10-22	Gravelly silt loam, gravelly silty clay loam	CL, CL-ML, GC, GC-GM	A-4, A-6	0	0-5	50-75	50-75	40-70	36-65	20-32	5-12
	22-79	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
Hawthorne-------	0-9	Gravelly silt loam	ML, GM, GC-GM, CL-ML	A-4	0	0-10	60-80	55-75	50-70	40-65	18-30	3-9
	9-26	Very gravelly silt loam, very gravelly silty clay loam	GC-GM, ML, GM, CL-ML	A-2, A-4, A-6	0-5	0-15	55-75	45-70	40-65	30-60	20-35	3-12
	26-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 15.—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	
BSF:												
Sulphura--------	0-5	Very gravelly silt loam	CL-ML, ML, CL	A-4	---	0-8	70-90	65-85	60-80	55-75	20-32	2-10
	5-25	Very gravelly silt loam, very channery silt loam, channery loam	GC-GM, GC	A-2, A-4, A-6	---	5-20	45-60	40-55	35-50	30-45	23-32	6-12
	25-30	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
BtC:												
Braxton---------	0-9	Gravelly silt loam	CL, GC	A-4, A-6	0	0-2	60-80	50-75	45-65	40-55	25-40	7-18
	9-79	Clay	CH, CL	A-7	0	0	80-100	75-100	65-95	60-90	45-65	22-34
Talbott---------	0-9	Gravelly silt loam	CL	A-4, A-6	0	0-10	90-100	90-100	85-95	75-95	25-40	8-16
	9-38	Clay, silty clay	CL, CH	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	38-39	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
BtC3:												
Braxton---------	0-4	Silty clay loam	CL	A-4, A-6	0	0	80-100	75-100	70-90	65-85	25-40	7-18
	4-79	Clay	CL, CH	A-7	0	0	80-100	75-100	65-95	60-90	45-65	22-34
Talbott---------	0-3	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	3-37	Clay, silty clay	CL, CH	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	37-39	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
BtE:												
Braxton---------	0-9	Gravelly silt loam	CL, GC	A-4, A-6	0	0-2	60-80	50-75	45-65	40-55	25-40	7-18
	9-79	Clay	CL, CH	A-7	0	0	80-100	75-100	65-95	60-90	45-65	22-34

Table 15.—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	
BtE:												
Talbott---------	0-9	Gravelly silt loam	CL	A-4, A-6	0	0-10	90-100	90-100	85-95	75-95	25-40	8-16
	9-38	Clay, silty clay	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	38-39	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
BtE3:												
Braxton---------	0-4	Silty clay loam	CL	A-6, A-4	0	0	80-100	75-100	70-90	65-85	25-40	7-18
	4-79	Clay	CL, CH	A-7	0	0	80-100	75-100	65-95	60-90	45-65	22-34
Talbott---------	0-3	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	3-37	Clay, silty clay	CL, CH	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	37-39	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
BuB2:												
Busseltown------	0-9	Loam	CL-ML, ML, SC-SM, SM	A-4	0	0	90-100	85-100	75-100	45-90	20-35	1-10
	9-20	Loam, clay loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	80-100	75-100	60-85	20-40	5-15
	20-30	Sandy clay loam, gravelly clay loam, silt loam	CL, SM, SC, ML	A-4, A-6	0	0	75-100	60-90	60-85	40-85	20-40	1-15
	30-79	Loam, gravelly sandy clay loam	---	---	0	0	75-100	60-90	60-85	40-85	20-40	1-15
BuC3:												
Busseltown------	0-16	Sandy clay loam, clay loam, loam	CL, ML, CL-ML	A-4, A-6	0	0-5	80-100	80-100	75-100	60-85	20-40	5-15
	16-50	Sandy clay loam, clay loam, loam	ML, CL, SM, SC	A-4, A-6	0	0-3	80-100	60-100	55-95	45-85	20-40	3-15
	50-79	Loam, sandy clay loam, gravelly loam	ML, CL, SC, SM	A-4, A-6	0	0-5	80-100	60-100	55-95	45-85	20-40	3-15

Table 15.—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	
Cb, Ch:												
Chenneby--------	0-12	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	95-100	90-100	60-90	20-35	3-15
	12-48	Silt loam, silty clay loam	ML, MH, CL, CH	A-4, A-6, A-7	0	0	100	95-100	90-100	75-95	30-55	8-20
	48-79	Silty clay loam	ML, CL, SM, SC	A-2-4, A-4	0	0	100	95-100	90-100	75-95	30-55	11-25
DeD2:												
Dellrose--------	0-6	Gravelly silt loam	CL, CL-ML, GC, SC	A-4, A-6	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	6-40	Gravelly silty clay loam, gravelly silt loam	CL, GC, ML, SC	A-4, A-6, A-7	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
	40-79	Clay	MH, CH	A-7	0	0-5	80-100	80-100	75-90	70-85	50-70	20-35
DeF:												
Dellrose--------	0-9	Gravelly silt loam	CL-ML, GC, SC, CL	A-4, A-6	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	9-58	Gravelly silty clay loam, gravelly silt loam	CL, GC, ML, SC	A-4, A-6, A-7	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
	58-79	Clay	CH, MH	A-7	0	0-5	80-100	80-100	75-90	70-85	50-70	20-35
Mimosa----------	0-6	Gravelly silt loam	CL, ML	A-4, A-6, A-7	---	5-15	70-80	65-75	60-70	50-65	25-45	7-20
	6-16	Gravelly silty clay loam, silty clay, clay	CH, CL, MH, ML	A-7	0	0	95-100	85-100	80-95	75-90	45-60	18-28
	16-50	Clay, silty clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	50-52	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 15.—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	
DkB2:												
Dickson----------	0-10	Silt loam	ML, CL-ML	A-4	0	0	100	95-100	90-100	75-95	20-28	2-7
	10-20	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	95-100	85-95	25-38	5-17
	20-39	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	95-100	90-100	85-100	80-95	25-42	7-20
	39-60	Clay	ML, MH, GC, CL	A-6, A-7	0	0-20	70-100	60-100	55-100	45-95	35-65	12-30
Eg:												
Egam-------------	0-7	Silty clay loam, silt loam	CL, ML, CL-ML	A-4, A-6, A-7	0	0	95-100	95-100	85-100	75-95	21-45	4-20
	7-79	Silty clay, clay, silty clay loam	MH, CL, CH	A-6, A-7	0	0	95-100	95-100	90-100	85-95	38-60	15-30
Es, Ev:												
Ellisville-------	0-8	Silt loam	SC-SM, SC, CL-ML, CL	A-4, A-6	0	0	100	100	55-100	40-95	18-38	4-15
	8-79	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	80-100	65-100	23-38	8-15
GdF:												
Gladdice---------	0-5	Silty clay loam	CL-ML, CL	A-4, A-6, A-7	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	5-30	Clay, silty clay	MH, CH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	30-32	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												

Table 15.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
GdF:												
Mimosa----------	0-6	Gravelly silt loam	CL, ML	A-4, A-6, A-7	---	5-15	70-80	65-75	60-70	50-65	25-45	7-20
	6-16	Gravelly silty clay loam, silty clay, clay	MH, CL, ML, CH	A-7	0	0	95-100	85-100	80-95	75-90	45-60	18-28
	16-50	Clay, silty clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	50-52	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Gm:												
Gumdale---------	0-10	Silt loam, loam	CL, CL-ML, ML	A-4	0	0	100	95-100	90-100	80-90	20-30	3-10
	10-18	Clay loam, silt loam, loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	90-100	80-95	25-35	7-15
	18-40	Clay loam, loam, sandy clay loam	CL	A-4, A-6	0	0-2	95-100	90-100	80-100	40-80	23-40	7-19
	40-79	Clay loam, sandy clay loam, loam	---	---	0	0-2	95-100	90-100	80-100	40-80	23-40	7-14
HuA, HuB, HuC:												
Humphreys-------	0-10	Gravelly silt loam	CL-ML, GC-GM, ML, CL	A-4	---	0-5	60-75	55-75	50-70	35-55	18-28	3-10
	10-36	Gravelly silt loam, very gravelly silt loam, gravelly loam	CL, SC, GC	A-6	---	0-5	55-75	50-75	45-70	40-60	28-40	10-16
	36-42	Extremely gravelly loamy coarse sand, extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GW-GM, GM, GP-GM	A-1	---	0-25	50-80	35-70	20-50	5-25	0-15	NP-5
	42-80	Gravelly silt loam, very gravelly silt loam, gravelly loam	GC, CL, SC	A-6	---	0-5	55-75	50-75	45-70	40-60	28-40	10-16

Table 15.—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	
IrC:												
Ironcity--------	0-15	Gravelly silt loam	GC-GM, ML, CL-ML, CL	A-4	0	0-10	60-90	55-80	45-70	45-70	25-35	4-10
	15-28	Gravelly silty clay loam, gravelly silt loam	CL-ML, SC-SM, CL, GC	A-4, A-6	0	0-15	60-90	55-80	55-80	45-80	25-40	5-20
	28-79	Gravelly clay, gravelly silty clay, very gravelly silty clay	SC, GC, CL, CH	A-7	0	0-20	50-90	40-75	35-70	35-70	45-70	20-40
LaC:												
Lax-------------	0-10	Silt loam	CL-ML, CL, ML	A-4	0	0	80-100	75-100	70-95	55-85	15-30	3-10
	10-27	Silt loam, silty clay loam	CL	A-4, A-6	0	0	80-100	75-100	70-95	60-95	25-40	8-16
	27-50	Gravelly silty clay loam, very gravelly silt loam, extremely gravelly silty clay loam	GC	A-2	---	0-20	30-50	25-50	20-45	15-30	25-40	8-18
	50-79	Gravelly silty clay, very gravelly clay, extremely gravelly silty clay	CH, CL, GC, SC	A-2, A-6, A-7	---	0-20	30-75	25-75	20-70	15-60	35-55	15-30
Ironcity--------	0-15	Gravelly silt loam	GC-GM, ML, CL, CL-ML	A-4	0	0-10	60-90	55-80	45-70	45-70	25-35	4-10
	15-28	Gravelly silty clay loam, gravelly silt loam	SC-SM, GC, CL-ML, CL	A-4, A-6	0	0-15	60-90	55-80	55-80	45-80	25-40	5-20
	28-79	Gravelly clay, very gravelly silty clay, gravelly silty clay	CH, GC, SC, CL	A-7	0	0-20	50-90	40-75	35-70	35-70	45-70	20-40

Table 15.—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	
LbB, LbC:												
Lax	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0	80-100	75-100	70-95	55-85	15-30	3-10
	10-27	Silt loam, silty clay loam	CL	A-4, A-6	0	0	80-100	75-100	70-95	60-95	25-40	8-16
	27-50	Gravelly silty clay loam, gravelly silt loam, extremely gravelly silty clay loam	GC	A-2	---	0-20	30-50	25-50	20-45	15-30	25-40	8-18
	50-79	Gravelly silty clay loam, very gravelly clay, extremely gravelly silty clay	SC, CH, CL, GC	A-2, A-6, A-7	---	0-20	30-75	25-75	20-70	15-60	35-55	15-30
Le:												
Lee	0-4	Silt loam	CL, CL-ML, ML	A-4	0	0-2	85-100	75-95	70-95	50-85	0-30	NP-10
	4-19	Silt loam, loam	CL, CL-ML, ML	A-4, A-6	0	0-2	85-100	75-95	70-95	50-85	22-35	3-12
	19-79	Gravelly silt loam, gravelly loam, very gravelly loam	SC-SM, GM, GC-GM, CL-ML	A-1, A-2, A-4	0	0-5	35-75	30-75	25-70	20-65	20-35	3-10

Table 15.—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	
Lo:												
Lobelville------	0-6	Silt loam	CL, CL-ML, ML	A-4	0	0-2	85-100	75-95	70-95	50-85	0-30	NP-10
	6-19	Silt loam, loam, silty clay loam	ML, CL-ML, CL	A-4, A-6	0	0-2	85-100	75-95	70-95	50-85	22-35	3-12
	19-38	Gravelly silt loam, gravelly loam, gravelly silty clay loam	GM, GC-GM, CL-ML, ML	A-6, A-4	0	0-3	70-90	60-80	55-80	40-75	22-35	3-12
	38-79	Extremely gravelly sandy loam, extremely gravelly loam, extremely gravelly clay loam	GC, GM, GC-GM	A-1, A-2, A-4	0	0-5	30-65	15-50	15-45	10-40	0-30	NP-10
MaE3:												
Marsh-----------	0-4	Channery silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	90-100	85-100	70-100	55-95	20-40	3-20
	4-24	Channery silty clay loam, channery silt loam, channery loam	CL, CL-ML, ML	A-4, A-6	0	5-25	80-95	75-95	65-95	55-90	20-40	2-20
	24-27	Very channery loam, flaggy loam, channery clay loam	GM, GC, ML, CL	A-2, A-4, A-6	0	10-50	50-95	40-90	35-90	30-85	20-40	2-20
	27-29	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
Mn:												
Minter----------	0-11	Silty clay loam	CL, CH	A-6, A-7	0	0	100	100	90-100	75-95	35-55	15-28
	11-60	Clay, silty clay	CH, CL	A-6, A-7	0	0	100	100	90-100	75-95	37-59	18-32

Table 15.—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	
PdA:												
Paden-----------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	90-100	85-95	75-90	20-40	3-15
	8-24	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	90-100	85-95	75-95	25-40	6-15
	24-60	Silt loam, clay loam, silty clay loam	CL-ML, ML, CL	A-4, A-6	0	0	95-100	90-100	85-95	70-90	25-40	6-16
	60-79	Extremely gravelly coarse sandy loam, gravelly loam, very gravelly loam	GM, GW-GM, GP-GM	A-1	---	0-25	50-80	35-70	20-50	5-25	0-15	NP-5
PdB2, PdC2:												
Paden-----------	0-6	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	95-100	90-100	85-95	75-90	20-40	3-15
	6-21	Silt loam, silty clay loam	ML, CL-ML, CL	A-4, A-6	0	0	95-100	90-100	85-95	75-95	25-40	6-15
	21-36	Silty clay loam, silt loam, clay loam	CL-ML, ML, CL	A-4, A-6	0	0	95-100	90-100	85-95	70-90	25-40	6-16
	36-79	Gravelly clay loam, gravelly sandy clay loam, clay	SC, CL, GC	A-6, A-7	---	0-10	60-100	50-100	45-90	36-90	34-50	13-25
PdC3:												
Paden-----------	0-6	Silt loam	ML, CL-ML, CL	A-4, A-6	0	0	95-100	90-100	85-95	75-90	20-40	3-15
	6-15	Silt loam, silty clay loam	CL-ML, CL, ML	A-4, A-6	0	0	95-100	90-100	85-95	75-95	25-40	6-15
	15-32	Silty clay loam, silt loam, clay loam	CL-ML, ML, CL	A-4, A-6	0	0	95-100	90-100	85-95	70-90	25-40	6-16
	32-79	Gravelly clay loam, gravelly sandy clay loam, clay	SC, GC, CL	A-6, A-7	---	0-10	60-100	50-100	45-90	36-90	34-50	13-25

Table 15.—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	
PkB2:												
Pickwick--------	0-7	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	95-100	90-100	70-95	18-32	2-11
	7-42	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	95-100	90-100	75-95	30-42	11-17
	42-79	Silty clay, clay loam, clay	CH, CL	A-6, A-7	---	0-5	80-100	75-100	65-95	55-80	33-52	15-25
PkC2:												
Pickwick--------	0-7	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	95-100	90-100	70-95	18-32	2-11
	7-42	Silty clay loam, silt loam	CL	A-7, A-6	0	0	95-100	95-100	90-100	75-95	30-42	11-17
	42-79	Silty clay, silty clay loam, clay	CH, CL	A-6, A-7	---	0-5	80-100	75-100	65-95	55-80	33-52	15-25
PkC3:												
Pickwick--------	0-2	Silt loam, silty clay loam	CL, ML	A-6, A-7	0	0	95-100	95-100	90-100	80-95	32-42	11-18
	2-36	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	95-100	90-100	75-95	30-42	11-17
	36-79	Silty clay, silty clay loam, clay loam	CH, CL	A-6, A-7	---	0-5	80-100	75-100	65-95	55-80	33-52	15-25
Pt.												
Pits												

Table 15.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Rb:												
Riverby---------	0-10	Gravelly sandy loam, gravelly loam	GC-GM, SW-SM, SM, GM	A-1, A-2, A-4	0	0-15	50-85	40-75	30-65	15-50	0-15	NP-5
	10-79	Stratified extremely gravelly coarse sandy loam to extremely gravelly loamy coarse sand	GM, GW-GM, GP-GM	A-1	0-5	0-50	50-80	35-70	20-50	5-25	0-15	NP-5
RoD, RoF:												
Rock outcrop.												
Barfield--------	0-6	Stony silty clay loam	CH, CL, MH	A-6, A-7	---	10-25	90-100	85-95	80-90	75-85	35-65	12-35
	6-17	Channery silty clay, channery clay	MH, CH, CL	A-7	---	10-25	70-100	65-90	60-85	55-80	40-70	22-40
	17-19	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Sa:												
Staser----------	0-46	Fine sandy loam, loam	CL, ML, CL-ML	A-4, A-6	0	0	90-100	80-100	60-85	55-80	20-35	3-15
	46-79	Clay loam, silty clay loam, silt loam, loam	CL, CL-ML, SC-SM, SC	A-2, A-4, A-6	---	0-5	45-100	40-100	35-80	30-75	20-35	5-15

Table 15.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
SeC3:												
Stiversville----	0-1	Silty clay loam	CL, ML, CL-ML	A-4, A-6	---	0-2	80-100	75-100	70-95	51-85	25-40	4-15
	1-30	Channery silty clay loam, loam, silt loam	CL, CL-ML, ML	A-4, A-6	---	0-5	80-100	75-100	70-95	51-85	20-40	3-15
	30-45	Very channery clay loam, channery silty clay loam, channery loam	SM, SC, GC, CL	A-4, A-6	---	0-10	40-75	40-70	35-60	30-50	20-40	3-15
	45-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
SgC, SgD:												
Sugargrove------	0-12	Gravelly silt loam	CL, CL-ML, GM, ML	A-4	0	0-10	65-85	55-80	45-75	40-75	25-35	4-10
	12-52	Gravelly silt loam, gravelly silty clay loam, channery silty clay loam	CL, CL-ML, GC-GM	A-4, A-6	0	0-15	65-85	55-80	45-75	40-70	25-40	6-20
	52-54	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
Sn:												
Sullivan--------	0-56	Silt loam, loam	ML, CL-ML, CL, SM	A-4	0	0	80-100	75-100	60-100	36-90	20-31	3-10
	56-60	Gravelly sandy loam, gravelly loam	SC, GM, SC-SM, SM	A-2, A-4	0	0-5	65-100	55-100	45-85	25-55	20-30	3-10

Table 15.—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	
SpF:												
Sulphura--------	0-5	Very gravelly silt loam	CL, ML, CL-ML	A-4	0	0-8	70-90	65-85	60-80	55-75	20-32	2-10
	5-25	Very gravelly silt loam, very channery silty clay loam, channery loam	GC, GC-GM	A-2, A-4, A-6	0-15	5-20	45-60	40-55	35-50	30-45	23-32	6-12
	25-30	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
SuF:												
Sulphura--------	0-5	Very gravelly silt loam	CL, CL-ML, ML	A-4	0	0-8	70-90	65-85	60-80	55-75	20-32	2-10
	5-25	Very gravelly silt loam, very channery silty clay loam, channery loam	GC, GC-GM	A-2, A-4, A-6	0-15	5-20	45-60	40-55	35-50	30-45	23-32	6-12
	25-30	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												
TbD, TbE:												
Talbott---------	0-6	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	6-30	Clay, silty clay	CL, CH	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	30-37	Clay, silty clay	CL, CH	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	37-39	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Mimosa----------	0-6	Silt loam	CL, ML	A-4, A-6, A-7	---	5-15	70-80	65-75	60-70	50-65	25-45	7-20
	6-15	Clay, silty clay, silty clay loam	MH, ML, CL, CH	A-7	0	0	95-100	85-100	80-95	75-90	45-60	18-28
	15-79	Clay, silty clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35

Table 15.—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	
ThC2:												
Tarklin---------	0-7	Silt loam, gravelly silt loam	SM, ML, GM, CL	A-4	---	0-10	60-80	55-75	45-75	40-70	25-35	2-10
	7-25	Gravelly silty clay loam, gravelly silt loam	ML, GM, CL, GC	A-4, A-6, A-7-6	---	0-10	80-100	65-90	60-85	55-75	25-45	2-20
	25-70	Gravelly silt loam, very gravelly silty clay loam	CL, GC, GM, ML	A-2, A-4, A-6, A-7-6	---	0-10	60-80	45-75	40-75	30-70	25-45	2-20
	70-79	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
Humphreys-------	0-14	Gravelly silt loam	CL, ML, CL-ML, GC-GM	A-4	0	0-5	60-75	55-75	50-70	35-55	18-28	3-10
	14-48	Gravelly silty clay loam, gravelly clay loam, gravelly silt loam	GC, CL, SC	A-6	0	0-5	55-75	50-75	45-70	40-60	28-40	10-16
	48-60	Very gravelly silt loam, very gravelly loam, very gravelly clay loam	GP-GM, GW-GM, GM	A-1	0	0-25	50-80	35-70	20-50	5-25	0-25	NP-5

Table 15.—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	
TmC2:												
Tarklin---------	0-7	Silt loam, gravelly silt loam	CL, SM, ML, GM	A-4	---	0-10	60-80	55-75	45-75	40-70	25-35	2-10
	7-25	Gravelly silty clay loam, gravelly silt loam	ML, GM, GC, CL	A-4, A-6, A-7-6	---	0-10	80-100	65-90	60-85	55-75	25-45	2-20
	25-70	Gravelly silt loam, very gravelly silty clay loam	GM, GC, CL, ML	A-2, A-4, A-6, A-7-6	---	0-10	60-80	45-75	40-75	30-70	25-45	2-20
	70-79	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
Minvale---------	0-8	Gravelly silt loam	ML, GM, GC, CL	A-4	0	0-5	55-80	50-75	40-70	36-60	15-30	NP-10
	8-79	Gravelly silt loam, gravelly silty clay loam	GC, GC-GM, CL, CL-ML	A-4, A-6	0	0-5	50-75	50-75	40-70	36-65	20-40	5-15
TmC3, TmE3:												
Tarklin---------	0-3	Silt loam, gravelly silt loam	CL, GM, ML, SM	A-4	---	0-10	60-80	55-75	45-75	40-70	25-35	2-10
	3-20	Gravelly silty clay loam, gravelly silt loam	ML, CL, GM, GC	A-4, A-6, A-7-6	---	0-10	80-100	65-90	60-85	55-75	25-45	2-20
	20-62	Gravelly silt loam, very gravelly silty clay loam	ML, GM, GC, CL	A-2, A-4, A-6, A-7-6	---	0-10	60-80	45-75	40-75	30-70	25-45	2-20
	62-79	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 15.—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	
TmC3, TmE3:												
Minvale	0-3	Gravelly silt loam	GM, GC, ML, CL	A-4	0	0-5	55-80	50-75	40-70	36-60	15-30	2-10
	3-79	Gravelly silty clay loam, gravelly silt loam	GC-GM, GC, CL-ML, CL	A-4, A-6	0	0-5	50-75	50-75	40-70	36-65	20-40	5-15
ToA, TrA:												
Trace	0-9	Silt loam	ML, CL-ML, CL	A-4	0	0	90-100	85-100	75-95	70-90	18-30	NP-10
	9-35	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-95	70-95	20-40	5-15
	35-38	Very gravelly silt loam, very gravelly loam, very gravelly clay loam	CL, GC, GC-GM	A-1-b, A-2, A-4, A-6	0	0-5	45-75	40-75	30-65	20-55	15-35	4-13
	38-80	Extremely gravelly loam, extremely gravelly sandy loam, extremely gravelly silt loam	GW-GM, GP-GM, GM	A-1	0	0-10	25-40	10-30	5-25	5-15	0-25	NP-5
Ua:												
Udalfs	0-60	Clay	CL, CH	A-7	0	0	80-100	75-100	65-95	60-90	45-65	22-34
Gullied land	0-20	Channery clay	GC, SC	A-2, A-6, A-7	---	10-35	45-75	45-65	35-55	30-50	30-70	10-40
	20-40	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
Ud.												
Udarents												

Table 15.—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	
W. Water												
WfA: Wolftever-------	0-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	90-100	80-95	25-35	3-12
	7-16	Silty clay loam, silt loam	ML, CL	A-4, A-6	0	0	100	95-100	90-100	80-95	30-40	7-15
	16-65	Silty clay, silty clay loam, clay	MH, ML	A-7	0	0	100	95-100	90-100	75-95	41-55	11-20
	65-79	Silty clay loam, clay loam, loam	CL-ML, CL	A-4, A-6, A-7	0	0	100	95-100	90-100	51-90	25-45	5-20
WfB2: Wolftever-------	0-4	Silt loam	ML, CL-ML, CL	A-4, A-6	0	0	100	95-100	90-100	80-95	25-35	3-12
	4-16	Silty clay loam, silty clay, silt loam	ML, CL	A-4, A-6	0	0	100	95-100	90-100	80-95	30-40	7-15
	16-65	Silty clay, silty clay loam, clay	ML, MH	A-7	0	0	100	95-100	90-100	75-95	41-55	11-20
	65-79	Silty clay loam, clay loam, loam	CL-ML, CL	A-4, A-6, A-7	0	0	100	95-100	90-100	51-90	25-45	5-20
WlB: Wolftever-------	0-7	Silty clay loam	ML, CL, CL-ML	A-4, A-6	0	0	100	95-100	90-100	80-95	25-35	3-12
	7-16	Silty clay loam, silty clay, silt loam	ML, CL	A-4, A-6	0	0	100	95-100	90-100	80-95	30-40	7-15
	16-65	Silty clay, silty clay loam, clay	MH, ML	A-7	0	0	100	95-100	90-100	75-95	41-55	11-20
	65-79	Silty clay loam, clay loam, loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	95-100	90-100	51-90	25-45	5-20

Table 15.—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	Plas- ticity index
	In				Pct	Pct					Pct	
Wm:												
Woodmont--------	0-9	Silt loam	ML, CL-ML, CL	A-4	0	0	100	95-100	90-100	80-90	20-30	3-10
	9-24	Silt loam, silty clay loam	CL-ML, CL	A-4, A-6	0	0	100	95-100	90-100	80-95	25-35	7-15
	24-79	Silt loam, silty clay loam	CL	A-4, A-6	---	0-2	95-100	85-100	80-100	75-95	25-40	8-20

Table 16.—Physical Properties of the Soils

(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	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
AmA:										
Armour---------	0-10	10-27	1.30-1.45	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	10-65	22-35	1.30-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-1.0	.37	.37	
	65-79	12-27	1.35-1.55	2-6	0.08-0.14	0.0-2.9	0.0-0.5	.28	.32	
AmB:										
Armour---------	0-8	15-27	1.30-1.45	0.6-2	0.18-0.23	0.0-2.9	1.0-3.0	.43	.43	5
	8-65	22-35	1.30-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-0.5	.37	.37	
ArA:										
Armour---------	0-18	10-27	1.30-1.45	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	18-50	22-35	1.30-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-1.0	.37	.37	
	50-79	12-27	1.35-1.55	2-6	0.08-0.14	0.0-2.9	0.0-0.5	.28	.32	
At:										
Arrington------	0-10	18-27	1.30-1.45	0.6-2	0.19-0.22	0.0-2.9	2.0-4.0	.37	.37	5
	10-60	18-35	1.30-1.45	0.6-2	0.19-0.22	0.0-2.9	0.5-2.0	.37	.37	
BA:										
Beason---------	0-7	22-35	1.35-1.55	0.6-2	0.17-0.20	0.0-2.9	1.0-3.0	.37	.37	5
	7-18	26-40	1.40-1.60	0.6-2	0.17-0.20	0.0-2.9	0.5-1.0	.32	.32	
	18-79	35-45	1.45-1.65	0.2-0.6	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32	
Chenneby-------	0-12	12-27	1.30-1.60	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.37	.37	5
	12-48	12-35	1.30-1.50	0.6-2	0.15-0.20	0.0-2.9	---	.32	.32	
	48-79	27-40	1.30-1.50	0.6-2	0.15-0.20	0.0-2.9	---	.32	.32	
BbC, BbD, BbF:										
Biffle---------	0-10	15-22	1.30-1.50	2-6	0.10-0.16	0.0-2.9	0.5-1.0	.24	.37	3
	10-22	20-32	1.40-1.60	2-6	0.08-0.14	0.0-2.9	0.0-0.5	.20	.32	
	22-79	---	---	0.0015-0.06	---	---	0.0-0.0	---	---	
BSF:										
Biffle---------	0-10	15-22	1.30-1.50	2-6	0.10-0.16	0.0-2.9	0.5-1.0	.24	.37	3
	10-22	20-32	1.40-1.60	2-6	0.08-0.14	0.0-2.9	0.0-0.5	.20	.32	
	22-79	---	---	0.0015-0.06	---	---	0.0-0.0	---	---	
Hawthorne------	0-9	12-25	1.40-1.50	2-6	0.14-0.18	0.0-2.9	1.0-3.0	.20	.37	3
	9-26	15-32	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-0.5	.10	.32	
	26-60	---	---	0.0000-0.2	---	---	---	---	---	
Sulphura-------	0-5	15-25	1.30-1.50	2-6	0.12-0.17	0.0-2.9	1.0-2.0	.24	.32	2
	5-25	18-32	1.35-1.55	2-6	0.07-0.14	0.0-2.9	0.0-0.5	.24	.32	
	25-30	---	---	0.0000-0.06	---	---	---	---	---	
BtC:										
Braxton--------	0-9	20-35	1.35-1.50	2-6	0.12-0.18	0.0-2.9	1.0-2.0	.28	.32	5
	9-79	45-65	1.25-1.45	0.06-0.2	0.10-0.15	3.0-5.9	0.0-0.5	.20	.20	
Talbott--------	0-9	15-27	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	9-38	40-60	1.30-1.50	0.0015-0.06	0.09-0.13	3.0-5.9	0.0-0.5	.24	.24	
	38-39	---	---	0.0000-0.0015	---	---	---	---	---	

Table 16.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
BtC3:										
Braxton--------	0-4	20-35	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.32	.32	5
	4-79	45-65	1.25-1.45	0.2-0.6	0.10-0.15	3.0-5.9	0.0-0.5	.20	.20	
Talbott--------	0-3	15-27	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-2.0	.32	.37	2
	3-37	40-60	1.30-1.50	0.2-0.6	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	37-39	---	---	0.0000-0.06	---	---	---	---	---	
BtE:										
Braxton--------	0-9	20-35	1.35-1.50	2-6	0.12-0.18	0.0-2.9	1.0-2.0	.28	.32	5
	9-79	45-65	1.25-1.45	0.06-0.2	0.10-0.15	3.0-5.9	0.0-0.5	.20	.20	
Talbott--------	0-9	15-27	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	9-38	40-60	1.30-1.50	0.0015-0.06	0.09-0.13	3.0-5.9	0.0-0.5	.24	.24	
	38-39	---	---	0.0000-0.0015	---	---	---	---	---	
BtE3:										
Braxton--------	0-4	20-35	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.32	.32	5
	4-79	45-65	1.25-1.45	0.2-0.6	0.10-0.15	3.0-5.9	0.0-0.5	.20	.20	
Talbott--------	0-3	15-27	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-2.0	.32	.37	2
	3-37	40-60	1.30-1.50	0.2-0.6	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	37-39	---	---	0.0000-0.06	---	---	---	---	---	
BuB2:										
Busseltown-----	0-9	10-27	1.20-1.55	0.6-2	0.14-0.18	0.0-2.9	1.0-3.0	.32	.32	4
	9-20	18-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32	
	20-30	18-35	1.30-1.60	0.0015-0.2	0.08-0.12	0.0-2.9	0.0-0.5	.32	.32	
	30-79	18-35	1.30-1.60	0.0015-0.2	0.08-0.12	0.0-2.9	0.0-0.2	---	---	
BuC3:										
Busseltown-----	0-16	18-35	1.30-1.55	0.6-2	0.08-0.16	0.0-2.9	0.0-0.5	.32	.32	3
	16-50	18-35	1.30-1.60	0.0015-0.2	0.08-0.12	0.0-2.9	0.0-0.5	.32	.32	
	50-79	18-35	1.30-1.60	0.0015-0.2	0.08-0.12	0.0-2.9	0.0-0.5	.32	.32	
Cb, Ch:										
Chenneby-------	0-12	12-27	1.30-1.60	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.37	.37	5
	12-48	12-35	1.30-1.50	0.6-2	0.15-0.20	0.0-2.9	---	.32	.32	
	48-79	27-40	1.30-1.50	0.6-2	0.15-0.20	0.0-2.9	---	.32	.32	
DeD2:										
Dellrose-------	0-6	15-27	1.20-1.40	2-6	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	6-40	20-35	1.20-1.40	2-6	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
	40-79	40-60	1.30-1.50	0.06-0.6	0.08-0.12	3.0-5.9	0.0-0.5	.24	.24	
DeF:										
Dellrose-------	0-9	15-27	1.20-1.40	2-6	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	9-58	20-35	1.20-1.40	2-6	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
	58-79	40-60	1.30-1.50	0.06-0.6	0.08-0.12	3.0-5.9	0.0-0.5	.24	.24	
Mimosa---------	0-6	22-40	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	1.0-3.0	.28	.32	3
	6-16	35-55	1.30-1.50	0.2-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	16-50	45-60	1.30-1.50	0.0015-0.06	0.10-0.15	3.0-5.9	0.0-0.5	.24	.24	
	50-52	---	---	0.0000-0.06	---	---	---	---	---	
DkB2:										
Dickson--------	0-10	15-26	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	4
	10-20	18-30	1.35-1.55	0.6-2	0.18-0.20	0.0-2.9	0.0-0.5	.43	.43	
	20-39	20-32	1.55-1.75	0.0015-0.2	0.01-0.01	0.0-2.9	0.0-0.5	.43	.43	
	39-60	35-50	1.35-1.55	0.0015-0.2	0.01-0.01	3.0-5.9	0.0-0.5	.28	.32	

Table 16.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
Eg:										
Egam	0-7	20-35	1.30-1.45	0.2-0.6	0.18-0.22	3.0-6.0	2.0-4.0	.32	.32	4
	7-79	35-50	1.30-1.45	0.2-0.6	0.14-0.20	3.0-6.0	---	.32	.32	
Es, Ev:										
Ellisville	0-8	18-27	---	0.6-2	0.12-0.22	0.0-2.9	0.5-3.0	.37	.37	5
	8-79	18-35	---	0.6-2	0.18-0.22	0.0-2.9	---	.32	.32	
GdF:										
Gladdice	0-5	22-40	1.20-1.40	0.6-2	0.14-0.18	3.0-6.0	2.0-5.0	.28	.32	2
	5-30	40-60	1.30-1.45	0.06-0.6	0.12-0.15	6.0-9.0	0.5-1.0	.24	.24	
	30-32	---	---	0.0015-0.06	---	---	---	---	---	
Rock outcrop.										
Mimosa	0-6	22-40	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	1.0-3.0	.28	.32	3
	6-16	35-55	1.30-1.50	0.2-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	16-50	45-60	1.30-1.50	0.0015-0.06	0.10-0.15	3.0-5.9	0.0-0.5	.24	.24	
	50-52	---	---	0.0000-0.06	---	---	---	---	---	
Gm:										
Gumdale	0-10	15-25	1.35-1.50	0.6-2	0.18-0.20	0.0-2.9	0.5-2.0	.37	.37	4
	10-18	18-30	1.40-1.60	0.6-2	0.17-0.20	0.0-2.9	0.0-0.5	.37	.37	
	18-40	18-35	1.60-1.75	0.0015-0.2	0.01-0.01	0.0-2.9	0.0-0.5	.28	.28	
	40-79	18-35	1.60-1.75	0.0015-0.2	0.01-0.01	0.0-2.9	0.0-0.5	.28	.28	
HuA, HuB, HuC:										
Humphreys	0-10	12-25	1.35-1.50	2-6	0.10-0.15	0.0-2.9	1.0-3.0	.28	.32	5
	10-36	18-32	1.35-1.55	2-6	0.09-0.14	0.0-2.9	---	.24	.28	
	36-42	5-18	1.40-1.60	6-20	0.01-0.07	0.0-2.9	---	.15	.24	
	42-80	18-32	1.35-1.55	2-6	0.09-0.14	0.0-2.9	---	.24	.28	
IrC:										
Ironcity	0-15	12-25	1.20-1.40	0.6-2	0.14-0.18	0.0-2.9	0.5-2.0	.28	.37	5
	15-28	25-35	1.30-1.55	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.28	.32	
	28-79	35-50	1.35-1.65	0.2-2	0.08-0.13	3.0-5.9	0.0-0.5	.24	.32	
LaC:										
Lax	0-10	8-25	1.30-1.45	0.6-2	0.18-0.22	0.0-2.9	0.5-2.0	.43	.49	4
	10-27	18-35	1.30-1.50	0.6-2	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43	
	27-50	18-35	1.50-1.75	0.0015-0.06	0.06-0.10	0.0-2.9	0.0-0.5	.37	.43	
	50-79	30-45	1.40-1.60	0.6-6	0.06-0.10	3.0-5.9	0.0-0.5	.32	.43	
Ironcity	0-15	12-25	1.20-1.40	0.6-2	0.14-0.18	0.0-2.9	0.5-2.0	.28	.37	5
	15-28	25-35	1.30-1.55	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.28	.32	
	28-79	35-50	1.35-1.65	0.2-2	0.08-0.13	3.0-5.9	0.0-0.5	.24	.32	
LbB, LbC:										
Lax	0-10	8-25	1.30-1.45	0.6-2	0.18-0.22	0.0-2.9	0.5-2.0	.43	.49	4
	10-27	18-35	1.30-1.50	0.6-2	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43	
	27-50	18-35	1.50-1.75	0.0015-0.06	0.06-0.10	0.0-2.9	0.0-0.5	.37	.43	
	50-79	30-45	1.40-1.60	0.6-6	0.06-0.10	3.0-5.9	0.0-0.5	.32	.43	
Le:										
Lee	0-4	15-27	1.30-1.45	0.6-2	0.14-0.19	0.0-2.9	1.0-3.0	.32	.32	5
	4-19	18-32	1.35-1.50	0.6-2	0.14-0.19	0.0-2.9	0.5-1.0	.32	.32	
	19-79	18-27	1.35-1.50	0.6-2	0.06-0.12	0.0-2.9	---	.28	.32	

Table 16.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
Lo:										
Lobelville-----	0-6	15-27	1.30-1.45	0.6-2	0.14-0.19	0.0-2.9	1.0-2.0	.32	.32	5
	6-19	18-32	1.35-1.50	0.6-2	0.14-0.19	0.0-2.9	0.5-1.0	.32	.32	
	19-38	18-32	1.35-1.50	0.6-2	0.12-0.17	0.0-2.9	0.0-0.5	.28	.32	
	38-79	10-30	1.35-1.55	2-6	0.04-0.10	0.0-2.9	0.0-0.5	.20	.32	
MaE3:										
Marsh----------	0-4	18-35	1.20-1.40	0.6-6	0.12-0.20	0.0-2.9	0.5-2.0	.37	---	3
	4-24	24-35	1.20-1.50	0.6-6	0.12-0.18	0.0-2.9	0.0-0.5	.32	---	
	24-27	18-45	1.20-1.55	0.6-6	0.05-0.14	0.0-2.9	0.0-0.5	.24	---	
	27-29	---	---	0.0000-0.2	---	---	---	---	---	
Mn:										
Minter---------	0-11	27-35	1.40-1.60	0.06-0.2	0.11-0.19	3.0-5.9	2.0-5.0	.32	.32	5
	11-60	35-60	1.35-1.65	0.0015-0.2	0.08-0.18	3.0-5.9	0.1-0.5	.32	.32	
PdA:										
Paden----------	0-8	18-27	1.30-1.45	0.6-2	0.18-0.23	0.0-2.9	0.5-3.0	.43	.43	4
	8-24	20-32	1.40-1.55	0.6-2	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43	
	24-60	20-35	1.60-1.80	0.0015-0.2	0.01-0.01	0.0-2.9	0.0-0.5	.43	.43	
	60-79	5-18	1.40-1.60	6-20	0.01-0.01	0.0-2.9	---	.15	.24	
PdB2, PdC2:										
Paden----------	0-6	18-32	1.30-1.45	0.6-2	0.18-0.23	0.0-2.9	0.5-3.0	.43	.43	4
	6-21	20-32	1.40-1.55	0.6-2	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43	
	21-36	20-35	1.60-1.80	0.0015-0.2	0.01-0.01	0.0-2.9	0.0-0.5	.43	.43	
	36-79	25-45	1.60-1.80	0.6-2	0.01-0.01	0.0-2.9	0.0-0.5	.24	.24	
PdC3:										
Paden----------	0-6	18-32	1.30-1.45	0.6-2	0.18-0.23	0.0-2.9	0.5-3.0	.43	.43	3
	6-15	20-32	1.40-1.55	0.6-2	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43	
	15-32	20-35	1.60-1.80	0.0015-0.2	0.01-0.01	0.0-2.9	0.0-0.5	.43	.43	
	32-79	25-45	1.60-1.80	0.6-2	0.01-0.01	0.0-2.9	0.0-0.5	.24	.24	
PkB2, PkC2:										
Pickwick-------	0-7	12-22	1.30-1.50	0.6-2	0.20-0.23	0.0-2.9	0.5-3.0	.43	.43	5
	7-42	22-35	1.40-1.65	0.6-2	0.19-0.22	0.0-2.9	0.0-0.5	.37	.37	
	42-79	32-45	1.45-1.65	0.2-2	0.10-0.20	0.0-2.9	0.0-0.5	.37	.37	
PkC3:										
Pickwick-------	0-2	18-27	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	0.5-2.0	.37	.37	5
	2-36	27-35	1.40-1.65	0.6-2	0.19-0.22	0.0-2.9	0.0-0.5	.37	.37	
	36-79	35-55	1.45-1.65	0.2-2	0.10-0.20	0.0-2.9	0.0-0.5	.37	.37	
Pt.										
Pits										
Rb:										
Riverby--------	0-10	5-12	1.20-1.40	2-6	0.08-0.12	0.0-2.9	1.0-2.0	.20	.24	3
	10-79	4-20	1.30-1.60	6-20	0.03-0.06	0.0-2.9	0.0-2.0	.15	.24	
RoD, RoF:										
Rock outcrop.										
Barfield-------	0-6	27-45	1.50-1.62	0.2-0.6	0.10-0.15	3.0-5.9	0.5-3.0	.17	.24	1
	6-17	35-60	1.55-1.65	0.06-0.2	0.09-0.14	6.0-8.9	---	.17	.24	
	17-19	---	---	0.0000-0.0015	---	---	---	---	---	

Table 16.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
Sa:										
Staser---------	0-46	18-27	1.40-1.60	0.6-2	0.15-0.22	0.0-2.9	2.0-4.0	.32	.32	5
	46-79	35-45	1.40-1.60	0.2-0.6	0.07-0.18	0.0-2.9	---	.28	.32	
SeC3:										
Stiversville---	0-1	27-32	1.40-1.55	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.28	.28	3
	1-30	20-35	1.40-1.55	0.6-2	0.14-0.18	0.0-2.9	---	.28	.28	
	30-45	20-35	1.35-1.50	0.6-2	0.12-0.18	0.0-2.9	---	.28	.28	
	45-60	---	---	0.0000-0.06	---	---	---	---	---	
SgC, SgD:										
Sugargrove-----	0-12	10-27	1.20-1.40	0.6-2	0.14-0.19	0.0-2.9	1.0-3.0	.28	.37	4
	12-52	18-35	1.30-1.50	0.6-2	0.14-0.19	0.0-2.9	0.0-0.5	.28	.32	
	52-54	---	---	0.0000-0.03	---	---	---	---	---	
Sn:										
Sullivan-------	0-56	18-27	1.30-1.45	0.6-2	0.12-0.20	0.0-2.9	1.0-3.0	.32	.32	5
	56-60	15-25	1.30-1.45	2-6	0.09-0.14	0.0-2.9	0.0-0.5	.32	.32	
SpF:										
Sulphura-------	0-5	15-25	1.30-1.50	2-6	0.12-0.17	0.0-2.9	0.5-2.0	.24	.37	2
	5-25	18-32	1.35-1.55	2-6	0.07-0.14	0.0-2.9	0.0-0.5	.24	.32	
	25-30	---	---	0.0000-0.0015	---	---	---	---	---	
SuF:										
Sulphura-------	0-5	15-25	1.30-1.50	2-6	0.12-0.17	0.0-2.9	0.5-2.0	.24	.37	2
	5-25	18-32	1.35-1.55	2-6	0.07-0.14	0.0-2.9	0.0-0.5	.24	.32	
	25-30	---	---	0.0000-0.0015	---	---	---	---	---	
Rock outcrop.										
TbD, TbE:										
Talbott--------	0-6	15-27	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	6-30	35-60	1.30-1.50	0.2-0.6	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	30-37	40-60	1.30-1.50	0.2-0.6	0.09-0.13	3.0-5.9	0.0-0.5	.24	.24	
	37-39	---	---	0.0000-0.0015	---	---	---	---	---	
Mimosa---------	0-6	24-40	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	1.0-3.0	.37	.37	3
	6-15	35-55	1.30-1.50	0.06-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	15-79	45-60	1.30-1.50	0.0015-0.2	0.10-0.15	6.0-9.0	0.0-0.5	.24	.24	
ThC2:										
Tarklin--------	0-7	18-25	1.25-1.45	0.6-6	0.13-0.18	0.0-2.9	0.5-2.0	.28	.32	3
	7-25	20-34	1.45-1.55	0.6-6	0.13-0.18	0.0-2.9	0.0-0.5	.28	.32	
	25-70	20-34	1.45-1.60	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.32	
	70-79	---	---	0.0015-0.06	---	---	0.0-0.0	---	---	
Humphreys------	0-14	12-25	1.35-1.50	2-6	0.10-0.15	0.0-2.9	1.0-3.0	.28	.32	5
	14-48	18-32	1.35-1.55	2-6	0.09-0.14	0.0-2.9	0.0-0.5	.24	.28	
	48-60	5-18	1.40-1.60	6-20	0.01-0.07	0.0-2.9	0.0-0.5	.15	.24	
TmC2:										
Tarklin--------	0-7	18-25	1.25-1.45	0.6-6	0.13-0.18	0.0-2.9	0.5-2.0	.28	.32	3
	7-25	20-34	1.45-1.55	0.6-6	0.13-0.18	0.0-2.9	0.0-0.5	.28	.32	
	25-70	20-34	1.45-1.60	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.32	
	70-79	---	---	0.0015-0.06	---	---	0.0-0.0	---	---	
Minvale--------	0-8	15-30	1.30-1.45	2-6	0.14-0.18	0.0-2.9	1.0-2.0	.28	.32	5
	8-79	20-35	1.40-1.55	0.6-2	0.12-0.18	0.0-2.9	0.0-0.5	.28	.32	

Table 16.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
TmC3, TmE3:										
Tarklin--------	0-3	18-25	1.25-1.45	0.6-6	0.13-0.18	0.0-2.9	0.5-2.0	.28	.32	3
	3-20	20-34	1.45-1.55	0.6-6	0.13-0.18	0.0-2.9	0.0-0.5	.28	.32	
	20-62	20-34	1.45-1.60	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.32	
	62-79	---	---	0.0015-0.06	---	---	0.0-0.0	---	---	
Minvale--------	0-3	20-30	1.30-1.45	2-6	0.14-0.18	0.0-2.9	0.5-1.0	.28	.32	5
	3-79	20-35	1.40-1.55	0.6-2	0.12-0.18	0.0-2.9	0.0-0.5	.28	.32	
ToA, TrA:										
Trace----------	0-9	12-22	1.30-1.45	0.6-2	0.18-0.23	0.0-2.9	1.0-3.0	.37	.43	4
	9-35	18-32	1.30-1.50	0.6-2	0.17-0.21	0.0-2.9	0.0-0.5	.32	.37	
	35-38	12-30	1.40-1.60	0.6-6	0.07-0.14	0.0-2.9	0.0-0.5	.28	.32	
	38-80	5-18	1.40-1.60	6-20	0.01-0.07	0.0-2.9	0.0-0.5	.15	.24	
Ua:										
Udalfs---------	0-60	45-65	1.25-1.45	0.06-0.6	0.10-0.15	3.0-9.0	0.0-0.5	.20	.20	5
Gullied land---	0-20	35-50	1.30-1.50	0.06-0.6	0.05-0.10	3.0-9.0	0.5-1.0	.17	.24	3
	20-40	---	---	0.0000-0.2	---	---	---	---	---	
Ud.										
Udarents										
W.										
Water										
WfA:										
Wolftever------	0-7	22-35	1.35-1.45	0.6-2	0.17-0.20	0.0-2.9	1.0-3.0	.37	.37	5
	7-16	27-40	1.35-1.50	0.2-0.6	0.15-0.18	0.0-2.9	0.5-1.0	.32	.32	
	16-65	35-55	1.40-1.60	0.2-0.6	0.13-0.17	3.0-5.9	0.0-0.5	.32	.32	
	65-79	27-40	1.40-1.60	0.2-0.6	0.13-0.17	0.0-2.9	0.0-0.5	.32	.32	
WfB2:										
Wolftever------	0-4	22-40	1.35-1.45	0.6-2	0.17-0.20	0.0-2.9	1.0-3.0	.37	.37	5
	4-16	22-45	1.35-1.50	0.2-0.6	0.15-0.18	0.0-2.9	0.5-1.0	.32	.32	
	16-65	35-55	1.40-1.60	0.2-0.6	0.13-0.17	3.0-5.9	0.0-0.5	.32	.32	
	65-79	20-40	1.40-1.60	0.2-0.6	0.13-0.17	0.0-2.9	0.0-0.5	.32	.32	
WlB:										
Wolftever------	0-7	22-40	1.35-1.45	0.6-2	0.17-0.20	0.0-2.9	1.0-3.0	.37	.37	5
	7-16	22-45	1.35-1.50	0.2-0.6	0.15-0.18	0.0-2.9	0.5-1.0	.32	.32	
	16-65	35-55	1.40-1.60	0.2-0.6	0.13-0.17	3.0-5.9	0.0-0.5	.32	.32	
	65-79	20-40	1.40-1.60	0.2-0.6	0.13-0.17	0.0-2.9	0.0-0.5	.32	.32	
Wm:										
Woodmont-------	0-9	15-25	1.35-1.50	0.6-2	0.18-0.20	0.0-2.9	0.5-2.0	.43	.43	4
	9-24	18-30	1.40-1.60	0.6-2	0.17-0.20	0.0-2.9	0.0-0.5	.43	.43	
	24-79	18-35	1.60-1.75	0.06-0.2	0.05-0.09	0.0-2.9	0.0-0.5	.43	.43	

Table 17.—Chemical Properties of the Soils

(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
	In	meq/100g	meq/100g	pH
AmA:				
Armour	0-10	5.0-15	---	5.1-6.0
	10-65	5.0-15	---	5.1-6.0
	65-79	5.0-15	---	5.1-6.0
AmB:				
Armour	0-8	5.0-15	---	5.1-6.0
	8-65	5.0-15	---	5.1-6.0
ArA:				
Armour	0-18	5.0-15	---	5.1-6.0
	18-50	5.0-15	---	5.1-6.0
	50-79	5.0-15	---	5.1-6.0
At:				
Arrington	0-10	15-20	---	6.1-7.8
	10-60	12-18	---	6.1-7.8
BA:				
Beason	0-7	8.0-20	6.0-15	4.5-6.0
	7-18	10-25	8.0-19	4.5-5.5
	18-79	10-25	8.0-19	4.5-6.0
Chenneby	0-12	5.0-15	3.8-11.3	4.5-6.0
	12-48	5.0-15	3.8-11.3	4.5-6.0
	48-79	5.0-15	3.8-11.3	4.5-6.0
BbC, BbD, BbF:				
Biffle	0-10	---	3.8-11.3	4.0-5.5
	10-22	---	0-8	4.0-5.5
	22-79	---	---	---
BSF:				
Biffle	0-10	---	3.8-11.3	4.0-5.5
	10-22	---	0-8	4.0-5.5
	22-79	---	---	---
Hawthorne	0-9	---	5.0-15	4.0-5.5
	9-26	---	5.0-15	4.0-5.5
	26-60	---	---	---
Sulphura	0-5	5.0-15	3.8-11.3	5.1-6.0
	5-25	5.0-15	3.8-11.3	5.1-6.5
	25-30	---	---	---
BtC:				
Braxton	0-9	5.0-15	---	5.1-6.0
	9-79	12-30	---	5.1-6.5
Talbott	0-9	5.0-15	---	5.1-6.5
	9-38	12-30	---	5.1-7.8
	38-39	---	---	---

Table 17.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100g	meq/100g	pH
BtE:				
Braxton	0-9	5.0-15	---	5.1-6.0
	9-79	12-30	---	5.1-6.5
Talbott	0-9	5.0-15	---	5.1-6.5
	9-38	12-30	---	5.1-7.8
	38-39	---	---	---
BtE3:				
Braxton	0-4	5.0-15	---	5.1-6.0
	4-79	12-30	---	5.1-6.5
Talbott	0-3	5.0-15	---	5.1-6.5
	3-37	12-30	---	5.1-6.5
	37-39	---	---	---
BuB2:				
Busseltown	0-9	5.0-10	2.0-8	4.5-6.5
	9-20	5.0-10	2.0-8	4.5-6.5
	20-30	5.0-15	3.8-11.3	4.5-6.5
	30-79	5.0-10	2.0-8	4.5-6.5
BuC3:				
Busseltown	0-16	2.0-10	0-8	4.5-6.5
	16-50	2.0-10	0-8	4.5-6.5
	50-79	2.0-10	0-8	4.5-6.5
Cb, Ch:				
Chenneby	0-12	5.0-15	3.8-11.3	4.5-6.0
	12-48	5.0-15	3.8-11.3	4.5-6.0
	48-79	5.0-15	3.8-11.3	4.5-6.0
DeD2:				
Dellrose	0-6	5.0-15	3.8-11.3	4.5-6.0
	6-40	8.0-20	6.0-15	4.5-6.0
	40-79	15-30	11.3-23	4.5-6.0
DeF:				
Dellrose	0-9	5.0-15	3.8-11.3	4.5-6.0
	9-58	8.0-20	6.0-15	4.5-6.0
	58-79	15-30	11.3-23	4.5-6.0
Mimosa	0-6	10-15	8.0-11.3	4.5-6.0
	6-16	10-30	8.0-22.5	4.5-6.0
	16-50	10-30	8.0-22.5	4.5-6.0
	50-52	---	---	---
DkB2:				
Dickson	0-10	---	2.0-10	4.5-5.5
	10-20	---	2.0-10	4.5-5.5
	20-39	---	2.0-10	4.5-5.5
	39-60	---	5.0-15	4.5-5.5

Table 17.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100g	meq/100g	pH
Eg:				
Egam	0-7	15-25	---	5.6-7.3
	7-79	10-25	---	5.6-7.3
Es, Ev:				
Ellisville	0-8	5.0-15	3.8-11.3	4.5-6.0
	8-79	5.0-15	3.8-11.3	4.5-6.0
GdF:				
Gladdice	0-5	20-50	---	5.6-7.8
	5-30	20-40	---	5.6-7.8
	30-32	---	---	---
Rock outcrop.				
Mimosa	0-6	10-15	8.0-11.3	4.5-6.0
	6-16	10-30	8.0-22.5	4.5-6.0
	16-50	10-30	8.0-22.5	4.5-6.0
	50-52	---	---	---
Gm:				
Gumdale	0-10	5.0-15	3.8-11.3	5.1-6.0
	10-18	8.0-15	6.0-11.3	4.5-6.0
	18-40	8.0-15	6.0-11.3	4.5-6.0
	40-79	8.0-15	6.0-11.3	4.5-6.0
HuA, HuB, HuC:				
Humphreys	0-10	5.0-15	3.8-11.3	5.0-6.5
	10-36	5.0-10	3.8-8.0	5.0-7.0
	36-42	5.0-10	3.8-8.0	5.0-7.0
	42-80	2.0-15	0.0-11.3	5.0-7.0
IrC:				
Ironcity	0-15	---	2.0-10	4.5-5.5
	15-28	---	2.0-10	4.5-5.5
	28-79	---	2.0-15	4.5-5.5
LaC:				
Lax	0-10	---	2.0-10	4.5-6.5
	10-27	---	2.0-10	4.5-5.5
	27-50	---	0.0-8.0	4.5-5.5
	50-79	---	2.0-8.0	4.5-5.5
Ironcity	0-15	---	2.0-10	4.5-5.5
	15-28	---	2.0-10	4.5-5.5
	28-79	---	2.0-15	4.5-5.5
LbB, LbC:				
Lax	0-10	---	2.0-10	4.5-6.5
	10-27	---	2.0-10	4.5-5.5
	27-50	---	0.0-8.0	4.5-5.5
	50-79	---	2.0-8.0	4.5-5.5
Le:				
Lee	0-4	5.0-15	3.8-11.8	4.5-6.0
	4-19	5.0-10	3.8-8.0	4.5-6.0
	19-79	2.0-10	0.0-8.0	4.5-6.0

Table 17.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100g	meq/100g	pH
Lo:				
Lobelville-----------	0-6	5.0-15	3.8-11.3	4.5-6.0
	6-19	5.0-10	3.8-8.0	4.5-6.0
	19-38	5.0-10	3.8-8.0	4.5-6.0
	38-79	5.0-10	3.8-8.0	4.5-6.0
MaE3:				
Marsh----------------	0-4	5.0-15	---	5.1-6.5
	4-24	5.0-15	---	5.1-6.5
	24-27	5.0-15	---	5.1-6.5
	27-29	---	---	---
Mn:				
Minter---------------	0-11	8.0-20	6.0-15	4.5-7.3
	11-60	15-25	11.3-18.7	4.5-7.3
PdA:				
Paden----------------	0-8	---	5.0-20	4.5-5.5
	8-24	---	5.0-20	4.5-5.5
	24-60	---	0.0-8.0	4.5-5.5
	60-79	---	0.0-8.0	---
PdB2, PdC2:				
Paden----------------	0-6	---	5.0-20	4.5-5.5
	6-21	---	5.0-10	4.5-5.5
	21-36	---	0.0-8.0	4.5-5.5
	36-79	---	0.0-8.0	4.5-5.5
PdC3:				
Paden----------------	0-6	---	5.0-8.0	4.5-5.5
	6-15	---	5.0-8.0	4.5-5.5
	15-32	---	0.0-8.0	4.5-5.5
	32-79	---	0.0-8.0	4.5-5.5
PkB2, PkC2:				
Pickwick-------------	0-7	---	5.0-15	4.5-5.5
	7-42	---	5.0-15	4.5-5.5
	42-79	---	5.0-10	4.5-5.5
PkC3:				
Pickwick-------------	0-2	---	2.0-10	4.5-5.5
	2-36	---	2.0-10	4.5-5.5
	36-79	---	0.0-8.0	4.5-5.5
Pt.				
Pits				
Rb:				
Riverby--------------	0-10	3.0-6.0	2.0-4.5	5.1-7.3
	10-79	0.0-6.0	0.0-4.5	5.1-7.3
RoD, RoF:				
Rock outcrop.				
Barfield-------------	0-6	10-20	---	6.1-7.8
	6-17	15-30	---	6.1-7.8
	17-19	---	---	---

Table 17.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100g	meq/100g	pH
Sa:				
Staser	0-46	5.0-15	---	5.6-7.3
	46-79	8.0-20	---	5.6-7.3
SeC3:				
Stiversville	0-1	5.0-15	---	5.1-6.0
	1-30	5.0-10	---	5.1-6.0
	30-45	5.0-10	---	5.1-6.0
	45-60	---	---	---
SgC, SgD:				
Sugargrove	0-12	---	3.8-8.0	4.5-5.5
	12-52	---	3.8-8.0	4.5-5.5
	52-54	---	---	---
Sn:				
Sullivan	0-56	5.0-15	---	5.6-7.2
	56-60	5.0-20	---	5.6-7.2
SpF:				
Sulphura	0-5	---	5.0-15	5.1-6.0
	5-25	---	5.0-15	5.1-6.5
	25-30	---	---	---
SuF:				
Sulphura	0-5	5.0-15	3.8-11.3	5.1-6.0
	5-25	5.0-15	3.8-11.3	5.1-6.5
	25-30	---	---	---
TbD:				
Talbott	0-6	5.0-15	---	5.1-6.5
	6-30	12-30	---	5.1-6.5
	30-37	12-30	---	5.1-7.8
	37-39	---	---	---
Mimosa	0-6	10-15	8.0-11.3	4.5-6.0
	6-15	10-30	8.0-22.5	4.5-6.0
	15-79	10-30	8.0-22.5	4.5-6.0
TbE:				
Talbott	0-6	5.0-15	---	5.1-6.5
	6-30	12-30	---	5.1-6.5
	30-37	12-30	---	5.1-7.8
	37-39	---	---	---
Mimosa	0-6	10-15	8.0-11.3	4.5-6.0
	6-15	10-30	8.0-22.5	4.5-6.0
	15-79	10-30	8.0-22.5	4.5-6.0
ThC2:				
Tarklin	0-7	---	3.8-11.3	3.6-5.5
	7-25	---	3.8-11.3	3.6-5.5
	25-70	---	0.0-4.5	3.6-5.5
	70-79	---	---	---
Humphreys	0-14	5.0-15	3.8-11.3	4.5-6.0
	14-48	5.0-10	3.8-8.0	4.5-6.0
	48-60	2.0-10	3.8-8.0	4.5-6.0

Table 17.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100g	meq/100g	pH
TmC2:				
Tarklin--------------	0-7	---	3.8-11.3	3.6-5.5
	7-25	---	3.8-11.3	3.6-5.5
	25-70	---	0.0-4.5	3.6-5.5
	70-79	---	---	---
Minvale--------------	0-8	---	2.0-10	4.5-5.5
	8-79	---	2.0-5.0	4.5-5.5
TmC3, TmE3:				
Tarklin--------------	0-3	---	3.8-8.0	3.6-5.5
	3-20	---	3.8-8.0	3.6-5.5
	20-62	---	0.0-4.5	3.6-5.5
	62-79	---	---	---
Minvale--------------	0-3	---	2.0-10	4.5-5.5
	3-79	---	2.0-5.0	4.5-5.5
ToA, TrA:				
Trace----------------	0-9	5.0-10	---	5.1-6.0
	9-35	5.0-10	---	5.1-6.0
	35-38	5.0-10	---	5.1-6.0
	38-80	5.0-10	---	5.1-6.0
Ua:				
Udalfs---------------	0-60	---	---	5.1-6.5
Gullied Land---------	0-20	---	---	4.5-5.5
	20-40	---	---	---
Ud.				
Udarents				
W.				
Water				
WfA:				
Wolftever------------	0-7	---	10-15	4.5-5.5
	7-16	---	8.0-15	4.5-5.5
	16-65	---	8.0-15	4.5-5.5
	65-79	---	8.0-15	4.5-5.5
WfB2:				
Wolftever------------	0-4	---	10-15	4.5-5.5
	4-16	---	8.0-15	4.5-5.5
	16-65	---	8.0-15	4.5-5.5
	65-79	---	8.0-15	4.5-5.5
WlB:				
Wolftever------------	0-7	---	10-15	4.5-5.5
	7-16	---	8.0-15	4.5-5.5
	16-65	---	8.0-15	4.5-5.5
	65-79	---	8.0-15	4.5-5.5
Wm:				
Woodmont-------------	0-9	5.0-15	3.8-11.3	5.1-6.0
	9-24	5.0-10	3.8-8.0	5.1-6.0
	24-79	5.0-10	3.8-8.0	5.1-6.6

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	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
			Ft	Ft		
AmA:						
Armour	B					
		January	---	---	Very brief	Occasional
		February	---	---	Very brief	Occasional
		March	---	---	Very brief	Occasional
		April	---	---	Very brief	Occasional
		May	---	---	Very brief	Occasional
		June	---	---	Extremely brief	Occasional
		December	---	---	Very brief	Occasional
AmB:						
Armour	B					
		Jan-Dec	---	---	---	None
ArA:						
Armour	B					
		January	---	---	---	Rare
		February	---	---	---	Rare
		March	---	---	---	Rare
		April	---	---	---	Rare
		May	---	---	---	Rare
		December	---	---	---	Rare
At:						
Arrington	B					
		January	4.0-6.0	>6.0	Brief	Frequent
		February	4.0-6.0	>6.0	Brief	Frequent
		March	4.0-6.0	>6.0	Brief	Frequent
		April	---	---	Brief	Frequent
		May	---	---	Extremely brief	Frequent
		December	---	---	Brief	Frequent
BA:						
Beason	C					
		January	1.0-1.5	>6.0	Brief	Frequent
		February	1.0-1.5	>6.0	Brief	Frequent
		March	1.0-1.5	>6.0	Brief	Frequent
		April	1.0-1.5	>6.0	Brief	Frequent
		May	1.0-1.5	>6.0	Brief	Frequent
		December	1.0-1.5	>6.0	Brief	Frequent
Chenneby	C					
		January	1.0-1.5	>6.0	Brief	Frequent
		February	1.0-1.5	>6.0	Brief	Frequent
		March	1.0-1.5	>6.0	Brief	Frequent
		April	1.0-1.5	>6.0	Brief	Frequent
		May	1.0-1.5	>6.0	Brief	Frequent
		December	1.0-1.5	>6.0	Brief	Frequent

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
			Ft	Ft		
BbC, BbD, BbF:						
Biffle	B					
		Jan-Dec	---	---	---	None
BSF:						
Biffle	B					
		Jan-Dec	---	---	---	None
Hawthorne	B					
		Jan-Dec	---	---	---	None
Sulphura	D					
		Jan-Dec	---	---	---	None
BtC, BtC3, BtE, BtE3:						
Braxton	C					
		Jan-Dec	---	---	---	None
Talbott	C					
		Jan-Dec	---	---	---	None
BuB2:						
Busseltown	C					
		January	1.5-2.5	---	---	Rare
		February	1.5-2.5	---	---	Rare
		March	1.5-2.5	---	---	Rare
		April	1.5-2.5	---	---	Rare
		May	---	---	---	Rare
		December	1.5-2.5	---	---	Rare
BuC3:						
Busseltown	C					
		January	1.0-1.5	---	---	Rare
		February	1.0-1.5	---	---	Rare
		March	1.0-1.5	---	---	Rare
		April	1.0-1.5	---	---	Rare
		May	---	---	---	Rare
		December	1.0-1.5	---	---	Rare
Cb:						
Chenneby	C					
		January	1.0-1.5	>6.0	Brief	Frequent
		February	1.0-1.5	>6.0	Brief	Frequent
		March	1.0-1.5	>6.0	Brief	Frequent
		April	1.0-1.5	>6.0	Brief	Frequent
		May	---	---	Brief	Frequent
		December	1.0-1.5	>6.0	Brief	Frequent
Ch:						
Chenneby	C					
		January	1.0-1.5	>6.0	Very brief	Occasional
		February	1.0-1.5	>6.0	Very brief	Occasional
		March	1.0-1.5	>6.0	Very brief	Occasional
		April	1.0-1.5	>6.0	Very brief	Occasional
		May	---	---	Very brief	Occasional
		December	1.0-1.5	>6.0	Very brief	Occasional

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
			Ft	Ft		
DeD2:						
Dellrose	B					
		Jan-Dec	---	---	---	None
DeF:						
Dellrose	B					
		Jan-Dec	---	---	---	None
Mimosa	C					
		Jan-Dec	---	---	---	None
DkB2:						
Dickson	C					
		January	1.5-2.0	---	---	None
		February	1.5-2.0	---	---	None
		March	1.5-2.0	---	---	None
		April	1.5-2.0	---	---	None
		December	1.5-2.0	---	---	None
Eg:						
Egam	C					
		January	2.5-3.3	>6.0	---	Rare
		February	2.5-3.3	>6.0	---	Rare
		March	2.5-3.3	>6.0	---	Rare
		April	---	---	---	Rare
		December	2.5-3.3	>6.0	---	Rare
Es:						
Ellisville	B					
		January	4.0-6.0	>6.0	Brief	Frequent
		February	4.0-6.0	>6.0	Brief	Frequent
		March	4.0-6.0	>6.0	Brief	Frequent
		April	---	---	Brief	Frequent
		May	---	---	Extremely brief	Frequent
		December	---	---	Brief	Frequent
Ev:						
Ellisville	B					
		January	4.0-6.0	>6.0	Brief	Occasional
		February	4.0-6.0	>6.0	Brief	Occasional
		March	4.0-6.0	>6.0	Brief	Occasional
		April	---	---	Brief	Occasional
		May	---	---	Extremely brief	Occasional
		December	---	---	Brief	Occasional
GdF:						
Gladdice	C					
		Jan-Dec	---	---	---	None
Rock outcrop	---					
		Jan-Dec	---	---	---	None
Mimosa	C					
		Jan-Dec	---	---	---	None

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
			Ft	Ft		
Gm:						
Gumdale	C					
		January	1.0-2.0	---	---	Rare
		February	1.0-2.0	---	---	Rare
		March	1.0-2.0	---	---	Rare
		April	1.0-2.0	---	---	Rare
		May	---	---	---	Rare
		December	1.0-2.0	---	---	Rare
HuA:						
Humphreys	B					
		January	5.0-6.0	>6.0	---	Rare
		February	5.0-6.0	>6.0	---	Rare
		March	5.0-6.0	>6.0	---	Rare
		April	---	---	---	Rare
		December	5.0-6.0	>6.0	---	Rare
HuB, HuC:						
Humphreys	B					
		January	5.0-6.0	>6.0	---	None
		February	5.0-6.0	>6.0	---	None
		March	5.0-6.0	>6.0	---	None
		December	5.0-6.0	>6.0	---	None
IrC:						
Ironcity	B					
		Jan-Dec	---	---	---	None
LaC:						
Lax	C					
		January	1.5-2.5	---	---	None
		February	1.5-2.5	---	---	None
		March	1.5-2.5	---	---	None
		December	1.5-2.5	---	---	None
Ironcity	B					
		Jan-Dec	---	---	---	None
LbB, LbC:						
Lax	C					
		January	1.5-2.5	---	---	None
		February	1.5-2.5	---	---	None
		March	1.5-2.5	---	---	None
		December	1.5-2.5	---	---	None
Le:						
Lee	D					
		January	0.0-0.5	>6.0	Brief	Frequent
		February	0.0-0.5	>6.0	Brief	Frequent
		March	0.0-0.5	>6.0	Brief	Frequent
		April	0.0-0.5	>6.0	Brief	Frequent
		May	0.0-0.5	>6.0	Brief	Frequent
		December	0.0-0.5	>6.0	Brief	Frequent

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
			Ft	Ft		
Lo:						
Lobelville	C					
		January	1.6-2.5	>6.0	Brief	Occasional
		February	1.6-2.5	>6.0	Brief	Occasional
		March	1.6-2.5	>6.0	Brief	Occasional
		April	1.6-2.5	>6.0	Brief	Occasional
		December	1.6-2.5	>6.0	Brief	Occasional
MaE3:						
Marsh	B					
		Jan-Dec	---	---	---	None
Mn:						
Minter	D					
		January	0.0	>6.0	Long	Frequent
		February	0.0	>6.0	Long	Frequent
		March	0.0	>6.0	Long	Frequent
		April	0.0	>6.0	Long	Frequent
		May	0.0	>6.0	Long	Frequent
		December	0.0	>6.0	Long	Frequent
PdA:						
Paden	C					
		January	1.5-2.2	---	---	Rare
		February	1.5-2.2	---	---	Rare
		March	1.5-2.2	---	---	Rare
		April	1.5-2.2	---	---	Rare
		May	---	---	---	Rare
		December	1.5-2.2	---	---	Rare
PdB2, PdC2:						
Paden	C					
		January	1.5-2.0	---	---	None
		February	1.5-2.0	---	---	None
		March	1.5-2.0	---	---	None
		April	1.5-2.0	---	---	None
		December	1.5-2.0	---	---	None
PdC3:						
Paden	C					
		January	1.0-1.5	---	---	None
		February	1.0-1.5	---	---	None
		March	1.0-1.5	---	---	None
		April	1.0-1.5	---	---	None
		December	1.0-1.5	---	---	None
PkB2, PkC2, PkC3:						
Pickwick	B					
		Jan-Dec	---	---	---	None
Pt:						
Pits	A					
		Jan-Dec	---	---	---	None

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table		Flooding	
			Upper limit	Lower limit	Duration	Frequency
			Ft	Ft		
Rb:						
Riverby	A					
		January	4.0-6.0	>6.0	Brief	Frequent
		February	4.0-6.0	>6.0	Brief	Frequent
		March	4.0-6.0	>6.0	Brief	Frequent
		April	4.0-6.0	>6.0	Brief	Frequent
		May	---	---	Brief	Frequent
		June	---	---	Extremely brief	Frequent
		December	4.0-6.0	>6.0	Brief	Frequent
RoD, RoF:						
Rock outcrop	---					
		Jan-Dec	---	---	---	None
Barfield	D					
		Jan-Dec	---	---	---	None
Sa:						
Staser	B					
		January	---	---	Brief	Occasional
		February	---	---	Brief	Occasional
		March	---	---	Brief	Occasional
		April	---	---	Brief	Occasional
		May	---	---	Brief	Occasional
		December	---	---	Brief	Occasional
SeC3:						
Stiversville	B					
		Jan-Dec	---	---	---	None
SgC, SgD:						
Sugargrove	B					
		Jan-Dec	---	---	---	None
Sn:						
Sullivan	B					
		January	---	---	Brief	Occasional
		February	---	---	Brief	Occasional
		March	---	---	Brief	Occasional
		April	---	---	Brief	Occasional
		May	---	---	Brief	Occasional
		June	---	---	---	Rare
		July	---	---	---	Rare
		August	---	---	---	Rare
		September	---	---	---	Rare
		October	---	---	---	Rare
		November	---	---	---	Rare
		December	---	---	Brief	Occasional
SpF:						
Sulphura	B					
		Jan-Dec	---	---	---	None

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
			Ft	Ft		
SuF:						
Sulphura	D					
		Jan-Dec	---	---	---	None
TbD, TbE:						
Talbott	C					
		Jan-Dec	---	---	---	None
Mimosa	C					
		Jan-Dec	---	---	---	None
ThC2:						
Tarklin	C					
		January	1.5-2.0	---	---	None
		February	1.5-2.0	---	---	None
		March	1.5-2.0	---	---	None
		April	1.5-2.0	---	---	None
		December	1.5-2.0	---	---	None
Humphreys	B					
		January	5.0-6.0	>6.0	---	None
		February	5.0-6.0	>6.0	---	None
		March	5.0-6.0	>6.0	---	None
		December	5.0-6.0	>6.0	---	None
TmC2:						
Tarklin	C					
		January	1.5-2.0	---	---	None
		February	1.5-2.0	---	---	None
		March	1.5-2.0	---	---	None
		April	1.5-2.0	---	---	None
		December	1.5-2.0	---	---	None
Minvale	B					
		Jan-Dec	---	---	---	None
TmC3, TmE3:						
Tarklin	C					
		January	1.5-1.7	---	---	None
		February	1.5-1.7	---	---	None
		March	1.5-1.7	---	---	None
		April	1.5-1.7	---	---	None
		December	1.5-1.7	---	---	None
Minvale	B					
		Jan-Dec	---	---	---	None
ToA:						
Trace	B					
		January	---	---	Brief	Occasional
		February	---	---	Brief	Occasional
		March	---	---	Brief	Occasional
		April	---	---	Brief	Occasional
		December	---	---	Brief	Occasional

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
			Ft	Ft		
TrA:						
Trace	B					
		January	---	---	---	Rare
		February	---	---	---	Rare
		March	---	---	---	Rare
		April	---	---	---	Rare
		December	---	---	---	Rare
		Jan-Dec	---	---	---	None
Ua:						
Udalfs	C					
		Jan-Dec	---	---	---	None
Gullied land	C					
		Jan-Dec	---	---	---	None
Ud:						
Udarents	B					
		Jan-Dec	---	---	---	None
WfA, WfB2:						
Wolftever	C					
		January	2.5-3.5	>6.0	Brief	Occasional
		February	2.5-3.5	>6.0	Brief	Occasional
		March	2.5-3.5	>6.0	Brief	Occasional
		April	---	---	Brief	Occasional
		May	---	---	Extremely brief	Occasional
		December	2.5-3.5	>6.0	Brief	Occasional
WlB:						
Wolftever	C					
		January	2.5-3.5	>6.0	---	None
		February	2.5-3.5	>6.0	---	None
		March	2.5-3.5	>6.0	---	None
		December	2.5-3.5	>6.0	---	None
Wm:						
Woodmont	C					
		January	1.0-1.5	---	---	Rare
		February	1.0-1.5	---	---	Rare
		March	1.0-1.5	---	---	Rare
		April	1.0-1.5	---	---	Rare
		May	---	---	---	Rare
		December	1.0-1.5	---	---	Rare

Table 19.—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	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
AmA, AmB, ArA:							
Armour	---	---	---	---	None	Moderate	Moderate
At:							
Arrington	---	---	---	---	None	Low	Low
BA:							
Beason	---	---	---	---	None	High	High
Chenneby	---	---	---	---	None	High	Moderate
BbC, BbD, BbF:							
Biffle	Bedrock (paralithic)	20-40	---	Very strongly cemented	None	Moderate	High
BSF:							
Biffle	Bedrock (paralithic)	20-40	---	Very strongly cemented	None	Moderate	High
Hawthorne	Bedrock (paralithic)	20-40	---	Very strongly cemented	None	Low	High
Sulphura	Bedrock (lithic)	20-40	---	---	None	Low	Moderate
BtC, BtC3, BtE, BtE3:							
Braxton	---	---	---	---	None	High	Moderate
Talbott	Bedrock (lithic)	20-40	---	---	None	High	Moderate
BuB2, BuC3:							
Busseltown	Fragipan	---	---	Noncemented	None	High	High
Cb, Ch:							
Chenneby	---	---	---	---	None	High	Moderate
DeD2:							
Dellrose	---	---	---	---	None	High	Moderate

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
DeF:							
Dellrose	---	---	---	---	None	High	Moderate
Mimosa	Bedrock (lithic)	40-80	---	Indurated	None	High	Moderate
DkB2:							
Dickson	Fragipan	---	---	Noncemented	None	Moderate	Moderate
Eg:							
Egam	---	---	---	---	None	High	Low
Es, Ev:							
Ellisville	---	---	---	---	None	Moderate	Moderate
GdF:							
Gladdice	Bedrock (lithic)	20-40	---	Indurated	None	High	Low
Rock outcrop	Bedrock (lithic)	0-0	---	---	None	---	---
Mimosa	Bedrock (lithic)	40-60	---	Indurated	None	High	Moderate
Gm:							
Gumdale	Fragipan	---	---	Noncemented	None	High	Moderate
HuA, HuB, HuC:							
Humphreys	---	---	---	---	None	Moderate	Moderate
IrC:							
Ironcity	---	---	---	---	None	High	Moderate
LaC:							
Lax	Fragipan	---	---	Noncemented	None	High	Moderate
Ironcity	---	---	---	---	None	High	Moderate
LbB, LbC:							
Lax	Fragipan	---	---	Noncemented	None	High	Moderate
Le:							
Lee	---	---	---	---	None	High	High

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
Lo:							
Lobelville	---	---	---	---	None	High	Moderate
MaE3:							
Marsh	Bedrock (paralithic)	20-40	---	Very strongly cemented	None	Low	Moderate
Mn:							
Minter	---	---	---	---	None	High	High
PdA, PdB2, PdC2, PdC3:							
Paden	Fragipan	---	---	Noncemented	None	High	Moderate
PkB2, PkC2, PkC3:							
Pickwick	---	---	---	---	None	Moderate	Moderate
Pt:							
Pits	---	---	---	---	None	Moderate	Low
Rb:							
Riverby	---	---	---	---	None	Low	Moderate
RoD:							
Rock outcrop	Bedrock (lithic)	0-0	---	---	None	---	---
Barfield	Bedrock (lithic)	8-20	---	Indurated	None	High	Low
RoF:							
Rock outcrop	Bedrock (lithic)	0-0	---	---	None	---	---
Barfield	Bedrock (lithic)	8-20	---	---	None	High	Low
Sa:							
Staser	---	---	---	---	None	Low	Low
SeC3:							
Stiversville	Bedrock (paralithic)	40-60	---	Very strongly cemented	None	Moderate	Moderate
SgC, SgD:							
Sugargrove	Bedrock (paralithic)	40-40	---	---	None	Moderate	Moderate

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
Sn:							
Sullivan	---	---	---	---	None	Low	Low
SpF:							
Sulphura	Bedrock (lithic)	20-40	---	Indurated	None	Low	Moderate
SuF:							
Sulphura	Bedrock (lithic)	20-40	---	---	None	Low	Moderate
Rock outcrop	---	---	---	---	None	---	---
TbD:							
Talbott	Bedrock (lithic)	20-40	---	Indurated	None	High	Moderate
Mimosa	Bedrock (lithic)	40-80	---	Indurated	None	High	Moderate
TbE:							
Talbott	Bedrock (lithic)	20-40	---	---	None	High	Moderate
Mimosa	Bedrock (lithic)	40-80	---	Indurated	None	High	Moderate
ThC2:							
Tarklin	Fragipan	---	---	Noncemented	None	Moderate	High
	Bedrock (paralithic)	---	---	Very strongly cemented			
Humphreys	---	---	---	---	None	Moderate	Moderate
TmC2, TmC3, TmE3:							
Tarklin	Fragipan	---	---	Noncemented	None	Moderate	High
	Bedrock (paralithic)	---	---	Very strongly cemented			
Minvale	---	---	---	---	None	Moderate	Low
ToA, TrA:							
Trace	---	---	---	---	None	Low	Moderate

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
Ua:							
Udalfs	---	---	---	---	None	High	Moderate
Gullied land	Bedrock (paralithic)	20-40	---	---	None	Moderate	Moderate
Ud:							
Udarents	---	---	---	---	None	Moderate	Low
W:							
Water	---	---	---	---	None	---	---
WfA, WfB2, WlB:							
Wolftever	---	---	---	---	None	High	High
Wm:							
Woodmont	Fragipan	---	---	Noncemented	None	High	Moderate

Table 20.—Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Armour	Fine-silty, mixed, active, thermic Ultic Hapludalfs
Arrington	Fine-silty, mixed, superactive, thermic Cumulic Hapludolls
Barfield	Clayey, mixed, active, thermic Lithic Hapludolls
Beason	Fine-silty, siliceous, semiactive, thermic Aquic Hapludults
Biffle	Fine-loamy, siliceous, semiactive, thermic Typic Hapludults
Braxton	Fine, mixed, active, thermic Typic Paleudalfs
Busseltown	Fine-loamy, mixed, semiactive, thermic Oxyaquic Fragiudalfs
Chenneby	Fine-silty, mixed, active, thermic Fluvaquentic Dystrudepts
Dellrose	Fine-loamy, mixed, semiactive, thermic Typic Paleudults
Dickson	Fine-silty, siliceous, semiactive, thermic Glossic Fragiudults
Egam	Fine, mixed, active, thermic Cumulic Hapludolls
Ellisville	Fine-silty, mixed, active, thermic Dystric Fluventic Eutrudepts
Gladdice	Fine, mixed, active, thermic Vertic Hapludalfs
Gumdale	Fine-loamy, mixed, semiactive, thermic Aquic Fraglossudalfs
Hawthorne	Loamy-skeletal, siliceous, semiactive, thermic Typic Dystrudepts
Humphreys	Fine-loamy, siliceous, semiactive, thermic Typic Hapludults
Ironcity	Fine-loamy, siliceous, subactive, thermic Typic Paleudults
Lax	Fine-silty, siliceous, semiactive, thermic Typic Fragiudults
Lee	Fine-loamy, siliceous, semiactive, acid, thermic Typic Endoaquepts
Lobelville	Fine-loamy, siliceous, active, thermic Fluvaquentic Dystrudepts
Marsh	Fine-loamy, mixed, semiactive, thermic Ultic Hapludalfs
Mimosa	Fine, mixed, semiactive, thermic Typic Hapludalfs
Minter	Fine, mixed, semiactive, thermic Typic Endoaqualfs
Minvale	Fine-loamy, siliceous, subactive, thermic Typic Paleudults
Paden	Fine-silty, mixed, semiactive, thermic Glossic Fragiudults
Pickwick	Fine-silty, mixed, semiactive, thermic Typic Paleudults
Riverby	Loamy-skeletal, mixed, semiactive, nonacid, thermic Typic Udifluvents
Staser	Fine-loamy, mixed, active, thermic Cumulic Hapludolls
Stiversville	Fine-loamy, mixed, semiactive, thermic Ultic Hapludults
Sugargrove	Fine-loamy, mixed, semiactive, thermic Typic Hapludults
Sullivan	Fine-loamy, siliceous, active, thermic Dystric Fluventic Eutrudepts
Sulphura	Loamy-skeletal, siliceous, semiactive, thermic Typic Dystrudepts
Talbott	Fine, mixed, semiactive, thermic Typic Hapludalfs
*Tarklin	Fine-loamy, siliceous, semiactive, mesic Typic Fragiudults
Trace	Fine-silty, mixed, semiactive, thermic Ultic Hapludalfs
Udalfs	Udalfs
Udarents	Udarents
Wolftever	Fine, mixed, semiactive, thermic Aquic Hapludults
Woodmont	Fine-silty, siliceous, semiactive, thermic Aquic Fraglossudalfs

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