United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Illinois Agricultural Experiment Station

Soil Survey of Schuyler County, Illinois

NRCS Accessibility Statement

The Natural Resources Conservation Service (NRCS) is committed to making its information accessible to all of its customers and employees. If you are experiencing accessibility issues and need assistance, please contact our Helpdesk by phone at 1-800-457-3642 or by e-mail at ServiceDesk-FTC@ftc.usda.gov. For assistance with publications that include maps, graphs, or similar forms of information, you may also wish to contact our State or local office. You can locate the correct office and phone number at http://offices.sc.egov.usda.gov/locator/app.

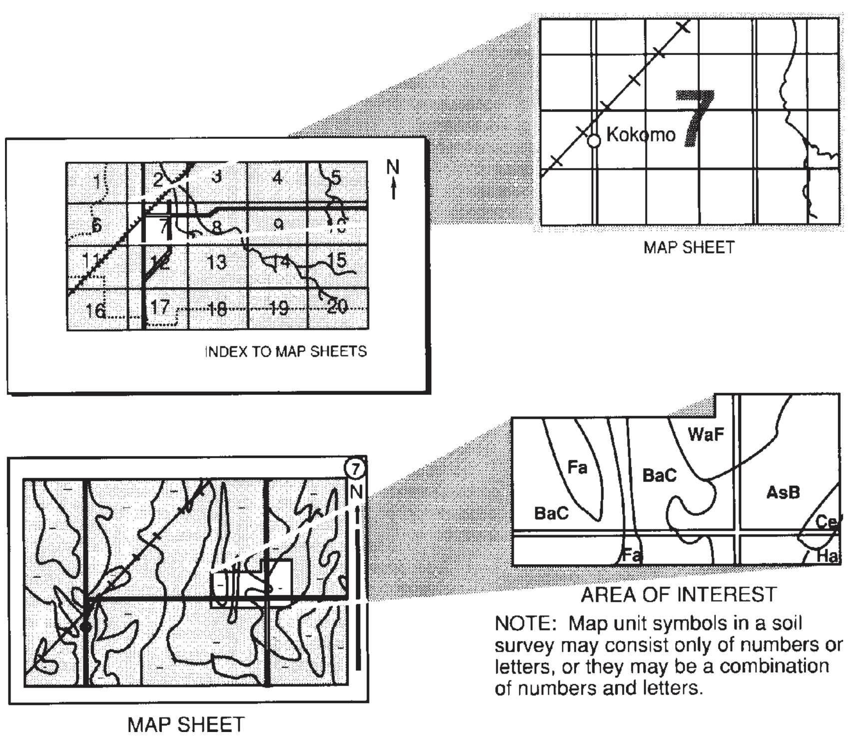
How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided 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.



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

National Cooperative Soil Survey

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 (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the Illinois Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Schuyler County Soil and Water Conservation District. Financial assistance was provided by the Schuyler County Board and the Illinois Department of Agriculture.

Major fieldwork for this survey was completed in 2003. Soil names and descriptions for the update survey were approved in 2003. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2003. The most current information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

Soil maps in this survey may be copied without permission. Original soil survey maps were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. The bar scale on each map sheet indicates the proper map measurements.

Nondiscrimination Statement

Caption for Cover Photo

A pastured area of the steep and very steep Hickory and Marseilles soils.

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

Contents

Issued 2006

Numerical Index to Map Units

Foreword

This soil survey contains information that can be used in land-planning programs in Schuyler County. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, 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 to protect the soil resource base. 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.

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. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

William J. Gradle
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Schuyler County, Illinois

By Robert A. Tegeler, Natural Resources Conservation Service

Original fieldwork by Steven E. Suhl and Gerald V. Berning,
Natural Resources Conservation Service

Updated fieldwork by John W. Ford, James K. Hornickel,
Steven E. Suhl, William M. Teater, and Robert A. Tegeler,
Natural Resources Conservation Service

Geographic information assistance provided by
Dale Baumgartner, Natural Resources Conservation Service

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

SCHUYLER COUNTY is in west-central Illinois (fig. 1). It has an area of 281,920 acres, or about 440 square miles. It is an irregularly shaped county, bounded on the north by McDonough and Fulton Counties, on the south by Brown County and the La Moine River, on the west by Hancock and Adams Counties, and on the southeast by the Illinois River. In 2000, the population of the county was 7,189. Rushville is the county seat. It has a population of 3,212 (U.S. Department of Commerce, 2002).

This soil survey updates the survey of Schuyler County published in 2003 (Suhl and Berning, 2003). It provides more information and has orthophotographic maps at a slightly larger scale.

General Nature of the Survey Area

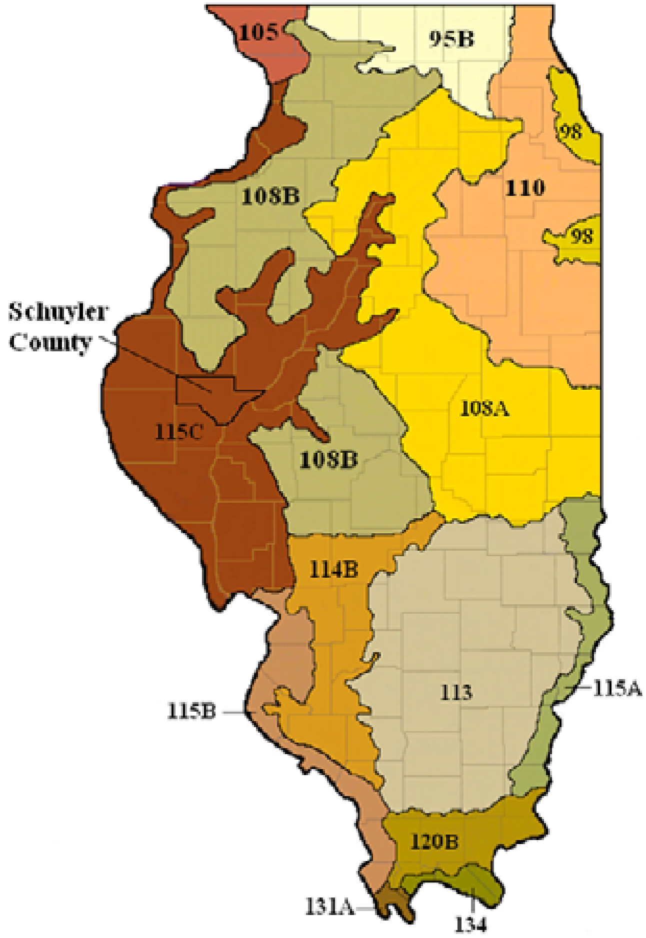
Leland Hardy, district conservationist, Natural Resources Conservation Service, helped prepare this section.

This section provides general information about Schuyler County. It describes history and development; physiography, relief, and drainage; transportation facilities; and climate.

History and Development

The area now known as Schuyler County was originally part of the Indiana Territory. Later, it was included as part of the Illinois Territory, which was established in 1809.

The first settlers arrived in the area in 1823, and within 2 years the area had sufficient population to become a county. Schuyler County was established on January 13, 1825. It was named in honor of Philip Schuyler, a soldier of the French and Indian Wars, a Major General in the American Revolution, a member of the Continental



LEGEND

95B—Southern Wisconsin and Northern Illinois Drift Plain
98—Southern Michigan and Northern Indiana Drift Plain
105—Northern Mississippi Valley Loess Hills
108A and 108B—Illinois and Iowa Deep Loess and Drift
110—Northern Illinois and Indiana Heavy Till Plain
113—Central Claypan Areas
114B—Southern Illinois and Indiana Thin Loess and Till Plain, Western Part
115A, 115B, and 115C—Central Mississippi Valley Wooded Slopes
120B—Kentucky and Indiana Sandstone and Shale Hills and Valleys, Northwestern Part
131A—Southern Mississippi River Alluvium
134—Southern Mississippi Valley Loess

Figure 1.—Location of Schuyler County and major land resource areas (MLRAs) in Illinois.

Congress, and a United States Senator from New York (W.R. Brink and Co., 1882). At this time, the county included the areas now known as Schuyler and Brown Counties. Brown County was later established as a separate county in 1839 (W.R. Brink and Co., 1882). The population of Schuyler County grew rapidly after its founding until 1900, when it peaked at 16,129 (Illinois Cooperative Crop Reporting Service, 1969). The population has steadily decreased since 1900. In 2000, the population was 7,189 (U.S. Department of Commerce, 2002).

Agriculture is the principal land use and industry in the county. Most other industries are related to agriculture. In 1890, the county had 2,162 farms averaging 121 acres in size (Illinois Cooperative Crop Reporting Service, 1969). By 1997, the number of farms had been reduced to 477 and the average size had increased to 438 acres (USDA/NASS, 1997).

Livestock production has always been an important part of the agricultural activity in Schuyler County. The number of animals on farms peaked in 1900, when the county had about 27,260 cattle and 63,300 hogs (Illinois Cooperative Crop Reporting Service, 1969). Livestock numbers have since steadily declined. In 1997, the number of cattle was 13,009 and the number of hogs was 21,778 (USDA/NASS, 1997).

In 1925, a total of 41,951 acres in the county was used for corn or soybeans (Illinois Cooperative Crop Reporting Service, 1969). By 1997, the acreage used for these crops had increased to 111,554 acres (USDA/NASS, 1997). Most of this change resulted from a decrease in the acreage of small grain crops and the conversion of pasture to cropland.

Coal mining began in Schuyler County in 1883. The early mines were either small drift mines or vertical shaft mines. Surface mining started in 1935 (Illinois Department of Energy and Natural Resources, 1987). According to the Schuyler County Field Office of the Natural Resources Conservation Service (NRCS), the county has 2,137 acres of surface-mined land that has not been returned to agricultural production except as pasture or wildlife habitat. About 3,120 acres has been reclaimed to its original productive capacity. The county currently has about 35,925 acres of strippable coal reserves.

Physiography, Relief, and Drainage

The topography of Schuyler County is rugged, by Illinois standards, in all but the north-central part, where slopes level to form a rich fertile plain (fig. 2). Elevation ranges from about 425 feet above sea level on the flood plain along the Illinois River, near the mouth of the La Moine River, to about 750 feet above sea level directly south of the village of Pleasant View.

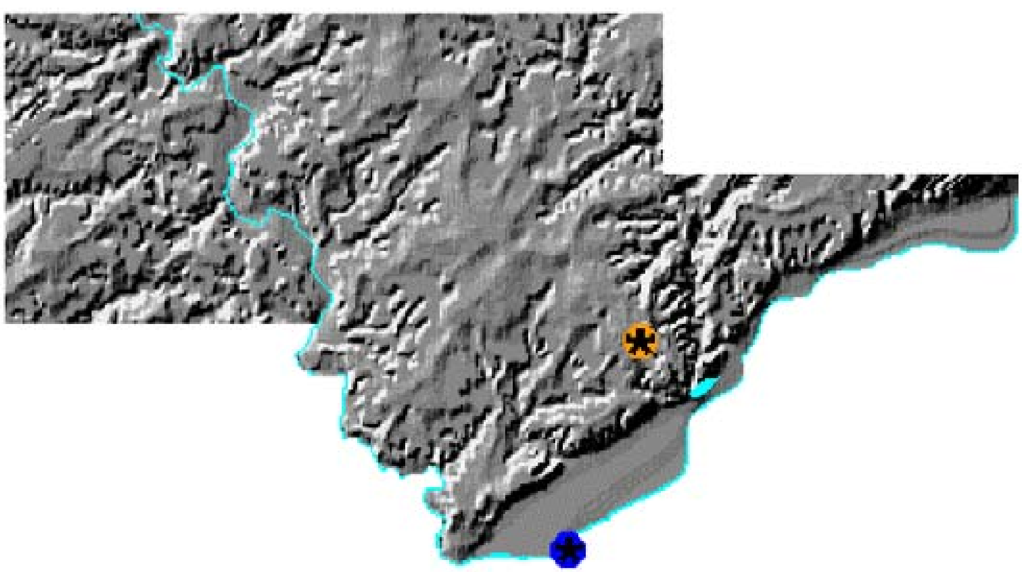


Figure 2.—A generalized relief map of Schuyler County showing the highest (orange dot) and lowest (blue dot) points in the county.

The upland features in Schuyler County are derived from the dissected Illinoian ground moraine, which is covered by various thicknesses of loess. Pennsylvanian and Mississippian bedrock is exposed on some of the steeper slopes. Water-laid deposits of Cahokia Alluvium and the Equality Formation form the valleys in the county.

The area southeast of U.S. Route 24 and northeast of U.S. Route 67 is drained directly into the Illinois River through small tributaries. The rest of the county is drained into the La Moine River which in turn empties into the Illinois River.

Flood control on the flood plain along the Illinois River and land treatment on the cropland in the uplands are provided by the Coal and Crane Creek PL-566 Watershed. This watershed encompasses 29,600 acres of highly erodible land.

The U.S. Army Corps of Engineers has constructed levees along the Illinois River. Private levees have been constructed along part of the La Moine River. Flooding along the La Moine River affects as much as 8,000 acres of cropland. The cost of annual damage approaches $1.5 million, according to the Schuyler County NRCS Field Office.

Transportation Facilities

Two major highways meet in Rushville. These are U.S. Route 67, which crosses the county from north to south, and U.S. Route 24, which crosses the county from southwest to northeast. Illinois Route 103 connects U.S. Route 67 and U.S. Route 24 in the southern part of the county. Illinois Route 100 starts at the junction of Illinois Route 103 and U.S. Route 67 and runs northeast along the Illinois River. Illinois Route 101 runs west from U.S. Route 67 in the northern part of the county. Illinois Route 99 runs in a north-south direction in the western part of the county.

The county has a docking facility for barges on the Illinois River. The Burlington Northern and Santa Fe Railroad runs in a north-south direction along the eastern side of the county.

Climate

Schuyler County has a continental climate of relatively cold winters and warm, humid summers. Although precipitation is heaviest during the warmer half of the year, winter snow cover and frost usually provide adequate moisture to the soil in spring.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Rushville in the period from 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is 27.8 degrees F and the average daily minimum temperature is 19.1 degrees. The lowest temperature on record, which occurred at Rushville on February 13, 1905, is -26 degrees. In summer, the average temperature is 74.0 degrees and the average daily maximum temperature is 84.9 degrees. The highest recorded temperature, which occurred at Rushville on July 15, 1936, is 113 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 39.22 inches. Of this total, 24.1 inches, or 61 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 11.61 inches. The heaviest 1-day rainfall on record was 5.87 inches at Rushville on August 23, 2001.

The average seasonal snowfall is 18.0 inches. The greatest snow depth at any one time during the period of record was 24 inches at Rushville on February 10, 1979. On the average, 21 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

How This Survey Was Made

This survey was made to provide updated information about the soils and miscellaneous areas in the survey area, which is in Major Land Resource Area 115C. Major land resource areas (MLRAs) are geographically associated land resource units that share a common land use, elevation, topography, climate, water, soils, and vegetation (USDA, 2006). Schuyler County is a subset of MLRA 115C (fig. 1). Map unit design is based on the occurrence of each soil throughout the MLRA. In some cases a soil may be referred to that does not occur in the Schuyler County subset but that has been mapped within the MLRA.

The information in this survey includes a description of the soils and miscellaneous areas and their location and a discussion of their properties and the subsequent effects on suitability, limitations, and management for specified uses. During the fieldwork for this survey, 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 prepared new soil profile descriptions and studied many existing soil profile descriptions. A soil profile 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 or segment of the landscape. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientists to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate 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 observed. The maximum depth of observation was about 80 inches (6.7 feet). The soil scientists noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, soil 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.

Interpretations are modified as necessary 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 seasonally high water table within certain depths in most years, but they cannot predict that the seasonally 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.

Aerial photographs used for this update soil survey were taken in April 1998. Soil scientists also studied U.S.Geological Survey topographic maps (enlarged to a scale of 1:12,000) and orthophotographs to relate land and image features. Specific soil boundaries from the soil maps published in 2003 were drawn on the orthophotographs. Adjustments of soil boundary lines were made to coincide with the U.S. Geological Survey topographic map contour lines and tonal patterns on aerial photographs.

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

Formation and Classification of the Soils

This section relates the soils in the survey area to the major factors of soil formation and describes the system of soil classification.

Formation of the Soils

A soil is a three-dimensional natural body consisting of mineral and organic material that can support plant growth. The nature of any soil at a given site is the result of the interaction of the factors of soil formation and their influence on the processes of soil formation.

Factors of Soil Formation

There are five major factors of soil formation—parent material, climate, plants and animals, topography, and time. Climate and plants and animals act directly on parent material, which is modified by topography over time. Theoretically, if all of these factors were identical at different sites, the soils at these sites would be identical. Differences among the soils are caused by variations in one or more of these factors.

Parent Material

Parent material is the unconsolidated geologic material in which the soil forms. It determines the basis for the chemical and mineralogical composition of the soil. The properties of the parent material vary greatly, sometimes within small areas, depending on how the material was deposited. The soils in Schuyler County developed in a variety of parent materials. The majority of the soils formed in loess. Other soils formed in glacial drift, alluvium, eolian deposits, bedrock residuum, overburden from surface mining, or a combination of these. Figure 3 shows the relationship of parent material to some of the major soils in the county.

Eolian deposits are sediments deposited by wind. The primary source of these sediments was valley trains. Valley trains consist of outwash deposited in valleys cut by glacial meltwater. During periods of low temperatures and precipitation rates, the meltwaters would recede, exposing the barren outwash surface to intense wind erosion. The wind stripped the finer components from the outwash, which was transported and deposited downwind along the adjacent valley sides and uplands. Coarser silt and sands were deposited near the source valleys, and the finer silts were carried longer distances and deposited over broad areas. In Schuyler County, eolian sediments were deposited during the Wisconsin Episode and are either loess or windblown sand.

Loess is the major parent material in Schuyler County. It is composed almost entirely of silt. The loess is about 20 feet thick near the Illinois River valley and is thinner toward the west and north. Seaton, Fayette, and Osco soils formed in loess.

Windblown sand is composed primarily of very fine sand and fine sand. It generally is in scattered areas along the bluffs of the Illinois and La Moine Rivers. The soils that formed in windblown sand are of minor extent in Schuyler County. Bloomfield soils are examples.

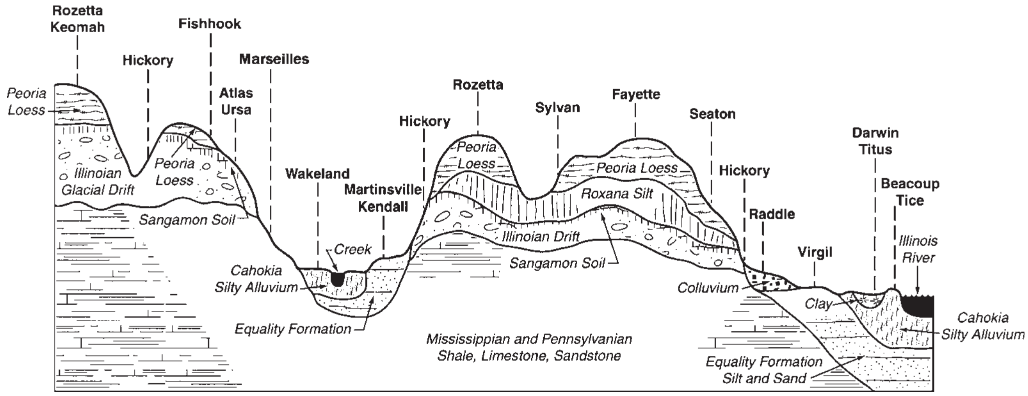


Figure 3.—Typical cross section showing the relationship of parent materials to soils in Schuyler County.

Alluvium is material deposited by running water. There are two major types—stream alluvium and valley-side alluvium. Stream alluvium is soil material deposited by floodwater along streams. The source of the alluvium generally is material eroded from other parent materials farther upstream in the watershed. Stream alluvium is poorly graded, stratified, and well sorted. The texture of the soil material varies, depending on the speed of the floodwater, the duration of the flooding, and the distance from the streambank. The faster moving water within the stream channel slows quickly once outside the channel as the concentrated channel flow changes to broad overland flow. As the water velocity decreases, the coarser textured material is deposited first near the channel. The fine textured material is carried a greater distance from the channel. Blyton soils are examples of soils that formed close to the stream channel, where the alluvium is coarser textured (fig. 4). Beaucoup and Tice soils formed in finer textured alluvium farther from the stream channel. Areas that remain flooded with slowly moving water for extensive periods of time, such as backswamps, provide the environment for fine textured material to settle out. Darwin and Titus soils are examples of soils that formed in these areas.

Valley-side alluvium is poorly graded and stratified, but it generally is not well sorted. The source of the alluvium generally is material eroded from parent material directly upslope. Raddle soils formed in valley-side alluvium (fig. 4).

Glacial drift is sediment deposited by glaciers. There are two main types of glacial drift—till and outwash. Till is material that was deposited directly by glacial ice with little or no water action. It typically has particles that vary in size, including sand, silt, clay, and some pebbles, cobbles, and larger rock fragments. The small pebbles in till generally have distinct edges and corners, indicating that they have not been subject to intense washing by water. Till is well graded and unstratified. In Schuyler County, till was deposited during the Illinois Episode. The soils that formed in till deposits are of moderate extent in Schuyler County. Hickory soils are examples of soils that formed primarily in till, and they commonly have a thin overlying layer of loess.

During the Yarmouth and Sangamon interglacial episodes, which occurred before the Illinois Episode and between the Illinois and Wisconsin Episodes respectively, the relatively flat, stable till surface was exposed to intense weathering. A soil formed in the till surface and was subsequently buried by depositions of loess. In Schuyler County, the loess deposits were thick enough to remove the soil from the influence of the active soil-forming processes. The soils that formed in the till are called paleosols, and they reflect the conditions during which their formation occurred. Two types of paleosols occur in the county—buried and exhumed. A buried paleosol is no longer subject to the soil-forming processes that created it. In some landscape positions,

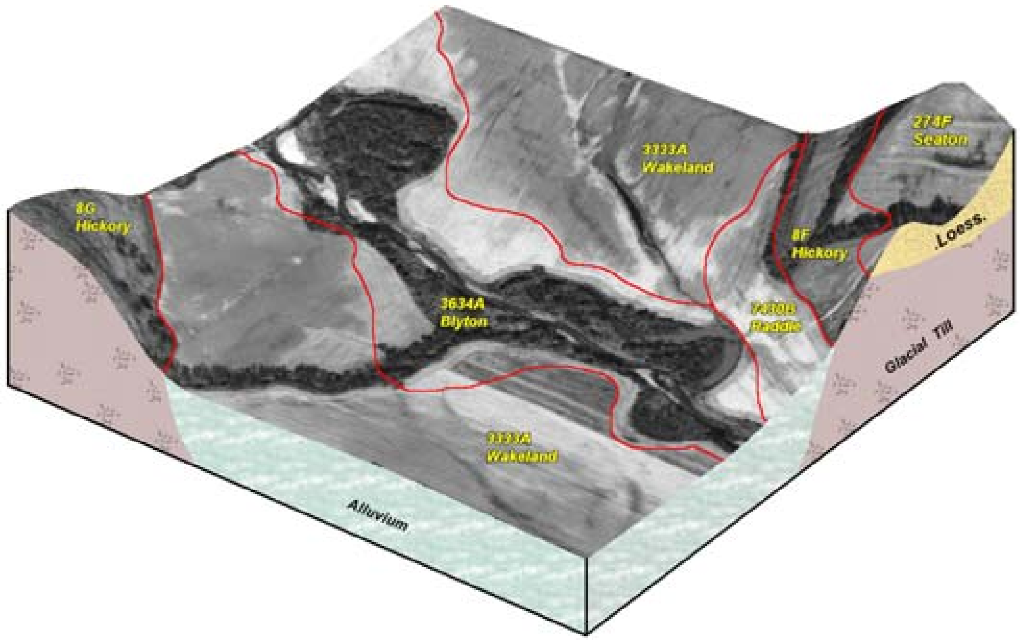


Figure 4.—Typical pattern of soils that formed in alluvium on narrow flood plains.

however, where the loess deposits are thinner, the current processes of soil formation have extended through the loess and into the upper part of the paleosol. The result is a welded soil profile. Fishhook soils are examples of soils that formed in loess and the underlying paleosol. An exhumed paleosol occurs in areas where erosion has removed the overlying loess deposits and exposed the paleosol to the modern soil surface. Ursa soils formed in these areas.

Outwash includes all sediments deposited by running water from melting glaciers. The size of the particles that can be transported by water, either as bedload or suspended sediments, depends on the gradient, volume, and velocity of the moving water. Water velocity decreases when a stream loses grade or flows into a larger body of water. As the velocity decreases, suspended particles begin to settle out. The coarser materials, such as gravel and cobbles, are deposited nearer to the source; the finer materials, such as fine sands, silts, and clays, are carried farther downstream. The pebbles in outwash generally have rounded edges and corners, indicating that they have been subject to intense washing by water. Outwash is poorly graded, is stratified, and has variable composition because of variations in the flow of water. Outwash is generally permeable. The outwash in Schuyler County was deposited during the Wisconsin Episode. The soils that formed in outwash deposits are of minor extent in Schuyler County. Kendall soils are examples of soils that formed in silty material and the underlying outwash.

Bedrock residuum is material weathered in place from shale and/or limestone. It is generally grayish, unconsolidated, and unstratified. Marseilles soils are examples of soils that formed in loess and the underlying material weathered from shale.

Overburden from surface mining is the overlying material excavated to expose the coal seam. It consists of unconsolidated material, which includes the solum and substratum of the modern soil, and consolidated material, which includes shale or sandstone bedrock. The characteristics of the soil in surface-mined areas reflect the overburden character, the method of mining, and the degree of reclamation. For example, the parent material of the Lenzburg soils is a heterogeneous mixture of loess, till, and shale. This mixture is the result of a mining process where little or no segregation of materials occurs. In other areas, the topsoil and the subsoil/substratum are segregated during the mining process and are either stockpiled for later distribution or directly redistributed on the graded rocky overburden. The reclaimed material is the parent material for Rapatee and Swanwick soils.

Climate

The climate in Schuyler County has significantly affected the soil-forming processes. The county currently has a humid, temperate climate. In this climatic environment, physical and chemical weathering of the parent material can occur along with the accumulation of organic matter, the decomposition of minerals, the formation and translocation of clay, the leaching of soluble compounds, and alternating periods of freezing and thawing.

The two climatic factors that have the greatest influence on soil-forming processes are precipitation and temperature. Precipitation supplies the moisture needed for most physical and chemical processes and determines the depth to which these processes occur. The soil moisture regime, which is only a partial function of precipitation, determines the processes that occur in the soil. The rate at which these physical and chemical processes proceed is dependent upon the temperature, particularly its relationship to the soil temperature regime.

Two soil moisture regimes occur in the county—aquic and udic. The aquic moisture regime is a reducing regime in a soil that is virtually free of dissolved oxygen because of saturation by water or by water of the capillary fringe. Biological activity is necessary to remove dissolved oxygen from ground water; therefore, the soil temperature must also be above biologic zero (5 degrees C) for some time while the soil is saturated. Titus soils have an aquic soil moisture regime. The udic moisture regime implies that the soil moisture control section is not dry in any part for as long as 90 cumulative days per year. Also required, except for short periods, is a three-phase system, solid-liquid-gas, in part or all of the soil moisture control section when the soil temperature is above biologic zero. Osco soils have a udic soil moisture regime.

The mesic soil temperature regime is the only temperature regime recognized in the county. This regime implies that the mean annual soil temperature is 8 degrees C or higher but is lower than 15 degrees C, and the difference between mean summer and mean winter soil temperatures is more than 5 degrees C at a depth of 20 inches.

Plants and Animals

The vegetation under which a soil forms influences several important soil properties, such as color, structure, reaction, and content and distribution of organic matter. Vegetation extracts water from the soil, recycles nutrients, and adds organic material to the soil. Gases derived from root respiration combine with water to form acids that influence the weathering of minerals.

Several different types of vegetation have influenced the formation of the soils in Schuyler County. These include prairie vegetation, upland hardwood forests, forest-prairie transition areas, and flood-plain areas. These vegetation types are described in the following paragraphs.

Prairie Vegetation.—The decomposition of the roots of annual prairie grasses provides well distributed subsurface accumulations of organic materials, resulting in a thick, dark surface layer. Osco soils formed under prairie vegetation. The average content of organic matter in the surface layer of these soils is 3 to 4 percent.

Upland Hardwood Forests.—The primary contribution of organic matter is from the annual additions of leaf litter to the surface layer, resulting in a thin, dark surface layer. Fayette soils formed under this type of vegetation. The average content of organic matter in the surface layer of these soils is 1 to 2 percent.

Forest-Prairie Transition Areas.—Soils that formed in these areas exhibit modified characteristics of both forest and prairie vegetative regimes. Clarksdale soils, which formed in these transition areas, have a thinner surface layer than that of the soils that formed under prairie vegetation. The average content of organic matter in the surface layer of the Clarksdale soils is 1 to 3 percent.

Flood-Plain Areas.—Soils in these areas formed under a combination of trees and grasses. They have colors that largely reflect those of the sediments in which they formed. Tice and Wakeland soils are examples.

Bacteria, fungi, and many other micro-organisms decompose organic material and release nutrients to growing plants. They influence the formation of peds. Soil properties, such as drainage, temperature, and reaction, influence the type of micro-organisms that live in the soil. Fungi are generally more active in the more acid soils, and bacteria are more active in the less acid soils.

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

Human activities have significantly influenced soil formation through their effect on soil health. Degradation processes, such as erosion, compaction, contamination, disaggregation, loss of biological activity, and nutrient depletion, have damaged soil health. Native forests have been cleared and wet soils drained for farming and other uses. The development of land for urban uses or for surface mining has significantly influenced the soils in some areas.

Topography

Topography describes the configuration of the land surface in terms of relief and contour. It influences soil formation mainly through its effect on the proportion of surface-water runoff to infiltration and on the degree of erosion or deposition. In Schuyler County, the less sloping areas generally have a lower rate of runoff and a greater infiltration rate than areas on the steeper slopes. Soils that form in the less sloping areas tend to be more developed and have a deeper soil profile as compared to soils that form on the steeper slopes, which are less developed and have a shallower soil profile.

The degree of the effect of topography is dependent upon the type and stability of the land surface. There are two types of land surfaces—aggrading and degrading—and three levels of stability—stable, metastable, and active. In Schuyler County, aggrading surfaces receive material either from deposition associated with flooding or by the accumulation of erosional sediments. Wakeland soils formed on natural levees on flood plains, which are active-aggrading land surfaces. Natural levees receive depositions of sediment from frequent episodes of flooding. Raddle soils formed on footslopes that receive runoff with some accumulation of hillslope sediments. Footslopes are examples of metastable-aggrading land surfaces. Virden soils formed in broad, low-lying areas on drainage divides that receive runoff from upslope but accumulate little sediment from hillslope erosion. These broad, low-lying areas are examples of stable-aggrading land surfaces. Degrading surfaces lose material primarily by the process of erosion. Keomah soils formed on the broad summits of interfluves. Broad summits are examples of stable-degrading surfaces, where runoff is limited. Fayette soils occur on shoulders of hillslopes and thus are more susceptible than the Keomah soils to runoff and erosion. Shoulders are metastable-degrading surfaces, where increased runoff leads to higher rates of erosion. Backslopes are examples of active-degrading surfaces. Seaton soils are on backslopes, where runoff and erosion rates are highest.

Time

The length of time that the parent material has been exposed to the soil-forming processes influences the degree of genetic horizon development that occurs within the soil. The evaluation of time as a factor in soil formation is difficult because of the effects of the other soil-forming factors. The influence of time can be modified by erosion, deposition of material, topography, and kind of parent material. In some of the steeper areas, erosion removes the surface soil material as soon as the soil forms. Soils in these areas are immature even though the slopes have been exposed to weathering for thousands of years. Timula soils are examples. Soils on flood plains receive alluvial material during each flood. This repeated deposition interrupts soil formation. Wakeland soils are examples of soils that formed in stream alluvium.

Processes of Soil Formation

Soil forms through the complex interaction of four general processes. These processes are additions, transformations, removals, and transfers. The importance of these processes in the formation of a given soil varies.

The accumulation of organic matter in the A horizon of the mineral soils in Schuyler County is an example of an addition. The most striking example of this addition is the formation of a mollic epipedon. The mollic epipedon forms in an environment that features optimum amounts of moisture, temperature, and bivalent cations. Such an environment allows grasses to thrive. The underground decomposition of organic residues and of organic residues from the surface that have been taken underground by animals results in the characteristic thickness and darkness of the mollic epipedon. Ipava soils are examples of soils that have a mollic epipedon.

Transformations are changes that take place in the soil. An example is the reduction of iron and manganese. Typically, iron oxides coat soil particles and in an aerated environment produce yellowish, yellowish brown, or reddish colors. Manganese oxides produce black colors. Micro-organisms that are able to generate energy from the oxidation of soil organic matter in this aerated environment flourish. The energy is necessary for the micro-organisms to conduct the basic functions of life. When a soil becomes saturated with water and the dissolved oxygen is depleted or removed, anaerobic conditions develop. In an anaerobic environment, other micro-organisms, which can derive energy from the reduction of oxidized compounds, such as iron and manganese, become prevalent. The energy produced is used to create chemical compounds from organic matter that are necessary to sustain life. The reduced iron and manganese are mobile and migrate in the soil water throughout the soil profile. Reduced iron and manganese can move with the soil water to other parts of the soil (translocation) and can be removed entirely from the soil by leaching (removal). After the iron and manganese are gone, the leached area, or depletion, generally has a grayish or whitish color, which is the natural color of the mineral grain. If the reduced iron comes in contact with oxygen, it can re-oxidize. The result is the formation of bright-colored concentrations or accumulations. The processes of reduction, translocation, and oxidation result in the development of distinctive soil morphological characteristics called redoximorphic features. Repeated cycles of saturation and drying create a mottled soil. Part of the soil is gray because of the loss of iron, and other parts are brown because the iron oxide has accumulated or has not been removed. The somewhat poorly drained Ipava soils are examples of soils in which this process has occurred. If a soil remains saturated for long periods, iron may be leached from the soil. Such soils are generally grayish, or gleyed. The poorly drained Titus soils are examples.

Removals that occur within the soil are commonly a result of leaching. The leaching of calcium carbonate from many of the soils in the county is an example of a removal. The parent material of these soils was initially high in calcium carbonate. Water percolating through the soil dissolved and transported the carbonate into the deeper soil layers. Calcium carbonate is relatively soluble and is removed relatively early in the formation of the soil. It is also a powerful flocculant, and its removal facilitates the translocation of clay and the formation of illuvial horizons. The loss of solid mineral and organic particles through erosion is another example of a removal. Such losses can be serious because the material lost is typically the most productive part of the soil profile.

Translocations are movements from one place to another in the soil. An example is the formation of an illuvial horizon through the translocation of clay from the A or E horizon, the zone of eluviation or loss, to the B horizon, the zone of illuviation or gain. In Fayette soils, for example, significant clay has accumulated, forming an illuvial horizon called an argillic horizon. The argillic horizon developed on a relatively old, stable landscape. Fine clay was transferred from the A or E horizon by water from rain and melting snow downward through the soil to the B horizon, where it was deposited on the faces of peds and along pores.

Soils and Soil-Landscape Units

Soils are natural bodies that are distributed on the landscape in a predictable way in response to a systematic interaction of the five major factors of soil formation; parent material, time, topography, plants and animals, and climate. The relationship of landscape to these five factors results in a soil-landscape unit (Hudson, 1992). A soil-landscape unit is similar to a landform that has been modified by one or more of the soil-forming factors. Within a particular soil-landscape unit, the same kind of soil should develop. Changes in the interaction of one or more of the five factors leads to a change in the soil-landscape unit, influencing the soil-forming processes and the soil that forms within this unit.

The following paragraphs describe the relationships and interactions that occur in some of the more common soil-landscape units in Schuyler County and the soils that have formed in these units.

Upland landscapes predominate in Schuyler County. These landscapes range from broad, relatively undissected drainage divides to dissected areas adjacent to the river bluffs. The parent material is loess. Much of the calcium carbonate present when the loess was deposited has been leached to a sufficient depth to facilitate soil development.

Low-lying areas on the broad drainage divides are stable-aggrading land surfaces that receive water through direct precipitation and runoff from upslope. These conditions result in a wet soil microclimate. A seasonal high water table is near the surface much of the year, and at times the area is ponded. Redoximorphic features associated with prolonged saturated conditions, such as a depleted soil matrix and iron and manganese accumulations along root channels and pores, occur at the soil surface as a result of the seasonal high water table.

The native vegetation in this soil-landscape unit was prairie grass. Additions of organic material from the decomposition of the extensive and deep root systems of these grasses resulted in a thick, dark surface layer called a mollic epipedon.

The saturated conditions and poor aeration influenced the rate of decomposition of organic material. This rate is slower in soils that are saturated for prolonged periods, resulting in a thicker mollic epipedon and a higher content of organic matter than in the soils in better aerated positions upslope.

The depth to the water table, which is shallow in the spring, often fluctuates and is commonly deep during the summer. The fluctuations in the water table disrupt the soil fabric through wetting and drying cycles, which aid in the dispersal of clay, the movement of clay with percolating water, and the precipitation of clay as films on ped surfaces and as linings of pores. The result is the formation of an illuvial horizon called an argillic horizon. Virden soils formed in areas of this soil-landscape unit (fig. 5).

Upslope from the low-lying areas is a soil-landscape unit composed of the summits of broad rises on drainage divides. These areas are stable-degrading land surfaces that receive water primarily through direct precipitation. The seasonal high water table is at a lower depth than in the soils in the adjacent low-lying areas, and the associated redoximorphic features indicate a fluctuating water table. The soil microclimate alternates between periods when the soil is saturated and periods when the soil is unsaturated. The yellowish brown soil matrix in the upper part of the profile indicates an oxidizing environment; the redoximorphic features are associated with periods of saturation.

The native vegetation in areas of this soil-landscape unit was prairie grasses, but these landscape positions are better aerated than the low-lying positions and tend to have a higher rate of decomposition of organic material. As a result, the soils in these areas generally have a slightly thinner mollic epipedon and a lower content of organic matter than the soils in the low-lying areas.

The fluctuating water table disrupts the soil fabric through wetting and drying cycles. An argillic horizon has formed through the dispersal, movement, and precipitation of clay as films on ped surfaces and as linings of pores. Ipava soils formed in areas of this soil-landscape unit (fig. 5).

The soil-landscape unit in the more dissected areas is composed of broad summits of interfluves. It has characteristics similar to those of the unit on the summits of broad rises on drainage divides. These dissected areas are stable-degrading land surfaces

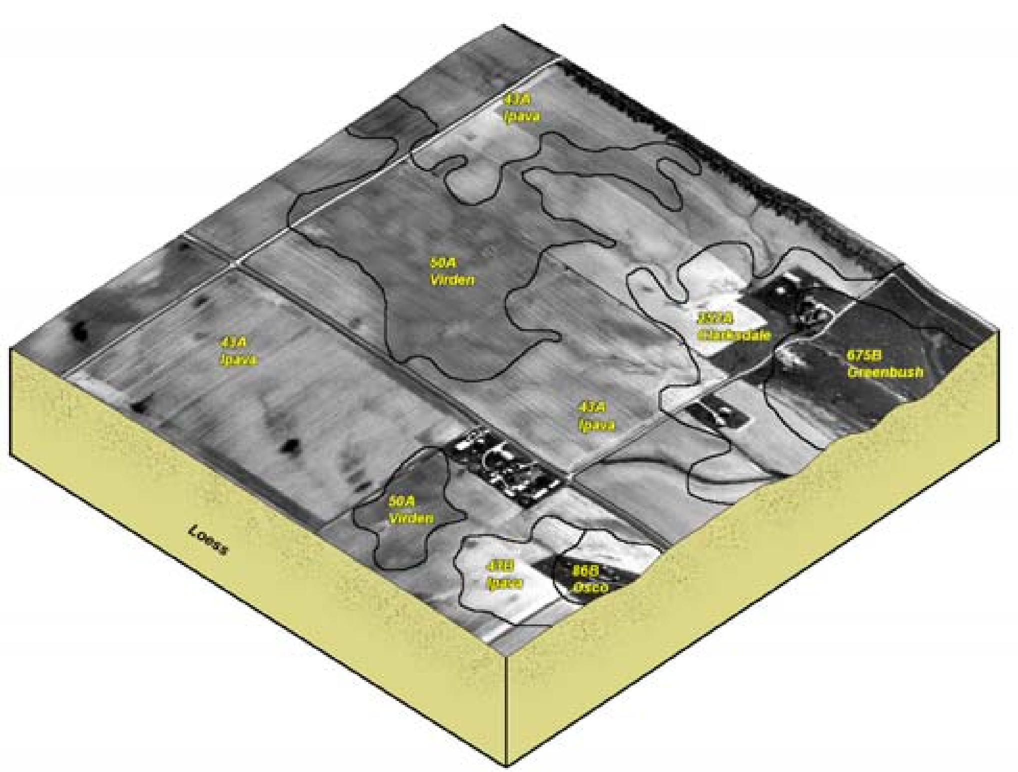


Figure 5.—Typical pattern of upland prairie and transitional forest soils that formed in loess in nearly level to gently sloping areas.

that receive water primarily through direct precipitation. The depth to the seasonal high water table and the associated redoximorphic features are nearly identical to those of the soil-landscape unit on the summits of broad rises.

The native vegetation in this soil-landscape unit is transitional between forest and prairie vegetation. The soils in these areas have a dark surface layer, but they do not have a mollic epipedon because the dark surface layer is not thick enough and does not have a sufficient accumulation of organic matter. This type of surface horizon is called an ochric epipedon.

A light-colored, eluvial subsurface horizon (called an albic horizon) has also developed in the soils in these areas. This horizon is typical of soils that formed under forest vegetation. In this horizon, much of the free iron oxides and the clay has been removed and the color is determined primarily by the uncoated silt and sand particles. The clay translocated from the eluvial horizon to the illuvial horizon results in the formation of an argillic horizon. Clarksdale soils are in areas of this soil-landscape unit (fig. 5).

Adjacent to this soil-landscape unit is a unit that is also composed of summits of interfluves but that is generally closer to the opposing interfluve drainageways and on narrower summits. These areas are stable-degrading land surfaces that receive water through direct precipitation. Water that does not infiltrate the soil is lost through surface flow or runoff. Runoff increases the susceptibility to erosion.

The seasonal high water table and the associated redoximorphic features occur at a much lower depth than in the soils on the broad summits. The upper part of the soil profile is generally yellowish brown and free of depletions, indicating an oxidizing environment. Depletions occurring in the lower part of the subsoil are generally restricted to the pores within the soil.

The native vegetation in areas of this soil-landscape unit is forest. Under forest vegetation, most of the addition of organic material occurs above ground. Organic matter is not incorporated as deep in the soil profile as it is in soils that formed under prairie vegetation, and the content decreases rapidly with increasing depth. Therefore, the dark surface layer in these soils is thinner than that in the Clarksdale soils. An ochric epipedon and an albic horizon have developed.

The more acid leaching environment that occurs under forest vegetation allows dispersed clay particles to be translocated to a greater depth than in similar positions under prairie vegetation. The result is a well developed argillic horizon. Rozetta soils formed in areas of this soil-landscape unit.

In rolling landscapes adjacent to the major rivers in the county is a soil-landscape unit composed of convex summits of narrow interfluves. These areas are metastable-degrading land surfaces that receive water through direct precipitation but also lose some of this water through runoff. Runoff increases the susceptibility to erosion and also creates a drier soil microclimate. The seasonal high water table is below the depth of the developing soil profile. The entire profile is yellowish brown or brown, indicating an oxidizing environment.

The native vegetation in this soil-landscape unit is forest. The soils have an ochric epipedon and argillic horizons. Fayette soils are examples.

Downslope from this soil-landscape unit is a unit composed of backslopes of side slopes. These areas are active-degrading land surfaces that receive water through direct precipitation but also lose much of this water through runoff. The depth to the seasonal high water table is similar to that in the Fayette soils, and thus the soil profile is yellowish brown or brown and is free of depletions.

The native vegetation is forest. The soils in these areas have an ochric epipedon and albic and argillic horizons. Because much of the water is lost to runoff, however, less water infiltrates and percolates through the soil and less is available to aid in the translocation of clay. As a result, the argillic horizon is not as well developed as in the Fayette soils. Seaton soils formed in areas of this soil-landscape unit.

On the narrow flood plains between opposing side slopes is an active-aggrading land surface that receives depositions of sediment from frequent episodes of flooding. The nearly continual deposition of sediment interrupts the soil-forming processes. The result is a less developed soil profile. The soils in these areas have an ochric epipedon, but they also exhibit the fine stratification common to recent alluvial deposits and have no diagnostic subsurface horizons. Blyton soils are examples.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2003). 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 4 shows the classification of the soils in the county. 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 Mollisol.

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 Udoll (*Ud*, meaning humid, plus *oll*, from Mollisol).

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 Argiudolls (*Argi*, meaning white clay, plus *udoll*, the suborder of the Mollisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Argiudolls.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, superactive, mesic Typic Argiudolls.

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 Detailed Soil Map Units

In this section, arranged in alphabetical order, each soil series recognized in the survey area is described. Each series description is followed by descriptions of the associated detailed soil map units.

Characteristics of the soil and the material in which it formed are identified for each soil series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 1998 and 2003). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units 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. More information about each map unit is given under the headings “Use and Management of the Soils” and “Soil Properties.”

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, Fayette silt loam, 5 to 10 percent slopes, eroded, is a phase of the Fayette series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are called undifferentiated groups. An *undifferentiated group* consists 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. Timewell and Ipava soils, 0 to 2 percent slopes, 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, quarries, is an example.

Table 5 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.

Atlas Series

Taxonomic classification: Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs

Typical Pedon

Atlas silt loam, 5 to 10 percent slopes, eroded, at an elevation of 665 feet; Adams County, Illinois; 1,200 feet west and 50 feet south of the northeast corner of sec. 7, T. 1 N., R. 6 W.; USGS Coatsburg, Illinois, topographic quadrangle; lat. 40 degrees 05 minutes 40 seconds N. and long. 91 degrees 07 minutes 52 seconds W., NAD 83:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; common very fine and fine roots; common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout, few fine distinct black (2.5Y 2/1) masses of manganese accumulation throughout, and few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation throughout; slightly acid; clear smooth boundary.

BE—7 to 13 inches; brown (10YR 5/3) silty clay loam, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure; friable; common fine roots; few fine faint light brownish gray (10YR 6/2) clay depletions and few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout; slightly acid; clear wavy boundary.

2Btg1—13 to 26 inches; dark gray (10YR 4/1) silty clay loam; moderate thick platy structure parting to weak fine subangular blocky; firm; common fine and few medium roots; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and few fine prominent white (10YR 8/1) masses of barite throughout; moderately acid; clear wavy boundary.

2Btg2—26 to 37 inches; 87 percent dark gray (10YR 4/1) and 10 percent gray (10YR 5/1) silty clay; weak medium prismatic structure; firm; common fine and medium roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and few fine prominent white (10YR 8/1) masses of barite throughout; 1 percent rounded gravel and 1 percent subangular limestone-cherty gravel; neutral; clear wavy boundary.

2Btg3—37 to 47 inches; gray (2.5Y 5/1) silty clay; weak coarse prismatic structure; firm; common fine roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation throughout and few fine faint gray (10YR 6/1) iron depletions and few fine prominent white (10YR 8/1) masses of barite throughout; 1 percent angular gravel; neutral; clear wavy boundary.

2Btg4—47 to 61 inches; gray (2.5Y 5/1) clay loam; weak coarse prismatic structure; firm; common very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine distinct black (2.5Y 2/1) masses of manganese accumulation and few fine prominent white (10YR 8/1) barite crystals throughout; 1 percent limestone-cherty gravel and 1 percent rounded igneous-granite gravel; neutral; clear wavy boundary.

2BCg—61 to 80 inches; light brownish gray (2.5Y 6/2) clay loam; weak coarse prismatic structure; firm; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and common medium prominent brownish yellow (10YR 6/8) masses of iron accumulation throughout; 2 percent limestone-cherty gravel; neutral.

Range in Characteristics

Thickness of the loess: 0 to 20 inches
Depth to the base of the diagnostic horizon: More than 42 inches

Ap or A horizon:
Hue—10YR
Value—2 to 5
Chroma—1 to 4
Texture—silt loam, loam, silty clay loam, or clay loam

E or BE horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 4
Texture—silt loam or silty clay loam

Bt, Btg, or 2Btg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 3
Texture—clay loam, clay, silty clay loam, or silty clay

2BCg or 2Cg horizon (if it occurs):
Hue—10YR, 7.5YR, 5Y, or N
Value—4 to 6
Chroma—0 to 6
Texture—clay, clay loam, or loam
Content of rock fragments—2 to 15 percent

7D2—Atlas silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Atlas and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have less sand and clay in the upper part of the subsoil

Dissimilar soils:
- The well drained Rozetta soils on summits
- The well drained Hickory soils in the steeper areas downslope from the Atlas soil

Properties and Qualities of the Atlas Soil

Parent material: Paleosol that formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to perched seasonal high water table: 0.5 foot to 2.0 feet
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

7D3—Atlas silty clay loam, 10 to 18 percent slopes, severely eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Atlas and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand and clay in the upper part of the subsoil
- Soils that have less clay in the surface layer

Dissimilar soils:
- The well drained Rozetta soils on summits
- The well drained Hickory soils in the steeper areas downslope from the Atlas soil

Properties and Qualities of the Atlas Soil

Parent material: Paleosol that formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: High
Depth to perched seasonal high water table: 0.5 foot to 2.0 feet
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Very low

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Beaucoup Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Fluvaquentic Endoaquolls

Typical Pedon

Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of 475 feet; Adams County, Illinois; 727 feet south and 2,577 feet west of the northeast corner of sec. 9, T. 1 N., R. 9 W.; USGS Long Island, Illinois, topographic quadrangle; lat. 40 degrees 05 minutes 39 seconds N. and long. 91 degrees 26 minutes 50 seconds W., NAD 83:

Ap—0 to 6 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak fine granular structure; friable; common fine roots; few fine distinct yellowish brown (10YR 5/4) masses of iron accumulation between peds; neutral; gradual smooth boundary.

A—6 to 15 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak fine prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; few fine distinct dark yellowish brown (10YR 3/4) masses of iron and manganese accumulation between peds; neutral; gradual smooth boundary.

Bg1—15 to 24 inches; dark gray (10YR 4/1) silty clay loam; weak fine prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; few fine distinct dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.

Bg2—24 to 35 inches; gray (5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; very few faint dark gray (5Y 4/1) organo-clay films in root channels and pores; common fine prominent dark yellowish brown (10YR 4/4) and few fine prominent dark brown (7.5YR 3/4) masses of iron and manganese accumulation throughout; few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation throughout throughout; neutral; clear smooth boundary.

Bg3—35 to 48 inches; gray (5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; very few faint dark gray (5Y 4/1) organo-clay films in root channels and pores; few fine prominent dark yellowish brown (10YR 4/4) and few fine prominent dark brown (7.5YR 3/4) masses of iron and manganese accumulation throughout; few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation throughout; neutral; clear smooth boundary.

BCg—48 to 60 inches; gray (5Y 5/1), stratified silt loam and silty clay loam; weak medium prismatic structure; friable; very few faint dark gray (5Y 4/1) organo-clay films in root channels and pores; common fine prominent dark yellowish brown (10YR 4/4) and few fine prominent dark brown (7.5YR 3/4) masses of iron and manganese accumulation throughout; few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation throughout; neutral; clear smooth boundary.

Cg1—60 to 70 inches; dark gray (10YR 4/1), stratified silt loam and silty clay loam; massive; friable; common fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation throughout; neutral; clear smooth boundary.

Cg2—70 to 80 inches; dark gray (10YR 4/1), stratified silt loam and silty clay loam; massive; friable; common fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation throughout; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to carbonates (if they occur): More than 40 inches
Depth to the base of the diagnostic horizon: 35 to 65 inches

Ap or A horizon:
Hue—10YR or N
Value—2 or 3
Chroma—0 to 2
Texture—silty clay loam or silt loam

Bg or Btg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silty clay loam

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—stratified silty clay loam, silt loam, loam, sandy loam, fine sandy loam, or very fine sandy loam

3070A—Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Beaucoup and similar soils: 85 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have less clay in the surface layer
- Soils that have more clay in the subsoil

Dissimilar soils:
- The well drained Huntsville soils in the higher positions

Properties and Qualities of the Beaucoup Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 5.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding depth: 0.0 to 0.5 foot
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland status: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

8070A—Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Beaucoup and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have more clay in the surface layer and subsoil
- Soils that have less clay in the surface layer and have a dark surface soil more than 24 inches thick

Properties and Qualities of the Beaucoup Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 5.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding depth: 0.0 to 0.5 foot
Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Bloomfield Series

Taxonomic classification: Sandy, mixed, mesic Lamellic Hapludalfs

Typical Pedon

Bloomfield fine sand, 5 to 10 percent slopes, at an elevation of about 448 feet; Lawrence County, Illinois; 600 feet south and 200 feet west of the northeast corner of sec. 4, T. 3 N., R. 11 W.; USGS Lawrenceville, Illinois, topographic quadrangle; lat. 38 degrees 43 minutes 52 seconds N. and long. 87 degrees 37 minutes 59 seconds W.; NAD 83:

A—0 to 5 inches; dark grayish brown (10YR 4/2) fine sand, light brownish gray (10YR 6/2) dry; weak fine granular structure; very friable; slightly acid; clear smooth boundary.

E1—5 to 24 inches; brown (10YR 4/3) fine sand; single grain; loose; moderately acid; gradual wavy boundary.

E2—24 to 38 inches; yellowish brown (10YR 5/6) fine sand; single grain; loose; moderately acid; clear smooth boundary.

E and Bt1—38 to 58 inches; yellowish brown (10YR 5/4) fine sand (E); single grain; loose; many wavy and discontinuous brown (7.5YR 4/4) lamellae and bands of loamy fine sand (Bt); bands are about 1/8 inch thick in the upper part and 1/8 inch to 6 inches thick in the lower part; weak coarse subangular blocky structure; friable; moderately acid; gradual wavy boundary.

E and Bt2—58 to 80 inches; yellowish brown (10YR 5/4) fine sand (E); single grain; loose; brown (7.5YR 4/4) loamy fine sand (Bt); weak coarse subangular blocky structure; friable; bands are nearly continuous and are 4 to 8 inches thick; moderately acid.

Range in Characteristics

Depth to the base of soil development: 60 to more than 80 inches
Thickness of lamellae and banded layers: Up to 8 inches
Combined thickness of the lamellae above a depth of 60 inches: More than 6 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture—fine sand, loamy fine sand, or sand

E horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—fine sand, loamy fine sand, sand, or loamy sand

E part of the E and Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—fine sand, loamy fine sand, loamy sand, or sand

Bt part of the E and Bt horizon:
Hue—10YR, 7.5YR, or 5YR
Value—3 to 5
Chroma—3 to 6
Texture—loamy fine sand, loamy sand, or fine sand; less commonly sand, fine sandy loam, or sandy loam

C horizon (if it occurs):
Hue—10YR
Value—4 to 7
Chroma—2 to 6
Texture—fine sand, loamy fine sand, or sand

53F—Bloomfield loamy fine sand, 18 to 40 percent slopes

Setting

Landform: Dunes

Map Unit Composition

Bloomfield and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less than 6 inches of loamy fine sand lamellae
- Soils that have less sand throughout
- Soils that do not have lamellae

Dissimilar soils:
- The well drained Fayette soils in the less sloping areas above the Bloomfield soil
- The well drained Raddle soils on the less sloping alluvial fans below the Bloomfield soil

Properties and Qualities of the Bloomfield Soil

Parent material: Eolian sands
Drainage class: Somewhat excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: Low
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Blyton Series

Taxonomic classification: Coarse-silty, mixed, superactive, nonacid, mesic Oxyaquic Udifluvents

Typical Pedon

Blyton silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 515 feet; Fulton County, Illinois; 1,520 feet east and 1,400 feet south of the northwest corner of sec. 3, T. 5 N., R. 3 E.; USGS Lewistown, Illinois, topographic quadrangle; lat. 40 degrees 26 minutes 57 seconds N. and long. 90 degrees 09 minutes 24 seconds W., NAD 83:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine subangular blocky structure; very friable; many very fine roots; neutral; abrupt smooth boundary.

C1—10 to 23 inches; 55 percent brown (10YR 4/3) and 35 percent brown (10YR 5/3) silt loam; massive with thin bedding planes; very friable; many very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores; common fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation throughout; neutral; abrupt smooth boundary.

C2—23 to 26 inches; brown (10YR 4/3) silt loam; massive with thin bedding planes; very friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores; common fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation throughout and common fine faint grayish brown (10YR 5/2) iron depletions along pores; neutral; clear smooth boundary.

C3—26 to 80 inches; brown (10YR 4/3) silt loam; massive with thin bedding planes; very friable; common fine faint dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation throughout and common fine faint grayish brown (10YR 5/2) and light brownish gray (10YR 6/2) iron depletions along pores; neutral.

Range in Characteristics

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

C or Cg horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—silt loam

3634A—Blyton silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains (fig. 4)

Map Unit Composition

Blyton and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the surface layer and in the underlying material
- Soils that have a darker surface layer

Dissimilar soils:
- The somewhat poorly drained Kendall soils in the higher positions
- The poorly drained Birds soils in depressions

Properties and Qualities of the Blyton Soil

Parent material: Silty alluvium
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to apparent seasonal high water table: 2.0 to 3.5 feet
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Clarksdale Series

Taxonomic classification: Fine, smectitic, mesic Udollic Endoaqualfs

Typical Pedon

Clarksdale silt loam, 0 to 2 percent slopes, at an elevation of 650 feet; Adams County, Illinois; 800 feet south and 550 feet east of the northwest corner of sec. 16, T. 2 N., R. 7 W.; USGS Loraine, Illinois, topographic quadrangle; lat. 40 degrees 09 minutes 58 seconds N. and long. 91 degrees 13 minutes 17 seconds W., NAD 83:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; common fine roots throughout; neutral; abrupt smooth boundary.
E—8 to 12 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium platy structure parting to weak very fine subangular blocky; friable; common very fine and fine roots throughout; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds and in pores and many fine distinct light gray (10YR 7/1 and 7/2) clay depletions between peds; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation lining root channels and pores; few fine distinct black (2.5Y 2/1) masses of manganese accumulation throughout; neutral; clear smooth boundary.
BE—12 to 16 inches; grayish brown (10YR 5/2) silt loam; moderate fine subangular blocky structure; friable; few fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores and common fine faint light gray (10YR 7/1) clay depletions between peds; few fine prominent black (2.5Y 2/1) masses of manganese accumulation and common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation throughout; moderately acid; clear smooth boundary.
Bt1—16 to 23 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine and fine roots throughout; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds and many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; common fine prominent black (2.5Y 2/1) masses of manganese accumulation and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout; moderately acid; clear smooth boundary.
Bt2—23 to 31 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots throughout; many distinct grayish brown (10YR 5/2) clay films on faces of peds and many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; many fine distinct yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation and common fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; common fine faint light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; gradual wavy boundary.
Btg1—31 to 47 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate coarse subangular blocky; firm; few fine roots throughout; common distinct grayish brown (10YR 5/2) clay films on faces of peds and many distinct very dark gray (10YR 3/1) organo-clay films on faces of

peds and in pores; many fine and medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; few fine faint light brownish gray (10YR 6/2) iron depletions lining root channels and pores; neutral; gradual wavy boundary.

Btg2—47 to 57 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure; firm; few fine roots throughout; common distinct dark grayish brown (10YR 4/2) clay films in root channels and pores; many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; neutral; clear wavy boundary.

BCg—57 to 67 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse subangular blocky structure; firm; common prominent dark grayish brown (10YR 4/2) clay films in root channels and pores; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and common medium prominent yellowish red (5YR 5/6) masses of iron accumulation throughout; neutral; clear wavy boundary.

Cg—67 to 80 inches; light brownish gray (10YR 6/2) silt loam; massive; friable; few distinct dark grayish brown (10YR 4/2) clay films in root channels and pores; many medium prominent yellowish red (5YR 4/6) and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; neutral.

Range in Characteristics

Depth to carbonates (if they occur): More than 40 inches
Depth to the base of the diagnostic horizon: 40 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

E or BE horizon:
Hue—10YR
Value—4 to 6
Chroma—1 or 2
Texture—silt loam

Bt or Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam, silty clay, or silt loam

C or Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silt loam

257A—Clarksdale silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits

Map Unit Composition

Clarksdale and similar soils: 93 percent
Dissimilar soils: 7 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have a thicker dark surface layer

Dissimilar soils:
- The well drained Fayette and Greenbush soils in the more sloping areas
- The poorly drained Denny and Virden soils in depressions

Properties and Qualities of the Clarksdale Soil

Parent material: Loess (fig. 5)
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 0.5 foot to 2.0 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland status: Prime farmland where drained
Hydric soil status: Not hydric

257B—Clarksdale silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders

Map Unit Composition

Clarksdale and similar soils: 96 percent
Dissimilar soils: 4 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have a thicker dark surface layer

Dissimilar soils:
- The well drained Greenbush soils in positions similar to those of the Clarksdale soil
- The well drained Fayette soils in the more sloping areas

Properties and Qualities of the Clarksdale Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 0.5 foot to 2.0 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

Darwin Series

Taxonomic classification: Fine, smectitic, mesic Fluvaquentic Vertic Endoaquolls

Typical Pedon

Darwin silty clay, 0 to 2 percent slopes, occasionally flooded, at an elevation of 435 feet; Schuyler County, Illinois; 297 feet west and 462 feet north of the center of sec. 11, T. 2 N., R. 2 E.; USGS Astoria topographical quadrangle; lat. 40 degrees 09 minutes 54 seconds N. and long. 90 degrees 15 minutes 01 second W., NAD 83:

Ap—0 to 7 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; moderate fine angular blocky structure; firm; many very fine roots; few fine faint black (2.5Y 2/1) manganese concretions throughout; neutral; abrupt smooth boundary.

A—7 to 12 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; moderate fine angular blocky structure; very firm; many very fine roots; few fine faint black (2.5Y 2/1) manganese concretions throughout; neutral; abrupt smooth boundary.

Bg1—12 to 18 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; weak medium prismatic structure parting to moderate medium angular blocky; very firm; common very fine roots; many medium prominent dark yellowish brown (10YR 4/6) masses of iron accumulation, few medium distinct brown (10YR 4/3) masses of iron and manganese accumulation, and few fine and medium faint black (2.5Y 2/1) manganese concretions throughout; slightly alkaline; clear smooth boundary.

Bg2—18 to 27 inches; dark gray (10YR 4/1) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; very firm; common very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds and lining pores; common medium distinct brown (10YR 4/3) masses of iron and manganese accumulation, few fine prominent dark yellowish brown (10YR

4/6) masses of iron accumulation, and few fine distinct black (2.5Y 2/1) manganese concretions throughout; slightly alkaline; clear smooth boundary.

Bg3—27 to 40 inches; gray (10YR 5/1) silty clay; weak coarse prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds and lining pores; many medium distinct brown (10YR 4/3) masses of iron and manganese accumulation, common fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation, and few fine prominent black (2.5Y 2/1) manganese concretions throughout; slightly alkaline; clear smooth boundary.

Bg4—40 to 45 inches; gray (10YR 5/1) silty clay loam; weak coarse prismatic structure parting to weak medium angular blocky; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds and lining pores; many medium distinct brown (10YR 4/3) masses of iron and manganese accumulation, common fine prominent brownish yellow (10YR 6/8) masses of iron accumulation, and few fine prominent black (2.5Y 2/1) manganese concretions throughout; slightly alkaline; clear smooth boundary.

BCg—45 to 50 inches; gray (10YR 5/1) silty clay loam; weak medium subangular blocky structure; firm; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings lining pores; many medium distinct brown (10YR 4/3) masses of iron and manganese accumulation, common fine prominent brownish yellow (10YR 6/8) masses of iron accumulation, and few fine prominent black (2.5Y 2/1) manganese concretions throughout; slightly alkaline; clear smooth boundary.

Cg1—50 to 56 inches; gray (10YR 5/1) silty clay loam; massive; firm; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings lining pores; many medium distinct brown (10YR 4/3) masses of iron and manganese accumulation, common fine prominent brownish yellow (10YR 6/8) masses of iron accumulation, and few fine prominent black (2.5Y 2/1) manganese concretions; 1 percent fine gravel; slightly alkaline; clear smooth boundary.

Cg2—56 to 60 inches; dark gray (10YR 4/1) silty clay loam; massive; firm; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings lining pores; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and few fine prominent black (2.5Y 2/1) manganese concretions throughout; many medium faint light gray (10YR 6/1) iron depletions throughout; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches

Ap and A horizons:
Hue—10YR, 2.5Y, or N
Value—2 or 3
Chroma—0 to 2
Texture—silty clay

Bg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silty clay or clay; silty clay loam in the lower part in some pedons

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam, silty clay, or clay

1071A—Darwin silty clay, undrained, 0 to 2 percent slopes, commonly flooded

Setting

Landform: Flood plains (on the protected side of levees and in areas that are not protected by levees)

Map Unit Composition

Darwin and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have less clay in the subsoil

Dissimilar soils:
- The poorly drained Beaucoup soils in the slightly higher positions

Properties and Qualities of the Darwin Soil

Parent material: Clayey alluvium
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 5.0 percent
Shrink-swell potential: Very high
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding depth: 0 to 1 foot
Frequency and most likely period of flooding: Frequent, January to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 5w
Prime farmland status: Not prime farmland
Hydric soil status: Hydric

8071A—Darwin silty clay, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Darwin and similar soils: 85 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that have a dark surface soil more than 24 inches thick

Dissimilar soils:
- The somewhat poorly drained Orion soils in the higher areas

Properties and Qualities of the Darwin Soil

Parent material: Clayey alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 5.0 percent
Shrink-swell potential: Very high
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding depth: 0 to 1 foot
Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 3w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Dickinson Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Hapludolls

Typical Pedon

Dickinson sandy loam, 0 to 2 percent slopes, at an elevation of 620 feet; Bureau County, Illinois; 360 feet north and 1,720 feet west of the center of sec. 17, T. 17 N., R. 6 E.; USGS Mineral topographic quadrangle; lat. 41 degrees 27 minutes 37 seconds N. and long. 89 degrees 50 minutes 09 seconds W., NAD 83:

Ap—0 to 8 inches; very dark brown (10YR 2/2) sandy loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure; very friable; few fine roots; moderately acid; abrupt smooth boundary.

A1—8 to 15 inches; very dark brown (10YR 2/2) sandy loam, dark grayish brown (10YR 4/2) dry; weak medium subangular blocky structure; very friable; few fine roots; moderately acid; clear smooth boundary.

A2—15 to 20 inches; very dark grayish brown (10YR 3/2) sandy loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure; very friable; few fine roots; common very dark brown (10YR 2/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bw—20 to 31 inches; brown (10YR 4/3) sandy loam; weak medium prismatic structure parting to weak medium subangular blocky; very friable; few fine roots; many distinct dark brown (10YR 3/3) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bt—31 to 36 inches; yellowish brown (10YR 5/6) loamy sand; weak medium prismatic structure parting to weak medium subangular blocky; very friable; common distinct brown (10YR 4/3) clay films bridging sand grains; slightly acid; clear smooth boundary.

BC—36 to 47 inches; yellowish brown (10YR 5/6) sand; weak coarse prismatic structure; very friable; moderately acid; clear smooth boundary.

C—47 to 60 inches; yellowish brown (10YR 5/6) sand; single grain; loose; strong brown (7.5YR 5/6) bands 1/2 inch to 2 inches thick at depths of 52, 56, and 58 inches; moderately acid.

Range in Characteristics

Thickness of the mollic epipedon: 12 to 24 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—sandy loam or loam

Bw or Bt horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—sandy loam or fine sandy loam

C horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—loamy sand, sand, loamy fine sand, or fine sand

7087B—Dickinson sandy loam, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

Dickinson and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface layer
- Soils that have more clay in the subsoil
- Soils that have less clay in the surface layer and subsoil and have a lighter colored surface layer

Properties and Qualities of the Dickinson Soil

Parent material: Wind-worked loamy alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6 feet
Frequency and most likely period of flooding: Rare, November to June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

Drury Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Dystric Eutrudepts

Typical Pedon

Drury silt loam, 0 to 2 percent slopes, at an elevation of about 465 feet; Monroe County, Illinois; approximately 2,380 feet southeast of the intersection of Bluff Road and railroad crossing and 820 feet northeast of railroad tracks, parcel S. 701, C. 495, T. 3 S., R. 11 W.; USGS Selma, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 13 minutes 52 seconds N. and long. 90 degrees 16 minutes 54 seconds W., NAD 83:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; common very fine and few fine roots; neutral; abrupt smooth boundary.

Bw1—7 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine subangular blocky structure; friable; few very fine and fine roots; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds and lining pores; neutral; clear smooth boundary.

Bw2—12 to 19 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine prismatic structure parting to moderate fine subangular blocky; friable; few very fine and fine roots; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds and lining pores; neutral; gradual smooth boundary.

Bw3—19 to 26 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium prismatic structure parting to moderate fine and medium subangular blocky; friable; few very fine and fine roots; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds and lining pores; neutral; gradual smooth boundary.

Bw4—26 to 36 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine and fine roots; few distinct dark brown (10YR 3/3) organo-clay films on faces of peds and lining pores; neutral; gradual smooth boundary.

Bw5—36 to 43 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; very friable; few very fine roots; few distinct dark brown (10YR 3/3) organo-clay films on faces of peds and lining pores; neutral; gradual smooth boundary.

C1—43 to 70 inches; dark yellowish brown (10YR 4/4) silt loam; massive; very friable; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine rounded prominent black (N 2.5/0) masses of manganese accumulation; neutral; gradual smooth boundary.

C2—70 to 80 inches; dark yellowish brown (10YR 4/4) silt loam; massive; friable; few fine rounded prominent black (N 2.5/0) masses of manganese accumulation; neutral.

Range in Characteristics

Depth to the base of the diagnostic horizon: 26 to 55 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture—silt loam or silt

E horizon (if it occurs):
Hue—10YR
Value—4 or 5 (6 or 7 dry)
Chroma—3 or 4
Texture—silt loam or silt

Bw horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6 in the upper part; 2 to 6 in the lower part
Texture—silt loam

C horizon:
Hue—10YR
Value—3 to 6
Chroma—2 to 4
Texture—silt loam

75C—Drury silt loam, 5 to 10 percent slopes

Setting

Landform: Alluvial fans

Map Unit Composition

Drury and similar soils: 85 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have more clay in the subsoil

Dissimilar soils:
- The moderately well drained Blyton soils on flood plains
- Soils that are subject to rare flooding; at the base of the slope

Properties and Qualities of the Drury Soil

Parent material: Local silty alluvium

Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

7075B—Drury silt loam, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Alluvial fans

Map Unit Composition

Drury and similar soils: 97 percent
Dissimilar soils: 3 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the subsoil
- Soils that have more clay in the subsoil

Dissimilar soils:
- The somewhat poorly drained Kendall soils in the less sloping areas
- The somewhat poorly drained Tice and Wakeland soils in the lower areas
- The moderately well drained Blyton soils in the lower areas

Properties and Qualities of the Drury Soil

Parent material: Local silty alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6 feet
Frequency and most likely period of flooding: Rare, November to June
Potential for frost action: High
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Low

Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

835G—Earthen dam

General Description

- This map unit consists of cut and fill areas designed to retain water.

Map Unit Composition

Earthen dam: 90 percent
Dissimilar components: 10 percent

Components of Minor Extent

Dissimilar components:
- Rock or concrete spillways
- Small areas of natural soils
- Small areas of roads or lanes

Interpretive Groups

Land capability classification: None assigned
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Fayette Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Fayette silt loam, 10 to 18 percent slopes, eroded, at an elevation of 685 feet; Warren County, Illinois; 2,100 feet north and 1,700 feet west of the southeast corner of sec. 31, T. 12 N., R. 3 W.; USGS Rozetta topographic quadrangle; lat. 40 degrees 59 minutes 13 seconds N. and long. 90 degrees 46 minutes 18 seconds W., NAD 83:

Ap—0 to 5 inches; mixed dark grayish brown (10YR 4/2) and yellowish brown (10YR 5/4) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; common fine roots throughout; moderately acid; clear smooth boundary.

EB—5 to 9 inches; mixed brown (10YR 5/3) and yellowish brown (10YR 5/4) silt loam; weak medium platy structure parting to moderate fine subangular blocky; friable; common fine roots between peds; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt1—9 to 13 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots between peds; common distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—13 to 27 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots between peds; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; gradual smooth boundary.

Bt3—27 to 38 inches; yellowish brown (10YR 5/4) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few distinct dark brown (7.5YR 3/2) masses of iron and manganese accumulation on faces of peds; moderately acid; gradual wavy boundary.

BC—38 to 55 inches; yellowish brown (10YR 5/4) silt loam; moderate medium and coarse subangular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few distinct dark brown (7.5YR 3/2) masses of iron and manganese accumulation on faces of peds; moderately acid; clear wavy boundary.

C—55 to 60 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; few distinct dark brown (7.5YR 3/2) iron and manganese concretions in the matrix; moderately acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 36 to 70 inches
Other features: Some pedons have an EB or BE horizon.

Ap or A horizon:
Hue—10YR
Value—2 to 4
Chroma—1 to 3
Texture—silt loam or silty clay loam

E horizon (if it occurs):
Hue—10YR
Value—4 or 5
Chroma—1 to 4
Texture—silt loam

Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silt loam

C horizon:
Hue—10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam

280B—Fayette silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders

Map Unit Composition

Fayette and similar soils: 97 percent
Dissimilar soils: 3 percent

Soils of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of less than 6 feet

Dissimilar soils:
- The somewhat poorly drained Keomah soils in the less sloping areas

Properties and Qualities of the Fayette Soil

Parent material: Loess (fig. 6)
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

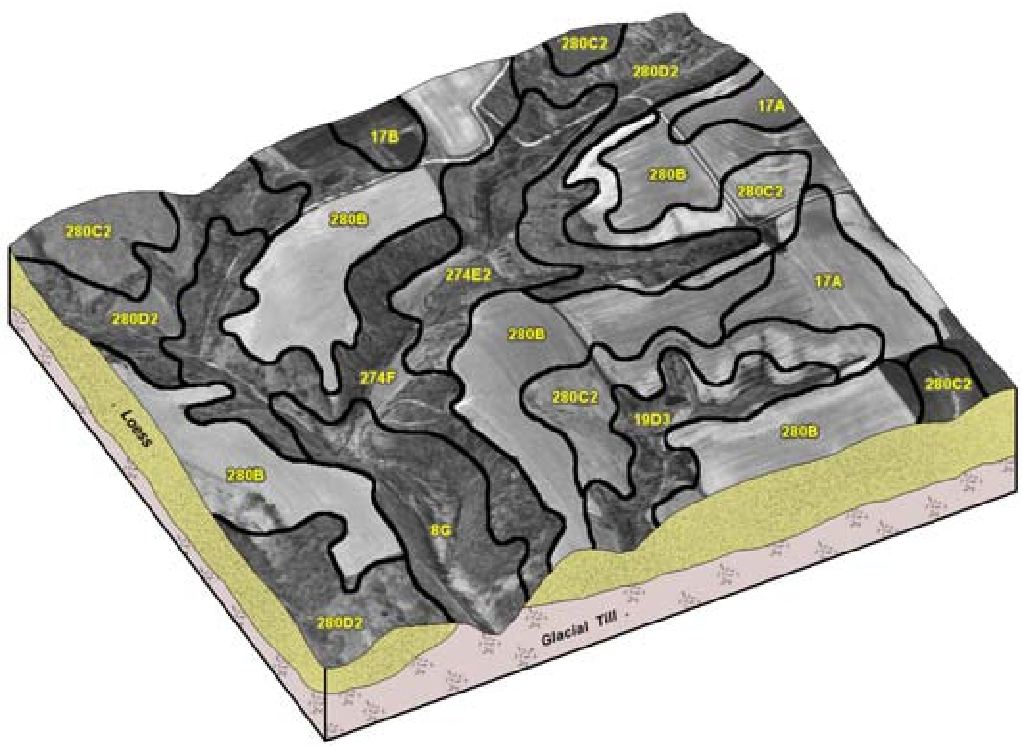


Figure 6.—Typical pattern of upland forest soils that formed in loess or in till in nearly level to very steep areas.

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

280B2—Fayette silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders

Map Unit Composition

Fayette and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have a seasonal high water table at a depth of less than 6 feet

Dissimilar soils:
- The somewhat poorly drained Keomah soils in the less sloping areas

Properties and Qualities of the Fayette Soil

Parent material: Loess (fig. 6)
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

280C2—Fayette silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders

Map Unit Composition

Fayette and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of less than 6 feet

Dissimilar soils:
- The somewhat poorly drained Keomah soils in the less sloping areas

Properties and Qualities of the Fayette Soil

Parent material: Loess (fig. 6)
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

280C3—Fayette silty clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders

Map Unit Composition

Fayette and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay in the surface layer
- Soils that have a seasonal high water table at a depth of less than 6 feet

Dissimilar soils:
- The somewhat poorly drained Keomah soils in the less sloping areas

Properties and Qualities of the Fayette Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0 to 1 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

280D2—Fayette silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Fayette and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have more sand or less clay in the surface layer and subsoil
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have more sand and clay in the surface layer and subsoil

Properties and Qualities of the Fayette Soil

Parent material: Loess (fig. 6)
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None

Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

280D3—Fayette silty clay loam, 10 to 18 percent slopes, severely eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Fayette and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have more sand or less clay in the surface layer and subsoil
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have more sand and clay in the surface layer and subsoil

Properties and Qualities of the Fayette Soil

Parent material: Loess (fig. 6)
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0 to 1 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

280E2—Fayette silt loam, 18 to 25 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Fayette and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have more sand or more sand and clay in the lower part of the subsoil
- Soils that have less clay in the subsoil
- Soils that have slopes of more than 25 percent

Properties and Qualities of the Fayette Soil

Parent material: Loess (fig. 6)
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Fishhook Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

Typical Pedon

Fishhook silt loam, 5 to 10 percent slopes, eroded, at an elevation of 725 feet; Brown County, Illinois; 1,800 feet south and 360 feet east of the northwest corner of sec. 34, T. 1 N., R. 4 W.; USGS Mt. Sterling, Illinois, topographic quadrangle; lat. 40 degrees 01 minute 36 seconds N. and long. 91 degrees 06 minutes 18 seconds W., NAD 83:

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; moderate medium subangular blocky structure; friable; few very fine and fine roots throughout; few fine prominent black (2.5Y 2/1) masses of iron-manganese accumulation throughout; moderately acid; abrupt smooth boundary.

Bt1—6 to 17 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots throughout; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine prominent black (2.5Y 2/1) masses of iron-manganese accumulation throughout; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; clear wavy boundary.

Bt2—17 to 22 inches; yellowish brown (10YR 5/4) silt clay loam; moderate medium subangular blocky structure; friable; few fine roots throughout; few distinct brown (10YR 4/3) clay films lining root channels and pores; common fine prominent black (2.5Y 2/1) masses of iron-manganese accumulation throughout; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; clear wavy boundary.

Bt3—22 to 27 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots throughout; common distinct dark yellowish brown (10YR 4/4) and few distinct brown (10YR 5/3) clay films on faces of peds; few fine prominent black (2.5Y 2/1) masses of iron-manganese accumulation throughout; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine distinct light brownish gray (10YR 6/2) iron depletions along faces of peds; strongly acid; clear wavy boundary.

2Bt4—27 to 35 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine prominent black (2.5Y 2/1) masses of iron-manganese accumulation throughout; few fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; few fine rock fragments; strongly acid; clear wavy boundary.

2Bt5—35 to 46 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few prominent light gray (10YR 7/2) silt coatings on faces of peds; few fine prominent black (2.5Y 2/1) masses of iron-manganese accumulation throughout; few fine distinct irregular light brownish gray (10YR 6/2) iron depletions in the matrix; few very fine and fine rock fragments; moderately acid; clear wavy boundary.

2Bt6—46 to 58 inches; yellowish brown (10YR 5/4) clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine and medium prominent rounded black (2.5Y 2/1) masses of iron-manganese accumulation throughout; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; few fine and medium rock fragments; slightly acid; clear wavy boundary.

2Bt7—58 to 68 inches; brown (10YR 5/3) clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct black (2.5Y 2/1) masses of iron-manganese accumulation throughout; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; few very fine and fine rock fragments; slightly acid; gradual wavy boundary.

2Btg—68 to 82 inches; grayish brown (10YR 5/2) clay; moderate medium prismatic structure parting to moderate fine subangular blocky; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium prominent black (2.5Y 2/1) iron-manganese concretions throughout; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few very fine and fine rock fragments; slightly acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: More than 50 inches
Thickness of the loess: 20 to 40 inches

A or Ap horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—silt loam or silty clay loam

Bt or Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay loam

2Bt or 2Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—2 to 7
Chroma—1 to 4
Texture—clay loam, clay, silty clay, or silty clay loam
Content of rock fragments—1 to 15 percent

2BC, 2BCg, or 2Cg horizon (if it occurs):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—clay loam or loam
Content of rock fragments—1 to 15 percent

6C2—Fishhook silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders

Map Unit Composition

Fishhook and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have less clay in the lower part of the subsoil
- Soils that have more clay in the upper part of the subsoil

Dissimilar soils:
- The well drained Hickory and Ursa soils in the steeper areas downslope from the Fishhook soil
- Sidehill seeps at the loess and paleosol contact

Properties and Qualities of the Fishhook Soil

Parent material: Loess over a paleosol that formed in till (fig. 7)
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to perched seasonal high water table: 1 to 2 feet
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

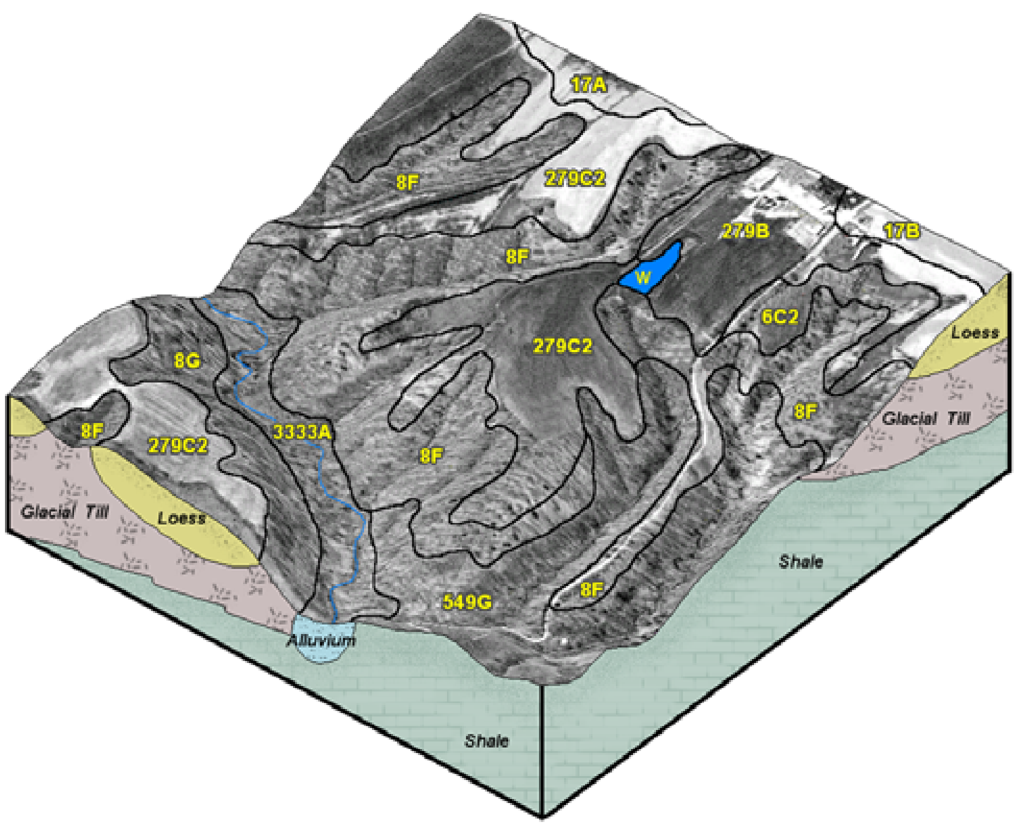


Figure 7.—Typical pattern of upland forest soils that formed in loess, loess over till, till, or shale residuum in nearly level to steep areas.

6C3—Fishhook silty clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders

Map Unit Composition

Fishhook and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have less clay in the lower part of the subsoil

Dissimilar soils:
- The well drained Hickory and Ursa soils in the steeper areas downslope from the Fishhook soil
- Sidehill seeps at the loess and paleosol contact

Properties and Qualities of the Fishhook Soil

Parent material: Loess over a paleosol that formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: High
Depth to perched seasonal high water table: 1 to 2 feet
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Greenbush Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Mollic Hapludalfs

Typical Pedon

Greenbush silt loam, 2 to 5 percent slopes, at an elevation of 700 feet; Warren County, Illinois; 1,500 feet west and 1,500 feet north of the southeast corner of sec. 18, T. 8 N., R. 1 W.; USGS Greenbush topographic quadrangle; lat. 40 degrees 40 minutes 40 seconds N. and long. 90 degrees 32 minutes 47 seconds W., NAD 83:

Ap—0 to 6 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; slightly acid; abrupt smooth boundary.

E—6 to 10 inches; dark grayish brown (10YR 4/2) silt loam; weak thin platy structure; friable; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; moderately acid; abrupt smooth boundary.

BE—10 to 17 inches; brown (10YR 4/3) silt loam; moderate medium platy structure parting to weak fine subangular blocky; friable; few distinct very dark gray (10YR 3/1) organic coatings and common distinct gray (10YR 6/1) silt coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—17 to 29 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; friable; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct gray (10YR 6/1) silt coatings on faces of peds; strongly acid; gradual smooth boundary.

Bt2—29 to 38 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine angular blocky; friable; common faint brown (10YR 4/3) clay films on faces of peds; many faint light gray (10YR 7/2) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; common medium prominent gray (5Y 6/1) iron depletions within peds; common prominent black (7.5YR 2/1) manganese oxide stains; strongly acid; gradual wavy boundary.

Bt3—38 to 53 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine angular blocky; friable; common faint brown (10YR 4/3) clay films on faces of peds; many distinct light gray (10YR 7/2) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; common medium prominent light olive gray (5Y 6/1) iron depletions within peds; common prominent black (7.5YR 2/1) manganese oxide stains; strongly acid; gradual wavy boundary.

BCt—53 to 75 inches; brown (10YR 5/3) and light olive gray (5Y 6/2) silt loam; weak medium and coarse prismatic structure parting to weak fine and medium angular blocky; friable; few faint brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/2) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; common prominent black (7.5YR 2/1) manganese oxide stains; moderately acid; gradual wavy boundary.

C—75 to 100 inches; yellowish brown (10YR 5/4) and light olive gray (5Y 6/2) silt loam; massive; friable; many medium distinct light brownish gray (10YR 6/2) iron depletions; many prominent black (7.5YR 2/1) manganese oxide stains; moderately acid.

Range in Characteristics

Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: 36 to 70 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

E horizon:
Hue—10YR
Value—3 to 5
Chroma—2 or 3
Texture—silt loam

Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam

C horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam

675B—Greenbush silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits

Map Unit Composition

Greenbush and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface layer
- Soils that have a seasonal high water table at a depth of less than 4 feet
- Soils that have a lighter colored surface layer

Dissimilar soils:
- The somewhat poorly drained Keomah soils in the less sloping areas

Properties and Qualities of the Greenbush Soil

Parent material: Loess (fig. 5)
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 4 to 6 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

Hickory Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Hickory silt loam, 35 to 60 percent slopes, at an elevation of 565 feet; Cass County, Illinois; 1,935 feet north and 2,130 feet west of the southeast corner of sec. 27, T. 18 N., R. 9 W.; USGS Ashland, Illinois, topographic quadrangle; lat. 39 degrees 58 minutes 47.5 seconds N. and long. 90 degrees 05 minutes 46 seconds W., NAD 83:

A1—0 to 1 inch; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many very fine roots; slightly acid; abrupt smooth boundary.

A2—1 to 4 inches; 90 percent dark grayish brown (10YR 4/2) and 10 percent brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky and weak fine granular structure; friable; many very fine roots; moderately acid; abrupt smooth boundary.

E—4 to 8 inches; brown (10YR 5/3) loam, light gray (10YR 7/2) dry; moderate thin platy structure; friable; few very fine and fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores; common fine distinct very pale brown (10YR 8/2) clay depletions between peds; 3 percent gravel; strongly acid; abrupt smooth boundary.

BE—8 to 12 inches; yellowish brown (10YR 5/4) loam, light gray (10YR 7/2) dry; moderate very fine and fine subangular blocky structure; friable; few very fine roots; very few distinct brown (10YR 5/3) and very few distinct dark grayish brown (10YR 4/2) organic coatings in root channels and pores; common fine prominent very pale brown (10YR 8/2) clay depletions between peds; 3 percent gravel; strongly acid; clear smooth boundary.

Bt1—12 to 22 inches; yellowish brown (10YR 5/4) clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films and common distinct very pale brown (10YR 7/3) silt coatings on faces of peds; 5 percent gravel; very strongly acid; clear smooth boundary.

Bt2—22 to 29 inches; yellowish brown (10YR 5/4) clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots; many distinct dark yellowish brown (10YR 4/4) clay films and few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; 5 percent gravel; strongly acid; clear smooth boundary.

Bt3—29 to 40 inches; yellowish brown (10YR 5/4) clay loam; moderate medium prismatic and moderate medium subangular blocky structure; firm; few very fine roots; many distinct brown (7.5YR 4/4) clay films and very few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; 5 percent gravel; moderately acid; clear smooth boundary.

Bt4—40 to 53 inches; yellowish brown (10YR 5/6) clay loam; weak medium prismatic and weak medium and coarse subangular blocky structure; firm; few very fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; few prominent fine black (10YR 2/1) masses of manganese accumulation throughout; 5 percent gravel; moderately acid; gradual smooth boundary.

BCt—53 to 58 inches; yellowish brown (10YR 5/6) loam; weak medium prismatic and weak medium and coarse subangular blocky structure; firm; few very fine roots; common distinct brown (7.5YR 4/4) clay films on faces of peds; few fine prominent black (10YR 2/1) masses of manganese accumulation and common distinct brown (10YR 5/3) iron depletions throughout; 5 percent gravel; neutral; gradual smooth boundary.

C—58 to 63 inches; yellowish brown (10YR 5/6) loam; massive; firm; very few distinct brown (7.5YR 4/4) clay films in root channels and/or pores; few prominent fine black (10YR 2/1) masses of manganese accumulation and many fine prominent light brownish gray (2.5Y 6/2) iron depletions throughout; 3 percent gravel; slightly alkaline.

Range in Characteristics

Depth to carbonates (if they occur): More than 40 inches
Depth to the base of the diagnostic horizon: More than 40 inches
Thickness of the loess: Less than 20 inches

Ap or A horizon:
Hue—10YR or 7.5YR
Value—2 to 5
Chroma—2 to 4
Texture—silt loam or loam
Content of rock fragments—0 to 5 percent

E horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silt loam or loam
Content of rock fragments—0 to 5 percent

Bt horizon:
Hue—10YR, 7.5YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, silty clay loam, loam, or gravelly clay loam
Content of rock fragments—0 to 20 percent

C horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—5 to 7
Chroma—1 to 8
Texture—loam, clay loam, or sandy loam or the gravelly analogs of these textures
Content of rock fragments—2 to 20 percent

8F—Hickory silt loam, 18 to 35 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils: 90 percent
Dissimilar components: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less sand in the upper part of the subsoil

Dissimilar components:
- The somewhat poorly drained Atlas soils in the less sloping areas upslope from the Hickory soil
- The well drained Marseilles soils downslope from the Hickory soil
- Rock outcrops at the base of some slopes
- The well drained Ursa soils in the less sloping areas upslope from the Hickory soil

Properties and Qualities of the Hickory Soil

Parent material: Loamy till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

8G—Hickory silt loam, 35 to 60 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils: 91 percent
Dissimilar components: 9 percent

Soils of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less sand in the upper part of the subsoil

Dissimilar components:
- The well drained Ursa soils in the less sloping areas upslope from the Hickory soil
- The well drained Marseilles soils downslope from the Hickory soil
- Rock outcrops at the base of some slopes

Properties and Qualities of the Hickory Soil

Parent material: Loamy till (fig. 7)
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Huntsville Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Cumulic Hapludolls

Typical Pedon

Huntsville silt loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of 667 feet; Knox County, Illinois; 2,475 feet east and 495 feet south of the northwest corner of sec. 1, T. 12 N., R. 4 E.; USGS La Fayette topographic quadrangle; lat. 41 degrees 03 minutes 37 seconds N. and long. 89 degrees 59 minutes 42 seconds W., NAD 83:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; friable; slightly acid; clear smooth boundary.
A1—10 to 16 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.
A2—16 to 27 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine granular structure; friable; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.
AC—27 to 52 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure; friable; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.
C—52 to 60 inches; dark brown (10YR 3/3) silt loam; massive; friable; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 57 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

AC horizon:
Hue—10YR
Value—4 or 5

Chroma—3 or 4
Texture—silt loam or loam below a depth of 40 inches

C horizon:
Hue—10YR
Value—3 to 5
Chroma—3 or 4
Texture—silt loam with loam or strata of very fine sandy loam to fine sand below a depth of 40 inches in some pedons

3077A—Huntsville silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Huntsville and similar soils: 91 percent
Dissimilar soils: 9 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface soil
- Soils that have a seasonal high water table at a depth of more than 6 feet

Dissimilar soils:
- The poorly drained Beaucoup soils in depressions

Properties and Qualities of the Huntsville Soil

Parent material: Alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 4 to 6 feet
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Ipava Series

Taxonomic classification: Fine, smectitic, mesic Aquic Argiudolls

Typical Pedon

Ipava silt loam, 0 to 2 percent slopes, at an elevation of 804 feet; Knox County, Illinois; 2,046 feet west and 594 feet north of the southeast corner of sec. 25, T. 13 N., R. 2 E.; USGS Oneida topographic quadrangle; lat. 41 degrees 04 minutes 48 seconds N. and long. 90 degrees 13 minutes 03 seconds W., NAD 83:

Ap—0 to 10 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and medium subangular blocky structure; friable; moderately acid; abrupt smooth boundary.

A—10 to 18 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; friable; common distinct black (10YR 2/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.

BA—18 to 24 inches; brown (10YR 4/3) silty clay loam; moderate fine and medium subangular blocky structure; friable; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

Btg1—24 to 31 inches; dark grayish brown (10YR 4/2) silty clay; moderate fine prismatic structure parting to moderate fine subangular blocky; friable; common distinct dark gray (10YR 4/1) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly acid; clear smooth boundary.

Btg2—31 to 37 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; common distinct dark gray (10YR 4/1) clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine prominent black (7.5YR 2.5/1) very weakly cemented manganese concretions throughout; few fine prominent black (7.5YR 2.5/1) manganese stains on faces of peds; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly alkaline; gradual smooth boundary.

BCg—37 to 50 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; few distinct very dark grayish brown (10YR 3/2) organo-clay films as linings in pores and on a few vertical faces of peds; common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine prominent black (7.5YR 2.5/1) very weakly cemented manganese concretions throughout; common fine prominent black (7.5YR 2.5/1) manganese stains on faces of peds; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly alkaline; clear smooth boundary.

Cg—50 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; few faint very dark grayish brown (10YR 3/2) organo-clay films as linings in pores; common fine prominent yellowish brown (10YR 5/8) massses of iron accumulation in the matrix; few fine prominent black (7.5YR 2.5/1) very weakly cemented manganese concretions throughout; few fine prominent black (7.5YR 2.5/1) manganese stains on faces of vertical cracks; moderately alkaline.

Range in Characteristics

Depth to carbonates: More than 40 inches

Depth to the base of the diagnostic horizon: 35 to 55 inches
Thickness of the mollic epipedon: 10 to 24 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam or silty clay loam

Bt or Btg horizon:
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—2 to 4
Texture—silty clay loam, silty clay, or silt loam

Cg or C horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 to 4
Texture—silt loam

43A—Ipava silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits

Map Unit Composition

Ipava and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface layer
- Soils in which the subsurface layer has less clay and is lighter in color

Dissimilar soils:
- The poorly drained Denny and Virden soils in depressions

Properties and Qualities of the Ipava Soil

Parent material: Loess (fig. 5)
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 5.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 1 to 2 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

43B—Ipava silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits

Map Unit Composition

Ipava and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface layer
- Soils that have less clay in the upper part of the subsoil and more sand in the lower part of the subsoil

Properties and Qualities of the Ipava Soil

Parent material: Loess (fig. 5)
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 5.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 1 to 2 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

855A—Timewell and Ipava soils, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits

Map Unit Composition

Timewell and/or Ipava and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface layer

Dissimilar soils:
- The poorly drained Denny and Virden soils in depressions

Properties and Qualities of the Timewell Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 4.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 1 to 2 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Ipava Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 5.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 1 to 2 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Timewell—1; Ipava—1
Prime farmland status: Prime farmland
Hydric soil status: Timewell—not hydric; Ipava—not hydric

855B—Timewell and Ipava soils, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders

Map Unit Composition

Timewell and/or Ipava and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface layer
- Soils that have less clay in the upper part of the subsoil and more sand in the lower part of the subsoil

Properties and Qualities of the Timewell Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 4.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 1 to 2 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Ipava Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 5.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 1 to 2 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Timewell—2e; Ipava—2e
Prime farmland status: Prime farmland
Hydric soil status: Timewell—not hydric; Ipava—not hydric

Keller Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Taxadjunct features: The Keller soils in this survey area have a thinner dark surface

layer than is defined as the range for the series. These soils are classified as fine-silty, mixed, superactive, mesic Aquollic Hapludalfs.

Typical Pedon

Keller silt loam, 5 to 10 percent slopes, at an elevation of 736 feet; Brown County, Illinois; 2,460 feet north and 980 feet east of the southwest corner of sec. 9, T. 1 S., R. 4 W.; USGS Mt. Sterling, Illinois, topographic quadrangle; lat. 39 degrees 59 minutes 41 seconds N. and long. 90 degrees 52 minutes 13 seconds W., NAD 83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; common fine roots throughout; slightly acid; clear smooth boundary.

A—8 to 15 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; common fine roots throughout; moderately acid; clear smooth boundary.

BA—15 to 19 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure parting to weak fine granular; friable; common fine roots throughout; common fine continuous tubular pores; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine faint brown (10YR 5/3) masses of iron accumulation throughout; slightly acid; clear smooth boundary.

Btg1—19 to 24 inches; dark grayish brown (10YR 4/2) silty clay loam; weak fine subangular blocky structure; friable; common fine roots throughout; common fine continuous tubular pores; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine faint brown (10YR 5/3) masses of iron accumulation and common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation throughout; moderately acid; clear smooth boundary.

2Btg2—24 to 33 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak medium subangular blocky structure; firm; few fine roots throughout; few fine continuous tubular pores; many distinct dark gray (10YR 4/1) clay films on faces of peds; many fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine and medium faint black (2.5Y 2/1) masses of manganese accumulation throughout; moderately acid; clear smooth boundary.

2Btg3—33 to 51 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate fine prismatic structure; firm; few fine roots in cracks; few fine constricted tubular pores; many distinct dark gray (10YR 4/1) clay films on faces of peds; many fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation throughout, common fine faint black (2.5Y 2/1) manganese concretions throughout, and common fine prominent white (10YR 8/1) masses of barite throughout; slightly acid; clear smooth boundary.

2Btg4—51 to 61 inches; gray (10YR 5/1) silty clay loam; weak coarse prismatic structure; firm; few fine roots in cracks; few fine constricted tubular pores; common distinct dark gray (10YR 4/1) clay films on faces of peds and in pores; many fine prominent light olive brown (2.5Y 5/4) masses of iron accumulation throughout, common fine distinct white (10YR 8/1) masses of barite throughout, and common fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; moderately acid; clear smooth boundary.

2BCg—61 to 80 inches; gray (10YR 5/1) silty clay loam; very weak coarse prismatic structure; firm; common fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation and common fine distinct white (10YR 8/1) masses of barite throughout; slightly acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 50 to 70 inches

Thickness of the loess: 20 to 40 inches
Thickness of the mollic epipedon: 10 to 19 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

BA horizon (if it occurs):
Hue—10YR
Value—3 or 4
Chroma—1 to 3
Texture—silt loam or silty clay loam

Bt or Btg horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam

2Btg or 2Bt horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 3
Texture—silty clay loam, clay loam, clay, or silty clay

470C2—Keller silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders

Map Unit Composition

Keller and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer

Dissimilar soils:
- The somewhat poorly drained Ipava and Timewell soils in the less sloping areas

Properties and Qualities of the Keller Soil

Parent material: Loess over a paleosol that formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 4.0 percent
Shrink-swell potential: High
Depth to perched seasonal high water table: 1 to 2 feet
Flooding: None

Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Kendall Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs

Typical Pedon

Kendall silt loam, 0 to 2 percent slopes, at an elevation of about 650 feet; Douglas County, Illinois; about 1,160 feet north and 400 feet west of the center of sec. 36, T. 15 N., R. 10 E.; USGS Oakland topographic quadrangle; lat. 39 degrees 42 minutes 24 seconds N. and long. 88 degrees 02 minutes 17 seconds W., NAD 83:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light grayish brown (10YR 6/2) dry; weak medium granular structure; friable; many very fine and fine roots; few fine and medium distinct black (7.5YR 2.5/1) manganese nodules throughout; neutral; abrupt smooth boundary.

E—7 to 11 inches; grayish brown (10YR 5/2) silt loam; moderate fine and medium granular structure; friable; many very fine and fine roots; common fine and medium distinct black (7.5YR 2.5/1) manganese nodules throughout; slightly acid; clear smooth boundary.

BE—11 to 14 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; many very fine and fine roots; common fine and medium distinct black (7.5YR 2.5/1) manganese nodules throughout; slightly acid; clear smooth boundary.

Btg1—14 to 25 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium prismatic structure parting to moderate fine and medium subangular blocky; firm; few very fine and fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; few medium distinct black (7.5YR 2.5/1) manganese nodules throughout; common fine faint brown (10YR 5/3) masses of iron and manganese accumulation in the matrix; strongly acid; clear smooth boundary.

Btg2—25 to 41 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium and coarse subangular blocky; firm; few very fine and fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few medium distinct black (7.5YR 2.5/1) manganese nodules throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Btg3—41 to 51 inches; 55 percent yellowish brown (10YR 5/6) and 45 percent gray (5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; few very fine and fine roots; common distinct gray (10YR 5/1) clay films on faces of peds; few medium prominent black (7.5YR 2.5/1) manganese nodules throughout; slightly acid; clear smooth boundary.

2Btg4—51 to 58 inches; 40 percent strong brown (7.5YR 5/6), 30 percent yellowish brown (10YR 5/6), and 30 percent gray (5Y 5/1) loam; weak coarse subangular blocky structure; friable; few distinct dark gray (10YR 4/1) clay films on faces of peds; common fine and medium prominent black (7.5YR 2.5/1) manganese nodules throughout; about 5 percent fine gravel; neutral; clear smooth boundary.

2Cg1—58 to 74 inches; 45 percent yellowish brown (10YR 5/6), 45 percent gray (5Y 5/1), and 10 percent strong brown (7.5YR 5/6), stratified loam, sandy loam, and silt loam; massive; friable; about 5 percent fine gravel; slightly alkaline; abrupt smooth boundary.

2Cg2—74 to 80 inches; 60 percent grayish brown (10YR 5/2), 30 percent gray (10YR 5/1), and 10 percent yellowish brown (10YR 5/6), stratified gravelly loam, gravelly sandy loam, and silt loam; massive; friable; slightly effervescent; slightly alkaline.

Range in Characteristics

Depth to carbonates: 40 inches or more
Depth to the base of the diagnostic horizon: 40 to more than 60 inches
Thickness of the loess or other silty material: 40 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 to 5; 2 or 3 in A horizons that are less than 7 inches thick
Chroma—1 to 3
Texture—silt loam

E or Eg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—2 or 3
Texture—silt loam

BE horizon (if it occurs):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or silty clay loam

Btg or Bt horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—silty clay loam

2Btg, 2Bt, 2BCg, or 2BC horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—loam, clay loam, silt loam, or sandy loam

2Cg or 2C horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—stratified silt loam, loam, sandy loam, clay loam, silty clay loam, or sandy clay loam or the gravelly analogs of these textures

242A—Kendall silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Kendall and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the subsoil
- Soils that have a darker surface layer

Dissimilar soils:
- The well drained Martinsville and St. Charles soils in the more sloping areas
- The somewhat poorly drained Wakeland soils on flood plains
- The moderately well drained Blyton soils on flood plains

Properties and Qualities of the Kendall Soil

Parent material: Loess over outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 0.5 foot to 2.0 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Not hydric

7242A—Kendall silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

Kendall and similar soils: 88 percent
Dissimilar soils: 12 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the subsoil
- Soils that have a dark surface layer

Dissimilar soils:
- The well drained Drury and Martinsville soils in the more sloping areas
- The somewhat poorly drained Wakeland soils in the lower positions
- The moderately well drained Wilbur soils in the lower positions

Properties and Qualities of the Kendall Soil

Parent material: Loess or other silty material over outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 0.5 foot to 2.0 feet
Frequency and most likely period of flooding: Rare, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Not hydric

Keomah Series

Taxonomic classification: Fine, smectitic, mesic Aeric Endoaqualfs

Typical Pedon

Keomah silt loam, 0 to 2 percent slopes, at an elevation of 655 feet; Adams County, Illinois; 2,495 feet south and 300 feet west of the northeast corner of sec. 4, T. 2 N., R. 7 W.; USGS Loraine topographic quadrangle; lat. 40 degrees 11 minutes 24 seconds N. and long. 91 degrees 12 minutes 14 seconds W., NAD 83:

Ap1—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak fine subangular blocky; friable; many very fine and fine roots; moderately acid; abrupt smooth boundary.

Ap2—6 to 11 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium platy structure parting to weak very fine subangular blocky; friable; common very fine and fine roots; few fine distinct brown (7.5YR 4/4) masses of iron and manganese accumulation throughout; moderately acid; abrupt smooth boundary.

E—11 to 18 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak medium platy structure parting to weak very fine subangular blocky; friable; common fine roots; few distinct dark grayish brown (10YR 4/2) coatings on faces of peds and in pores; few distinct light gray (10YR 7/2) clay depletions throughout;

few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; slightly acid; clear smooth boundary.

Bt1—18 to 25 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; firm; common fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; many fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout, common fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout, and few fine faint grayish brown (10YR 5/2) iron depletions throughout; strongly acid; clear smooth boundary.

Bt2—25 to 33 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent black (2.5Y 2/1) masses of manganese accumulation and many fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; strongly acid; clear smooth boundary.

Bt3—33 to 44 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; many fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout, common fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout, and common fine faint light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; clear smooth boundary.

Btg—44 to 51 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse prismatic structure; firm; few fine roots; few distinct dark grayish brown (10YR 4/2) clay films in root channels and/or pores; few fine prominent black (2.5Y 2/1) masses of manganese accumulation and many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; moderately acid; clear smooth boundary.

BCg1—51 to 63 inches; light brownish gray (10YR 6/2) silt loam; weak coarse prismatic structure; friable; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels and/or pores; many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; slightly acid; clear smooth boundary.

BCg2—63 to 76 inches; light brownish gray (10YR 6/2) silt loam; weak coarse prismatic structure; friable; common distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels and/or pores; few fine prominent black (2.5Y 2/1) masses of manganese accumulation and many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; slightly acid; clear smooth boundary.

C—76 to 89 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; few medium distinct strong brown (7.5YR 5/6) masses of iron accumulation throughout, few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout, and common medium distinct light brownish gray (10YR 6/2) iron depletions throughout; slightly acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to 76 inches

Ap or A horizon:

Hue—10YR
Value—3 or 4 (3 in horizons less than 3 inches thick)
Chroma—1 or 2
Texture—silt loam

E horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 3
Texture—silt loam

Bt horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam or silty clay

C horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam or silt loam

17A—Keomah silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits

Map Unit Composition

Keomah and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have less clay in the subsoil

Dissimilar soils:
- The well drained Fayette and Rozetta soils in the more sloping areas
- The poorly drained Rushville soils in depressions

Properties and Qualities of the Keomah Soil

Parent material: Loess (fig. 6)
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 0.5 foot to 2.0 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Not hydric

17B—Keomah silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and head slopes

Map Unit Composition

Keomah and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have less clay in the subsoil

Dissimilar soils:
- The well drained Fayette and Rozetta soils on the summits above the Keomah soil

Properties and Qualities of the Keomah Soil

Parent material: Loess (fig. 6)
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 0.5 foot to 2.0 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

Lenzburg Series

Taxonomic classification: Fine-loamy, mixed, active, calcareous, mesic Haplic Udarents
Taxadjunct features: The Lenzburg soils in this survey area are more acid in the upper part of the profile than is defined as the range for the series. These soils are classified as fine-loamy, mixed, active, nonacid, mesic Haplic Udarents.

Typical Pedon

Lenzburg silty clay loam, 20 to 60 percent slopes, at an elevation of 680 feet; Schuyler County, Illinois; 50 feet south and 1,420 feet west of the northeast corner of sec. 36, T. 2 N., R. 1 W.; USGS Beardstown, Illinois, topographic quadrangle; lat. 40 degrees 06 minutes 57 seconds N. and lat. 90 degrees 27 minutes 30 seconds W., NAD 83:

A—0 to 5 inches; very dark grayish brown (2.5Y 3/2) silty clay loam, gray (10YR 5/1) dry; weak fine subangular blocky structure; very firm; many very fine and fine roots throughout; few fine distinct black (10YR 2/1) manganese concretions throughout; 12 percent coal fragments; slightly alkaline; abrupt smooth boundary.

C1—5 to 16 inches; brown (10YR 4/3) silty clay loam, dark yellowish brown (10YR 4/4) dry; massive; firm; many very fine and fine roots throughout; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation and few fine distinct grayish brown (10YR 5/2) clay depletions between peds; 20 percent coal fragments occurring as a stratum 1 inch thick; neutral; clear smooth boundary.

C2—16 to 23 inches; 48 percent brown (10YR 4/3) and 30 percent grayish brown (10YR 5/2) clay loam; massive with pockets of structured B material; firm; common very fine and fine roots throughout; many medium dark faint yellowish brown (10YR 4/4) masses of iron accumulation and few fine faint brown (10YR 4/3) iron and manganese concretions between peds; neutral; clear smooth boundary.

C3—23 to 27 inches; gray (10YR 5/1) silty clay loam; massive; firm; common very fine and fine roots in cracks; common medium distinct brown (10YR 4/3) masses of iron accumulation between peds, common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation between peds, and few fine faint grayish brown (10YR 5/2) iron depletions between peds; 2 percent fine gravel; slightly alkaline; clear smooth boundary.

C4—27 to 38 inches; yellowish brown (10YR 5/4) clay loam; massive; friable; common very fine roots in cracks; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation between peds; 3 percent fine gravel and 8 percent coal fragments; slightly alkaline; clear smooth boundary.

C5—38 to 60 inches; yellowish brown (10YR 5/4) clay loam; massive; very friable; common very fine roots in cracks; common medium distinct gray (10YR 5/1) iron depletions between peds and common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout; 4 percent fine gravel and 5 percent coal fragments; slightly alkaline.

Range in Characteristics

Depth to paralithic or lithic contact: More than 60 inches

Ap or A horizon:
Hue—10YR, 2.5Y, or 5Y
Value—2 to 5
Chroma—1 to 6
Texture—silt loam, silty clay loam, clay loam, or loam
Content of rock fragments—10 to 25 percent

C horizon:
Hue—7.5YR or 10YR
Value—2 to 6
Chroma—1 to 4
Texture—silty clay loam, silt loam, loam, silty clay, or clay loam
Content of rock fragments—0 to 25 percent

871G—Lenzburg silty clay loam, 20 to 60 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Backslopes on spoil banks (fig. 8)

Map Unit Composition

Lenzburg and similar soils: 90 percent
Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have fewer rock fragments

Dissimilar components:
- Soils that have pockets of extremely acid material
- Areas of water between ridges

Properties and Qualities of the Lenzburg Soil

Parent material: Cast overburden from surface mining
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow

Figure 8.—A typical area of Lenzburg silty clay loam, 20 to 60 percent slopes.

Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 4.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Marseilles Series

Taxonomic classification: Fine-silty, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Marseilles silt loam, 35 to 60 percent slopes, at an elevation of about 669 feet; Bureau County, Illinois; 2,200 feet west and 1,180 feet south of the northeast corner of sec. 14, T. 15 N., R. 8 E.; USGS Wyanet topographic quadrangle; lat. 41 degrees 17 minutes 20 seconds N. and long. 89 degrees 32 minutes 13 seconds W., NAD 83:

A—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many very fine and few fine roots; slightly acid; abrupt smooth boundary.

BE—4 to 9 inches; yellowish brown (10YR 5/4) silt loam; moderate medium platy structure parting to weak very fine subangular blocky; friable; many very fine roots; common distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; neutral; clear smooth boundary.

Bt1—9 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; moderate very fine and fine subangular blocky structure; friable; many very fine and few fine roots; common distinct light gray (10YR 7/2) (dry) silt coatings and common distinct brown (10YR 4/3) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; slightly acid; clear smooth boundary.

Bt2—15 to 23 inches; brown (10YR 5/3) silty clay loam; strong fine and medium subangular blocky structure; friable; many very fine and few fine roots; few distinct light gray (10YR 7/2) (dry) silt coatings and many distinct brown (10YR 4/3) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; slightly acid; clear smooth boundary.

2Bt3—23 to 36 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common very fine and few medium roots; many prominent brown (10YR 4/3) clay films on faces of peds; few medium prominent yellowish red (5YR 5/8) redoximorphic concentrations; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation; slightly acid; gradual wavy boundary.

2Cr1—36 to 51 inches; olive gray (5Y 5/2), soft shale; firm; common very fine and few fine roots; common prominent brown (10YR 4/3) clay films on shale fragments; few medium prominent yellowish red (5YR 5/8) redoximorphic concentrations; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation; slightly acid; gradual wavy boundary.

2Cr2—51 to 60 inches; olive (5Y 5/3), soft shale; very firm; few very fine roots; few prominent brown (10YR 4/3) clay films on shale fragments; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation; neutral.

Range in Characteristics

Depth to residuum: 0 to 30 inches
Depth to paralithic contact: 20 to 40 inches

Ap or A horizon:
Hue—10YR
Value—2 to 5
Chroma—2 or 3
Texture—silt loam or silty clay loam

BE or E horizon (if it occurs):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silt loam

2Bt horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 4
Texture—clay loam, silt loam, silty clay loam, or silty clay

2Cr horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 4

549F—Marseilles silt loam, 18 to 35 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Marseilles and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have shale bedrock at a depth of less than 20 inches
- Soils that have shale bedrock at a depth of more than 40 inches

Dissimilar soils:
- The well drained Rozetta soils in the less sloping areas
- The well drained Hickory soils in areas upslope from the Marseilles soil

Properties and Qualities of the Marseilles Soil

Parent material: Thin layer of loess over material weathered from shale
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow or slow
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Available water capacity: About 5.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

549G—Marseilles silt loam, 35 to 60 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Marseilles and similar soils: 97 percent
Dissimilar soils: 3 percent

Soils of Minor Extent

Similar soils:
- Soils that have shale bedrock at a depth of less than 20 inches
- Soils that have shale bedrock at a depth of more than 40 inches

Dissimilar soils:
- The well drained Hickory soils in areas upslope from the Marseilles soil
- The well drained Rozetta soils in the less sloping areas

Properties and Qualities of the Marseilles Soil

Parent material: Thin layer of loess over material weathered from shale (fig. 7)
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow or slow
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Available water capacity: About 5.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High

Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Martinsville Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Martinsville silt loam, 2 to 5 percent slopes, eroded, at an elevation of about 695 feet; Champaign County, Illinois; approximately 250 feet south and 1,430 feet east of the northwest corner of sec. 36, T. 21 N., R. 7 E.; USGS Rising topographic quadrangle; lat. 40 degrees 14 minutes 14 seconds N. and long. 88 degrees 21 minutes 37 seconds W., NAD 83:

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak very fine and fine granular structure; friable; common very fine roots; moderately acid; abrupt smooth boundary.

BE—9 to 12 inches; yellowish brown (10YR 5/4) silt loam; moderate fine angular blocky structure; friable; common very fine roots; few faint brown (10YR 4/3) clay films on faces of peds; strongly acid; clear smooth boundary.

Bt1—12 to 19 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium prismatic structure parting to strong fine angular blocky; firm; common very fine roots; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; common distinct brown (10YR 4/3) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Bt2—19 to 28 inches; strong brown (7.5YR 4/6) clay loam; weak medium prismatic structure parting to strong medium angular blocky; firm; many very fine roots; many distinct dark brown (7.5YR 3/4) clay films on faces of peds and in pores; few fine faint yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine rounded black (7.5YR 2.5/1) very weakly cemented manganese nodules throughout; moderately acid; clear smooth boundary.

Bt3—28 to 36 inches; strong brown (7.5YR 4/6) sandy clay loam; moderate medium and coarse angular blocky structure; firm; common very fine roots; many distinct dark brown (7.5YR 3/4) clay films on faces of peds and in pores; few fine faint yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine rounded black (7.5YR 2.5/1) very weakly cemented manganese nodules throughout; moderately acid; clear smooth boundary.

Bt4—36 to 45 inches; yellowish brown (10YR 5/4) sandy clay loam; weak coarse angular blocky structure; firm; few very fine roots; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine rounded black (7.5YR 2.5/1) very weakly cemented manganese nodules throughout; moderately acid; abrupt smooth boundary.

Bt5—45 to 57 inches; yellowish brown (10YR 5/4), stratified silt loam; weak coarse angular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine rounded black (7.5YR 2.5/1) very weakly cemented manganese nodules throughout; moderately acid; abrupt smooth boundary.

Bt6—57 to 69 inches; yellowish brown (10YR 5/4), stratified silt loam, loam, and sandy loam; weak coarse angular blocky structure; friable; few distinct brown (10YR 4/3) clay films on vertical faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint pale brown (10YR 6/3) masses of iron depletion in the matrix; common fine rounded black (7.5YR 2.5/1) very weakly cemented manganese nodules throughout; moderately acid; clear smooth boundary.

C—69 to 80 inches; light yellowish brown (10YR 6/4), stratified loam and sandy loam; massive; friable; slightly acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to 70 inches
Thickness of the loess: Less than 20 inches
Other features: Some pedons have an E, EB, or BE horizon.

Ap or A horizon:
Hue—10YR
Value—3 to 5; 3 in A horizons less than 6 inches thick
Chroma—2 to 6
Texture—silt loam, sandy loam, or loam

Bt horizon:
Hue—7.5YR or 10YR
Value—3 to 6
Chroma—3 to 6
Texture—clay loam, sandy clay loam, silty clay loam, silt loam, loam, sandy loam, fine sandy loam, or very fine sandy loam or stratified with these textures

C horizon:
Hue—10YR
Value—3 to 6
Chroma—3 to 6
Texture—stratified fine sandy loam, sandy loam, loam, or silt loam; thin strata of silt, fine sand, loamy sand, loamy fine sand, very fine sandy loam, coarse sand, or sand

570C2—Martinsville loam, 5 to 10 percent slopes, eroded

Setting

Landform: Stream terraces
Position on the landform: Shoulders

Map Unit Composition

Martinsville and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand in the surface layer and the upper part of the subsoil
- Soils that have more clay in the surface layer

Dissimilar soils:
- The somewhat poorly drained Kendall soils in the less sloping areas

Properties and Qualities of the Martinsville Soil

Parent material: Loamy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Navlys Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Navlys silty clay loam, 5 to 10 percent slopes, severely eroded, at an elevation of 650 feet; Fulton County, Illinois, 1,411 feet south and 255 feet east of the northwest corner of sec. 11, T. 4 N., R. 2 E.; USGS Ipava topographic quadrangle; lat. 40 degrees 20 minutes 42 seconds N. and long. 90 degrees 15 minutes 19 seconds W., NAD 83:

Ap—0 to 6 inches; 70 percent dark grayish brown (10YR 4/2) and 30 percent yellowish brown (10YR 5/4) silty clay loam, pale brown (10YR 6/3) dry; moderate fine subangular blocky structure parting to weak fine granular; friable; common very fine roots; moderately acid; clear smooth boundary.

Bt1—6 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; strong fine and medium subangular blocky structure; firm; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; moderately acid; gradual smooth boundary.

Bt2—15 to 22 inches; 90 percent yellowish brown (10YR 5/4) and 10 percent light brownish gray (10YR 6/2) silty clay loam; strong medium prismatic structure; firm; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; slightly acid; gradual smooth boundary.

Bt3—22 to 31 inches; yellowish brown (10YR 5/4) and light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure; firm; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films lining root channels and pores; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation and few fine prominent black (2.5Y 2/1) manganese concretions throughout; slightly effervescent; neutral; gradual smooth boundary.

C1—31 to 56 inches; yellowish brown (10YR 5/4) and light brownish gray (10YR 6/2) silt loam; massive; friable; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films lining root channels and pores; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation and few fine prominent black (2.5Y 2/1) manganese concretions throughout; slightly effervescent; slightly alkaline; gradual smooth boundary.

C2—56 to 60 inches; light brownish gray (10YR 6/2) silt loam; massive; friable; common fine distinct light yellowish brown (10YR 6/4) masses of iron accumulation and few fine prominent black (2.5Y 2/1) manganese concretions throughout; slightly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the diagnostic horizon: 22 to 40 inches
Depth to carbonates: 22 to 40 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silty clay loam or silt loam

Bt or BC horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silt loam

C horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam

630C3—Navlys silty clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders

Map Unit Composition

Navlys and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils in which the subsoil extends below a depth of 40 inches

Properties and Qualities of the Navlys Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0 to 1 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 4 to 6 feet
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Oakville Series

Taxonomic classification: Mixed, mesic Typic Udipsamments

Typical Pedon

Oakville fine sand, 7 to 15 percent slopes, at an elevation of 640 feet; Bureau County, Illinois; 716 feet south and 1,056 feet east of the northwest corner of sec. 18, T. 17 N., R. 6 E.; USGS Mineral topographic quadrangle; lat. 41 degrees 27 minutes 54 seconds N. and long. 89 degrees 51 minutes 12 seconds W., NAD 83:

Ap—0 to 5 inches; dark brown (10YR 4/3) fine sand, yellowish brown (10YR 5/4) dry; weak fine granular structure; very friable; common fine roots throughout; neutral; abrupt smooth boundary.

Bw—5 to 23 inches; strong brown (7.5YR 5/6) fine sand; weak medium subangular blocky structure; very friable; few fine roots throughout; neutral; clear smooth boundary.

BC—23 to 36 inches; yellowish brown (10YR 5/6) fine sand; very weak medium subangular blocky structure; very friable; few fine roots throughout; neutral; clear smooth boundary.

C—36 to 60 inches; yellowish brown (10YR 5/6) fine sand; single grain; loose; neutral.

Range in Characteristics

Depth to the base of the diagnostic horizon: 16 to 65 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—1 to 4
Texture—fine sand, sand, loamy fine sand, or loamy sand

Bw horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 8
Texture—fine sand or loamy sand

C horizon:
Hue—10YR
Value—4 to 7
Chroma—1 to 6
Texture—fine sand or sand

7741B—Oakville loamy fine sand, 1 to 6 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

Oakville and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand throughout the surface layer and subsoil
- Soils that have a darker surface layer
- Soils that have less sand in the surface layer and subsoil and a darker surface soil

Properties and Qualities of the Oakville Soil

Parent material: Wind-worked sandy alluvium
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6 feet
Frequency and most likely period of flooding: Rare, November to June
Potential for frost action: Low
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 4s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Orion Series

Taxonomic classification: Coarse-silty, mixed, superactive, nonacid, mesic Aquic Udifluvents

Typical Pedon

Orion silt loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of 435 feet; Schuyler County, Illinois; 1,107 feet east and 660 feet north of the southwest corner of sec. 18, T. 1 N., R. 1 W.; USGS Beardstown topographical quadrangle; lat 40 degrees 03 minutes 37 seconds N. and long. 90 degrees 26 minutes 57 seconds W., NAD 83:

Ap—0 to 6 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; common very fine and common fine roots; slightly acid; abrupt smooth boundary.

C1—6 to 19 inches; brown (10YR 4/3) silt loam with a few thin bands of very dark gray (10YR 3/1); massive; friable; few fine and common very fine roots; few medium distinct black (2.5Y 2/1) masses of manganese accumulation; many fine faint dark grayish brown (10YR 4/2) iron depletions; neutral; clear smooth boundary.

C2—19 to 29 inches; brown (10YR 4/3) silt loam with a few thin bands of very dark grayish brown (10YR 3/2); massive; friable; few very fine roots; few fine faint dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation and few fine distinct black (2.5Y 2/1) masses of manganese accumulation throughout; many fine faint dark grayish brown (10YR 4/2) iron depletions; neutral; abrupt smooth boundary.

Ab1—29 to 38 inches; very dark gray (10YR 3/1) silt loam; weak medium subangular blocky structure; friable; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation and common medium distinct brown (10YR 4/3) masses of iron and manganese accumulation; few fine faint black (2.5Y 2/1) masses of manganese accumulation throughout; neutral; clear smooth boundary.

Ab2—38 to 54 inches; very dark gray (10YR 3/1) silt loam; weak medium subangular blocky structure; friable; few very fine roots; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation and few fine faint black (2.5Y 2/1) masses of manganese accumulation throughout; few fine faint dark gray (10YR 4/1) iron depletions; neutral; clear smooth boundary.

Bgb—54 to 60 inches; grayish brown (10YR 5/2) silt loam; weak coarse prismatic structure; friable; few very fine roots; few faint very dark grayish brown (10YR 3/2) and very dark gray (10YR 3/1) organic coatings on faces of peds; few fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation and common medium prominent black (2.5Y 2/1) masses of manganese accumulation and concretions throughout; neutral.

Range in Characteristics

Depth to dark buried soil: 20 to 40 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam; thin strata of silt, loam, very fine sandy loam, loamy very fine sand, or very fine sand in some pedons

C horizon:
Hue—10YR

Value—4 or 5
Chroma—2 or 3
Texture—silt loam; thin strata of silt, loam, very fine sandy loam, loamy very fine sand, or very fine sand in some pedons

Ab horizon:
Hue—10YR or 2.5Y
Value—2 or 3
Chroma—1 or 2
Texture—silt loam or silty clay loam; strata of coarser material in some pedons

Bgb or Cg horizon:
Hue—10YR, 2.5Y, 5Y, 5GY, 5G, 5BG, 5B, or N
Value—4 to 6
Chroma—0 to 2
Texture—silt loam; strata of silt, loam, very fine sandy loam, loamy very fine sand, or very fine sand in some pedons

8415A—Orion silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Orion and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the underlying material

Dissimilar soils:
- The poorly drained Birds and Titus soils in depressions

Properties and Qualities of the Orion Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to apparent seasonal high water table: 1 to 2 feet
Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

802B—Orthents loamy, undulating

Setting

Description: Cut and fill areas and borrow areas where soil has been disturbed, mainly around coal-mining sites
Landform: Ground moraines

Map Unit Composition

Orthents and similar soils: 85 percent
Dissimilar components: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of more than 7 percent

Dissimilar components:
- The well drained Rozetta soils on summits and shoulders in undisturbed areas
- The well drained Hickory soils on backslopes in undisturbed areas
- The well drained Fayette soils on summits, shoulders, and backslopes in undisturbed areas
- Rock piles, access roads, buildings, parking lots, and water areas less than 3 acres in size

Properties and Qualities of the Orthents

Parent material: Mine spoil or earthy fill consisting of loamy material derived from former soil layers and underlying material
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

802E—Orthents loamy, hilly

Setting

Description: Cut and fill areas and borrow areas where soil has been disturbed, mainly around coal-mining sites
Landform: Ground moraines

Map Unit Composition

Orthents and similar soils: 85 percent
Dissimilar components: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have fewer rock fragments

Dissimilar components:
- The well drained Hickory and Ursa soils on backslopes in undisturbed areas
- The well drained Rozetta soils on summits and shoulders in undisturbed areas
- Rock piles, access roads, buildings, parking lots, and water areas less than 3 acres in size

Properties and Qualities of the Orthents

Parent material: Mine spoil or earthy fill consisting of loamy material derived from former soil layers and underlying material
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Osco Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Osco silt loam, 2 to 5 percent slopes, at an elevation of 858 feet; Carroll County, Illinois; 316 feet north and 88 feet west of the southeast corner of sec. 23, T. 24 N., R. 6 E.; USGS Lanark quadrangle; lat. 42 degrees 03 minutes 13 seconds N. and long. 89 degrees 45 minutes 48 seconds W., NAD 83:

Ap—0 to 10 inches; very dark brown (10YR 2/2) silt loam, very dark grayish brown (10YR 3/2) dry; moderate fine granular structure; friable; common fine roots; slightly acid; abrupt smooth boundary.

A—10 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium to coarse granular structure; friable; common fine roots; strongly acid; clear smooth boundary.

BA—14 to 20 inches; dark yellowish brown (10YR 3/4) and dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; friable; common fine roots; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; strongly acid; clear smooth boundary.

Bt1—20 to 26 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; few distinct gray (10YR 6/1) (dry) silt coatings and common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; strongly acid; clear smooth boundary.

Bt2—26 to 37 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct light brownish gray (10YR 6/2) (dry) silt coatings and many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine faint brown (10YR 5/3) and common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; many prominent very dark gray (N 3/0) and dark brown (7.5YR 3/2) manganese concretions; strongly acid; clear smooth boundary.

Bt3—37 to 45 inches; light yellowish brown (10YR 6/4) silty clay loam; moderate coarse subangular blocky structure; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions and few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; strongly acid; gradual smooth boundary.

BC—45 to 55 inches; yellowish brown (10YR 5/4) and brown (10YR 4/3) silty clay loam; weak coarse angular blocky structure; friable; few fine distinct light brownish gray (10YR 6/2) iron depletions; strongly acid; gradual smooth boundary.

C—55 to 60 inches; yellowish brown (10YR 5/4) and brown (10YR 4/3) silt loam; massive; friable; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation and common medium distinct grayish brown (10YR 5/2) iron depletions; moderately acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches
Depth to the base of the diagnostic horizon: 40 to more than 66 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt horizon:
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—silty clay loam or silt loam

C horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam

86B—Osco silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders

Map Unit Composition

Osco and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have a seasonal high water table at a depth of less than 4 feet
- Soils that have a thinner dark surface layer
- Soils that have more sand in the lower part of the subsoil

Properties and Qualities of the Osco Soil

Parent material: Loess (fig. 5)
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 4 to 6 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

864—Pits, quarries

General Description

- This unit consists of open excavations from which limestone has been removed or is being removed.

Map Unit Composition

Pits, quarries: 90 percent
Dissimilar components: 10 percent

Components of Minor Extent

Dissimilar components:
- The well drained Hickory and Marseilles soils on backslopes in undisturbed areas
- The well drained Fayette soils on summits, shoulders, and backslopes in undisturbed areas

- The well drained Rozetta soils on summits and shoulders in undisturbed areas
- The somewhat poorly drained Wakeland soils on flood plains in undisturbed areas
- Stockpiles of stone and debris

Interpretive Groups

Land capability classification: None assigned
Prime farmland status: Not prime farmland
Hydric soil status: Not applicable

Quiver Series

Taxonomic classification: Fine-silty, mixed, superactive, nonacid, mesic Mollic Fluvaquents

Typical Pedon

Quiver silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration, at an elevation of about 439 feet; Fulton County, Illinois; 1,990 feet north and 1,490 feet east of the southwest corner of sec. 24, T. 6 N., R. 5 E.; USGS Duck Island topographical quadrangle; lat. 40 degrees 29 minutes 09 seconds N. and long. 89 degrees 53 minutes 25 seconds W., NAD 83:

Cg1—0 to 9 inches; very dark gray (2.5Y 3/1) silty clay loam that has fine strata of dark grayish brown (2.5Y 4/2) silty clay loam; grayish brown (10YR 5/2) dry; weak fine subangular blocky structure; firm; many very fine roots; few fine prominent reddish brown (5YR 4/4) masses of iron accumulation and few fine faint black (10YR 2/1) masses of manganese accumulation with diffuse boundaries lining pores and root channels; neutral; clear smooth boundary.

Cg2—9 to 14 inches; dark gray (2.5Y 4/1) silty clay loam that has fine strata of dark grayish brown (2.5Y 4/2) silty clay loam; grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; firm; many very fine roots; common fine prominent reddish brown (5YR 4/4) masses of iron accumulation and few fine distinct black (10YR 2/1) masses of manganese accumulation with diffuse boundaries lining pores and root channels; slightly alkaline; clear smooth boundary.

Cg3—14 to 25 inches; dark gray (2.5Y 4/1) silty clay loam; massive; firm; common very fine roots; many distinct very dark grayish brown (10YR 3/2) organic coatings lining pores; common fine prominent reddish brown (5YR 4/4) masses of iron accumulation and few fine distinct black (10YR 2/1) masses of manganese accumulation with diffuse boundaries lining pores and root channels; slightly alkaline; clear smooth boundary.

Cg4—25 to 34 inches; very dark gray (5Y 3/1) silty clay loam; massive with thin bedding planes; firm; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings lining pores; common fine prominent reddish brown (5YR 4/4) masses of iron accumulation and few fine faint black (10YR 2/1) masses of manganese accumulation with diffuse boundaries lining pores and root channels; slightly alkaline; clear smooth boundary.

Cg5—34 to 45 inches; dark gray (5Y 4/1) silty clay loam; massive with thin bedding planes; firm; few distinct very dark grayish brown (10YR 3/2) organic coatings lining pores; many fine prominent dark red (2.5YR 3/6) masses of iron accumulation and few fine prominent black (10YR 2/1) masses of manganese accumulation with diffuse boundaries lining pores; slightly alkaline; clear smooth boundary.

Cg6—45 to 65 inches; dark grayish brown (2.5Y 4/2) silty clay loam; massive; firm; many medium prominent dark red (2.5YR 3/6) masses of iron accumulation with diffuse boundaries lining pores; slightly alkaline.

Range in Characteristics

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 6
Chroma—0 to 2
Texture—silty clay loam or silt loam

3641L—Quiver silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration

Setting

Landform: Flood plains

Map Unit Composition

Quiver and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay throughout

Dissimilar soils:
- The somewhat poorly drained Wakeland soils in the higher positions

Properties and Qualities of the Quiver Soil

Parent material: Alluvium
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 4.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding depth: 0 to 1 foot
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 5w
Prime farmland status: Not prime farmland
Hydric soil status: Hydric

Raddle Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludolls

Typical Pedon

Raddle silt loam, 2 to 5 percent slopes, rarely flooded, at an elevation of 465 feet; Fulton County, Illinois; 570 feet south and 1,890 feet west of the northeast corner of sec. 11, T. 4 N., R. 5 E.; USGS Havana, Illinois, topographic quadrangle; lat. 40 degrees 20 minutes 53 seconds N. and long. 90 degrees 07 minutes 54 seconds W., NAD 83:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure; friable; few very fine roots; slightly acid; clear smooth boundary.

AB—9 to 13 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak medium subangular blocky structure; friable; few very fine roots; common distinct grayish brown (10YR 3/2) organic coatings on faces of peds; moderately acid; clear smooth boundary.

Bw1—13 to 26 inches; brown (10YR 4/3) silt loam; moderate medium subangular blocky structure; friable; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine distinct black (10YR 2/1) manganese concretions in the matrix; slightly acid; gradual smooth boundary.

Bw2—26 to 39 inches; brown (10YR 4/3) silt loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; few distinct dark brown (10YR 3/3) organic coatings on faces of peds; few fine distinct black (10YR 2/1) manganese concretions in the matrix; slightly acid; gradual smooth boundary.

Bw3—39 to 47 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; very few distinct brown (10YR 4/3) coatings on faces of peds; few fine distinct black (10YR 2/1) manganese concretions in the matrix; moderately acid; gradual smooth boundary.

BC—47 to 60 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium prismatic structure; friable; few fine distinct black (10YR 2/1) manganese concretions in the matrix; moderately acid; gradual smooth boundary.

C—60 to 80 inches; 98 percent dark yellowish brown (10YR 4/4) and 2 percent brown (10YR 5/3) silt loam; massive; very friable; moderately acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Content of clay in the control section: 18 to 24 percent
Other features: Some pedons have an AB or BA horizon.

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bw horizon:
Hue—10YR or 7.5YR
Value—3 to 6
Chroma—3 or 4
Texture—typically silt loam; loam in thin subhorizons of some pedons

C horizon (if it occurs):
Hue—10YR or 7.5YR
Value—3 to 6
Chroma—2 to 4
Texture—typically silt loam; strata of sandy loam, loam, clay loam, or silty clay loam

7430B—Raddle silt loam, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Alluvial fans

Map Unit Composition

Raddle and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the surface layer and subsoil
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have slopes of less than 2 percent

Dissimilar soils:
- The somewhat poorly drained Tice and Wakeland soils in the lower areas

Properties and Qualities of the Raddle Soil

Parent material: Local silty alluvium (fig. 4)
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6 feet
Frequency and most likely period of flooding: Rare, November to June
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

Rapatee Series

Taxonomic classification: Fine-silty, mixed, superactive, nonacid, mesic Mollic Udarents

Typical Pedon

Rapatee silty clay loam, 2 to 5 percent slopes, at an elevation of 810 feet; Knox County, Illinois; 1,460 feet west and 2,300 feet north of the southeast corner of sec. 11, T. 12 N., R. 3 E.; USGS Victoria topographic quadrangle; lat. 41 degrees 02 minutes 23 seconds N. and long. 90 degrees 07 minutes 20 seconds W., NAD 83:

Ap—0 to 3 inches; mixed black (10YR 2/1) and very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) and gray (10YR 5/1) dry; moderate very fine subangular blocky structure; friable; common fine and very fine roots; some mixing and horizontal strata of yellowish brown (10YR 5/4 and 5/8) and grayish brown (10YR 5/2) material; about 2 percent sand; slightly acid; clear smooth boundary.

C1—3 to 18 inches; mixed black (10YR 2/1) and very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) and gray (10YR 5/1) dry; massive; firm; common fine roots; few moderate medium and coarse clods or soil fragments; some mixing and horizontal strata of yellowish brown (10YR 5/4 and 5/8) and grayish brown (10YR 5/2) material; few distinct dark stains and few fine rounded black concretions of iron and manganese; about 2 percent sand; slightly acid; abrupt wavy boundary.

C2—18 to 48 inches; mixed dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/4) silty clay loam; massive; very dense, very firm; few weak coarse clods or soil fragments; few pockets of dark olive gray (5Y 3/2) silty clay loam; common fine rounded black concretions of iron and manganese; about 8 percent sand; slightly alkaline; abrupt wavy boundary.

C3—48 to 60 inches; mixed brown (10YR 4/3), yellowish brown (10YR 5/4 and 5/6), and greenish gray (5G 5/1) clay loam; massive; extremely dense, very firm; few weak medium and coarse clods or soil fragments; common distinct dark stains and common fine black concretions of iron and manganese; about 14 percent sand; common fragments of coal and shale; common dolomitic till pebbles; strongly effervescent; slightly alkaline.

Range in Characteristics

Ap and C1 horizons:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam or silty clay loam

C horizon (above a depth of 48 inches):
Hue—10YR, 2.5Y, 5Y, 5G, 5GY, or 5BG
Value—4 to 6
Value—1 to 8
Texture—silt loam or silty clay loam

C horizon (below a depth of 48 inches):
Hue—10YR, 2.5Y, 5Y, 5G, 5GY, or 5BG
Value—4 to 6
Value—1 to 8
Texture—loam, clay loam, silt loam, or silty clay loam or the channery or gravelly analogs of these textures
Content of rock fragments—10 to 30 percent

872B—Rapatee silty clay loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders on reconstructed ridges

Map Unit Composition

Rapatee and similar soils: 85 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface layer
- Soils that have a lighter colored surface layer
- Soils that have more sand throughout the surface layer and subsoil
- Soils that have slopes of more than 5 percent

Dissimilar soils:
- The well drained Lenzburg and Schuline soils in the more sloping areas

Properties and Qualities of the Rapatee Soil

Parent material: Reclaimed fine-earth material (with a surface layer of pre-mined soil) overlying cast overburden from surface mining
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to perched seasonal high water table: 3.5 to 5.0 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

Rozetta Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Rozetta silt loam, 0 to 2 percent slopes, at an elevation of 890 feet; Stephenson County, Illinois; 150 feet south and 500 feet east of the center of sec. 18, T. 27 N., R. 6 E.; USGS Pearl City quadrangle; lat. 42 degrees 20 minutes 00 seconds N. and long. 89 degrees 51 minutes 19 seconds W., NAD 83:

A—0 to 4 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 6/1) dry; weak medium granular structure; friable; many fine roots throughout; moderately acid; clear wavy boundary.

E—4 to 11 inches; dark grayish brown (10YR 4/2) silt loam; weak medium platy structure; friable; many fine roots throughout; strongly acid; clear smooth boundary.

BE—11 to 14 inches; brown (10YR 4/3) silty clay loam; weak medium subangular blocky structure; firm; many fine roots between peds; few faint brown (10YR 5/3) (dry) silt coatings on faces of peds; strongly acid; clear smooth boundary.

Bt1—14 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; many fine roots between peds; many faint brown (10YR 5/3) clay films on faces of peds; strongly acid; clear smooth boundary.

Bt2—21 to 39 inches; brown (10YR 5/3) silty clay loam; moderate medium and coarse subangular blocky structure; firm; common fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common faint pale brown (10YR 6/3) (dry) silt coatings on faces of peds; common medium faint light yellowish brown (10YR 6/4) masses of iron accumulation and brown (10YR 4/3) masses of iron and manganese accumulation in the matrix; few medium faint grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; clear smooth boundary.

Bt3—39 to 50 inches; yellowish brown (10YR 5/4) silty clay loam; weak coarse subangular blocky structure; firm; common fine roots; few faint brown (10YR 4/3) clay films on faces of peds; common medium faint pale brown (10YR 6/3) and common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

C—50 to 60 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; common medium distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 42 to 72 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—1 to 3
Texture—silt loam

E horizon (if it occurs):
Hue—10YR
Value—4 to 6
Chroma—2 or 3
Texture—silt loam

Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam

C horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or silty clay loam

279B—Rozetta silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders

Map Unit Composition

Rozetta and similar soils: 91 percent
Dissimilar soils: 9 percent

Soils of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have more sand and clay in the lower part of the subsoil

Dissimilar soils:
- The somewhat poorly drained Keomah soils in the less sloping areas

Properties and Qualities of the Rozetta Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 4 to 6 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

279C2—Rozetta silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders

Map Unit Composition

Rozetta and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have more sand and clay in the subsoil

Dissimilar soils:
- The somewhat poorly drained Keomah soils in the less sloping areas
- The somewhat poorly drained Atlas soils in areas downslope from the Rozetta soil

Properties and Qualities of the Rozetta Soil

Parent material: Loess (fig. 7)
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 4 to 6 feet
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

9279B—Rozetta silt loam, terrace, 2 to 5 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Summits and shoulders

Map Unit Composition

Rozetta and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have more sand in the lower part of the subsoil

Dissimilar soils:
- Soils that have a seasonal high water table at a depth of less than 2 feet

Properties and Qualities of the Rozetta Soil

Parent material: Loess or other silty material
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 4 to 6 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

9279C2—Rozetta silt loam, terrace, 5 to 10 percent slopes, eroded

Setting

Landform: Stream terraces
Position on the landform: Shoulders

Map Unit Composition

Rozetta and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have more sand in the lower part of the subsoil

Dissimilar soils:
- Soils that have a seasonal high water table at a depth of less than 2 feet

Properties and Qualities of the Rozetta Soil

Parent material: Loess or other silty material
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 4 to 6 feet
Flooding: None

Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Rushville Series

Taxonomic classification: Fine, smectitic, mesic Typic Albaqualfs

Typical Pedon

Rushville silt loam, 0 to 2 percent slopes, at an elevation of 695 feet; Adams County, Illinois; 2,150 feet east and 250 feet south of the northwest corner of sec. 23, T. 1 S., R. 6 W.; USGS Liberty, Illinois, topographic quadrangle; lat. 39 degrees 58 minutes 29 seconds N. and long. 91 degrees 03 minutes 37 seconds W., NAD 83:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; weak thin platy structure parting to moderate fine granular; friable; common fine roots; many fine distinct black (2.5Y 2/1) masses of manganese accumulation and few fine and medium distinct black (2.5Y 2/1) manganese nodules throughout; many distinct very pale brown (10YR 8/2) clay depletions between peds; neutral; clear smooth boundary.

Eg—7 to 13 inches; grayish brown (10YR 5/2) silt loam, very pale brown (10YR 8/2) dry; weak thick platy structure parting to moderate fine subangular blocky; friable; common fine roots; common fine distinct yellowish brown (10YR 5/4) masses of iron accumulation and many fine prominent black (2.5Y 2/1) manganese nodules throughout; and many distinct white (10YR 8/1) clay depletions throughout; neutral; clear smooth boundary.

Btg1—13 to 21 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; friable; common fine and medium roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine prominent black (2.5Y 2/1) masses of manganese accumulation, common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation, and few prominent black (2.5Y 2/1) manganese nodules throughout; strongly acid; clear wavy boundary.

Btg2—21 to 26 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation, few fine prominent black (2.5Y 2/1) masses of manganese accumulation, and few prominent black (2.5Y 2/1) manganese nodules throughout; moderately acid; clear wavy boundary.

Btg3—26 to 32 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films and many distinct white (10YR 8/1) silt coatings on faces of peds; few fine prominent black (2.5Y 2/1) masses of manganese accumulation, many fine prominent yellowish brown (10YR

5/8) masses of iron accumulation, and common fine faint gray (10YR 6/1) iron depletions throughout; moderately acid; clear wavy boundary.

Btg4—32 to 43 inches; light brownish gray (10YR 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium and coarse subangular blocky; firm; few distinct grayish brown (10YR 5/2) clay films in root channels and/or pores and very few distinct white (10YR 8/1) silt coatings on vertical faces of peds; many fine and medium prominent yellowish brown (10YR 5/8) masses of iron accumulation, common fine prominent black (2.5Y 2/1) masses of manganese accumulation, and few fine faint gray (10YR 6/1) iron depletions throughout; moderately acid; clear wavy boundary.

BCtg—43 to 50 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse prismatic structure; firm; few distinct grayish brown (10YR 5/2) clay films in root channels and/or pores; common medium prominent yellowish brown (10YR 5/8) and common fine prominent brownish yellow (10YR 6/8) masses of iron accumulation throughout; moderately acid; clear wavy boundary.

Cg1—50 to 74 inches; light brownish gray (10YR 6/2) silt loam; massive; firm; few distinct dark grayish brown (10YR 4/2) clay films in root channels and/or pores; many medium and coarse prominent strong brown (7.5YR 5/8) and common medium distinct yellowish brown (10YR 5/4) masses of iron accumulation throughout; slightly acid; clear wavy boundary.

Cg2—74 to 85 inches; light brownish gray (10YR 6/2) silt loam; massive; firm; few distinct dark grayish brown (10YR 4/2) clay films in root channels and/or pores; many coarse prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout; neutral.

Range in Characteristics

Depth to carbonates: More than 50 inches
Depth to the base of the diagnostic horizon: 40 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 to 5
Chroma—1 or 2
Texture—silt loam

E horizon:
Hue—10YR
Value—5 or 6
Chroma—1 or 2
Texture—silt loam or silt

Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay

Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam or silty clay loam

16A—Rushville silt loam, 0 to 2 percent slopes

Setting

Landform: Depressions

Map Unit Composition

Rushville and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a darker surface layer

Dissimilar soils:
- The somewhat poorly drained Keomah soils in the slightly higher positions

Properties and Qualities of the Rushville Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding depth: 0.0 to 0.5 foot
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland status: Not prime farmland
Hydric soil status: Hydric

Sable Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Sable silty clay loam, 0 to 2 percent slopes, at an elevation of 732 feet; Warren County, Illinois; 1,281 feet south and 97 feet west of the northeast corner of sec. 14, T. 9 N., R. 3 W.; USGS Kirkwood East topographic quadrangle; lat. 40 degrees 46 minutes 22 seconds N. and long. 90 degrees 41 minutes 34 seconds W., NAD 83:

Ap—0 to 8 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; firm; moderately acid; abrupt smooth boundary.

A—8 to 19 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine angular blocky structure; firm; few fine faint rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; slightly acid; clear smooth boundary.

AB—19 to 23 inches; very dark gray (10YR 3/1) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine angular blocky structure; firm; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine faint rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; slightly acid; clear smooth boundary.

Bg—23 to 29 inches; dark gray (10YR 4/1) silty clay loam; moderate fine and medium subangular blocky structure; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine and medium distinct rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; common medium distinct brown (10YR 5/3) masses of iron accumulation in the matrix; few medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; neutral; clear smooth boundary.

Btg1—29 to 38 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few distinct dark gray (10YR 4/1) clay films on faces of peds; many fine and medium distinct rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear wavy boundary.

Btg2—38 to 47 inches; gray (N 5/0) silt loam; weak medium prismatic structure parting to weak medium and coarse angular blocky; firm; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine distinct rounded dark redddish brown (5YR 3/2) iron and manganese concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; gradual smooth boundary.

Cg—47 to 60 inches; gray (N 6/0) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 12 to 24 inches
Depth to free carbonates: More than 40 inches
Depth to the base of the diagnostic horizon: 40 to 60 inches

Ap, A, AB, or BA horizon:
Hue—10YR, 5Y, or N
Value—2 or 3
Chroma—0 or 1
Texture—silty clay loam or silt loam

Btg, Bg, BC, or BCg horizon:
Hue—10YR, 2.5Y, or 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silty clay loam or silt loam

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silt loam or silty clay loam

68A—Sable silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Toeslopes

Map Unit Composition

Sable and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil

Dissimilar soils:
- The well drained Osco soils in the more sloping areas
- The somewhat poorly drained Ipava soils in the slightly higher positions

Properties and Qualities of the Sable Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 5.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding depth: 0.0 to 0.5 foot
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Sawmill Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls

Typical Pedon

Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 535 feet; Sangamon County, Illinois; 300 feet south and 750 feet east of the northwest corner of sec. 20, T. 15 N., R. 4 W.; USGS New City topographic quadrangle; lat. 39 degrees 44 minutes 34 seconds N. and long. 89 degrees 34 minutes 15 seconds W., NAD 83:

Ap—0 to 10 inches; very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) silty clay loam, gray (10YR 5/1) dry; weak fine subangular blocky structure;

firm; few fine roots; few subrounded pebbles 1 to 3 mm in diameter; slightly acid; clear smooth boundary.

A1—10 to 17 inches; black (10YR 2/1) and very dark grayish brown (10YR 3/2) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure; firm; few fine roots; few subrounded pebbles 1 to 3 mm in diameter; few fine faint rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

A2—17 to 25 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium angular blocky structure; firm; few fine roots; few fine faint rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

AB—25 to 32 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium prismatic structure parting to moderate fine subangular blocky; firm; few fine roots; few fine faint rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Bg—32 to 40 inches; dark gray (10YR 4/1) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine roots; few fine faint rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.

Btg1—40 to 49 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to weak medium angular blocky; firm; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine distinct rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) and common fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.

Btg2—49 to 58 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure; firm; common distinct gray (10YR 5/1) clay films on faces of peds; few fine prominent rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.

Cg—58 to 65 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; very dark gray (10YR 3/1) channel linings and fillings; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation lining pores; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches
Depth to the base of the diagnostic horizon: 36 to 60 inches

Ap, A, or AB horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 or 3
Chroma—0 to 2
Texture—silty clay loam or silt loam

Bg or Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—3 to 6
Chroma—1 or 2
Texture—silty clay loam

Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—3 to 6
Chroma—1 or 2
Texture—silty clay loam, clay loam, silt loam, or loam

3107A—Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Sawmill and similar soils: 92 percent
Dissimilar soils: 8 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer and subsoil
- Soils that have more clay in the subsoil
- Soils that have a thinner dark surface soil

Dissimilar soils:
- The somewhat poorly drained Tice soils in the higher positions

Properties and Qualities of the Sawmill Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.5 to 7.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding depth: 0.0 to 0.5 foot
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland status: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

Schuline Series

Taxonomic classification: Fine-loamy, mixed, superactive, calcareous, mesic Alfic Udarents

Taxadjunct features: The Schuline soils in this survey area are more acid than is defined as the range for the series. These soils are classified as fine-loamy, mixed, superactive, nonacid, mesic Alfic Udarents.

Typical Pedon

Schuline silt loam, 1 to 5 percent slopes, at an elevation of 465 feet; Perry County, Illinois; 1,600 feet north and 300 feet east of the center of sec. 22, T. 5 S., R. 2 W.; USGS Pyatts topographic quadrangle; lat. 38 degrees 04 minutes 46 seconds N. and long. 89 degrees 18 minutes 12 seconds W., NAD 83:

Ap—0 to 6 inches; mixed brown (10YR 5/3) and yellowish brown (10YR 5/6) silt loam, very pale brown (10YR 7/3) dry; moderate fine and medium granular structure; friable; common very fine and fine roots; about 9 percent sand; moderately acid; abrupt smooth boundary.

AC—6 to 10 inches; mixed brown (10YR 5/3), yellowish brown (10YR 5/6), and gray (10YR 5/1) silt loam, very pale brown (10YR 7/3) dry; weak fine subangular blocky structure; firm; few very fine and fine roots; moderate thick platy clods; about 9 percent sand; slightly acid; abrupt smooth boundary.

C1—10 to 21 inches; mixed light yellowish brown (10YR 6/4) and yellowish brown (10YR 5/6) loam; massive; firm; few very fine roots; few weak medium subangular blocky clods; few thin dark grayish brown (10YR 4/2) silt coatings on faces of clods; few dark concretions of iron and manganese; about 30 percent sand; about 5 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

C2—21 to 36 inches; mixed yellowish brown (10YR 5/4), brownish yellow (10YR 6/6), gray (10YR 5/1), and light brownish gray (10YR 6/2) loam; massive; firm; few dark concretions of iron and manganese; about 30 percent sand; about 5 percent gravel; slightly effervescent; slightly alkaline; gradual smooth boundary.

C3—36 to 54 inches; mixed yellowish brown (10YR 5/4), grayish brown (10YR 5/2), and brownish yellow (10YR 6/8) loam; massive; firm; weathered shale fragments in the lower part of the layer; about 30 percent sand; about 7 percent gravel; strongly effervescent; slightly alkaline; clear smooth boundary.

C4—54 to 60 inches; mixed yellowish brown (10YR 5/4 and 5/6), gray (10YR 5/1), and grayish brown (10YR 4/2) loam; massive; friable; few dark concretions of iron and manganese; about 40 percent sand; about 15 percent gravel; violently effervescent; slightly alkaline.

Range in Characteristics

Ap, A, or AC horizon:

Hue—10YR or 7.5YR
Value—4 or 5
Chroma—1 to 6
Texture—silt loam, silty clay loam, clay loam, or loam

C horizon:

Hue—10YR or 7.5YR
Value—4 to 7
Chroma—1 to 6
Texture—loam, clay loam, silt loam, or silty clay loam

823B—Schuline silty clay loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders on reconstructed ridges

Map Unit Composition

Schuline and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more rock fragments throughout
- Soils that have less sand throughout
- Soils that have less sand throughout and have a darker surface layer

Dissimilar soils:
- The somewhat poorly drained Clarksdale soils on summits in undisturbed areas
- The well drained Greenbush soils on summits in undisturbed areas
- The well drained Rozetta soils on summits and shoulders in undisturbed areas

Properties and Qualities of the Schuline Soil

Parent material: Reclaimed fine-earth material overlying cast overburden from surface mining
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

823C—Schuline silty clay loam, 5 to 10 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes on reconstructed ridges

Map Unit Composition

Schuline and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand throughout
- Soils that have less sand throughout and have a darker surface layer
- Soils that have more rock fragments throughout

Dissimilar soils:
- The somewhat poorly drained Clarksdale soils on summits and shoulders in undisturbed areas
- The well drained Greenbush soils on summits in undisturbed areas
- The well drained Rozetta soils on summits and shoulders in undisturbed areas

Properties and Qualities of the Schuline Soil

Parent material: Reclaimed fine-earth material overlying cast overburden from surface mining
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

823D—Schuline silty clay loam, 10 to 18 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Backslopes on reconstructed ridges

Map Unit Composition

Schuline and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand throughout
- Soils that have less sand throughout and have a darker surface layer
- Soils that have more rock fragments throughout

Dissimilar soils:
- The well drained Marseilles and Ursa soils on backslopes in undisturbed areas
- The well drained Rozetta soils on summits and shoulders in undisturbed areas

Properties and Qualities of the Schuline Soil

Parent material: Reclaimed fine-earth material overlying cast overburden from surface mining
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

823F—Schuline silty clay loam, 18 to 40 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Backslopes on reconstructed ridges

Map Unit Composition

Schuline and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand throughout
- Soils that have less sand throughout and have a darker surface layer
- Soils that have more rock fragments throughout
- Soils that have slopes of more than 40 percent

Dissimilar soils:
- The well drained Hickory, Marseilles, and Ursa soils on backslopes in undisturbed areas
- The well drained Rozetta soils on summits and shoulders in undisturbed areas

Properties and Qualities of the Schuline Soil

Parent material: Reclaimed fine-earth material overlying cast overburden from surface mining
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Seaton Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Seaton silt loam, 2 to 5 percent slopes, at an elevation of 680 feet; Henderson County, Illinois; 660 feet north and 30 feet east of the center of sec. 8, T. 11 N., R. 4 W.; USGS Rozetta topographic quadrangle; lat. 40 degrees 57 minutes 43 seconds N. and long. 90 degrees 52 minutes 23 seconds W., NAD 83:

A—0 to 4 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine granular structure; very friable; slightly acid; clear smooth boundary.
E—4 to 9 inches; brown (10YR 4/3) silt loam; weak thin platy structure; friable; slightly acid; clear smooth boundary.
BE—9 to 15 inches; yellowish brown (10YR 5/4) silt loam; weak fine and medium subangular blocky structure; friable; few faint distinct brown (10YR 4/3) clay films and common distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; moderately acid; clear smooth boundary.
Bt1—15 to 21 inches; yellowish brown (10YR 5/4) silt loam; moderate fine and medium subangular blocky structure; friable; few distinct brown (10YR 4/3) clay films and few distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; moderately acid; clear smooth boundary.
Bt2—21 to 27 inches; brown (7.5YR 5/4) silt loam; moderate fine and medium subangular blocky structure; firm; few distinct brown (10YR 4/3) clay films and few distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; strongly acid; clear smooth boundary.
Bt3—27 to 34 inches; yellowish brown (10YR 5/4) silt loam; moderate medium angular blocky structure; firm; common distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; gradual smooth boundary.
Bt4—34 to 44 inches; brown (10YR 5/3) silt loam; weak medium and coarse prismatic structure; firm; few distinct brown (10YR 4/3) clay films and few distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; moderately acid; gradual smooth boundary.
BC—44 to 70 inches; brown (10YR 4/3) silt loam; weak very coarse prismatic structure; friable; few distinct brown (7.5YR 4/2) clay films on vertical faces of peds; moderately acid; gradual smooth boundary.
C—70 to 95 inches; light brownish gray (10YR 6/2) and brown (10YR 5/3) silt loam; massive; friable; common fine distinct dark yellowish brown (10YR 4/4) masses of

iron and manganese accumulation and common fine prominent yellowish brown (10YR 5/6) masses of iron throughout; massive; friable; slightly acid.

Range in Characteristics

Thickness of the loess: More than 80 inches
Depth to the base of the diagnostic horizon: 42 to more than 60 inches

Ap or A horizon:
Hue—10YR
Value—2 to 4
Chroma—2 or 3
Texture—silt loam or silt

E horizon (if it occurs):
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silt loam or silt

Bt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silt

BC horizon (if it occurs):
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 or 4
Texture—silt loam or silt

C horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or silt

274E2—Seaton silt loam, 18 to 25 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Seaton and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have more clay in the subsoil
- Soils that have more sand and clay in the subsoil

Dissimilar soils:
- The moderately well drained Blyton soils on flood plains

Properties and Qualities of the Seaton Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6 feet
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

274F—Seaton silt loam, 18 to 35 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Seaton and similar soils: 95 percent
Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have more clay in the subsoil
- Soils that have more sand in the subsoil

Dissimilar components:
- Areas of rock outcrop at the base of some slopes

Properties and Qualities of the Seaton Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low

Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

274G—Seaton silt loam, 35 to 60 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Seaton and similar soils: 85 percent
Dissimilar components: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of less than 40 inches

Dissimilar components:
- Areas of rock outcrop at the base of some slopes

Properties and Qualities of the Seaton Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

St. Charles Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

St. Charles silt loam, 2 to 5 percent slopes, at an elevation of 623 feet; Bureau County, Illinois; 80 feet north and 2,170 feet west of the southeast corner of sec. 26, T. 16 N., R. 8 E.; USGS Wyanet, Illinois, topographic quadrangle: lat. 41 degrees 20 minutes 09 seconds N. and long. 89 degrees 32 minutes 12 seconds W., NAD 83:

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; few fine roots; moderately acid; abrupt smooth boundary.

Bt1—8 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; many distinct dark brown (10YR 3/3) organic coatings and dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—15 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt3—21 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine distinct black (10YR 2/1) rounded accumulations of manganese oxides; moderately acid; clear smooth boundary.

Bt4—34 to 44 inches; yellowish brown (10YR 5/4) silt loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; many distinct dark yellowish brown (10YR 4/4) clay films and many distinct light gray (10YR 7/2) silt coatings on faces of peds; common medium faint brown (7.5YR 4/4) masses of iron; moderately acid; clear smooth boundary.

Bt5—44 to 50 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; many distinct dark yellowish brown (10YR 4/4) clay films and light gray (10YR 7/2) silt coatings on faces of peds; few fine distinct strong brown (7.5YR 5/6) masses of iron; moderately acid; clear smooth boundary.

2Bt6—50 to 57 inches; yellowish brown (10YR 5/6), stratified loam, sandy loam, and silt loam; weak medium subangular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

2C—57 to 60 inches; yellowish brown (10YR 5/4), stratified loam and silt loam; massive; friable; moderately acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: More than 35 inches
Thickness of the loess: 40 to 60 inches
Depth to free carbonates: More than 44 inches

Ap or A horizon:
Value—3 to 5
Chroma—1 to 3
Texture—silt loam

E horizon (if it occurs):
Value—4 to 6
Chroma—2 to 4
Texture—silt loam

BE or Bt horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silt loam

2Bt or 2BC horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—stratified loam, sandy loam, fine sandy loam, sandy clay loam, clay loam, or silt loam

2C horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—silt loam, loam, sandy loam, gravelly loam, or gravelly sandy loam; commonly stratified
Content of rock fragments—0 to 20 percent

243B—St. Charles silt loam, 2 to 5 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Summits and shoulders

Map Unit Composition

St. Charles and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the subsoil

Dissimilar soils:
- The somewhat poorly drained Kendall soils in the less sloping areas

Properties and Qualities of the St. Charles Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

Swanwick Series

Taxonomic classification: Fine-silty, mixed, active, nonacid, mesic Alfic Udarents

Typical Pedon

Swanwick silt loam, 2 to 5 percent, at an elevation of about 470 feet; Randolph County, Illinois; approximately 1,200 feet west and 1,000 feet north of the southeast corner of sec. 16, T. 4 S., R. 6 W.; USGS Baldwin, Illinois, topographic quadrangle; lat. 38 degrees 10 minutes 45 seconds N. and long. 89 degrees 45 minutes 46 seconds W., NAD 83:

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular and moderate medium platy structure; friable, slightly hard; many fine roots; about 10 percent sand and 3 percent rock fragments; neutral; clear smooth boundary.

AC—9 to 12 inches; mixed yellowish brown (10YR 5/4), light brownish gray (10YR 6/2), and reddish yellow (7.5YR 6/8) silty clay loam; massive; firm, hard; common fine roots; thick platy clods with horizontal cleavage planes; few dark iron-manganese stains on faces of clods; few distinct black (10YR 2/1) manganese concretions; about 6 percent sand and 6 percent rock fragments; slightly alkaline; clear smooth boundary.

C1—12 to 27 inches; mixed dark grayish brown (10YR 4/2), brown (10YR 5/3), grayish brown (10YR 5/2), light brownish gray (10YR 6/2), and reddish yellow (7.5YR 6/8) silty clay loam; massive; firm, hard; common fine roots; layers of compact soil with horizontal cleavage planes; about 5 percent sand and 6 percent rock fragments; slightly alkaline; gradual smooth boundary.

C2—27 to 40 inches; mixed yellowish brown (10YR 5/4) and reddish yellow (7.5YR 6/8) silty clay loam; massive; firm, very hard; few fine roots; layers of compact soil with horizontal cleavage planes; about 4 percent sand and 8 percent rock fragments; strongly acid; abrupt smooth boundary.

C3—40 to 49 inches; mixed yellowish brown (10YR 5/4) and reddish yellow (7.5YR 6/8) silty clay loam; massive; friable and firm, slightly hard; few fine roots; few relict dark iron-manganese stains and concretions; about 11 percent sand and 4 percent rock fragments; neutral; clear smooth boundary.

C4—49 to 60 inches; mixed brown (10YR 4/3) and dark gray (10YR 4/1) silty clay loam; massive; very firm; very few fine roots; about 20 percent sand and 6 percent rock fragments; slightly effervescent; slightly alkaline.

Range in Characteristics

Ap or A horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 8
Texture—silt loam or silty clay loam

C horizon (to a depth of 48 inches):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6

Chroma—1 to 8
Texture—silty clay loam, silt loam, loam, or clay loam

C horizon (below a depth of 48 inches):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—clay loam, loam, silty clay loam, silt loam, or silty clay or the gravelly or channery analogs of these textures

824B—Swanwick silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders on reconstructed ridges

Map Unit Composition

Swanwick and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner surface layer
- Soils that have a darker surface layer
- Soils that have more sand throughout
- Soils that have more clay in the surface layer

Dissimilar soils:
- The well drained Lenzburg and Schuline soils in the more sloping areas

Properties and Qualities of the Swanwick Soil

Parent material: Reclaimed fine-earth material (with a surface layer of pre-mined soil) overlying cast overburden from surface mining
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.0 to 0.5 percent
Shrink-swell potential: Moderate
Depth to perched seasonal high water table: 3.5 to 5.0 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

Sylvan Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Sylvan silt loam, in an area of Sylvan-Bold silt loams, 18 to 35 percent slopes, at an elevation of 620 feet; Cass County, Illinois; 210 feet south and 2,580 feet west of the northeast corner of sec. 28, T. 18 N., R. 10 W.; USGS Virginia, Illinois, topographic quadrangle; lat. 39 degrees 59 minutes 21 seconds N. and long. 90 degrees 13 minutes 44 seconds W., NAD 83:

A—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure parting to weak fine granular; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.

E1—4 to 8 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak medium platy structure parting to weak very fine subangular blocky; friable; few very fine and medium roots; many distinct dark grayish brown (10YR 4/2) coatings of A horizon material on faces of peds; moderately acid; clear smooth boundary.

E2—8 to 10 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; weak fine and medium subangular blocky structure; friable; few very fine roots; common distinct dark grayish brown (10YR 4/2) coatings of A horizon material on faces of peds; slightly acid; clear smooth boundary.

Bt1—10 to 17 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine subangular blocky structure; friable; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—17 to 23 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine angular and subangular blocky structure; friable; few very fine and medium roots; many distinct dark yellowish brown (10YR 4/4) and few distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

BCt—23 to 27 inches; yellowish brown (10YR 5/6) silt loam; weak fine and medium subangular blocky structure; friable; few very fine roots; few distinct dark yellowish brown (10YR 4/4) clay films lining pores; neutral; clear smooth boundary.

C1—27 to 41 inches; 80 percent yellowish brown (10YR 5/6) and 20 percent light brownish gray (10YR 6/2) silt loam; massive; friable; few very fine roots; the light brownish gray matrix color is a relict feature; few fine and medium snail shells; strongly effervescent; slightly alkaline; clear smooth boundary.

C2—41 to 64 inches; 60 percent light brownish gray (10YR 6/2) and 40 percent yellowish brown (10YR 5/6) silt loam; massive; friable; few very fine roots; the light brownish gray matrix color is a relict feature; common fine and medium snail shells; strongly effervescent; moderately alkaline; clear smooth boundary.

Cg—64 to 80 inches; 55 percent light brownish gray (10YR 6/2) and 45 percent yellowish brown (10YR 5/6) silt loam; massive; friable; common medium prominent irregular reddish yellow (7.5YR 6/8) and few fine prominent irregular strong brown (7.5YR 4/6) masses of iron accumulation lining pores; common fine and medium snail shells; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the diagnostic horizon: Typically 22 to 35 inches; ranges to 40 inches in some pedons
Depth to carbonates: 22 to 40 inches
Other features: Some pedons have an EB or BE horizon.

Ap horizon:
Hue—10YR

Value—4 to 6 (6 or 7 dry)
Chroma—2 to 4
Texture—silt loam; silty clay loam in some pedons in eroded areas

A horizon:
Hue—10YR
Value—3 to 5 (5 or 6 dry)
Chroma—2 or 3
Texture—silt loam; silty clay loam in some pedons in eroded areas

E horizon:
Hue—10YR
Value—4 or 5 (5 or 6 dry)
Chroma—2 to 4
Texture—silt loam

Bt, BCt, or BC horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—typically silty clay loam; subhorizons of silt loam in some pedons

C or Cg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or silt

19D3—Sylvan silty clay loam, 10 to 18 percent slopes, severely eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Sylvan and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils in which the subsoil extends below a depth of 40 inches
- Soils that have slopes of more than 18 percent

Properties and Qualities of the Sylvan Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0 to 1 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6 feet
Flooding: None

Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Thorp Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls

Typical Pedon

Thorp silt loam, 0 to 2 percent slopes, at an elevation of about 640 feet; La Salle County, Illinois; 990 feet north and 2,240 feet west of the southeast corner of sec. 27, T. 36 N., R. 5 E.; USGS Sheridan topographic quadrangle; lat. 41 degrees 33 minutes 42 seconds N. and long. 88 degrees 38 minutes 49 seconds W., NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate very fine granular structure; friable; neutral; abrupt smooth boundary.

A—7 to 14 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; slightly acid; abrupt smooth boundary.

Eg—14 to 19 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak fine granular structure; friable; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Btg1—19 to 21 inches; dark gray (10YR 4/1) and dark grayish brown (2.5Y 4/2) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; firm; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Btg2—21 to 33 inches; gray (5Y 5/1) and olive gray (5Y 4/2) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; many fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Btg3—33 to 43 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure parting to moderate fine angular and subangular blocky; firm; many distinct very dark gray (10YR 3/1) organo-clay films and dark gray (N 4/0) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) and distinct light yellowish brown (2.5Y 6/4) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

2Btg4—43 to 50 inches; grayish brown (10YR 5/2) and yellowish brown (10YR 5/6) sandy clay loam; weak coarse subangular blocky structure; friable; few distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; neutral; clear smooth boundary.

2Cg—50 to 65 inches; mixed grayish brown (10YR 5/2) and yellowish brown (10YR 5/8) sandy loam with thin strata of sand; friable in the sandy loam; loose in the sand; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to 65 inches
Thickness of the mollic epipedon: 10 to 14 inches
Thickness of the loess: 30 to 54 inches
Depth to carbonates: More than 40 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Eg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam

Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silt loam

2Btg and/or 2BCg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 8
Texture—sandy clay loam, loam, clay loam, silt loam, or sandy loam; strata of silty clay loam, loamy sand, or sand

2Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 8
Texture—stratified sandy loam, sandy clay loam, clay loam, loam, silt loam, and silty clay loam; thin strata of sand or loamy sand

206A—Thorp silt loam, 0 to 2 percent slopes

Setting

Landform: Depressions

Map Unit Composition

Thorp and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface layer

Dissimilar soils:
- The somewhat poorly drained Kendall soils in the slightly higher positions

Properties and Qualities of the Thorp Soil

Parent material: Loess over outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding depth: 0.0 to 0.5 foot
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Tice Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls

Typical Pedon

Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of about 465 feet; Adams County, Illinois; 1,670 feet north and 990 feet west of the southeast corner of sec. 22, T. 2 S., R. 9 W.; USGS Quincy West topographic quadrangle; lat. 39 degrees 52 minutes 56 seconds N. and long. 91 degrees 25 minutes 08 seconds W., NAD 83:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure parting to weak medium granular; firm; common very fine roots throughout; neutral; abrupt smooth boundary.

A—9 to 14 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; firm; few very fine roots throughout; few fine faint brown (10YR 4/3) masses of iron and manganese accumulation in the matrix; neutral; clear smooth boundary.

BA—14 to 19 inches; dark grayish brown (10YR 4/2) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; firm; few very fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common fine faint brown (7.5YR 4/3) masses of iron and manganese accumulation in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bw—19 to 35 inches; brown (10YR 4/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; many medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

Bg1—35 to 44 inches; dark grayish brown (10YR 4/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots throughout; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; many medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; moderately acid; gradual smooth boundary.
Bg2—44 to 61 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak medium prismatic structure; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.
Bg3—61 to 80 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak medium prismatic structure; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to the base of the diagnostic horizon: 30 to more than 80 inches
Other features: Some pedons have an AB or BA horizon.

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silty clay loam or silt loam

Bw or Bg horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—silty clay loam or silt loam

BC or BCg horizon (if it occurs):
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—1 to 4
Texture—silty clay loam or silt loam; strata of loam, clay loam, or sandy loam in some pedons

Cg or C horizon (if it occurs):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 3
Texture—typically stratified silty clay loam, clay loam, loam, sandy loam, or silt loam

3284A—Tice silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Tice and similar soils: 91 percent
Dissimilar soils: 9 percent

Soils of Minor Extent

Similar soils:
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have less clay in the surface layer and subsoil

Dissimilar soils:
- The poorly drained Beaucoup soils in depressions

Properties and Qualities of the Tice Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 1 to 2 feet
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland status: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

8284A—Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Tice and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have less clay in the surface layer and subsoil

Dissimilar soils:
- The well drained Raddle soils in the higher positions
- The poorly drained Beaucoup soils in depressions

Properties and Qualities of the Tice Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 5.0 to 6.0 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 1 to 2 feet
Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

Timewell Series

Taxonomic classification: Fine, smectitic, mesic Aquic Argiudolls

Typical Pedon

Timewell silt loam, in an area of Timewell and Ipava soils, 0 to 2 percent slopes, at an elevation of 750 feet; Brown County, Illinois; 271 feet north and 1,808 feet east of the southwest corner of sec. 7, T. 1 S., R. 4 W.; USGS Kellerville, Illinois, topographic quadrangle; lat. 39 degrees 59 minutes 21 seconds N. and long. 90 degrees 54 minutes 28 seconds W., NAD 83:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; few fine roots; neutral; abrupt smooth boundary.

A—8 to 12 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak medium platy structure parting to moderate fine granular; friable; few fine roots; neutral; abrupt smooth boundary.

AE—12 to 18 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate thin platy structure parting to weak fine granular; friable; few fine roots; common fine distinct light gray (10YR 7/1) clay depletions, few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation, and few fine faint black (7.5YR 2/1) masses of manganese accumulation throughout; moderately acid; clear smooth boundary.

Bt1—18 to 22 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; firm; few fine roots; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation and common fine prominent black (7.5YR 2/1) masses of iron and manganese accumulation throughout; few fine distinct grayish brown (10YR 5/2) iron depletions throughout; strongly acid; clear smooth boundary.

Bt2—22 to 29 inches; yellowish brown (10YR 5/4) silty clay; weak medium prismatic structure parting to moderate fine subangular blocky; firm; few fine roots; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation, few fine distinct grayish brown (10YR 5/2) iron depletions, and common fine prominent black (7.5YR 2/1) masses of manganese accumulation throughout; strongly acid; clear smooth boundary.

Btg1—29 to 40 inches; grayish brown (2.5Y 5/2) silty clay; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; common fine distinct yellowish brown (10YR 5/4) and common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout and common fine and medium prominent black (7.5YR 2/1) masses of manganese accumulation throughout; moderately acid; clear smooth boundary.

Btg2—40 to 48 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; common distinct dark gray (10YR 4/1) clay films on faces of peds and common prominent very dark gray (10YR 3/1) organic coatings in root channels and pores; many medium distinct yellowish brown (10YR 5/4) and common medium prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout and common fine and medium prominent black (7.5YR 2/1) masses of manganese accumulation throughout; moderately acid; clear smooth boundary.

Btg3—48 to 56 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few fine roots; common distinct dark gray (10YR 4/1) clay films on faces of peds and few distinct very dark gray (10YR 3/1) organic coatings in root channels and/or pores; few fine prominent yellowish brown (10YR 5/6) and common fine distinct light yellowish brown (10YR 6/4) masses of iron accumulation throughout and few fine prominent black (7.5YR 2/1) masses of manganese accumulation throughout; moderately acid; clear smooth boundary.

BCtg—56 to 67 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium prismatic structure; friable; few fine roots; few distinct dark gray (10YR 4/1) clay films on faces of peds and few prominent very dark gray (10YR 3/1) organic coatings in root channels and pores; many fine prominent yellowish brown (10YR 5/6) and common fine distinct light yellowish brown (10YR 6/4) masses of iron accumulation throughout and few fine prominent black (7.5YR 2/1) masses of manganese accumulation throughout; moderately acid; clear smooth boundary.

Cg—67 to 80 inches; light gray (5Y 7/1) silt loam; massive; friable; very few prominent very dark gray (10YR 3/1) organic coatings in root channels and pores; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and few fine prominent black (7.5YR 2/1) masses of manganese accumulation throughout; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 21 inches
Depth to carbonates (if they occur): More than 60 inches
Depth to the base of the diagnostic horizon: 45 to 70 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

E or AE horizon:
Hue—10YR
Value—3 or 4
Chroma—1 or 2
Texture—silt loam

Bt or Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam, silty clay, or silt loam

C or Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 7
Chroma—1 to 6
Texture—silt loam or silty clay loam

699A—Timewell silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits

Map Unit Composition

Timewell and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface layer
- Soils that have a darker subsurface layer that contains more clay

Dissimilar soils:
- The poorly drained Denny and Virden soils in depressions

Properties and Qualities of the Timewell Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 4.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 1 to 2 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1

Prime farmland status: Prime farmland
Hydric soil status: Not hydric

855A—Timewell and Ipava soils, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits

Map Unit Composition

Timewell and/or Ipava and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface layer

Dissimilar soils:
- The poorly drained Denny and Virden soils in depressions

Properties and Qualities of the Timewell Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 4.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 1 to 2 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Ipava Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 5.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 1 to 2 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Timewell—1; Ipava—1
Prime farmland status: Prime farmland
Hydric soil status: Timewell—not hydric; Ipava—not hydric

855B—Timewell and Ipava soils, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders

Map Unit Composition

Timewell and/or Ipava and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface layer
- Soils that have less clay in the upper part of the subsoil and more sand in the lower part of the subsoil

Properties and Qualities of the Timewell Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 4.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 1 to 2 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Ipava Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 5.0 percent
Shrink-swell potential: High
Depth to apparent seasonal high water table: 1 to 2 feet
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Timewell—2e; Ipava—2e
Prime farmland status: Prime farmland
Hydric soil status: Timewell—not hydric; Ipava—not hydric

Timula Series

Taxonomic classification: Coarse-silty, mixed, superactive, mesic Typic Eutrudepts

Typical Pedon

Timula silt loam, 10 to 18 percent slopes, eroded, at an elevation of 585 feet; Adams County, Illinois; 2,500 feet west and 2,240 feet south of the northeast corner of sec. 13, T. 1 N., R. 9 W.; USGS Long Island, Illinois, topographic quadrangle; lat. 40 degrees 04 minutes 35 seconds N. and long. 91 degrees 23 minutes 24 seconds W., NAD 83:

Ap—0 to 5 inches; 90 percent brown (10YR 4/3) and 10 percent yellowish brown (10YR 5/6) silt loam, brownish yellow (10YR 6/6) dry; moderate fine granular structure; friable; common fine roots throughout; neutral; clear smooth boundary.

E—5 to 7 inches; 70 percent yellowish brown (10YR 5/4) and 29 percent light brownish gray (10YR 6/2) silt loam, very pale brown (10YR 7/3) dry; weak thin platy structure parting to weak fine subangular blocky; very friable; few fine roots throughout; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout and few medium prominent black (2.5Y 2/1) manganese concretions lining root channels and pores; the light brownish gray matrix color and masses are relict redoximorphic features; neutral; clear smooth boundary.

Bw1—7 to 10 inches; 75 percent yellowish brown (10YR 5/6) and 24 percent light brownish gray (10YR 6/2) silt loam; weak medium subangular blocky structure; very friable; few very fine and fine roots throughout; few distinct yellowish brown (10YR 5/4) clay films in root channels and pores; few medium distinct yellowish brown (10YR 5/8) masses of iron accumulation and many medium prominent black (2.5Y 2/1) masses of manganese accumulation throughout; the light brownish gray matrix color and masses are relict redoximorphic features; neutral; clear wavy boundary.

Bw2—10 to 17 inches; light brownish gray (10YR 6/2) silt loam; weak fine subangular blocky structure; very friable; few fine roots throughout; few fine prominent black (2.5Y 2/1) manganese concretions and common medium prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation throughout; the light brownish gray matrix color and masses are relict redoximorphic features; neutral; clear wavy boundary.

BC—17 to 22 inches; 50 percent yellowish brown (10YR 5/6) and 40 percent light brownish gray (10YR 6/2) silt loam; weak coarse subangular blocky structure; very friable; few fine roots throughout; common medium distinct yellowish brown (10YR 5/8) masses of iron accumulation throughout and few fine prominent black (2.5Y 2/1) masses of manganese accumulation lining root channels and pores; the light brownish gray matrix color and masses are relict redoximorphic features; slightly acid; clear wavy boundary.

C1—22 to 39 inches; light brownish gray (10YR 6/2) silt loam; massive; very friable; few very fine roots throughout; few fine and medium prominent yellowish brown (10YR 5/6 and 5/8) and few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation, few fine and medium faint white (10YR 8/1) and medium faint pale yellow (2.5Y 7/3) masses of carbonate, and few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; the light brownish gray matrix color and masses are relict redoximorphic features; slightly effervescent; slightly alkaline; clear wavy boundary.

C2—39 to 84 inches; light brownish gray (10YR 6/2) silt loam; massive; very friable; common fine and medium prominent yellowish brown (10YR 5/8) masses of iron accumulation, common fine and medium faint white (10YR 8/1) masses of carbonate, and few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; the light brownish gray matrix color and masses are relict redoximorphic features; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to carbonates: 18 to 36 inches
Depth to the base of the diagnostic horizon: 18 to 36 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—silt loam or silt

E horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silt loam or silt

Bw horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or silt

C horizon:
Hue—10YR, 2.5Y, or 5Y
Value—5 or 6
Chroma—2 to 4
Texture—silt loam or silt

271D2—Timula silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Timula and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil
- Soils that have slopes of more than 18 percent
- Soils that have more clay in the subsoil and have carbonates at a depth of more than 40 inches

Properties and Qualities of the Timula Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6 feet
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Titus Series

Taxonomic classification: Fine, smectitic, mesic Vertic Endoaquolls

Typical Pedon

Titus silty clay loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of 470 feet; Adams County, Illinois; 2,650 feet west and 2,150 feet south of the northeast corner of sec. 20, T. 2 N., R. 9 W.; USGS Lima, Illinois, topographic quadrangle; lat. 40 degrees 09 minutes 05 seconds N. and long. 91 degrees 27 minutes 55 seconds W., NAD 83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silty clay loam, dark grayish brown (10YR 4/2) dry; weak fine and medium subangular blocky structure; very firm; few fine roots; neutral; clear smooth boundary.

A—7 to 13 inches; dark olive gray (5Y 3/2) silty clay loam, dark grayish brown (10YR 4/2) dry; weak medium subangular blocky structure; very firm; few fine roots; few fine dark prominent yellowish brown (10YR 4/4) masses of iron accumulation throughout; neutral; clear smooth boundary.

Bg1—13 to 25 inches; dark gray (2.5Y 4/1) silty clay; weak fine prismatic structure; very firm; few fine roots; many faint dark olive gray (5Y 3/2) organo-clay films on faces of peds; common fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation throughout; neutral; clear smooth boundary.

Bg2—25 to 36 inches; dark gray (5Y 4/1) silty clay; weak medium prismatic structure; very firm; few very fine roots; many distinct gray (N 5/0) pressure faces on faces of peds; common fine prominent brown (7.5YR 4/4) masses of iron accumulation and few fine prominent black (10YR 2/1) masses of manganese accumulation throughout; neutral; clear smooth boundary.

Bg3—36 to 46 inches; dark gray (5Y 4/1) silty clay; weak medium prismatic structure; very firm; few very fine roots; many distinct gray (N 5/0) pressure faces on faces of peds; common fine prominent brown (7.5YR 4/4) masses of iron accumulation and few fine prominent black (10YR 2/1) masses of manganese accumulation throughout; neutral; clear smooth boundary.

Bg4—46 to 55 inches; dark gray (2.5Y 4/1) silty clay; weak fine prismatic structure; very firm; few very fine roots; many distinct gray (N 5/0) pressure faces on faces of peds; few fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation throughout; neutral; clear smooth boundary.

BCg—55 to 68 inches; dark gray (5Y 4/1) silty clay loam; massive; very firm; few fine dark yellowish brown (10YR 4/6) masses of iron accumulation throughout; neutral; clear smooth boundary.

Cg—68 to 80 inches; dark gray (5Y 4/1) silty clay loam; massive; very firm; many fine prominent brown (7.5YR 4/4) masses of iron accumulation and few fine distinct black (10YR 2/1) masses of manganese accumulation throughout; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to the base of the diagnostic horizon: 35 to 70 inches

Ap or A horizon:
Hue—10YR, 5Y, or N
Value—2 or 3
Chroma—0 to 2
Texture—silty clay loam or silty clay

Bg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay or silty clay loam
Content of rock fragments—0 to 2 percent

Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam; strata of silt loam or loam in some pedons
Content of gravel—0 to 15 percent

3404A—Titus silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Titus and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have less clay in the subsoil

Dissimilar soils:
- The somewhat poorly drained Tice soils in the higher positions

Properties and Qualities of the Titus Soil

Parent material: Clayey alluvium
Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding depth: 0.0 to 0.5 foot
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 4w
Prime farmland status: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

8404A—Titus silty clay loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Titus and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil
- Soils that have a dark surface soil more than 24 inches thick

Dissimilar soils:
- The somewhat poorly drained Orion soils in the higher positions

Properties and Qualities of the Titus Soil

Parent material: Clayey alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding depth: 0.0 to 0.5 foot
Frequency and most likely period of flooding: Occasional, November to June (fig. 9)
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete

Figure 9.—A levee in an area of Titus silty clay loam, 0 to 2 percent slopes, occasionally flooded.

Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 3w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Ursa Series

Taxonomic classification: Fine, smectitic, mesic Chromic Vertic Hapludalfs

Typical Pedon

Ursa silt loam, 10 to 18 percent slopes, eroded, at an elevation of 665 feet; Brown County, Illinois; 1,000 feet east and 740 feet north of the southwest corner of sec. 6, T. 1 N., R. 4 W.; USGS Clayton, Illinois, topographic quadrangle; lat. 40 degrees 05 minutes 34 seconds N. and long. 90 degrees 54 minutes 35 seconds W., NAD 83:

A—0 to 6 inches; grayish brown (10YR 5/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; many fine and medium roots throughout; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation lining root channels and pores; slightly acid; abrupt smooth boundary.

Bt1—6 to 10 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots throughout; common distinct yellowish brown (10YR 5/4) clay films and very pale brown (10YR 7/3) silt coatings on faces of peds; few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; strongly acid; clear wavy boundary.

2Bt2—10 to 15 inches; yellowish brown (10YR 5/8) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots throughout; many prominent brown (7.5YR 5/4) clay films on faces of peds; common fine faint strong brown (7.5YR 5/8) masses of iron accumulation throughout; 5 percent fine gravel; strongly acid; clear wavy boundary.

2Bt3—15 to 22 inches; yellowish brown (10YR 5/8) clay; weak coarse subangular blocky structure; firm; few fine roots throughout; few prominent brown (7.5YR 4/4) clay films in root channels and pores; common fine faint strong brown (7.5YR 5/8) masses of iron accumulation and few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; 5 percent fine gravel; moderately acid; clear wavy boundary.

2Bt4—22 to 28 inches; yellowish brown (10YR 5/6) clay; weak coarse prismatic structure; very firm; few fine roots throughout; common distinct pale brown (10YR 6/3) clay films and common distinct brown (7.5YR 4/4) clay films on faces of peds; few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; 5 percent fine gravel; moderately acid; clear smooth boundary.

2Bt5—28 to 35 inches; yellowish brown (10YR 5/6) clay loam; weak coarse prismatic structure; very firm; few fine roots in cracks; common distinct light brownish gray (10YR 6/2) clay films in root channels and pores; common fine faint strong brown (7.5YR 4/6) masses of iron accumulation and common fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; neutral; clear wavy boundary.

2Btg1—35 to 46 inches; light brownish gray (2.5Y 6/2) clay loam; moderate coarse prismatic structure; very firm; few fine roots in cracks; many faint light brownish gray (10YR 6/2) clay films on faces of peds; few fine and medium prominent yellowish brown (10YR 5/8) masses of iron accumulation and few medium prominent black (2.5Y 2/1) masses of manganese accumulation throughout; 5 percent fine gravel; neutral; clear wavy boundary.

2Btg2—46 to 56 inches; light brownish gray (2.5Y 6/2) clay loam; moderate coarse prismatic structure parting to strong medium subangular blocky; very firm; few very fine roots in cracks; many faint light brownish gray (10YR 6/2) clay films on faces of peds; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation lining root channels and pores and few fine distinct black (2.5Y 2/1) masses of manganese accumulation on faces of peds and between pores; 1 percent fine rounded quartz pebbles; slight effervescence on faces of peds; neutral; clear wavy boundary.

2BCt1—56 to 74 inches; light yellowish brown (2.5Y 6/4) clay loam; strong medium and coarse subangular blocky structure; very firm; many distinct light brownish gray (10YR 6/2) clay films on faces of peds; many medium and coarse prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout and common fine to coarse prominent black (2.5Y 2/1) masses of manganese accumulation on faces of peds; 5 percent fine gravel; neutral; clear wavy boundary.

2BCt2—74 to 90 inches; yellowish brown (10YR 5/6) clay loam; strong coarse prismatic structure; very firm; many distinct light brownish gray (2.5Y 6/2) clay films on faces of peds; many medium and coarse prominent black (2.5Y 2/1) masses of manganese accumulation on faces of peds; about 5 percent fine gravel; neutral.

Range in Characteristics

Thickness of the loess: Less than 20 inches
Depth to carbonates (if they occur): More than 60 inches
Depth to the base of the diagnostic horizon: More than 50 inches

Ap or A horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam, loam, silty clay loam, or clay loam

Bt, 2Bt, or 2Btg horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—clay loam, clay, silty clay, or silty clay loam
Content of rock fragments—0 to 10 percent

C or 2C horizon (if it occurs):
Hue—10YR, 7.5YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—clay loam, clay, silty clay, or loam
Content of rock fragments—2 to 10 percent

605D2—Ursa silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Ursa and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the surface layer and subsoil
- Soils that have less clay in the upper part of the subsoil

Dissimilar soils:
- The well drained Marseilles soils in areas downslope from the Ursa soil

Properties and Qualities of the Ursa Soil

Parent material: Paleosol that formed in till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: High
Depth to perched seasonal high water table: 4.0 to 5.5 feet

Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Vesser Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls

Typical Pedon

Vesser silt loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of 480 feet; Adams County, Illinois; 360 feet west and 220 feet south of the northeast corner of sec. 4, T. 1 N., R. 9 W.; USGS Long Island topographic quadrangle; lat. 40 degrees 06 minutes 37 seconds N. and long. 91 degrees 26 minutes 02 seconds W., NAD 83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; neutral; abrupt smooth boundary.

A—8 to 14 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine subangular blocky structure parting to weak medium granular; friable; common fine prominent dark brown (7.5YR 3/4) masses of iron and manganese accumulation throughout; neutral; gradual smooth boundary.

Eg1—14 to 20 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak medium platy structure parting to weak very fine subangular blocky; friable; very few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium faint gray (10YR 5/1) clay depletions between peds and common fine prominent dark brown (7.5YR 3/4) masses of iron and manganese accumulation throughout; slightly acid; clear smooth boundary.

Eg2—20 to 26 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak thick platy structure parting to weak very fine subangular blocky; friable; very few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium distinct gray (10YR 6/1) clay depletions between peds and common fine prominent brown (7.5YR 4/4) masses of iron and manganese accumulation throughout; slightly acid; gradual smooth boundary.

Btg1—26 to 34 inches; gray (10YR 5/1) silty clay loam; weak medium prismatic structure; friable; very few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and few distinct gray (10YR 6/1) silt coatings in root channels and pores; common medium prominent dark brown (7.5YR 3/4) masses of iron and manganese accumulation throughout; moderately acid; gradual smooth boundary.

Btg2—34 to 48 inches; gray (10YR 5/1) silty clay loam; weak medium prismatic structure; firm; very few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and very few distinct light brownish gray (10YR 6/2) silt coatings in root channels and pores; common medium prominent dark brown (7.5YR 3/4) masses of iron and manganese accumulation throughout; moderately acid; gradual smooth boundary.

Btg3—48 to 58 inches; gray (10YR 5/1) silty clay loam; weak medium prismatic structure; firm; few distinct light brownish gray (10YR 6/2) silt coatings in root channels and pores and very few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common medium prominent dark brown (7.5YR 3/4) masses of iron and manganese accumulation throughout; slightly acid; clear smooth boundary.

BCg—58 to 80 inches; gray (10YR 5/1) silty clay loam; weak coarse prismatic structure; firm; very few distinct dark gray (10YR 4/1) clay films on faces of peds and very few distinct light brownish gray (10YR 6/2) silt coatings in root channels and pores; common medium prominent dark brown (7.5YR 3/4) masses of iron and manganese accumulation throughout; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to the base of the diagnostic horizon: More than 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

E or Eg horizon:
Hue—10YR
Value—3 to 5
Chroma—1 or 2
Texture—silt loam

Btg horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 or 2
Texture—silty clay loam

8396A—Vesser silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Vesser and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil
- Soils that have a lighter colored surface layer
- Soils that have a darker subsurface layer

Dissimilar soils:
- The somewhat poorly drained Kendall soils in the higher positions

Properties and Qualities of the Vesser Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Virden Series

Taxonomic classification: Fine, smectitic, mesic Vertic Argiaquolls

Typical Pedon

Virden silty clay loam, 0 to 2 percent slopes, at an elevation of 699 feet; Adams County, Illinois; 140 feet west and 54 feet north of the southeast corner of sec. 3, T. 2 N., R. 6 W.; USGS Bowen topographic quadrangle; lat. 40 degrees 10 minutes 49 seconds N. and long. 91 degrees 04 minutes 00 seconds W., NAD 83:

Ap—0 to 8 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium granular structure; firm; slightly alkaline; abrupt smooth boundary.

A—8 to 16 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; firm; moderately acid; clear smooth boundary.

Btg1—16 to 23 inches; very dark gray (10YR 3/1) silty clay, grayish brown (10YR 5/2) dry; strong fine angular blocky structure; firm; few faint black (10YR 2/1) organo-clay films on faces of peds; few fine faint black (10YR 2/1) manganese concretions throughout; slightly acid; clear smooth boundary.

Btg2—23 to 34 inches; gray (5Y 5/1) silty clay loam; weak coarse prismatic structure parting to moderate medium angular blocky; firm; few distinct dark gray (10YR 4/1) clay films on faces of peds; many medium prominent brownish yellow (10YR 6/6) masses of iron accumulation and few fine prominent black (10YR 2/1) masses of manganese accumulation throughout; slightly acid; clear smooth boundary.

Btg3—34 to 42 inches; gray (5Y 5/1) silty clay loam; weak and moderate coarse prismatic structure parting to moderate coarse angular blocky; firm; few distinct dark gray (5Y 4/1) clay films on faces of peds; common medium prominent light olive brown (2.5Y 5/6) masses of iron accumulation and few fine prominent black (10YR 2/1) masses of manganese accumulation throughout; neutral; clear smooth boundary.

Btg4—42 to 49 inches; gray (5Y 5/1) silty clay loam; moderate coarse prismatic structure parting to weak coarse angular blocky; firm; very few distinct dark gray (N 4/0) clay films on faces of peds; many medium prominent olive brown (2.5Y 4/4) masses of iron and manganese accumulation throughout; neutral; gradual smooth boundary.

Cg—49 to 60 inches; gray (5Y 5/1) silty clay loam; massive; firm; common medium prominent olive brown (2.5Y 4/4) masses of iron and manganese accumulation throughout; neutral.

Range in Characteristics

Depth to carbonates (if they occur): More than 50 inches
Depth to the base of the diagnostic horizon: 40 to 60 inches
Thickness of the mollic epipedon: 10 to 24 inches

Ap or A horizon:
Hue—10YR, 2.5Y, or 5Y
Value—2 or 3
Chroma—1 or 2
Texture—silty clay loam or silt loam

Btg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 6
Chroma—0 to 4
Texture—silty clay loam, silty clay, or silt loam

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 4
Texture—silty clay loam or silt loam

50A—Virden silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Toeslopes

Map Unit Composition

Virden and similar soils: 92 percent
Dissimilar soils: 8 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that have less clay in the surface layer

Dissimilar soils:
- The well drained Osco soils in the more sloping areas
- The somewhat poorly drained Ipava soils in the slightly higher positions

Properties and Qualities of the Virden Soil

Parent material: Loess (fig. 5)
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 6.0 percent
Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding depth: 0.0 to 0.5 foot
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Virgil Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs

Typical Pedon

Virgil silt loam, 0 to 2 percent slopes, at an elevation of 765 feet; Stephenson County, Illinois; 300 feet south and 1,346 feet east of the northwest corner of sec. 8, T. 26 N., R. 8 E.; USGS Freeport East topographic quadrangle; lat. 42 degrees 16 minutes 21 seconds N. and long. 89 degrees 36 minutes 26 seconds W., NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) silt loam, grayish brown (10YR 5/2) dry; weak medium granular structure; friable; common fine roots throughout; neutral; abrupt smooth boundary.

E—7 to 13 inches; mixed dark grayish brown (10YR 4/2) and grayish brown (10YR 5/2) silt loam; weak thin platy structure parting to moderate fine granular; friable; many fine roots throughout; few distinct black (10YR 2/1) organic coatings on faces of peds and in root channels; few fine prominent brown (7.5YR4/4) iron masses in the matrix; strongly acid; clear smooth boundary.

Bt1—13 to 17 inches; mixed grayish brown (10YR 5/2) and brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; common fine roots between peds; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common faint light brownish gray (10YR 6/2) (dry) and light gray (10YR 7/2) (dry) clay depletions on faces of peds; few fine black (10YR 2/1) soft masses of manganese; few fine prominent brown (7.5YR 4/4) and strong brown (7.5YR 5/6) iron masses in the matrix; strongly acid; clear smooth boundary.

Bt2—17 to 25 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; common fine roots between peds; common faint dark grayish brown (10YR 4/2) and grayish brown (10YR 5/2) clay films on faces of peds; common faint light brownish gray (10YR 6/2) (dry) and light gray (10YR 7/2) (dry) silt coatings on faces of peds; few fine black (10YR 2/1) manganese concretions; few fine distinct brown (7.5YR 4/4) and few fine prominent strong brown (7.5YR 5/6) iron masses in the matrix; strongly acid; gradual smooth boundary.

Btg1—25 to 35 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; few fine roots between peds; many faint grayish brown (2.5Y5/2) clay films on faces of peds; few distinct light brownish gray (10YR 6/2) (dry) and light gray (10YR 7/2) (dry) silt coatings on faces of peds; many fine black (10YR 2/1) manganese concretions; common fine prominent strong brown (7.5YR 5/6 and 5/8) iron masses in the matrix; strongly acid; clear smooth boundary.

Btg2—35 to 44 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate medium and coarse subangular and angular blocky structure; firm; few fine roots between peds; common faint grayish brown (2.5Y 5/2) clay films on faces of peds; few distinct light brownish gray (10YR 6/2) (dry) and light gray (10YR 7/2) (dry) silt coatings on faces of peds; many fine black (10YR 2/1) manganese concretions; many medium prominent brown (7.5YR 4/4) and strong brown (7.5YR 5/6) iron masses in the matrix; moderately acid; clear smooth boundary.

Btg3—44 to 49 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium and coarse angular blocky structure; firm; few fine roots between peds; few distinct gray (N 5/0) clay films on faces of peds; many fine black (10YR 2/1) manganese concretions; many medium prominent brown (7.5YR 4/4) and strong brown (7.5YR 5/6) iron masses in the matrix; moderately acid; clear smooth boundary.

2Btg4—49 to 58 inches; mixed grayish brown (2.5Y 5/2) and light brownish gray (2.5Y 6/2) loam; weak coarse angular blocky structure; firm; few distinct dark gray (N 4/0) clay films on faces of peds; few fine black (10YR 2/1) manganese concretions; many medium prominent brown (7.5YR 4/4) and strong brown (7.5YR 5/6) iron masses in the matrix; neutral; gradual smooth boundary.

2C—58 to 60 inches; mixed brown (10YR 4/3) and dark yellowish brown (10YR 4/4) sandy loam; massive; friable; common fine distinct dark gray (10YR 4/1) and gray (10YR 5/1) iron depletions; slightly alkaline.

Range in Characteristics

Thickness of the loess or other silty material: 40 to 60 inches
Depth to carbonates: 45 to 70 inches
Depth to the base of the diagnostic horizon: 42 to 70 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

E horizon:
Hue—10YR
Value—4 to 6
Chroma—1 or 2
Texture—silt loam

Bt or Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam

2Bt or 2Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 8
Texture—loam, clay loam, sandy loam, silty clay loam, or silt loam

2C horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 8
Texture—loam, sandy loam, silt loam, or clay loam

8104A—Virgil silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

Virgil and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface layer
- Soils that have a thicker dark surface layer
- Soils that have more sand in the subsoil
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:
- The well drained Martinsville soils in the more sloping areas

Properties and Qualities of the Virgil Soil

Parent material: Silty material over outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to apparent seasonal high water table: 0.5 foot to 2.0 feet
Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland status: Prime farmland where drained
Hydric soil status: Not hydric

Wakeland Series

Taxonomic classification: Coarse-silty, mixed, superactive, nonacid, mesic Aeric Fluvaquents

Typical Pedon

Wakeland silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 645 feet; Adams County, Illinois; 1,240 feet east and 840 feet north of the southwest corner of sec. 5, T. 1 S., R. 6 W.; USGS Camp Point, Illinois, topographic quadrangle; lat. 40 degrees 00 minutes 28 seconds N. and long. 91 degrees 07 minutes 11 seconds W., NAD 83:

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, very pale brown (10YR 7/3) dry; weak fine granular structure; friable; common fine roots; moderately acid; abrupt smooth boundary.

A—6 to 10 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; weak fine granular structure; friable; few fine roots; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation, common fine distinct black (10YR 2/1) masses of manganese accumulation, and common fine faint grayish brown (10YR 5/2) iron depletions throughout; moderately acid; abrupt smooth boundary.

Cg1—10 to 21 inches; stratified, 88 percent dark grayish brown (10YR 4/2) and 2 percent light yellowish brown (10YR 6/4) silt loam; weak fine granular structure; friable; few very fine roots; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine faint gray (10YR 5/1) iron depletions throughout; slightly acid; gradual smooth boundary.

Cg2—21 to 35 inches; stratified, 88 percent dark grayish brown (10YR 4/2) and 2 percent grayish brown (10YR 5/2) silt loam; weak very fine granular structure; friable; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine faint gray (10YR 5/1) iron depletions throughout; slightly acid; gradual smooth boundary.

Cg3—35 to 50 inches; dark gray (10YR 4/1) silt loam; massive; friable; common fine and medium prominent yellowish brown (10YR 5/6) and few fine distinct yellowish brown (10YR 5/4) masses of iron accumulation throughout and common fine faint gray (10YR 5/1) iron depletions throughout; moderately acid; gradual smooth boundary.

Cg4—50 to 65 inches; dark gray (10YR 4/1) silt loam; massive; friable; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine faint gray (10YR 5/1) iron depletions throughout; moderately acid; gradual smooth boundary.

Cg5—65 to 80 inches; dark gray (10YR 4/1) silt loam; massive; friable; common fine and medium distinct yellowish brown (10YR 5/4) and few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout and common fine faint gray (10YR 5/1) iron depletions throughout; slightly acid.

Range in Characteristics

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—1 to 4
Texture—silt loam

Cg or C horizon:
Hue—10YR, 7.5YR, or 2.5Y
Value—4 to 7
Chroma—1 or 6
Texture—silt loam or loam

3333A—Wakeland silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Wakeland and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the surface layer and underlying material
- Soils that have a darker surface layer

Dissimilar soils:
- The somewhat poorly drained Kendall soils in the higher positions
- The poorly drained Birds soils in depressions

Properties and Qualities of the Wakeland Soil

Parent material: Silty alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to apparent seasonal high water table: 0.5 foot to 2.0 feet
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Wilbur Series

Taxonomic classification: Coarse-silty, mixed, superactive, mesic Fluvaquentic Eutrudrepts

Typical Pedon

Wilbur silt loam, 0 to 2 percent slopes, at an elevation of about 445 feet: Monroe County, Illinois; approximately 1,200 feet west and 1,100 feet south of the northeast corner of sec. 9, T. 1 S., R. 10 W.; USGS Columbia, Illinois, topographic quadrangle; lat. 38 degrees 28 minutes 07 seconds N. and long. 90 degrees 12 minutes 15 seconds W., NAD 83:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable ; common very fine roots; slightly acid; clear smooth boundary.

Bw1—7 to 15 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; few very fine roots; few medium rounded distinct black (7.5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; neutral; clear smooth boundary.

Bw2—15 to 22 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; few very fine roots; few fine faint grayish brown (10YR 5/2) iron depletions; few fine irregular prominent strong brown (7.5YR 5/6) masses of iron accumulation and few fine and medium rounded distinct black (7.5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; neutral; clear smooth boundary.

Bw3—22 to 41 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; few very fine roots; common fine faint grayish brown (10YR 5/2) iron depletions; common fine irregular prominent strong brown (7.5YR 5/6) masses of iron accumulation and few fine rounded distinct black (7.5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; few thin light yellowish brown (10YR 6/4) strata; neutral; clear smooth boundary.

Cg—41 to 65 inches; dark grayish brown (10YR 4/2) silt loam; massive; friable; few very fine roots; few fine distinct dark yellowish brown (10YR 3/4) masses of iron-manganese accumulation in the matrix; common fine irregular distinct black (7.5YR 2.5/1) masses of manganese accumulation and brown (7.5YR 4/4) masses of iron accumulation; neutral; clear smooth boundary.

2Ab—65 to 80 inches; very dark gray (2.5Y 3/1) silty clay loam; moderate fine subangular blocky structure; firm; common fine irregular strong brown (7.5YR 4/6) masses of iron accumulation and common fine and medium rounded black (7.5YR 2.5/1) manganese nodules with diffuse strong brown (7.5YR 5/6) boundaries; slightly acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 24 to 42 inches
Other features: Some pedons do not have a buried soil below a depth of 60 inches.

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

Bw horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—silt loam

C or Cg horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or loam; stratified in some pedons

8336A—Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Wilbur and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand throughout the surface layer and subsoil
- Soils that have a darker surface layer

Dissimilar soils:
- The somewhat poorly drained Kendall soils in the higher positions
- The poorly drained Birds soils in depressions

Properties and Qualities of the Wilbur Soil

Parent material: Silty alluvium
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to apparent seasonal high water table: 1.5 to 2.0 feet
Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

M-W—Miscellaneous water

- This map unit consists of water bodies at municipal sewage treatment plants and animal waste treatment facilities.

W—Water

- This map unit consists of natural water bodies, such as ponds, lakes, and rivers.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

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

Rating Class Terms

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

Numerical Ratings

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

Minesoil descriptions and soil map delineations reflect conditions in the survey area at the time when fieldwork was completed and may reflect active mining and/or reclamation. More recent reclamation practices or changes in soil classification may change the mapping, classification, and interpretations of minesoils. At the time of publication, long-term crop yield information that is typically used for estimating yields was not available for minesoils. Current and site-specific information is available from the Illinois Department of Natural Resources, Office of Mines and Minerals, Land Reclamation Division.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, 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 “Soil Series and 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 1997, a total of 144,407 acres in Schuyler County was cropland (USDA/NASS, 1997) The major row crops are corn and soybeans. Wheat is the major small grain crop grown.

The soils in Schuyler County have good potential for continued crop production, especially if the latest crop production technology is applied. This soil survey can be used as a guide for applying the latest crop production technologies.

Limitations and Hazards Affecting Cropland

The management concerns affecting the use of the detailed soil map units in the survey area for crops are shown in table 6. The main concerns include crusting, flooding, ponding, poor tilth, water erosion, and wetness. Excessive permeability, high pH, limited available water capacity, and wind erosion are additional concerns.

Crusting occurs when flowing water or raindrops break down soil structural units, moving clay downward and leaving a concentration of sand and silt particles on the surface layer. Crusts can reduce the rate of water infiltration, increase the runoff rate, inhibit seedling emergence and proper growth, and reduce oxygen diffusion to seedlings.

Practices that minimize surface crusting protect the surface from the impact of raindrops and flowing water. Incorporating green manure crops, manure, or crop residue into the soil and using a system of conservation tillage help to prevent crusting by improving tilth.

Flooding occurs in unprotected areas along major rivers and their tributaries. Levees or diversions reduce the extent of crop damage caused by floodwater. Surface drainage ditches can remove floodwater if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning. Selecting crop varieties adapted to a shorter growing season and wetter conditions can also reduce the extent of damage caused by flooding.

Ponding is a hazard in areas where the seasonal high water table is above the surface. Land grading helps to control ponding. Surface ditches and surface inlet tile also help to remove excess water if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning.

Poor tilth can occur in soils when part of the subsoil is incorporated into the plow layer, typically as a result of the thinning of the surface layer by erosion. The incorporation of subsoil material into the plow layer decreases the amount of organic matter and increases the clay content in the surface soil. Intensive rainfall can result in the formation of a crust on the surface. Poor tilth also occurs in poorly drained soils that have a high clay content, regardless of organic matter content, and in soils that have been excessively tilled. Poor tilth reduces the rate of water infiltration and increases the runoff rate and the hazard of erosion in the more sloping areas. Soils with poor tilth generally have a surface layer that is sticky when wet and hard and cloddy when dry. Because they can be tilled only within a narrow range of moisture content, seedbed preparation is difficult.

Regularly returning crop residue to the soil, adding other organic material to the soil, minimizing tillage, and timing conservation tillage operations to near optimal soil moisture conditions can improve tilth.

Water erosion can occur if the surface soil is not protected against the impact of raindrops. Erosion leads to a reduction in soil aggregate stability, which reduces the rate of water infiltration and increases the rate of surface runoff. Soils with long or steep slopes are more susceptible than other soils to water erosion. Erosion, primarily sheet and rill erosion, removes the surface soil, which commonly has the highest amount of biological activity and the highest content of organic matter. The productivity of the soil is reduced as the content of organic matter and the level of natural fertility are lowered. Poor tilth and crusting can occur when the subsoil, which generally has a higher content of clay than the surface soil, is incorporated through tillage into the plow layer. Excessive runoff can impact the quality of surface water through sedimentation and contamination by pesticides.

Erosion can be controlled by a conservation tillage system that leaves crop residue on the surface after planting or by a cropping system that rotates grasses and legumes in the cropping sequence. On soils with long, uniform slopes, contour farming and/or terraces in combination with a conservation tillage system can help to control erosion.

Wetness is a limitation when the seasonal high water table is at or near the surface. Subsurface tile drains can lower the seasonal high water table if suitable outlets are available. In soils that have a high content of clay and restricted permeability, subsurface drainage may not be practical. In these soils, surface ditches can reduce the wetness. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning.

Additional management concerns are as follows:

Excessive permeability can occur in soils that have a high content of sand, which has many large pores. The capacity of these soils to retain moisture for plant use is limited. Deep leaching of nutrients and pesticides is possible and increases the risk of ground-water pollution.

Irrigation can supply the moisture needed for crops. Also, frequent applications of a small amount of fertilizer are needed; one application of a large amount of fertilizer can result in excessive leaching of plant nutrients.

High pH is a limitation if the pH is more than 8.3. This limitation can affect the availability of many plant nutrients and influences the effectiveness of herbicides. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Crops may respond well to additions of phosphate fertilizer in areas where the soils are limited by a high pH. The applications of herbicides should be adjusted as the level of alkalinity increases. Incorporating green manure crops, manure, or crop residue into the soil, applying a system of conservation tillage, and using conservation cropping systems also help to overcome this limitation.

Limited available water capacity can occur in soils that have a high content of sand, a low content of clay, and a low content of organic matter. Reducing the evaporation and runoff rates and increasing the rate of water infiltration can conserve soil moisture. Measures that conserve soil moisture include applying conservation tillage and conservation cropping systems, establishing field windbreaks, and leaving crop residue on the surface.

Wind erosion can occur when the surface of the soil is not protected. Wind erosion can be controlled by applying a system of conservation tillage that leaves crop residue on the surface after planting, by using tillage systems that leave the surface rough, by establishing field windbreaks, and by regularly adding organic material to the soil.

Following are explanations of the criteria used to determine the limitations listed in the table.

Crusting.—The average content of organic matter in the surface layer is less than or equal to 2.5 percent, and the content of clay is between 20 and 35 percent.

Excessive permeability.—The lower limit of the permeability rate is more than 6 inches per hour within the soil profile.

Flooding.—The soil is subject to occasional or frequent flooding.

High pH.—The upper limit of pH within a depth of 40 inches is more than 8.3.

Limited available water capacity.—The available water capacity calculated to a depth of 60 inches or to a root-limiting layer is 6 inches or less.

Ponding.—Water is above the surface. The upper limit of the ponding depth is more than 0 inches.

Poor tilth.—The content of clay in the surface layer is 27 percent or more.

Water erosion.—The Kw factor multiplied by the slope is more than 0.8, and the slope is 3 percent or more.

Wetness.—The seasonal high water table is within a depth of 1.5 feet at some time during the growing season during normal years.

Wind erosion.—The wind erodibility group is 1 or 2.

Erosion factors (e.g., Kw factor) and wind erodibility groups are described under the heading “Physical Properties.”

Limitations and Hazards Affecting Pastureland

Management concerns affecting the use of the detailed soil map units in the survey area for pasture are shown in table 6. The main concerns in managing pastureland are low fertility, low pH, water erosion, and wetness. Additional management concerns include equipment limitations, excessive permeability, flooding, frost heave, high pH, limited available water capacity, ponding, poor tilth, and wind erosion.

Low fertility occurs in soils that have a low content of organic matter and a low cation-exchange capacity. The capacity of the soil to retain nutrients for plant use is limited. Frequent applications of small amounts of fertilizer help to prevent excessive loss of plant nutrients through leaching. Including legumes as part of a seeding mixture can provide nitrogen to the grass varieties. Timely deferment of grazing helps to maintain a vegetative cover on the surface and maintains the content of organic matter, a source of nutrients in the soil.

Low pH occurs when soils have a pH of 5.5 or less. This limitation can reduce solubility and availability of nutrients for plant growth. Selecting adapted forage and hay varieties and applying lime according to the results of soil tests can help to overcome this limitation.

Water erosion can occur in overgrazed areas or during pasture establishment and renovation, when the surface soil is not protected against raindrop impact. It results in poor tilth, which reduces the rate of water infiltration and increases the runoff rate. Soils with long or steep slopes also are susceptible to water erosion. Erosion can be controlled by deferred grazing, which prevents overgrazing and thus also helps to prevent surface compaction and excessive runoff and erosion. Tilling on the contour, using a no-till system of seeding when a seedbed is prepared or the pasture is renovated, and selecting adapted forage and hay varieties also help to control erosion.

Wetness occurs when the seasonal high water table is at or near the surface. Subsurface tile drains help to lower the seasonal high water table if suitable outlets are available. Management of drainage in conformance with regulations may require special permits and extra planning. Selecting forage and hay varieties adapted to wet conditions can improve forage production. Restricting use during wet periods helps to keep the pasture in good condition.

Additional management concerns are as follows:

Equipment limitations occur in areas that have slopes of more than 18 percent. They can cause rapid wear of equipment and can present problems with fertilization, harvest, pasture renovation, and seedbed preparation. Equipment limitations cannot be easily overcome.

Excessive permeability can occur in soils that have a high content of sand and thus have many large pores. The capacity of these soils to retain moisture for plant use is limited. The deep leaching of nutrients and pesticides that can result can increase the risk of ground-water pollution. Irrigation can be used to supply the moisture needed for plant growth. Frequent applications of a small amount of fertilizer are needed; a single application of a large amount of fertilizer can result in excessive leaching of plant nutrients.

Flooding occurs in unprotected areas along the major rivers and their tributaries. Surface drainage ditches can help to remove floodwater if suitable outlets are available. Management of drainage in conformance with regulations may require special permits and extra planning. Selecting forage and hay varieties adapted to a shorter growing season and wetter conditions also reduces the extent of flood damage. Restricted use during wet periods helps to keep the pasture in good condition.

Frost heave occurs when ice lenses or bands develop in the soil and drive an ice wedge between two layers of soil near the surface layer. The ice wedges heave the overlying soil layer upward, snapping the roots. Soils in which the texture is low in sand have small pores that hold water and enable ice lenses to form. Selecting adapted forage and hay varieties can reduce the effects of frost heave. Timely deferment of grazing helps to maintain a vegetative cover on the surface to insulate the soil and thus reduces the effects of frost heave.

High pH is a limitation if the pH is more than 8.3. This limitation affects the availability of many nutrients for plant growth. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Selecting adapted forage and hay varieties helps to overcome this limitation.

Limited available water capacity can occur in soils that have a high content of sand, a low content of clay, and a low content of organic matter. Reducing the evaporation and runoff rates and increasing the rate of water infiltration can conserve soil moisture. Measures that conserve soil moisture include applying conservation tillage and conservation cropping systems, establishing field windbreaks, and leaving crop residue on the surface.

Ponding occurs when the seasonal high water table is above the surface. Land grading helps to control ponding. Surface ditches and surface inlet tile also help to remove excess water if suitable outlets are available. Management of drainage in conformance with regulations may require special permits and extra planning. Selecting forage and hay varieties adapted to wet conditions can improve forage production. Restricting use during wet periods helps to keep the pasture in good condition.

Poor tilth can occur in soils when part of the subsoil is incorporated into the plow layer, typically as a result of the thinning of the surface layer by erosion. Poor tilth reduces the content of organic matter and increases the clay content in the surface soil. Intensive rainfall often results in the formation of a crust on the surface. Poor tilth also occurs in poorly drained soils that have a high content of clay, regardless of organic matter content, and in soils that have been excessively tilled.

Poor tilth reduces the rate of water infiltration and increases the runoff rate and the hazard of erosion in the more sloping areas. Soils with poor tilth generally have a surface layer that is sticky when wet and hard and cloddy when dry. Because they can be tilled only within a narrow range of moisture content, seedbed preparation is difficult.

Minimizing tillage and timing conservation tillage operations to near optimal soil moisture conditions during pasture establishment or pasture renovation can improve tilth.

Wind erosion can occur in overgrazed areas or during pasture establishment and renovation if the surface of the soil is not protected. Wind erosion can be controlled by applying a system of conservation tillage that leaves residue on the surface after planting, by using tillage systems that leave the surface rough, by establishing field windbreaks, and by regularly adding organic material to the soil.

Following are explanations of the criteria used to determine the limitations listed in the table.

Equipment limitation.—The slope is more than 18 percent.

Excessive permeability.—The lower limit of the permeability rate is more than 6 inches per hour within the soil profile.

Flooding.—The soil is subject to occasional or frequent flooding.

Frost heave.—The potential for frost action is moderate or high, and the soil is poorly drained or very poorly drained.

High pH.—The upper limit of pH within a depth of 40 inches is more than 8.3.

Limited available water capacity.—The available water capacity calculated to a depth of 60 inches or to a root-limiting layer is 6 inches or less.

Low fertility.—The average content of organic matter in the surface layer is less than 1 percent, or the cation-exchange capacity is 7 or less.

Low pH.—The lower limit of pH within a depth of 40 inches is less than or equal to 5.5.

Ponding.—Water is above the surface. The upper limit of the ponding depth is more than 0 inches.

Poor tilth.—The content of clay in the surface layer is 27 percent or more.

Water erosion.—The Kw factor multiplied by the slope is more than 1, and the slope is 3 percent of more.

Wetness.—The seasonal high water table is within a depth of 1.5 feet.

Wind erosion.—The wind erodibility group is 1 or 2.

Erosion factors (e.g., Kw factor) and wind erodibility groups are described under the heading “Physical Properties.”

Crop Yield Estimates

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 7. 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 (Fehrenbacher and others, 1978).

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 7 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.

Pasture and Hayland Interpretations

Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and pasture renovation also are important management practices.

Yield estimates are often provided in animal unit months (AUM), or the amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide information about forage yields other than those shown in the yields table.

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 (USDA, 1961). Only class and subclass are used in this survey.

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, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

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

The capability classification of the soils in this survey area is given in the section “Soil Series and 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.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

About 157,059 acres, or nearly 56 percent of the survey area, meets the requirements for prime farmland.

The map units in the survey area that are considered prime farmland are listed in table 8. 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 5. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading “Soil Series and Detailed Soil Map Units.”

Hydric Soils

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 2003) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform. Table 9 lists the map units that include hydric soils, either as major components or as inclusions. The hydric soils listed in the table meet the definition of a hydric soil and have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

Forestland Management and Productivity

Matt Peterson, district forester, Illinois Department of Natural Resources, helped prepare this section.

Before the survey area was settled, hardwood forest covered much of the acreage. As the county became populated, the woodland was gradually cleared for farming. Today, the majority of the woodland is in relatively small, privately owned woodlots. Much of this woodland is in areas of soils that generally are not suited to cultivation because of wetness or excessive slope. These soils have fair or good potential for the production of high-quality trees. The wooded upland areas of Schuyler County consist mainly of Fayette, Hickory, Seaton, Rozetta, and Marseilles soils. Red oak, white oak, black walnut, and shagbark hickory are the dominant tree species in areas of these soils. Silver maple, cottonwood, American elm, pecan, pin oak, and green ash grow mainly on the bottom-land soils, such as Blyton, Wakeland, and Wilbur soils.

Much of the woodland can be improved by harvesting mature trees and by removing the nonmerchantable trees that retard the growth of desirable species. Protecting the woodland from fire, excluding livestock from the woodland, and controlling disease and insects increase productivity. Tree planting is needed unless stocking is adequate. Control of competing vegetation is needed if seedlings are planted. Seeding nonsod-forming grass or grass-legume mixtures between rows of the planted seedlings helps to control erosion. If erosion is excessive or the slope is more than 18 percent, runoff should be diverted away from haul roads and skid trails. Equipment should be used only when the soil is firm enough to support the weight of the machinery.

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

Forestland Management

In tables 10a, 10b, 10c, and 10d, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

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

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

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

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

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

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

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

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

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

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

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

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

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

Ratings in the column *potential for 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.

Forestland Productivity

In table 11, 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 in local offices of the Natural Resources Conservation Service or on the Internet.

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

Suggested trees to plant are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 12 shows the height that locally grown trees and shrubs are expected to reach in 20 years on soils in the survey area. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

Recreation

The demand for land and facilities for boating, swimming, picnicking, fishing, hunting, hiking, camping, and other forms of outdoor recreation is increasing throughout the county. Facilities for these activities are available in city and State parks, on county conservation district lands, and on a few privately owned tracts.

The potential for further recreational development is good throughout the county. The soils having the best potential are on uplands along the Illinois and La Moine Rivers and their major tributaries. These soils are in areas where a hilly terrain, wooded slopes, and numerous streams provide a variety of opportunities for recreation.

Schuyler County has two public parks. Weinberg-King State Park, about 671 acres in size, is along the west side of the county. Schuy-Rush Park, about 150 acres in size, is owned and operated by the city of Rushville. Both parks provide a variety of outdoor recreational opportunities. The Illinois Department of Conservation (IDOC) owns and operates the Anderson Lake Conservation Area, which borders the Illinois River in the northeast corner of the county. IDOC also owns and operates the Scripps Conservation Area southwest of Rushville.

In tables 13a and 13b, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

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

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. 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

Brad Poulter, district wildlife biologist, Illinois Department of Conservation, helped prepare this section.

The kind and abundance of wildlife in Schuyler County reflect the soil types, land use, and vegetation. Native woodland originally made up about 85 percent of the county. About 15 percent of the soils in the county formed under native plant communities dominated by tall prairie grasses. The wildlife species that were formerly abundant in the areas of prairie included prairie chickens, grassland birds, and mammals. After the county was settled, drainage systems were installed, trees were cleared, and the acreage of cultivated crops increased rapidly. These changes altered the wildlife communities, favoring the more adaptable species and those that are more tolerant of human settlements, such as horned lark, cardinal, mourning dove, raccoon, and white-tailed deer.

Areas used as wildlife habitat are not necessarily set aside for this purpose. Wildlife habitat commonly is a secondary use in areas used for other purposes, such as farming. For example, many of the nearly level to sloping soils used for crops and pasture in Schuyler County generally are well suited to habitat for openland wildlife species. Habitat for woodland wildlife generally is in areas of soils that are too steep for cultivation, in small dissected areas along streams, and in areas of soils that are not suitable for farming because of poor drainage. Habitat for wetland wildlife is in open shallow water areas.

Good management can improve the habitat for wildlife. Leaving crop residue on the surface during fall and winter, for example, not only helps to control erosion but also greatly improves the habitat for openland wildlife. Deferring mowing of grassed waterways, roadsides, and fence rows until early in August, after the nesting season, can significantly increase the annual production of pheasants, meadowlarks, rabbits, and other wildlife species that nest on the ground. Measures that exclude livestock from woodland, wetland, and streambanks markedly improve the habitat.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 14, 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. Examples are corn, soybeans, wheat, and oats. 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.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Examples are bromegrass, timothy, orchardgrass, clover, and alfalfa. 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.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Examples are bluestems, indiangrass, goldenrod, beggarweed, ragweed, and foxtail. 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.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Examples are oak, cherry, cottonwood, apple, hawthorn, hickory, blackberry, elderberry, maple, green ash, and willow. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are American plum, hazelnut, dogwood, and arrowwood. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness.

Coniferous plants furnish browse and seeds. Examples are pine, spruce, cedar, juniper, and fir. 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.

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 smartweeds, wild millet, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

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 ring-necked pheasant, bobwhite quail, meadowlark, field sparrow, cottontail rabbit, 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, thrushes, woodpeckers, owls, tree squirrels, raccoon, woodcock, and white-tailed 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, mink, 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 data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, 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. Tables 15a and 15b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

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

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

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

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

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

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

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

Sanitary Facilities

Tables 16a and 16b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

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

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

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

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

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

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

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

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

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

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

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

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Table 17 gives information about the soils as potential sources of sand, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand is a natural aggregate suitable for commercial use with a minimum of processing. It is used in many kinds of construction. Specifications for each use vary widely. In the table, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand, the soil is considered a likely source regardless of thickness. The assumption is that the sand layer below the depth of observation exceeds the minimum thickness.

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

The soils are rated *good, fair,* or *poor* as potential sources of roadfill and topsoil. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of roadfill or topsoil. The lower the number, the greater the limitation.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Tables 18a and 18b give 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; aquifer-fed excavated ponds; grassed waterways and surface drains; terraces and diversions; subsurface drains; and sprinkler irrigation. 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.

Grassed waterways and surface drains are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways and surface drains. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock or other layers affecting the rate of water movement; permeability; depth to a high water table, or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and the potential for frost action. Excavating, grading, and the stability of ditchbanks are affected by depth to bedrock, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. Availability of drainage outlets is not considered in the ratings.

Sprinkler irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

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 19 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 (fig. 10). "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional

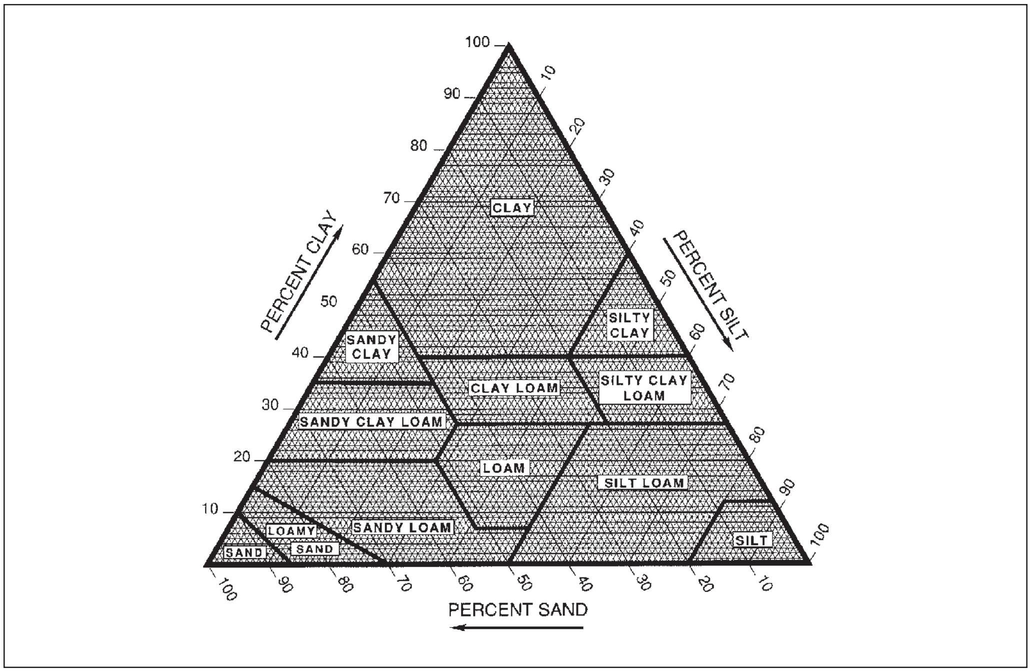


Figure 10.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

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 20 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.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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

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

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (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 20, 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 20 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

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

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

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook” (USDA, NRCS).

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

Chemical Properties

Table 21 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.

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.

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.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 21, 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.

Water Features

Table 22 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.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 22 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* of flooding 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). *Common* is used when the occasional and frequent classes are grouped for certain purposes.

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.

Water table refers to a saturated zone in the soil. Table 22 indicates the depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone for the specified *months* 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.

The table also shows the *kind of water table*, that is, apparent or perched. An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Soil Features

Table 23 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. *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.

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Brink, W.R., and Co., publishers. 1882. Combined history of Schuyler and Brown Counties, Illinois.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Fehrenbacher, J.B., R.A. Pope, I.J. Jansen, J.D. Alexander, and B.W. Ray. 1978. Soil productivity in Illinois. University of Illinois, College of Agriculture, Cooperative Extension Service Circular 1156.

Hudson, Berman D. 1992. The soil survey as paradigm-based science. Soil Science Society of America volume 56, number 3, pages 836-841.

Hurt, G.W., P.M. Whited, and R.F. Pringle, editors. Version 5.0, 2002. Field indicators of hydric soils in the United States.

Illinois Cooperative Crop Reporting Service. 1969. Illinois county agricultural statistics, Schuyler County. Bulletin C-32.

Illinois Department of Energy and Natural Resources. 1987. Directory of coal mines in Illinois, Schuyler County. Illinois State Geological Survey.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://soils.usda.gov/technical/

Soil Survey Staff. 1998. Keys to soil taxonomy. 8th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2003. Keys to soil taxonomy. 9th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Suhl, Steven E., and Gerald V. Berning. 2003. Soil survey of Schuyler County, Illinois. U.S. Department of Agriculture, Natural Resources Conservation Service.

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, National Agricultural Statistics Service (NASS). 1997. 1997 census of agriculture. Online at http://www.nass.usda.gov/census/

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. Online at http://soils.usda.gov/technical/

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. Online at http://soils.usda.gov/technical/

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. Online at http://soils.usda.gov/

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210.

United States Department of Commerce, Bureau of the Census. 2002. 2000 census of population and housing. Online at http://factfinder.census.gov/

Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

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

Ablation till. Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

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

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

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

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

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.
Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.
Basal till. Compact till deposited beneath the ice.
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.
Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.
Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.
Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
Blowout. A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed; the adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.
Bottom land. An informal term loosely applied to various portions of a flood plain.
Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.
Breaks. A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.
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.
Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
Calcium carbonate. A common mineral in sediments and soils.
Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

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.

Catsteps. See Terracettes.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Conglomerate. A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils.

Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

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.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

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.

Earthy fill. See Mine spoil.

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.

End moraine. A ridgelike accumulation that is being or was produced at the outer margin of an actively flowing glacier at any given time.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Esker. A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Geosol. A buried soil that formed on a landscape in the past with distinctive morphological features resulting from a soil-forming environment that no longer exists at the site. The former pedogenic process was interrupted by burial. A geosol is a laterally traceable, mappable, geologic weathering profile that has a consistent stratigraphic position. See Paleosol.

Gilgai. Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground moraine. An extensive, fairly even layer of till having an uneven or undulating surface.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Kame. A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Landscape. A collection of related natural landforms; usually the land surface which the eye can comprehend in a single view.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Masses. See Redoximorphic features.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

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).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or "washed out" from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleosol. A general term used to describe a soil that formed on a landscape of the past; it may be a buried soil, a relict soil, or an exhumed soil. See Geosol.

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (K_{sat}). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, 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 that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

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.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

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.

Terminal moraine. An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain. An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Tuff. A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1971-2000 at Rushville, Illinois)

Month	Temperature: Average daily maximum	Temperature: Average daily minimum	Temperature: Average	Temperature: 2 years in 10 will have-- Maximum temperature higher than--	Temperature: 2 years in 10 will have-- Minimum temperature lower than--	Temperature: Average number of growing degree days*	Precipitation: Average	Precipitation: 2 years in 10 will have-- Less than--	Precipitation: 2 years in 10 will have-- More than--	Precipitation: Average number of days with 0.10 inch or more	Precipitation: Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	32.7	15.3	24.0	62	-15	1	1.47	0.53	2.34	3	5.8
February---	39.2	21.1	30.2	70	-12	5	1.87	.90	2.79	3	4.4
March------	51.0	31.1	41.0	81	6	45	3.05	1.56	4.31	6	2.0
April------	63.6	41.7	52.7	86	22	159	3.90	2.26	5.54	7	.6
May--------	74.0	51.7	62.9	90	34	401	5.12	2.43	7.64	7	.0
June-------	82.8	61.0	71.9	96	45	654	3.98	1.87	5.88	6	.0
July-------	87.0	65.4	76.2	99	50	806	3.87	1.69	5.73	5	.0
August-----	85.1	62.8	74.0	98	48	741	3.57	1.80	5.28	5	.0
September--	78.2	54.7	66.4	94	34	494	3.68	1.56	5.77	5	.0
October----	66.6	43.5	55.0	86	23	207	3.25	1.53	4.58	5	.0
November---	50.5	32.0	41.3	76	9	39	3.03	1.30	4.69	6	1.0
December---	37.5	21.1	29.3	67	-8	5	2.43	1.13	3.70	4	4.2
Yearly:											
Average---	62.3	41.8	52.1	---	---	---	---	---	---	---	---
Extreme---	103	-21	---	100	-17	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,556	39.22	30.17	45.59	62	18.0

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Rushville, Illinois)

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. 9	Apr. 16	Apr. 24
2 years in 10 later than--	Apr. 5	Apr. 13	Apr. 20
5 years in 10 later than--	Mar. 28	Apr. 6	Apr. 13
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 22	Oct. 17	Oct. 1
2 years in 10 earlier than--	Oct. 27	Oct. 21	Oct. 6
5 years in 10 earlier than--	Nov. 7	Oct. 29	Oct. 16

Table 3.--Growing Season

(Recorded in the period 1971-2000 at Rushville, Illinois)

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	205	192	167
8 years in 10	212	197	174
5 years in 10	225	207	187
2 years in 10	238	217	200
1 year in 10	244	222	207

Table 4.--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
Atlas	Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs
Beaucoup	Fine-silty, mixed, superactive, mesic Fluvaquentic Endoaquolls
Bloomfield	Sandy, mixed, mesic Lamellic Hapludalfs
Blyton	Coarse-silty, mixed, superactive, nonacid, mesic Oxyaquic Udifluvents
Clarksdale	Fine, smectitic, mesic Udollic Endoaqualfs
Darwin	Fine, smectitic, mesic Fluvaquentic Vertic Endoaquolls
Dickinson	Coarse-loamy, mixed, superactive, mesic Typic Hapludolls
Drury	Fine-silty, mixed, superactive, mesic Dystric Eutrudepts
Fayette	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Fishhook	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Greenbush	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Hickory	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Huntsville	Fine-silty, mixed, superactive, mesic Cumulic Hapludolls
Ipava	Fine, smectitic, mesic Aquic Argiudolls
*Keller	Fine-silty, mixed, superactive, mesic Aquollic Hapludalfs
Kendall	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Keomah	Fine, smectitic, mesic Aeric Endoaqualfs
*Lenzburg	Fine-loamy, mixed, active, nonacid, mesic Haplic Udarents
Marseilles	Fine-silty, mixed, active, mesic Typic Hapludalfs
Martinsville	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Navlys	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Oakville	Mixed, mesic Typic Udipsamments
Orion	Coarse-silty, mixed, superactive, nonacid, mesic Aquic Udifluvents
Osco	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Quiver	Fine-silty, mixed, superactive, nonacid, mesic Mollic Fluvaquents
Raddle	Fine-silty, mixed, superactive, mesic Typic Hapludolls
Rapatee	Fine-silty, mixed, superactive, nonacid, mesic Mollic Udarents
Rozetta	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Rushville	Fine, smectitic, mesic Typic Albaqualfs
Sable	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Sawmill	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
*Schuline	Fine-loamy, mixed, superactive, nonacid, mesic Alfic Udarents
Seaton	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
St. Charles	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Swanwick	Fine-silty, mixed, active, nonacid, mesic Alfic Udarents
Sylvan	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Thorp	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Tice	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Timewell	Fine, smectitic, mesic Aquic Argiudolls
Timula	Coarse-silty, mixed, superactive, mesic Typic Eutrudepts
Titus	Fine, smectitic, mesic Vertic Endoaquolls
Ursa	Fine, smectitic, mesic Chromic Vertic Hapludalfs
Vesser	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Virden	Fine, smectitic, mesic Vertic Argiaquolls
Virgil	Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs
Wakeland	Coarse-silty, mixed, superactive, nonacid, mesic Aeric Fluvaquents
Wilbur	Coarse-silty, mixed, superactive, mesic Fluvaquentic Eutrudepts

Table 5.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
6C2	Fishhook silt loam, 5 to 10 percent slopes, eroded	9,576	3.4
6C3	Fishhook silty clay loam, 5 to 10 percent slopes, severely eroded	1,761	0.6
7D2	Atlas silt loam, 10 to 18 percent slopes, eroded	892	0.3
7D3	Atlas silty clay loam, 10 to 18 percent slopes, severely eroded	317	0.1
8F	Hickory silt loam, 18 to 35 percent slopes	26,036	9.2
8G	Hickory silt loam, 35 to 60 percent slopes	23,150	8.2
16A	Rushville silt loam, 0 to 2 percent slopes	169	*
17A	Keomah silt loam, 0 to 2 percent slopes	17,156	6.1
17B	Keomah silt loam, 2 to 5 percent slopes	9,493	3.4
19D3	Sylvan silty clay loam, 10 to 18 percent slopes, severely eroded	1,278	0.5
43A	Ipava silt loam, 0 to 2 percent slopes	14,432	5.1
43B	Ipava silt loam, 2 to 5 percent slopes	4,172	1.5
50A	Virden silty clay loam, 0 to 2 percent slopes	4,009	1.4
53F	Bloomfield loamy fine sand, 18 to 40 percent slopes	115	*
68A	Sable silty clay loam, 0 to 2 percent slopes	1	*
75C	Drury silt loam, 5 to 10 percent slopes	1,098	0.4
86B	Osco silt loam, 2 to 5 percent slopes	1,397	0.5
206A	Thorp silt loam, 0 to 2 percent slopes	243	*
242A	Kendall silt loam, 0 to 2 percent slopes	558	0.2
243B	St. Charles silt loam, 2 to 5 percent slopes	827	0.3
257A	Clarksdale silt loam, 0 to 2 percent slopes	5,409	1.9
257B	Clarksdale silt loam, 2 to 5 percent slopes	3,420	1.2
271D2	Timula silt loam, 10 to 18 percent slopes, eroded	2	*
274E2	Seaton silt loam, 18 to 25 percent slopes, eroded	3	*
274F	Seaton silt loam, 18 to 35 percent slopes	2,692	1.0
274G	Seaton silt loam, 35 to 60 percent slopes	4,400	1.6
279B	Rozetta silt loam, 2 to 5 percent slopes	26,909	9.5
279C2	Rozetta silt loam, 5 to 10 percent slopes, eroded	12,637	4.5
280B	Fayette silt loam, 2 to 5 percent slopes	8,288	2.9
280B2	Fayette silt loam, 2 to 5 percent slopes, eroded	163	*
280C2	Fayette silt loam, 5 to 10 percent slopes, eroded	8,598	3.0
280C3	Fayette silty clay loam, 5 to 10 percent slopes, severely eroded	2,427	0.9
280D2	Fayette silt loam, 10 to 18 percent slopes, eroded	2,865	1.0
280D3	Fayette silty clay loam, 10 to 18 percent slopes, severely eroded	1,806	0.6
280E2	Fayette silt loam, 18 to 25 percent slopes, eroded	1	*
470C2	Keller silt loam, 5 to 10 percent slopes, eroded	452	0.2
549F	Marseilles silt loam, 18 to 35 percent slopes	1,130	0.4
549G	Marseilles silt loam, 35 to 60 percent slopes	5,340	1.9
570C2	Martinsville loam, 5 to 10 percent slopes, eroded	596	0.2
605D2	Ursa silt loam, 10 to 18 percent slopes, eroded	6,838	2.4
630C3	Navlys silty clay loam, 5 to 10 percent slopes, severely eroded	2,281	0.8
675B	Greenbush silt loam, 2 to 5 percent slopes	1,202	0.4
699A	Timewell silt loam, 0 to 2 percent slopes	6,214	2.2
802B	Orthents, loamy, undulating	171	*
802E	Orthents, loamy, hilly	49	*
823B	Schuline silty clay loam, 2 to 5 percent slopes	401	0.1
823C	Schuline silty clay loam, 5 to 10 percent slopes	236	*
823D	Schuline silty clay loam, 10 to 18 percent slopes	100	*
823F	Schuline silty clay loam, 18 to 40 percent slopes	160	*
824B	Swanwick silt loam, 2 to 5 percent slopes	1,516	0.5
835G	Earthen dam	5	*
855A	Timewell and Ipava soils, 0 to 2 percent slopes	671	0.2
855B	Timewell and Ipava soils, 2 to 5 percent slopes	6	*
864	Pits, quarries	160	*
871G	Lenzburg silty clay loam, 20 to 60 percent slopes	1,874	0.7
872B	Rapatee silty clay loam, 2 to 5 percent slopes	967	0.3
1071A	Darwin silty clay, undrained, 0 to 2 percent slopes, commonly flooded	790	0.3
3070A	Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded	2,958	1.0
3077A	Huntsville silt loam, 0 to 2 percent slopes, frequently flooded	974	0.3
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	66	*
3284A	Tice silty clay loam, 0 to 2 percent slopes, frequently flooded	6,724	2.4
3333A	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded	11,636	4.1
3404A	Titus silty clay loam, 0 to 2 percent slopes, frequently flooded	569	0.2

See footnote at end of table.

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
3634A	Blyton silt loam, 0 to 2 percent slopes, frequently flooded	7,078	2.5
3641L	Quiver silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration	23	*
7075B	Drury silt loam, 2 to 5 percent slopes, rarely flooded	483	0.2
7087B	Dickinson sandy loam, 2 to 5 percent slopes, rarely flooded	534	0.2
7242A	Kendall silt loam, 0 to 2 percent slopes, rarely flooded	412	0.1
7430B	Raddle silt loam, 2 to 5 percent slopes, rarely flooded	1,603	0.6
7741B	Oakville loamy fine sand, 1 to 6 percent slopes, rarely flooded	256	*
8070A	Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded	4,608	1.6
8071A	Darwin silty clay, 0 to 2 percent slopes, occasionally flooded	2,156	0.8
8104A	Virgil silt loam, 0 to 2 percent slopes, occasionally flooded	674	0.2
8284A	Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded	2,456	0.9
8336A	Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded	986	0.3
8396A	Vesser silt loam, 0 to 2 percent slopes, occasionally flooded	526	0.2
8404A	Titus silty clay loam, 0 to 2 percent slopes, occasionally flooded	3,809	1.4
8415A	Orion silt loam, 0 to 2 percent slopes, occasionally flooded	1,289	0.5
9279B	Rozetta silt loam, terrace, 2 to 5 percent slopes	64	*
9279C2	Rozetta silt loam, terrace, 5 to 10 percent slopes, eroded	198	*
M-W	Miscellaneous water	9	*
W	Water	4,370	1.6
	Total	281,920	100.0

* Less than 0.1 percent.

Table 6.--Management Considerations on Cropland and Pastureland

(See text for a description of the limitations and hazards listed in this table. Only the map units that are generally available for use as cropland or pastureland are listed. Absence of an entry indicates that the map unit is generally unsuited to use as cropland or pastureland or that it is not commonly used for those purposes)

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
6C2:		
Fishhook	Wetness, crusting, water erosion	Wetness, low pH, water erosion
6C3:		
Fishhook	Wetness, poor tilth, crusting, water erosion	Wetness, poor tilth, low pH, water erosion, low fertility
7D2:		
Atlas	Wetness, crusting, water erosion	Wetness, low pH, water erosion
7D3:		
Atlas	---	Wetness, poor tilth, low pH, water erosion, low fertility
8F:		
Hickory	---	Equipment limitation, low pH, water erosion
8G:		
Hickory	---	---
16A:		
Rushville	Ponding, crusting	Ponding, low pH, frost heave
17A:		
Keomah	Wetness, crusting	Wetness, low pH
17B:		
Keomah	Wetness, crusting, water erosion	Wetness, low pH, water erosion
19D3:		
Sylvan	Poor tilth, high pH, crusting, water erosion	Poor tilth, high pH, water erosion, low fertility
43A:		
Ipava	Wetness	---
43B:		
Ipava	Wetness, water erosion	---
50A:		
Virden	Ponding, poor tilth	---
53F:		
Bloomfield	---	Equipment limitation, low pH, wind erosion
68A:		
Sable	Ponding, poor tilth	---
75C:		
Drury	Crusting, water erosion	Water erosion

Table 6.--Management Considerations on Cropland and Pastureland--Continued

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
86B:		
Osco	Water erosion	Low pH
206A:		
Thorp	Ponding	---
242A:		
Kendall	Wetness, crusting	Wetness, low pH
243B:		
St. Charles	Crusting, water erosion	Low pH, water erosion
257A:		
Clarksdale	Wetness, crusting	Wetness, low pH
257B:		
Clarksdale	Wetness, crusting, water erosion	Wetness, low pH, water erosion
271D2:		
Timula	High pH, water erosion	High pH, water erosion
274E2:		
Seaton	---	Equipment limitation, low pH, water erosion
274F:		
Seaton	---	Equipment limitation, low pH, water erosion
274G:		
Seaton	---	---
279B:		
Rozetta	Crusting, water erosion	Low pH, water erosion
279C2:		
Rozetta	Crusting, water erosion	Low pH, water erosion
280B:		
Fayette	Crusting, water erosion	Low pH, water erosion
280B2:		
Fayette	Crusting, water erosion	Low pH, water erosion
280C2:		
Fayette	Crusting, water erosion	Low pH, water erosion
280C3:		
Fayette	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
280D2:		
Fayette	Crusting, water erosion	Low pH, water erosion
280D3:		
Fayette	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
280E2:		
Fayette	---	Equipment limitation, low pH, water erosion

Table 6.--Management Considerations on Cropland and Pastureland--Continued

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
470C2:		
Keller	Wetness, water erosion	Wetness, low pH, water erosion
549F:		
Marseilles	---	---
549G:		
Marseilles	---	---
570C2:		
Martinsville	Water erosion	Low pH, water erosion
605D2:		
Ursa	Crusting, water erosion	Low pH, water erosion
630C3:		
Navlys	Poor tilth, high pH, crusting, water erosion	Poor tilth, high pH, water erosion, low fertility
675B:		
Greenbush	Crusting, water erosion	Low pH, water erosion
699A:		
Timewell	Wetness	---
823B:		
Schuline	Poor tilth, crusting, water erosion	Poor tilth, water erosion, low fertility
823C:		
Schuline	Poor tilth, crusting, water erosion	Poor tilth, water erosion, low fertility
823D:		
Schuline	Poor tilth, crusting, water erosion	Poor tilth, water erosion, low fertility
823F:		
Schuline	---	Equipment limitation, poor tilth, water erosion, low fertility
824B:		
Swanwick	High pH, crusting, water erosion	High pH, water erosion, low fertility
855A:		
Ipava	Wetness	---
Timewell	Wetness	---
855B:		
Ipava	Wetness, water erosion	---
Timewell	Wetness, water erosion	---
871G:		
Lenzburg	---	---
872B:		
Rapatee	High pH, water erosion	High pH, water erosion

Table 6.--Management Considerations on Cropland and Pastureland--Continued

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
1071A:		
Darwin	---	---
3070A:		
Beaucoup	Flooding, ponding, poor tilth	---
3077A:		
Huntsville	Flooding	---
3107A:		
Sawmill	Flooding, ponding, poor tilth	---
3284A:		
Tice	Flooding, wetness, poor tilth	---
3333A:		
Wakeland	Flooding, wetness	Flooding, wetness
3404A:		
Titus	Flooding, ponding, poor tilth	---
3634A:		
Blyton	Flooding	Flooding
3641L:		
Quiver	---	---
7075B:		
Drury	Crusting, water erosion	Water erosion
7087B:		
Dickinson	Excessive permeability	---
7242A:		
Kendall	Wetness, crusting	Wetness, low pH
7430B:		
Raddle	Water erosion	Water erosion
7741B:		
Oakville	Wind erosion, limited available water capacity, excessive permeability	Low pH, wind erosion, limited available water capacity, low fertility, excessive permeability
8070A:		
Beaucoup	Flooding, ponding, poor tilth	---
8071A:		
Darwin	Flooding, ponding, poor tilth	---
8104A:		
Virgil	Flooding, wetness, crusting	Flooding, wetness, low pH
8284A:		
Tice	Flooding, wetness, poor tilth	---
8336A:		
Wilbur	Flooding, wetness	---
8396A:		
Vesser	Flooding, wetness, crusting	---

Table 6.--Management Considerations on Cropland and Pastureland--Continued

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
8404A:		
Titus	Flooding, ponding, poor tilth	---
8415A:		
Orion	Flooding, wetness	---
9279B:		
Rozetta	Crusting, water erosion	Low pH, water erosion
9279C2:		
Rozetta	Crusting, water erosion	Low pH, water erosion

Table 7.--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	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
6C2:						
Fishhook	3e	69	20	22	2.4	3.9
6C3:						
Fishhook	4e	58	17	18	2.0	3.3
7D2:						
Atlas	4e	48	15	18	2.0	3.4
7D3:						
Atlas	6e	---	---	---	1.8	3.1
8F:						
Hickory	6e	---	---	---	2.2	3.7
8G:						
Hickory	7e	---	---	---	---	---
16A:						
Rushville	3w	114	36	---	4.2	7.0
17A:						
Keomah	2w	129	39	52	5.1	8.5
17B:						
Keomah	2e	128	39	51	5.0	8.3
19D3:						
Sylvan	4e	91	28	43	4.0	6.7
43A:						
Ipava	1	163	52	66	---	---
43B:						
Ipava	2e	161	51	65	---	---
50A:						
Virden	2w	138	46	---	---	---
53F:						
Bloomfield	6e	---	---	---	2.3	3.9
68A:						
Sable	2w	156	51	---	---	---
75C:						
Drury	3e	122	39	55	4.8	8.0
86B:						
Osco	2e	153	46	61	5.8	9.7
206A:						
Thorp	2w	126	42	---	---	---
242A:						
Kendall	2w	135	41	55	5.2	8.7

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
243B:						
St. Charles---------	2e	126	39	55	5.0	8.1
257A:						
Clarksdale----------	1	140	43	57	5.3	8.9
257B:						
Clarksdale----------	2e	139	43	56	5.2	8.7
271D2:						
Timula--------------	4e	92	31	41	3.7	6.4
274E2:						
Seaton--------------	6e	---	---	---	3.7	6.2
274F:						
Seaton--------------	6e	---	---	---	2.6	4.5
274G:						
Seaton--------------	7e	---	---	---	---	---
279B:						
Rozetta-------------	2e	130	40	53	5.1	8.5
279C2:						
Rozetta-------------	3e	123	38	51	4.9	8.1
280B:						
Fayette-------------	2e	128	39	52	5.1	8.5
280B2:						
Fayette-------------	2e	124	37	51	5.0	8.3
280C2:						
Fayette-------------	3e	121	37	50	4.9	8.2
280C3:						
Fayette-------------	4e	112	34	46	4.5	7.5
280D2:						
Fayette-------------	3e	115	35	47	4.6	7.7
280D3:						
Fayette-------------	4e	104	32	43	4.2	7.0
280E2:						
Fayette-------------	6e	---	---	---	4.1	6.8
470C2:						
Keller--------------	3e	86	30	40	3.6	6.1
549F:						
Marseilles----------	7e	---	---	---	---	---
549G:						
Marseilles----------	7e	---	---	---	---	---
570C2:						
Martinsville--------	3e	114	35	48	4.5	7.5

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
605D2:						
Ursa----------------	4e	53	15	18	2.0	3.3
630C3:						
Navlys--------------	4e	100	31	47	4.5	7.5
675B:						
Greenbush-----------	2e	147	42	57	5.5	9.2
699A:						
Timewell------------	1	143	46	57	---	---
802B:						
Orthents------------	2e	---	---	---	---	---
802E:						
Orthents------------	6e	---	---	---	---	---
823B:						
Schuline------------	2e	91	31	32	3.7	6.1
823C:						
Schuline------------	3e	89	30	31	3.6	6.0
823D:						
Schuline------------	3e	86	29	30	3.4	5.7
823F:						
Schuline------------	6e	---	---	---	2.4	3.8
824B:						
Swanwick------------	3e	77	28	30	3.1	5.1
835G.						
Earthen dam						
855A-----------------	1	159	51	65	---	---
Timewell and Ipava						
855B-----------------	2e	157	50	64	---	---
Timewell and Ipava						
864.						
Pits, quarries						
871G:						
Lenzburg------------	7e	---	---	---	---	---
872B:						
Rapatee-------------	2e	97	33	45	4.0	6.6
1071A:						
Darwin--------------	5w	---	---	---	---	---
3070A:						
Beaucoup------------	3w	124	41	---	---	---
3077A:						
Huntsville----------	2w	137	43	---	---	---

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
3107A:						
Sawmill	3w	132	42	---	---	---
3284A:						
Tice	3w	138	42	---	---	---
3333A:						
Wakeland	2w	122	41	---	4.7	7.8
3404A:						
Titus	4w	113	38	---	---	---
3634A:						
Blyton	2w	116	38	---	4.5	7.0
3641L:						
Quiver	5w	---	---	---	---	---
7075B:						
Drury	2e	125	40	56	4.9	8.2
7087B:						
Dickinson	2e	98	37	45	---	---
7242A:						
Kendall	2w	135	41	55	5.2	8.7
7430B:						
Raddle	2e	148	45	58	5.7	9.5
7741B:						
Oakville	4s	61	23	32	2.9	4.8
8070A:						
Beaucoup	2w	138	46	---	---	---
8071A:						
Darwin	3w	99	35	---	---	---
8104A:						
Virgil	1	148	45	60	5.6	9.3
8284A:						
Tice	2w	153	47	61	---	---
8336A:						
Wilbur	2w	134	44	55	---	---
8396A:						
Vesser	2w	126	42	---	---	---
8404A:						
Titus	3w	125	42	---	---	---
8415A:						
Orion	2w	135	43	52	---	---
9279B:						
Rozetta	2e	130	40	53	5.1	8.5

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
9279C2:						
Rozetta-------------	3e	123	38	51	4.9	8.2

* Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Table 8.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
17A	Keomah silt loam, 0 to 2 percent slopes (where drained)
17B	Keomah silt loam, 2 to 5 percent slopes
43A	Ipava silt loam, 0 to 2 percent slopes
43B	Ipava silt loam, 2 to 5 percent slopes
50A	Virden silty clay loam, 0 to 2 percent slopes (where drained)
68A	Sable silty clay loam, 0 to 2 percent slopes (where drained)
86B	Osco silt loam, 2 to 5 percent slopes
206A	Thorp silt loam, 0 to 2 percent slopes (where drained)
242A	Kendall silt loam, 0 to 2 percent slopes (where drained)
243B	St. Charles silt loam, 2 to 5 percent slopes
257A	Clarksdale silt loam, 0 to 2 percent slopes (where drained)
257B	Clarksdale silt loam, 2 to 5 percent slopes
279B	Rozetta silt loam, 2 to 5 percent slopes
280B	Fayette silt loam, 2 to 5 percent slopes
280B2	Fayette silt loam, 2 to 5 percent slopes, eroded
675B	Greenbush silt loam, 2 to 5 percent slopes
699A	Timewell silt loam, 0 to 2 percent slopes
823B	Schuline silty clay loam, 2 to 5 percent slopes
824B	Swanwick silt loam, 2 to 5 percent slopes
855A	Timewell and Ipava soils, 0 to 2 percent slopes
855B	Timewell and Ipava soils, 2 to 5 percent slopes
872B	Rapatee silty clay loam, 1 to 7 percent slopes
3070A	Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3077A	Huntsville silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3284A	Tice silty clay loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3333A	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3404A	Titus silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3634A	Blyton silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
7075B	Drury silt loam, 2 to 5 percent slopes, rarely flooded
7087B	Dickinson sandy loam, 2 to 5 percent slopes, rarely flooded
7242A	Kendall silt loam, 0 to 2 percent slopes, rarely flooded (where drained)
7430B	Raddle silt loam, 2 to 5 percent slopes, rarely flooded
8070A	Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)
8071A	Darwin silty clay, 0 to 2 percent slopes, occasionally flooded (where drained)
8104A	Virgil silt loam, 0 to 2 percent slopes, occasionally flooded (where drained)
8284A	Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded
8336A	Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded
8396A	Vesser silt loam, 0 to 2 percent slopes, occasionally flooded (where drained)
8404A	Titus silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)
8415A	Orion silt loam, 0 to 2 percent slopes, occasionally flooded
9279B	Rozetta silt loam, terrace, 2 to 5 percent slopes

Table 9.--Hydric Soils

(Only the map units that have hydric components are listed. See text for a description of hydric qualities)

Map symbol and soil name	Component	Hydric status	Local landform
16A:			
Rushville silt loam, 0 to 2 percent slopes	Rushville	Hydric	depression
17A:			
Keomah silt loam, 0 to 2 percent slopes	Keomah	Not hydric	ground moraine
	Rushville	Hydric	depression
43A:			
Ipava silt loam, 0 to 2 percent slopes	Ipava	Not hydric	ground moraine
	Denny	Hydric	depression
	Virden	Hydric	depression
50A:			
Virden silty clay loam, 0 to 2 percent slopes	Virden	Hydric	ground moraine
68A:			
Sable silty clay loam, 0 to 2 percent slopes	Sable	Hydric	ground moraine
206A:			
Thorp silt loam, 0 to 2 percent slopes	Thorp	Hydric	depression
257A:			
Clarksdale silt loam, 0 to 2 percent slopes	Clarksdale	Not hydric	ground moraine
	Denny	Hydric	depression
	Virden	Hydric	depression
699A:			
Timewell silt loam, 0 to 2 percent slopes	Timewell	Not hydric	ground moraine
	Virden	Hydric	depression
	Denny	Hydric	depression
855A:			
Timewell and Ipava soils, 0 to 2 percent slopes	Timewell	Not hydric	ground moraine
	Ipava	Not hydric	ground moraine
	Virden	Hydric	depression
	Denny	Hydric	depression
1071A:			
Darwin silty clay, undrained, 0 to 2 percent slopes, commonly flooded	Darwin	Hydric	flood plain
3070A:			
Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded	Beaucoup	Hydric	flood plain
3077A:			
Huntsville silt loam, 0 to 2 percent slopes, frequently flooded	Huntsville	Not hydric	flood plain
	Beaucoup	Hydric	depression
3107A:			
Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	Sawmill	Hydric	flood plain

Table 9.--Hydric Soils--Continued

Map symbol and soil name	Component	Hydric status	Local landform
3284A:			
Tice silty clay loam, 0 to 2 percent slopes, frequently flooded	Tice	Not hydric	flood plain
	Beaucoup	Hydric	depression
3333A:			
Wakeland silt loam, 0 to 2 percent slopes, frequently flooded	Wakeland	Not hydric	flood plain
	Birds	Hydric	depression
3404A:			
Titus silty clay loam, 0 to 2 percent slopes, frequently flooded	Titus	Hydric	flood plain
3634A:			
Blyton silt loam, 0 to 2 percent slopes, frequently flooded	Blyton	Not hydric	flood plain
	Birds	Hydric	depression
3641L:			
Quiver silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration	Quiver	Hydric	flood plain
8070A:			
Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded	Beaucoup	Hydric	flood plain
8071A:			
Darwin silty clay, 0 to 2 percent slopes, occasionally flooded	Darwin	Hydric	flood plain
8284A:			
Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded	Tice	Not hydric	flood plain
	Beaucoup	Hydric	depression
8336A:			
Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded	Wilbur	Not hydric	flood plain
	Birds	Hydric	depression
8396A:			
Vesser silt loam, 0 to 2 percent slopes, occasionally flooded	Vesser	Hydric	flood plain
8404A:			
Titus silty clay loam, 0 to 2 percent slopes, occasionally flooded	Titus	Hydric	flood plain
8415A:			
Orion silt loam, 0 to 2 percent slopes, occasionally flooded	Orion	Not hydric	flood plain
	Birds	Hydric	depression
	Titus	Hydric	depression

Table 10a.--Forestland 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	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
6C2, 6C3:						
Fishhook------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
			Wetness	0.50		
7D2:						
Atlas---------------	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Wetness	0.50		
			Low strength	0.50		
7D3:						
Atlas---------------	Moderate		Poorly suited		Severe	
	Stickiness/slope	0.50	Slope	1.00	Low strength	1.00
	Low strength	0.50	Wetness	0.50		
			Low strength	0.50		
			Stickiness	0.50		
8F:						
Hickory-------------	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
8G:						
Hickory-------------	Severe		Poorly suited		Severe	
	Slope	1.00	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
16A:						
Rushville-----------	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
17A, 17B:						
Keomah--------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
19D3:						
Sylvan--------------	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
43A, 43B:						
Ipava---------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	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
50A:						
Virden	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
53F:						
Bloomfield	Moderate		Poorly suited		Moderate	
	Slope	0.50	Slope	1.00	Low strength	0.50
68A:						
Sable	Moderate		Poorly suited		Severe	
	Low strength	0.50	Wetness	1.00	Low strength	1.00
			Ponding	0.50		
			Low strength	0.50		
75C:						
Drury	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
86B:						
Osco	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
206A:						
Thorp	Moderate		Poorly suited		Severe	
	Low strength	0.50	Wetness	1.00	Low strength	1.00
			Ponding	0.50		
			Low strength	0.50		
242A:						
Kendall	Moderate		Moderately suited		Severe	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
243B:						
St. Charles	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
257A, 257B:						
Clarksdale	Moderate		Moderately suited		Severe	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
271D2:						
Timula	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
274E2, 274F:						
Seaton	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
274G:						
Seaton	Severe		Poorly suited		Severe	
	Slope	1.00	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	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
279B:						
Rozetta-------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
279C2:						
Rozetta-------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
280B, 280B2:						
Fayette-------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
280C2, 280C3:						
Fayette-------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
280D2, 280D3, 280E2:						
Fayette-------------	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
470C2:						
Keller--------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
			Wetness	0.50		
549F:						
Marseilles----------	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
549G:						
Marseilles----------	Severe		Poorly suited		Severe	
	Slope	1.00	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
570C2:						
Martinsville--------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
605D2:						
Ursa----------------	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
630C3:						
Navlys--------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
675B:						
Greenbush-----------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 10a.--Forestland Management--Continued

Map symbol and soil name	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
699A:						
Timewell------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
802B:						
Orthents------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
802E:						
Orthents------------	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
823B:						
Schuline------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
823C:						
Schuline------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
823D:						
Schuline------------	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
823F:						
Schuline------------	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
824B:						
Swanwick------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
835G:						
Earthen dam---------	Not rated		Not rated		Not rated	
855A, 855B:						
Timewell------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
Ipava---------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
864:						
Pits, quarries------	Not rated		Not rated		Not rated	
871G:						
Lenzburg------------	Severe		Poorly suited		Severe	
	Slope	1.00	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	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
872B:						
Rapatee	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
1071A:						
Darwin	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00	Wetness	0.50
	Low strength	0.50	Wetness	1.00		
	Stickiness/slope	0.50	Low strength	0.50		
			Stickiness	0.50		
3070A:						
Beaucoup	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Wetness	1.00		
			Low strength	0.50		
3077A:						
Huntsville	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
3107A:						
Sawmill	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Wetness	1.00		
			Low strength	0.50		
3284A:						
Tice	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
3333A:						
Wakeland	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Wetness	0.50		
			Low strength	0.50		
3404A:						
Titus	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Wetness	1.00		
			Low strength	0.50		
3634A:						
Blyton	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	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
3641L:						
Quiver---------------	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00	Wetness	0.50
	Low strength	0.50	Wetness	1.00		
			Low strength	0.50		
7075B:						
Drury---------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
7087B:						
Dickinson-----------	Slight		Well suited		Moderate	
					Low strength	0.50
7242A:						
Kendall-------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
7430B:						
Raddle--------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
7741B:						
Oakville------------	Slight		Well suited		Moderate	
					Low strength	0.50
8070A:						
Beaucoup------------	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Wetness	1.00		
			Low strength	0.50		
8071A:						
Darwin--------------	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
	Stickiness/slope	0.50	Wetness	1.00		
			Low strength	0.50		
			Stickiness	0.50		
8104A:						
Virgil--------------	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Wetness	0.50		
			Low strength	0.50		
8284A:						
Tice----------------	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	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
8336A:						
Wilbur	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
8396A:						
Vesser	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Wetness	1.00		
			Low strength	0.50		
8404A:						
Titus	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Wetness	1.00		
			Low strength	0.50		
8415A:						
Orion	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
9279B:						
Rozetta	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
9279C2:						
Rozetta	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		

Table 10b.--Forestland 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	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
6C2, 6C3:						
Fishhook	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
					Wetness	0.50
7D2, 7D3:						
Atlas	Slight		Severe		Poorly suited	
			Slope/erodibility	0.95	Slope	1.00
					Wetness	0.50
					Low strength	0.50
8F:						
Hickory	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
8G:						
Hickory	Severe		Severe		Poorly suited	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
16A:						
Rushville	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
17A:						
Keomah	Slight		Slight		Moderately suited	
					Wetness	0.50
					Low strength	0.50
17B:						
Keomah	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Wetness	0.50
					Low strength	0.50
19D3:						
Sylvan	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
43A:						
Ipava	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50
43B:						
Ipava	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Wetness	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	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
50A:						
Virden	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
53F:						
Bloomfield	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
68A:						
Sable	Slight		Slight		Poorly suited	
					Wetness	1.00
					Ponding	0.50
					Low strength	0.50
75C:						
Drury	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
86B:						
Osco	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
206A:						
Thorp	Slight		Slight		Poorly suited	
					Wetness	1.00
					Ponding	0.50
					Low strength	0.50
242A:						
Kendall	Slight		Slight		Moderately suited	
					Wetness	0.50
					Low strength	0.50
243B:						
St. Charles	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
257A:						
Clarksdale	Slight		Slight		Moderately suited	
					Wetness	0.50
					Low strength	0.50
257B:						
Clarksdale	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Wetness	0.50
					Low strength	0.50
271D2:						
Timula	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
274E2:						
Seaton	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	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
274F:						
Seaton	Severe		Severe		Poorly suited	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
274G:						
Seaton	Very severe		Severe		Poorly suited	
	Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
279B:						
Rozetta	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
279C2:						
Rozetta	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
280B, 280B2:						
Fayette	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
280C2, 280C3:						
Fayette	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
280D2, 280D3, 280E2:						
Fayette	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
470C2:						
Keller	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
					Wetness	0.50
549F:						
Marseilles	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
549G:						
Marseilles	Severe		Severe		Poorly suited	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
570C2:						
Martinsville	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
605D2:						
Ursa	Slight		Severe		Poorly suited	
			Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	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
630C3:						
Navlys--------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
675B:						
Greenbush-----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
699A:						
Timewell------------	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50
802B:						
Orthents------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
802E:						
Orthents------------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
823B:						
Schuline------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
823C:						
Schuline------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
823D:						
Schuline------------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
823F:						
Schuline------------	Severe		Severe		Poorly suited	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
824B:						
Swanwick------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
835G:						
Earthen dam---------	Not rated		Not rated		Not rated	
855A:						
Timewell------------	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50
Ipava---------------	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	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
855B:						
Timewell------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Wetness	0.50
Ipava---------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Wetness	0.50
864:						
Pits, quarries------	Not rated		Not rated		Not rated	
871G:						
Lenzburg------------	Severe		Severe		Poorly suited	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
872B:						
Rapatee-------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
1071A:						
Darwin--------------	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
					Stickiness	0.50
3070A:						
Beaucoup------------	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
3077A:						
Huntsville----------	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
3107A:						
Sawmill-------------	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
3284A:						
Tice----------------	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
3333A:						
Wakeland------------	Slight		Slight		Poorly suited	
					Flooding	1.00
					Wetness	0.50
					Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	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
3404A:						
Titus	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
3634A:						
Blyton	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
3641L:						
Quiver	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
7075B:						
Drury	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
7087B:						
Dickinson	Slight		Slight		Well suited	
7242A:						
Kendall	Slight		Slight		Moderately suited	
					Wetness	0.50
					Low strength	0.50
7430B:						
Raddle	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
7741B:						
Oakville	Slight		Slight		Well suited	
8070A:						
Beaucoup	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
8071A:						
Darwin	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
					Stickiness	0.50
8104A:						
Virgil	Slight		Slight		Poorly suited	
					Flooding	1.00
					Wetness	0.50
					Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	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
8284A:						
Tice	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
8336A:						
Wilbur	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
8396A:						
Vesser	Slight		Slight		Poorly suited	
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
8404A:						
Titus	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
8415A:						
Orion	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
9279B:						
Rozetta	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
9279C2:						
Rozetta	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50

Table 10c.--Forestland 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	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
6C2, 6C3:						
Fishhook	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
7D2:						
Atlas	Poorly suited		Poorly suited		Moderately suited	
	Stickiness	0.75	Stickiness	0.75	Low strength	0.50
			Slope	0.50		
7D3:						
Atlas	Poorly suited		Poorly suited		Moderately suited	
	Stickiness	0.75	Stickiness	0.75	Low strength	0.50
			Slope	0.50	Stickiness	0.50
8F:						
Hickory	Moderately suited		Unsuited		Moderately suited	
	Stickiness	0.50	Slope	1.00	Low strength	0.50
			Stickiness	0.50	Slope	0.50
8G:						
Hickory	Moderately suited		Unsuited		Poorly suited	
	Slope	0.50	Slope	1.00	Slope	1.00
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
16A:						
Rushville	Well suited		Well suited		Moderately suited	
					Low strength	0.50
17A, 17B:						
Keomah	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
19D3:						
Sylvan	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
43A, 43B:						
Ipava	Well suited		Well suited		Moderately suited	
					Low strength	0.50
50A:						
Virden	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
53F:						
Bloomfield	Well suited		Unsuited		Moderately suited	
			Slope	1.00	Slope	0.50
68A:						
Sable	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	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
75C:						
Drury	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
86B:						
Osco	Well suited		Well suited		Moderately suited	
					Low strength	0.50
206A:						
Thorp	Well suited		Well suited		Moderately suited	
					Low strength	0.50
242A:						
Kendall	Well suited		Well suited		Moderately suited	
					Low strength	0.50
243B:						
St. Charles	Well suited		Well suited		Moderately suited	
					Low strength	0.50
257A, 257B:						
Clarksdale	Well suited		Well suited		Moderately suited	
					Low strength	0.50
271D2:						
Timula	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
274E2:						
Seaton	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Low strength	0.50
					Slope	0.50
274F:						
Seaton	Well suited		Unsuited		Moderately suited	
			Slope	1.00	Low strength	0.50
					Slope	0.50
274G:						
Seaton	Moderately suited		Unsuited		Poorly suited	
	Slope	0.50	Slope	1.00	Slope	1.00
					Low strength	0.50
279B:						
Rozetta	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
279C2:						
Rozetta	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
280B, 280B2:						
Fayette	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
280C2, 280C3:						
Fayette	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		

Table 10c.--Forestland Management--Continued

Map symbol and soil name	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
280D2, 280D3:						
Fayette------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
280E2:						
Fayette------------	Moderately suited		Poorly suited		Moderately suited	
	Stickiness	0.50	Slope	0.75	Low strength	0.50
			Stickiness	0.50	Slope	0.50
470C2:						
Keller-------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
549F:						
Marseilles---------	Moderately suited		Unsuited		Moderately suited	
	Stickiness	0.50	Slope	1.00	Low strength	0.50
			Stickiness	0.50	Slope	0.50
549G:						
Marseilles---------	Moderately suited		Unsuited		Poorly suited	
	Slope	0.50	Slope	1.00	Slope	1.00
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
570C2:						
Martinsville--------	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
605D2:						
Ursa---------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
630C3:						
Navlys-------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
675B:						
Greenbush----------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
699A:						
Timewell-----------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
802B:						
Orthents-----------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
802E:						
Orthents-----------	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Low strength	0.50
					Slope	0.50
823B:						
Schuline-----------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	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
823C, 823D:						
Schuline-----------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
823F:						
Schuline-----------	Moderately suited		Unsuited		Moderately suited	
	Stickiness	0.50	Slope	1.00	Slope	0.50
			Stickiness	0.50	Low strength	0.50
824B:						
Swanwick-----------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
835G:						
Earthen dam---------	Not rated		Not rated		Not rated	
855A, 855B:						
Timewell-----------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
Ipava---------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
864:						
Pits, quarries------	Not rated		Not rated		Not rated	
871G:						
Lenzburg-----------	Moderately suited		Unsuited		Poorly suited	
	Slope	0.50	Slope	1.00	Slope	1.00
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
872B:						
Rapatee------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
1071A:						
Darwin-------------	Poorly suited		Poorly suited		Poorly suited	
	Wetness	0.75	Wetness	0.75	Wetness	1.00
	Stickiness	0.75	Stickiness	0.75	Low strength	0.50
					Stickiness	0.50
3070A:						
Beaucoup-----------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
3077A:						
Huntsville----------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
3107A:						
Sawmill------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
3284A:						
Tice----------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
3333A:						
Wakeland-----------	Well suited		Well suited		Moderately suited	
					Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	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
3404A:						
Titus----------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
3634A:						
Blyton---------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
3641L:						
Quiver---------------	Poorly suited		Poorly suited		Poorly suited	
	Wetness	0.75	Wetness	0.75	Wetness	1.00
					Low strength	0.50
7075B:						
Drury----------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
7087B:						
Dickinson------------	Well suited		Well suited		Well suited	
7242A:						
Kendall--------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
7430B:						
Raddle---------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
7741B:						
Oakville-------------	Well suited		Well suited		Well suited	
8070A:						
Beaucoup-------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
8071A:						
Darwin---------------	Poorly suited		Poorly suited		Moderately suited	
	Stickiness	0.75	Stickiness	0.75	Low strength	0.50
					Stickiness	0.50
8104A:						
Virgil---------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
8284A:						
Tice-----------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
8336A:						
Wilbur---------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
8396A:						
Vesser---------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
8404A:						
Titus----------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	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
8415A:						
Orion---------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
9279B:						
Rozetta-------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
9279C2:						
Rozetta-------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		

Table 10d.--Forestland 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	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
6C2, 6C3:						
Fishhook------------	Well suited		Well suited		Low	
7D2, 7D3:						
Atlas---------------	Poorly suited		Well suited		High	
	Stickiness	0.50			Wetness	1.00
8F:						
Hickory-------------	Poorly suited		Poorly suited		Low	
	Slope	0.50	Slope	0.50		
8G:						
Hickory-------------	Unsuited		Unsuited		Low	
	Slope	1.00	Slope	1.00		
16A:						
Rushville-----------	Well suited		Well suited		High	
					Wetness	1.00
17A, 17B:						
Keomah--------------	Well suited		Well suited		High	
					Wetness	1.00
19D3:						
Sylvan--------------	Well suited		Well suited		Low	
43A, 43B:						
Ipava---------------	Well suited		Well suited		Low	
50A:						
Virden--------------	Well suited		Well suited		High	
					Wetness	1.00
53F:						
Bloomfield----------	Poorly suited		Poorly suited		Low	
	Slope	0.50	Slope	0.50		
68A:						
Sable---------------	Well suited		Well suited		High	
					Wetness	1.00
75C:						
Drury---------------	Well suited		Well suited		Low	
86B:						
Osco----------------	Well suited		Well suited		Low	
206A:						
Thorp---------------	Well suited		Well suited		High	
					Wetness	1.00
242A:						
Kendall-------------	Well suited		Well suited		High	
					Wetness	1.00

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
243B:						
St. Charles	Well suited		Well suited		Low	
257A, 257B:						
Clarksdale	Well suited		Well suited		High	
					Wetness	1.00
271D2:						
Timula	Well suited		Well suited		Low	
274E2, 274F:						
Seaton	Poorly suited		Poorly suited		Low	
	Slope	0.50	Slope	0.50		
274G:						
Seaton	Unsuited		Unsuited		Low	
	Slope	1.00	Slope	1.00		
279B, 279C2:						
Rozetta	Well suited		Well suited		Low	
280B, 280B2, 280C2, 280C3, 280D2, 280D3:						
Fayette	Well suited		Well suited		Low	
280E2:						
Fayette	Poorly suited		Poorly suited		Low	
	Slope	0.50	Slope	0.50		
470C2:						
Keller	Well suited		Well suited		Low	
549F:						
Marseilles	Poorly suited		Poorly suited		Low	
	Slope	0.50	Slope	0.50		
549G:						
Marseilles	Unsuited		Unsuited		Low	
	Slope	1.00	Slope	1.00		
570C2:						
Martinsville	Well suited		Well suited		Low	
605D2:						
Ursa	Well suited		Well suited		Low	
630C3:						
Navlys	Well suited		Well suited		Low	
675B:						
Greenbush	Well suited		Well suited		Low	
699A:						
Timewell	Well suited		Well suited		Low	
802B:						
Orthents	Well suited		Well suited		Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
802E:						
Orthents	Poorly suited		Poorly suited		Low	
	Slope	0.50	Slope	0.50		
823B, 823C, 823D:						
Schuline	Well suited		Well suited		Low	
823F:						
Schuline	Poorly suited		Poorly suited		Low	
	Slope	0.50	Slope	0.50		
824B:						
Swanwick	Well suited		Well suited		Low	
835G:						
Earthen dam	Not rated		Not rated		Not rated	
855A, 855B:						
Timewell	Well suited		Well suited		Low	
Ipava	Well suited		Well suited		Low	
864:						
Pits, quarries	Not rated		Not rated		Not rated	
871G:						
Lenzburg	Unsuited		Unsuited		Low	
	Slope	1.00	Slope	1.00		
872B:						
Rapatee	Well suited		Well suited		Low	
1071A:						
Darwin	Unsuited		Unsuited		High	
	Wetness	0.75	Wetness	1.00	Wetness	1.00
	Stickiness	0.50				
3070A:						
Beaucoup	Well suited		Well suited		High	
					Wetness	1.00
3077A:						
Huntsville	Well suited		Well suited		Low	
3107A:						
Sawmill	Well suited		Well suited		High	
					Wetness	1.00
3284A:						
Tice	Well suited		Well suited		Low	
3333A:						
Wakeland	Well suited		Well suited		High	
					Wetness	1.00
3404A:						
Titus	Well suited		Well suited		High	
					Wetness	1.00

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
3634A:						
Blyton	Well suited		Well suited		Low	
3641L:						
Quiver	Unsuited		Unsuited		High	
	Wetness	0.75	Wetness	1.00	Wetness	1.00
7075B:						
Drury	Well suited		Well suited		Low	
7087B:						
Dickinson	Well suited		Well suited		Low	
7242A:						
Kendall	Well suited		Well suited		High	
					Wetness	1.00
7430B:						
Raddle	Well suited		Well suited		Low	
7741B:						
Oakville	Well suited		Well suited		Low	
8070A:						
Beaucoup	Well suited		Well suited		High	
					Wetness	1.00
8071A:						
Darwin	Poorly suited		Well suited		High	
	Stickiness	0.50			Wetness	1.00
8104A:						
Virgil	Well suited		Well suited		High	
					Wetness	1.00
8284A:						
Tice	Well suited		Well suited		Low	
8336A:						
Wilbur	Well suited		Well suited		Low	
8396A:						
Vesser	Well suited		Well suited		High	
					Wetness	1.00
8404A:						
Titus	Well suited		Well suited		High	
					Wetness	1.00
8415A:						
Orion	Well suited		Well suited		Low	
9279B:						
Rozetta	Well suited		Well suited		Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9279C2:						
Rozetta-------------	Well suited		Well suited		Low	

Table 11.--Forestland Productivity

(Only the soils commonly used for production of commercial trees are listed)

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/acre/yr	
6C2, 6C3:				
Fishhook	White oak	70	57	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Northern red oak	70	57	
	Bur oak	---	---	
	Green ash	---	---	
7D2, 7D3:				
Atlas	Bur oak	70	57	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Northern red oak	70	57	
	Green ash	---	---	
	White oak	70	57	
8F, 8G:				
Hickory	Bitternut hickory	---	---	Eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak	---	---	
	Green ash	---	---	
	Northern red oak	85	72	
	Tuliptree	95	100	
	White oak	85	72	
16A:				
Rushville	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
17A, 17B:				
Keomah	Northern red oak	70	57	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	White oak	65	43	
19D3:				
Sylvan	Black walnut	---	---	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	80	57	
43A, 43B:				
Ipava	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
50A:				
Virden	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
53F:				
Bloomfield	Black oak	70	57	Common hackberry, eastern redcedar, eastern white pine, green ash, red maple, red pine, shortleaf pine.
	Scarlet oak	---	---	
	Shagbark hickory	---	---	
	White oak	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Suggested trees to plant
			cu ft/acre/yr	
68A:				
Sable	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
75C:				
Drury	Green ash	---	---	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	85	72	
	Sweetgum	---	---	
	Tuliptree	95	100	
	White oak	85	72	
86B:				
Osco	---	---	---	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
206A:				
Thorp	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
242A:				
Kendall	White oak	80	57	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Black walnut	---	---	
	Northern red oak	80	57	
	Tuliptree	90	86	
243B:				
St. Charles	Green ash	---	---	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	85	72	
	Sweetgum	---	---	
	Tuliptree	95	100	
	White oak	85	72	
257A, 257B:				
Clarksdale	White oak	80	57	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Northern red oak	80	57	
271D2:				
Timula	White oak	70	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Bur oak	---	---	
	Northern red oak	---	---	
	Green ash	---	---	
274E2, 274F, 274G:				
Seaton	Black walnut	---	---	Eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	90	72	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/acre/yr	
279B, 279C2:				
Rozetta	White oak	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	Black walnut	---	---	
280B, 280B2, 280C2, 280C3, 280D2, 280D3, 280E2:				
Fayette	Black walnut	---	---	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	80	57	
470C2:				
Keller	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
549F, 549G:				
Marseilles	Black oak	---	---	Black oak, common hackberry, eastern white pine, green ash.
	Northern red oak	66	43	
	White ash	---	---	
	White oak	66	29	
570C2:				
Martinsville	White oak	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Sweetgum	76	72	
	Tuliptree	98	100	
605D2:				
Ursa	White oak	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash.
	Northern red oak	70	57	
	Black oak	70	57	
	Green ash	---	---	
630C3:				
Navlys	Black walnut	---	---	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	80	57	
675B:				
Greenbush	White oak	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Black walnut	---	---	
	Tuliptree	90	86	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/acre/yr	
699A:				
Timewell	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
823B, 823C, 823D, 823F:				
Schuline	---	---	---	Eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
824B:				
Swanwick	---	---	---	Eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
855A, 855B:				
Timewell	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
Ipava	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
871G:				
Lenzburg	Eastern cottonwood	---	---	Bur oak, chinkapin oak, eastern redcedar, green ash, honeylocust.
872B:				
Rapatee	---	---	---	Eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
1071A:				
Darwin	American sycamore	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Eastern cottonwood	---	---	
	Green ash	---	---	
	Pin oak	80	57	
	Swamp white oak	---	---	
3070A:				
Beaucoup	American sycamore	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Cherrybark oak	---	---	
	Eastern cottonwood	100	129	
	Pin oak	90	72	
	Sweetgum	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/acre/yr	
3077A:				
Huntsville	American sycamore	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Cherrybark oak	---	---	
	Eastern cottonwood	110	157	
	Green ash	---	---	
	Sweetgum	---	---	
	Tuliptree	98	100	
3107A:				
Sawmill	Pin oak	90	72	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	American sycamore	---	---	
	Eastern cottonwood	---	---	
	Sweetgum	---	---	
3284A:				
Tice	Virginia pine	90	90	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Eastern cottonwood	---	---	
	Pin oak	96	78	
	Sweetgum	86	95	
	Tuliptree	---	---	
	White ash	---	---	
3333A:				
Wakeland	American sycamore	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Green ash	---	---	
	Swamp white oak	---	---	
	Tuliptree	90	88	
3404A:				
Titus	Eastern cottonwood	99	129	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Silver maple	80	29	
	White ash	51	29	
3634A:				
Blyton	Pin oak	90	72	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Black walnut	---	---	
	Green ash	---	---	
3641L:				
Quiver	Eastern cottonwood	100	128	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	90	72	
	Silver maple	---	---	
	American sycamore	---	---	
7075B:				
Drury	White oak	85	72	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Northern red oak	85	72	
	Green ash	---	---	
7087B:				
Dickinson	---	---	---	Bur oak, eastern white pine, pecan, pin oak, tuliptree.

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/acre/yr	
7242A:				
Kendall	Black walnut	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	80	57	
7430B:				
Raddle	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
7741B:				
Oakville	Eastern white pine	85	200	Common hackberry, eastern redcedar, eastern white pine, green ash, red maple, red pine, shortleaf pine.
	Jack pine	68	100	
	Red pine	78	143	
	White oak	70	72	
8070A:				
Beaucoup	American sycamore	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Cherrybark oak	---	---	
	Eastern cottonwood	100	129	
	Pin oak	90	72	
	Sweetgum	---	---	
8071A:				
Darwin	American sycamore	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Eastern cottonwood	---	---	
	Green ash	---	---	
	Pin oak	80	57	
	Swamp white oak	---	---	
8104A:				
Virgil	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
8284A:				
Tice	Eastern cottonwood	100	129	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Pin oak	90	72	
	American sycamore	---	---	
8336A:				
Wilbur	Tuliptree	100	114	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
8396A:				
Vesser	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/acre/yr	
8404A:				
Titus-----------	Eastern cottonwood------------	99	129	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Silver maple------------------	80	29	
	White ash---------------------	51	29	
8415A:				
Orion-----------	Red maple---------------------	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Silver maple------------------	80	29	
	White ash---------------------	---	---	
9279B:				
Rozetta---------	Northern red oak--------------	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak---------------------	80	57	
	Tuliptree---------------------	90	86	
	Black walnut------------------	---	---	
9279C2:				
Rozetta---------	Northern red oak--------------	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak---------------------	80	57	
	Tuliptree---------------------	90	86	
	Black walnut------------------	---	---	

Table 12.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
6C2, 6C3:					
Fishhook	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7D2, 7D3:					
Atlas	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8F, 8G:					
Hickory	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
16A: Rushville	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
17A, 17B: Keomah	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
19D3: Sylvan	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
43A, 43B:					
Ipava	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
50A:					
Virden	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
53F:					
Bloomfield	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar	Eastern white pine

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
68A:					
Sable	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
75C:					
Drury	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
86B:					
Osco	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
206A:					
Thorp	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
242A:					
Kendall	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
243B:					
St. Charles	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
257A, 257B:					
Clarksdale	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
271D2:					
Timula	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
274E2, 274F, 274G:					
Seaton	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
279B, 279C2:					
Rozetta	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
280B, 280B2, 280C2, 280C3, 280D2, 280D3, 280E2:					
Fayette	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
470C2:					
Keller	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
549F, 549G:					
Marseilles	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine, green ash	Carolina poplar	---

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
570C2:					
Martinsville	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
605D2:					
Ursa	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce	Carolina poplar
630C3:					
Navlys	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
675B: Greenbush	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
699A: Timewell	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
802B, 802E. Orthents					
823B, 823C, 823D, 823F: Schuline	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
824B:					
Swanwick	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
835G. Earthen dam					
855A, 855B:					
Timewell	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Ipava	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
864. Pits, quarries					

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
871G:					
Lenzburg	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, green ash, thornless honeylocust	---	---
872B:					
Rapatee	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
1071A:					
Darwin	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3070A:					
Beaucoup	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
3077A:					
Huntsville	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3107A:					
Sawmill	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3284A:					
Tice	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
3333A: Wakeland	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3404A: Titus	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3634A: Blyton	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3641L:					
Quiver	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7075B:					
Drury	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7087B:					
Dickinson	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, blackgum, blue spruce, bur oak, eastern redcedar, green ash, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
7242A: Kendall	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7430B: Raddle	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7741B: Oakville	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar	Eastern white pine

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
8070A:					
Beaucoup	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8071A:					
Darwin	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8104A:					
Virgil	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
8284A:					
Tice	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8336A:					
Wilbur	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8396A:					
Vesser	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
8404A:					
Titus	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8415A:					
Orion	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
9279B:					
Rozetta	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 12.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
9279C2:					
Rozetta-----------------	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 13a.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
6C2, 6C3:						
Fishhook	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.98	Restricted permeability	0.96	Slope	1.00
	Restricted permeability	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Restricted permeability	0.96
7D2, 7D3:						
Atlas	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Restricted permeability	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	0.96	Slope	1.00
	Slope	0.96	Depth to saturated zone	0.94	Restricted permeability	1.00
8F, 8G:						
Hickory	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
16A:						
Rushville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
17A:						
Keomah	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Restricted permeability	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.96	Depth to saturated zone	0.94	Restricted permeability	0.96
17B:						
Keomah	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Restricted permeability	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.96	Depth to saturated zone	0.94	Restricted permeability	0.96
					Slope	0.28
19D3:						
Sylvan	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
43A:						
Ipava	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43B:						
Ipava	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.28
					Restricted permeability	0.21
50A:						
Virden	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
53F:						
Bloomfield	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too sandy	0.50	Too sandy	0.50	Too sandy	0.50
68A:						
Sable	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
75C:						
Drury	Not limited		Not limited		Very limited	
					Slope	1.00
86B:						
Osco	Not limited		Not limited		Somewhat limited	
					Slope	0.28
206A:						
Thorp	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
242A:						
Kendall	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
243B:						
St. Charles	Not limited		Not limited		Somewhat limited	
					Slope	0.28
257A:						
Clarksdale	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
257B:						
Clarksdale----------	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.28
					Restricted permeability	0.21
271D2:						
Timula--------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
274E2, 274F, 274G:						
Seaton--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
279B:						
Rozetta-------------	Not limited		Not limited		Somewhat limited	
					Slope	0.28
279C2:						
Rozetta-------------	Not limited		Not limited		Very limited	
					Slope	1.00
280B, 280B2:						
Fayette-------------	Not limited		Not limited		Somewhat limited	
					Slope	0.28
280C2, 280C3:						
Fayette-------------	Not limited		Not limited		Very limited	
					Slope	1.00
280D2, 280D3:						
Fayette-------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
280E2:						
Fayette-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
470C2:						
Keller--------------	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.98	Restricted permeability	0.96	Slope	1.00
	Restricted permeability	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Restricted permeability	0.96
549F, 549G:						
Marseilles----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Depth to bedrock	0.10
570C2:						
Martinsville--------	Not limited		Not limited		Very limited	
					Slope	1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	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
605D2:						
Ursa----------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
630C3:						
Navlys--------------	Not limited		Not limited		Very limited	
					Slope	1.00
675B:						
Greenbush-----------	Not limited		Not limited		Somewhat limited	
					Slope	0.28
699A:						
Timewell------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
802B:						
Orthents------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21
802E:						
Orthents------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
823B:						
Schuline------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.28
823C:						
Schuline------------	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
					Restricted permeability	0.96
823D:						
Schuline------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
823F:						
Schuline------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
824B:						
Swanwick------------	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
					Slope	0.28
835G:						
Earthen dam---------	Not rated		Not rated		Not rated	
855A:						
Timewell------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Ipava---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
855B:						
Timewell------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.28
					Restricted permeability	0.21
Ipava---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.28
					Restricted permeability	0.21
864:						
Pits, quarries------	Not rated		Not rated		Not rated	
871G:						
Lenzburg------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
					Gravel content	0.02
					Content of large stones	0.01
872B:						
Rapatee-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.43	Restricted permeability	0.43	Restricted permeability	0.43
					Slope	0.28

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1071A:						
Darwin	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	1.00	Ponding	1.00
	Restricted permeability	1.00	Too clayey	1.00	Restricted permeability	1.00
	Too clayey	1.00	Flooding	0.40	Too clayey	1.00
3070A:						
Beaucoup	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
3077A:						
Huntsville	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.40	Flooding	1.00
3107A:						
Sawmill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
3284A:						
Tice	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
	Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
3333A:						
Wakeland	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40	Flooding	1.00
3404A:						
Titus	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	0.96	Ponding	1.00
	Restricted permeability	0.96		0.40	Restricted permeability	0.96
3634A:						
Blyton	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.40	Flooding	1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	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
3641L:						
Quiver	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
7075B:						
Drury	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Slope	0.28
7087B:						
Dickinson	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Slope	0.28
7242A:						
Kendall	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Flooding	1.00				
7430B:						
Raddle	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Slope	0.28
7741B:						
Oakville	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Too sandy	0.50	Slope	0.50
	Too sandy	0.50			Too sandy	0.50
8070A:						
Beaucoup	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	Ponding	1.00
	Ponding	1.00	Restricted permeability	0.21	Flooding	0.60
	Restricted permeability	0.21			Restricted permeability	0.21
8071A:						
Darwin	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	Ponding	1.00
	Ponding	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Restricted permeability	1.00	Too clayey	1.00	Too clayey	1.00
	Too clayey	1.00			Flooding	0.60
8104A:						
Virgil	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Flooding	1.00			Flooding	0.60

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8284A:						
Tice	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Depth to saturated zone	0.98			Flooding	0.60
8336A:						
Wilbur	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.43	Depth to saturated zone	0.77
	Depth to saturated zone	0.77			Flooding	0.60
8396A:						
Vesser	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00			Flooding	0.60
8404A:						
Titus	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	Ponding	1.00
	Ponding	1.00	Restricted permeability	0.96	Restricted permeability	0.96
	Restricted permeability	0.96			Flooding	0.60
8415A:						
Orion	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Depth to saturated zone	0.98			Flooding	0.60
9279B:						
Rozetta	Not limited		Not limited		Somewhat limited	
					Slope	0.28
9279C2:						
Rozetta	Not limited		Not limited		Very limited	
					Slope	1.00

Table 13b.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	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
6C2, 6C3:						
Fishhook	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
7D2, 7D3:						
Atlas	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Slope	0.96
					Depth to saturated zone	0.94
8F:						
Hickory	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.04	Slope	1.00
8G:						
Hickory	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
16A:						
Rushville	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	Depth to saturated zone	1.00
17A, 17B:						
Keomah	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
19D3:						
Sylvan	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
43A, 43B:						
Ipava	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
50A:						
Virden	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	Depth to saturated zone	1.00
53F:						
Bloomfield	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Too sandy	0.50	Slope	1.00
	Too sandy	0.50	Slope	0.14		
68A:						
Sable	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	Depth to saturated zone	1.00

Table 13b.--Recreational Development--Continued

Map symbol and soil name	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
75C:						
Drury	Not limited		Not limited		Not limited	
86B:						
Osco	Not limited		Not limited		Not limited	
206A:						
Thorp	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	Depth to saturated zone	1.00
242A:						
Kendall	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
243B:						
St. Charles	Not limited		Not limited		Not limited	
257A, 257B:						
Clarksdale	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
271D2:						
Timula	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
274E2:						
Seaton	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.82				
274F:						
Seaton	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00	Slope	0.04		
274G:						
Seaton	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00		
279B, 279C2:						
Rozetta	Not limited		Not limited		Not limited	
280B, 280B2, 280C2, 280C3:						
Fayette	Not limited		Not limited		Not limited	
280D2, 280D3:						
Fayette	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
280E2:						
Fayette	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.82				

Table 13b.--Recreational Development--Continued

Map symbol and soil name	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
470C2:						
Keller	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
549F:						
Marseilles	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.04	Slope	1.00
					Depth to bedrock	0.10
549G:						
Marseilles	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.10
570C2:						
Martinsville	Not limited		Not limited		Not limited	
605D2:						
Ursa	Not limited		Not limited		Somewhat limited	
					Slope	0.96
630C3:						
Navlys	Not limited		Not limited		Not limited	
675B:						
Greenbush	Not limited		Not limited		Not limited	
699A:						
Timewell	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
802B:						
Orthents	Not limited		Not limited		Not limited	
802E:						
Orthents	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.68				
823B, 823C:						
Schuline	Not limited		Not limited		Not limited	
823D:						
Schuline	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
823F:						
Schuline	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00	Slope	0.14		
824B:						
Swanwick	Not limited		Not limited		Not limited	
835G:						
Earthen dam	Not rated		Not rated		Not rated	

Table 13b.--Recreational Development--Continued

Map symbol and soil name	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
855A, 855B:						
Timewell	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Ipava	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
864:						
Pits, quarries	Not rated		Not rated		Not rated	
871G:						
Lenzburg	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Content of large stones	0.01
872B:						
Rapatee	Not limited		Not limited		Not limited	
1071A:						
Darwin	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
	Too clayey	1.00	Too clayey	1.00	Depth to saturated zone	1.00
	Flooding	0.40	Flooding	0.40	Too clayey	1.00
3070A:						
Beaucoup	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
3077A:						
Huntsville	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
3107A:						
Sawmill	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
3284A:						
Tice	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
3333A:						
Wakeland	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.94

Table 13b.--Recreational Development--Continued

Map symbol and soil name	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
3404A:						
Titus	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
3634A:						
Blyton	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
3641L:						
Quiver	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
7075B:						
Drury	Not limited		Not limited		Not limited	
7087B:						
Dickinson	Not limited		Not limited		Not limited	
7242A:						
Kendall	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
7430B:						
Raddle	Not limited		Not limited		Not limited	
7741B:						
Oakville	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.50	Too sandy	0.50	Droughty	0.12
8070A:						
Beaucoup	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	Depth to saturated zone	1.00
					Flooding	0.60
8071A:						
Darwin	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	Depth to saturated zone	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
					Flooding	0.60
8104A:						
Virgil	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
					Flooding	0.60
8284A:						
Tice	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Flooding	0.60

Table 13b.--Recreational Development--Continued

Map symbol and soil name	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
8336A:						
Wilbur	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.08	Depth to saturated zone	0.08	Flooding	0.60
					Depth to saturated zone	0.43
8396A:						
Vesser	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Flooding	0.60
8404A:						
Titus	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	Depth to saturated zone	1.00
					Flooding	0.60
8415A:						
Orion	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Flooding	0.60
9279B:						
Rozetta	Not limited		Not limited		Not limited	
9279C2:						
Rozetta	Not limited		Not limited		Not limited	

Table 14.--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							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
6C2, 6C3:										
Fishhook	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7D2, 7D3:										
Atlas	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
8F:										
Hickory	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
8G:										
Hickory	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
16A:										
Rushville	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
17A:										
Keomah	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
17B:										
Keomah	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
19D3:										
Sylvan	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
43A:										
Ipava	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
43B:										
Ipava	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
50A:										
Virden	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
53F:										
Bloomfield	Very poor.	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
68A:										
Sable	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
75C:										
Drury	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
86B:										
Osco	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
206A:										
Thorp	Poor	Fair	Good	Fair	Fair	Good	Good	Fair	Fair	Good.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
242A:										
Kendall	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
243B:										
St. Charles	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
257A:										
Clarksdale	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
257B:										
Clarksdale	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
271D2:										
Timula	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
274E2:										
Seaton	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
274F:										
Seaton	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
274G:										
Seaton	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
279B:										
Rozetta	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
279C2:										
Rozetta	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
280B, 280B2:										
Fayette	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
280C2, 280C3:										
Fayette	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
280D2, 280D3:										
Fayette	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
280E2:										
Fayette	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
470C2:										
Keller	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
549F:										
Marseilles	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 14.--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
549G:										
Marseilles	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
570C2:										
Martinsville	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
605D2:										
Ursa	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
630C3:										
Navlys	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
675B:										
Greenbush	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
699A:										
Timewell	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
802B, 802E. Orthents										
823B:										
Schuline	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
823C:										
Schuline	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
823D:										
Schuline	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
823F:										
Schuline	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
824B:										
Swanwick	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
835G. Earthen dam										
855A:										
Timewell	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Ipava	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
855B:										
Timewell	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Ipava	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 14.--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
864. Pits, quarries										
871G: Lenzburg	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
872B: Rapatee	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
1071A: Darwin	Very poor.	Poor	Poor	Poor	Poor	Poor	Good	Poor	Poor	Fair.
3070A: Beaucoup	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3077A: Huntsville	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
3107A: Sawmill	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3284A: Tice	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
3333A: Wakeland	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
3404A: Titus	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3634A: Blyton	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
3641L: Quiver	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
7075B: Drury	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7087B: Dickinson	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7242A: Kendall	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
7430B: Raddle	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7741B: Oakville	Poor	Fair	Good	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
8070A: Beaucoup----------	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
8071A: Darwin------------	Poor	Fair	Fair	Fair	Fair	Poor	Good	Fair	Fair	Fair.
8104A: Virgil------------	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
8284A: Tice--------------	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
8336A: Wilbur------------	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
8396A: Vesser------------	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
8404A: Titus-------------	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
8415A: Orion-------------	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
9279B: Rozetta-----------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
9279C2: Rozetta-----------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 15a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	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
6C2:						
Fishhook	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	1.00	Slope	0.97
					Shrink-swell	0.50
6C3:						
Fishhook	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	1.00	Slope	0.97
					Shrink-swell	0.50
7D2:						
Atlas	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Depth to saturated zone	1.00
	Slope	0.96	Slope	0.96	Shrink-swell	1.00
7D3:						
Atlas	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Depth to saturated zone	1.00
	Slope	0.96	Slope	0.96	Shrink-swell	1.00
8F:						
Hickory	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
8G:						
Hickory	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
16A:						
Rushville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Ponding	1.00	Shrink-swell	1.00
	Ponding	1.00			Ponding	1.00
17A:						
Keomah	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00			Shrink-swell	1.00
17B:						
Keomah	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 15a.--Building Site Development--Continued

Map symbol and soil name	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
19D3:						
Sylvan	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
43A:						
Ipava	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
43B:						
Ipava	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
50A:						
Virden	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
53F:						
Bloomfield	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
68A:						
Sable	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
75C:						
Drury	Not limited		Not limited		Somewhat limited	
					Slope	0.97
86B:						
Osco	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.15		
206A:						
Thorp	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
242A:						
Kendall	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
243B:						
St. Charles	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	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
257A:						
Clarksdale----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
257B:						
Clarksdale----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00			Shrink-swell	1.00
271D2:						
Timula--------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
274E2:						
Seaton--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
274F:						
Seaton--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
274G:						
Seaton--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
279B:						
Rozetta-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.15		
279C2:						
Rozetta-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
			Depth to saturated zone	0.15	Shrink-swell	0.50
280B:						
Fayette-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
280B2:						
Fayette-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
280C2:						
Fayette-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
280C3:						
Fayette-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
280D2:						
Fayette-------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	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
280D3:						
Fayette	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
280E2:						
Fayette	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
470C2:						
Keller	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	1.00	Slope	0.97
					Shrink-swell	0.50
549F:						
Marseilles	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 soft bedrock	0.10		
549G:						
Marseilles	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 soft bedrock	0.10		
570C2:						
Martinsville	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
605D2:						
Ursa	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
	Slope	0.96	Slope	0.96	Shrink-swell	1.00
			Depth to saturated zone	0.15		
630C3:						
Navlys	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.15	Slope	0.97
					Shrink-swell	0.50
675B:						
Greenbush	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.15		
699A:						
Timewell	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98

Table 15a.--Building Site Development--Continued

Map symbol and soil name	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
802B:						
Orthents------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
802E:						
Orthents------------	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
823B:						
Schuline------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
823C:						
Schuline------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
823D:						
Schuline------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
823F:						
Schuline------------	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
824B:						
Swanwick------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.47		
835G:						
Earthen dam----------	Not rated		Not rated		Not rated	
855A:						
Timewell------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
Ipava---------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
855B:						
Timewell------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
Ipava---------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
864:						
Pits, quarries-------	Not rated		Not rated		Not rated	

Table 15a.--Building Site Development--Continued

Map symbol and soil name	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
871G:						
Lenzburg	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
872B:						
Rapatee	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.47		
1071A:						
Darwin	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	1.00	Shrink-swell	1.00	Shrink-swell	1.00
3070A:						
Beaucoup	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
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3077A:						
Huntsville	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.19		
3107A:						
Sawmill	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
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3284A:						
Tice	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
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3333A:						
Wakeland	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
3404A:						
Titus	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 15a.--Building Site Development--Continued

Map symbol and soil name	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
3634A:						
Blyton	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.99		
3641L:						
Quiver	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
7075B:						
Drury	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
7087B:						
Dickinson	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
7242A:						
Kendall	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
7430B:						
Raddle	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
7741B:						
Oakville	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
8070A:						
Beaucoup	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
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8071A:						
Darwin	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
8104A:						
Virgil	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	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
8284A:						
Tice----------------	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
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8336A:						
Wilbur--------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.77	Depth to saturated zone	1.00	Depth to saturated zone	0.77
8396A:						
Vesser--------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8404A:						
Titus---------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
8415A:						
Orion---------------	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
9279B:						
Rozetta-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.15		
9279C2:						
Rozetta-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
			Depth to saturated zone	0.15	Shrink-swell	0.50

Table 15b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	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
6C2:						
Fishhook	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
6C3:						
Fishhook	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
7D2:						
Atlas	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	0.96
	Low strength	1.00	Slope	0.96	Depth to saturated zone	0.94
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Slope	0.96				
	Depth to saturated zone	0.94				
7D3:						
Atlas	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	0.96
	Low strength	1.00	Slope	0.96	Depth to saturated zone	0.94
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Slope	0.96	Too clayey	0.02		
	Depth to saturated zone	0.94				
8F:						
Hickory	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
8G:						
Hickory	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
16A:						
Rushville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Ponding	1.00				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	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
17A:						
Keomah	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.94				
17B:						
Keomah	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.94				
19D3:						
Sylvan	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	0.96				
	Shrink-swell	0.50				
43A:						
Ipava	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.75				
43B:						
Ipava	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.75				
50A:						
Virden	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Ponding	1.00				
53F:						
Bloomfield	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Cutbanks cave	1.00		
68A:						
Sable	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	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
75C:						
Drury	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
86B:						
Osco	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
206A:						
Thorp	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
	Shrink-swell	0.50				
242A:						
Kendall	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.94				
	Shrink-swell	0.50				
243B:						
St. Charles	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
257A:						
Clarksdale	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.94				
257B:						
Clarksdale	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.94				
271D2:						
Timula	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.10		
274E2:						
Seaton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	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
274F:						
Seaton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
274G:						
Seaton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
279B:						
Rozetta	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00				
	Shrink-swell	0.50	Cutbanks cave	0.10		
279C2:						
Rozetta	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00				
	Shrink-swell	0.50	Cutbanks cave	0.10		
280B:						
Fayette	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
280B2:						
Fayette	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
280C2:						
Fayette	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
280C3:						
Fayette	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
280D2:						
Fayette	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	0.96				
	Shrink-swell	0.50				
280D3:						
Fayette	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	0.96				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	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
280E2:						
Fayette	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
470C2:						
Keller	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
549F:						
Marseilles	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10	Depth to bedrock	0.10
	Low strength	1.00	Depth to soft bedrock	0.10		
	Shrink-swell	0.50				
549G:						
Marseilles	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10	Depth to bedrock	0.10
	Low strength	1.00	Depth to soft bedrock	0.10		
	Shrink-swell	0.50				
570C2:						
Martinsville	Somewhat limited		Very limited		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
605D2:						
Ursa	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.96	Slope	0.96
	Shrink-swell	1.00	Depth to saturated zone	0.15		
	Slope	0.96	Cutbanks cave	0.10		
	Frost action	0.50	Too clayey	0.01		
630C3:						
Navlys	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
675B:						
Greenbush	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
699A:						
Timewell	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.75				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	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
802B:						
Orthents	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
802E:						
Orthents	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
823B:						
Schuline	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
823C:						
Schuline	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
823D:						
Schuline	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
823F:						
Schuline	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
824B:						
Swanwick	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.47		
	Low strength	1.00				
	Shrink-swell	0.50	Cutbanks cave	0.10		
835G:						
Earthen dam	Not rated		Not rated		Not rated	
855A:						
Timewell	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00				
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
Ipava	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00				
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	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
855B:						
Timewell------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.75				
Ipava---------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.75				
864:						
Pits, quarries------	Not rated		Not rated		Not rated	
871G:						
Lenzburg------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10	Large stones content	0.01
	Shrink-swell	0.50				
	Frost action	0.50				
872B:						
Rapatee-------------	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.47		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
1071A:						
Darwin--------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Frost action	1.00	Too clayey	0.24	Too clayey	1.00
	Flooding	1.00	Cutbanks cave	0.10		
3070A:						
Beaucoup------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
3077A:						
Huntsville----------	Very limited		Somewhat limited		Very limited	
	Frost action	1.00	Flooding	0.80	Flooding	1.00
	Flooding	1.00	Depth to saturated zone	0.19		
	Low strength	1.00	Cutbanks cave	0.10		

Table 15b.--Building Site Development--Continued

Map symbol and soil name	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
3107A:						
Sawmill-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
3284A:						
Tice----------------	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
3333A:						
Wakeland------------	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.94
	Depth to saturated zone	0.94	Cutbanks cave	0.10		
3404A:						
Titus---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
3634A:						
Blyton--------------	Very limited		Somewhat limited		Very limited	
	Frost action	1.00	Depth to saturated zone	0.99	Flooding	1.00
	Flooding	1.00	Flooding	0.80		
			Cutbanks cave	0.10		
3641L:						
Quiver--------------	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
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
7075B:						
Drury---------------	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Flooding	0.40				
7087B:						
Dickinson-----------	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
	Flooding	0.40				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	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
7242A:						
Kendall	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.94				
	Shrink-swell	0.50				
	Flooding	0.40				
7430B:						
Raddle	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Flooding	0.40				
	Low strength	0.22				
7741B:						
Oakville	Somewhat limited		Very limited		Somewhat limited	
	Flooding	0.40	Cutbanks cave	1.00	Droughty	0.12
8070A:						
Beaucoup	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
8071A:						
Darwin	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Too clayey	1.00
	Frost action	1.00	Too clayey	0.68	Ponding	1.00
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Low strength	1.00	Cutbanks cave	0.10		
8104A:						
Virgil	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.94				
	Shrink-swell	0.50				
8284A:						
Tice	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
8336A:						
Wilbur	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	0.60
	Flooding	1.00	Flooding	0.60	Depth to saturated zone	0.43
	Depth to saturated zone	0.43	Cutbanks cave	0.10		

Table 15b.--Building Site Development--Continued

Map symbol and soil name	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
8396A:						
Vesser--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
8404A:						
Titus---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
8415A:						
Orion---------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
9279B:						
Rozetta-------------	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
9279C2:						
Rozetta-------------	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				

Table 16a.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
6C2, 6C3:				
Fishhook	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Depth to saturated zone	0.01
7D2, 7D3:				
Atlas	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00		
	Slope	0.96		
8F, 8G:				
Hickory	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
16A:				
Rushville	Very limited		Very limited	
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
17A:				
Keomah	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
17B:				
Keomah	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.18
19D3:				
Sylvan	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
43A:				
Ipava	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
43B:				
Ipava	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.18
50A:				
Virden	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
53F:				
Bloomfield	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
68A:				
Sable	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
75C:				
Drury	Somewhat limited		Very limited	
	Restricted permeability	0.46	Slope	1.00
			Seepage	0.53
86B:				
Osco	Somewhat limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
206A:				
Thorp	Very limited		Very limited	
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00	Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
242A:				
Kendall	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
243B:				
St. Charles	Somewhat limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53
			Slope	0.18

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
257A:				
Clarksdale----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
257B:				
Clarksdale----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.18
271D2:				
Timula--------------	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
274E2, 274F, 274G:				
Seaton--------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
279B:				
Rozetta-------------	Somewhat limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53
			Slope	0.18
	Depth to saturated zone	0.40		
279C2:				
Rozetta-------------	Somewhat limited		Very limited	
	Restricted permeability	0.46	Slope	1.00
			Seepage	0.53
	Depth to saturated zone	0.40		
280B, 280B2:				
Fayette-------------	Somewhat limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53
			Slope	0.18
280C2, 280C3:				
Fayette-------------	Somewhat limited		Very limited	
	Restricted permeability	0.46	Slope	1.00
			Seepage	0.53
280D2, 280D3:				
Fayette-------------	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
280E2:				
Fayette-------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Septic tank absorption fields: Value	Sewage lagoons: Rating class and limiting features	Sewage lagoons: Value
470C2:				
Keller	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Depth to saturated zone	0.01
549F, 549G:				
Marseilles	Very limited		Very limited	
	Restricted permeability	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
	Slope	1.00		
570C2:				
Martinsville	Somewhat limited		Very limited	
	Restricted permeability	0.46	Slope	1.00
			Seepage	1.00
605D2:				
Ursa	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.96		
	Depth to saturated zone	0.40		
630C3:				
Navlys	Somewhat limited		Very limited	
	Restricted permeability	0.46	Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
675B:				
Greenbush	Somewhat limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
699A:				
Timewell	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
802B:				
Orthents	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.32
802E:				
Orthents	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
823B:				
Schuline------------	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.18
823C:				
Schuline------------	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
823D:				
Schuline------------	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.96		
823F:				
Schuline------------	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00		
824B:				
Swanwick------------	Very limited		Somewhat limited	
	Restricted permeability	1.00	Depth to saturated zone	0.39
	Depth to saturated zone	0.94	Slope	0.18
835G:				
Earthen dam---------	Not rated		Not rated	
855A:				
Timewell------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
Ipava---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
855B:				
Timewell------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	0.18
Ipava---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	0.18
864:				
Pits, quarries------	Not rated		Not rated	

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
871G:				
Lenzburg	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00		
872B:				
Rapatee	Very limited		Somewhat limited	
	Restricted permeability	1.00	Depth to saturated zone	0.39
	Depth to saturated zone	0.94	Slope	0.18
1071A:				
Darwin	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		
3070A:				
Beaucoup	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
3077A:				
Huntsville	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
3107A:				
Sawmill	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
3284A:				
Tice	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

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3333A:				
Wakeland------------	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
3404A:				
Titus---------------	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		
3634A:				
Blyton--------------	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
3641L:				
Quiver--------------	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
7075B:				
Drury---------------	Somewhat limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53
			Flooding	0.40
	Flooding	0.40	Slope	0.18
7087B:				
Dickinson-----------	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
			Flooding	0.40
	Flooding	0.40	Slope	0.18
7242A:				
Kendall-------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
			Flooding	0.40
	Flooding	0.40		
7430B:				
Raddle--------------	Somewhat limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53
			Flooding	0.40
	Flooding	0.40	Slope	0.18

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
7741B:				
Oakville	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Flooding	0.40	Flooding	0.40
			Slope	0.32
8070A:				
Beaucoup	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
8071A:				
Darwin	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		
8104A:				
Virgil	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
8284A:				
Tice	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
8336A:				
Wilbur	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
8396A:				
Vesser	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

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8404A:				
Titus	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		
8415A:				
Orion	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
9279B:				
Rozetta	Somewhat limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
9279C2:				
Rozetta	Somewhat limited		Very limited	
	Restricted permeability	0.46	Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53

Table 16b.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	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
6C2, 6C3:						
Fishhook	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
7D2, 7D3:						
Atlas	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	0.96	Slope	0.96	Hard to compact	1.00
	Too clayey	0.50			Slope	0.96
					Too clayey	0.50
8F, 8G:						
Hickory	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
16A:						
Rushville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Too clayey	0.50
17A, 17B:						
Keomah	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
19D3:						
Sylvan	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
43A, 43B:						
Ipava	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
50A:						
Virden	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Hard to compact	1.00
					Too clayey	0.50
53F:						
Bloomfield	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	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
68A:						
Sable	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
75C:						
Drury	Not limited		Not limited		Not limited	
86B:						
Osco	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
206A:						
Thorp	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00			Too clayey	0.50
	Too clayey	0.50				
242A:						
Kendall	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
243B:						
St. Charles	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
257A, 257B:						
Clarksdale	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Too clayey	0.50
271D2:						
Timula	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
274E2, 274F, 274G:						
Seaton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
279B, 279C2:						
Rozetta	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
280B, 280B2, 280C2, 280C3:						
Fayette	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	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
280D2, 280D3:						
Fayette	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Too clayey	0.50			Too clayey	0.50
280E2:						
Fayette	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
470C2:						
Keller	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
549F, 549G:						
Marseilles	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	0.50			Too clayey	0.50
570C2:						
Martinsville	Very limited		Not limited		Somewhat limited	
	Seepage	1.00			Too clayey	0.50
	Too clayey	0.50				
605D2:						
Ursa	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Slope	0.96	Too clayey	1.00
	Slope	0.96			Hard to compact	1.00
					Slope	0.96
630C3:						
Navlys	Very limited		Very limited		Not limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
675B:						
Greenbush	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
699A:						
Timewell	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
802B:						
Orthents	Not limited		Not limited		Not limited	
802E:						
Orthents	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
823B, 823C:						
Schuline	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	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
823D:						
Schuline-----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Too clayey	0.50			Too clayey	0.50
823F:						
Schuline-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
824B:						
Swanwick-----------	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
835G:						
Earthen dam---------	Not rated		Not rated		Not rated	
855A, 855B:						
Timewell-----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
Ipava---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Too clayey	0.50
864:						
Pits, quarries------	Not rated		Not rated		Not rated	
871G:						
Lenzburg-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
872B:						
Rapatee------------	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
1071A:						
Darwin--------------	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
3070A:						
Beaucoup-----------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
3077A:						
Huntsville----------	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 16b.--Sanitary Facilities--Continued

Map symbol and soil name	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
3107A:						
Sawmill	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
3284A:						
Tice	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
3333A:						
Wakeland	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		
3404A:						
Titus	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	Hard to compact	1.00
	Too clayey	0.50			Too clayey	0.50
3634A:						
Blyton	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.24
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
3641L:						
Quiver	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
7075B:						
Drury	Somewhat limited		Somewhat limited		Not limited	
	Flooding	0.40	Flooding	0.40		
7087B:						
Dickinson	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Seepage	0.52
	Flooding	0.40	Flooding	0.40		
7242A:						
Kendall	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50	Flooding	0.40	Too clayey	0.50
	Flooding	0.40				

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	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
7430B:						
Raddle----------------	Somewhat limited		Somewhat limited		Not limited	
	Flooding	0.40	Flooding	0.40		
7741B:						
Oakville-------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Flooding	0.40	Seepage	1.00
	Flooding	0.40				
8070A:						
Beaucoup-------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
8071A:						
Darwin---------------	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
8104A:						
Virgil---------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
8284A:						
Tice-----------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
8336A:						
Wilbur---------------	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.95
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
8396A:						
Vesser---------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
8404A:						
Titus----------------	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	Hard to compact	1.00
	Too clayey	0.50			Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	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
8415A:						
Orion	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		
9279B:						
Rozetta	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
9279C2:						
Rozetta	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				

Table 17.--Construction Materials

(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. For sand, the greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source. For roadfill and topsoil, the smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of sand		Potential as source of roadfill		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
6C2, 6C3:						
Fishhook------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Depth to saturated zone	0.14
	Thickest layer	0.00	Depth to saturated zone	0.14	Too clayey	0.64
			Shrink-swell	0.36		
7D2, 7D3:						
Atlas---------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.01
	Thickest layer	0.00	Depth to saturated zone	0.04	Depth to saturated zone	0.04
			Shrink-swell	0.22	Slope	0.04
8F, 8G:						
Hickory-------------	Poor		Poor		Poor	
	Bottom layer	0.00	Slope	0.00	Slope	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.57
			Shrink-swell	0.99		
16A:						
Rushville-----------	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.01
			Shrink-swell	0.49		
17A, 17B:						
Keomah--------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Depth to saturated zone	0.0 4
	Thickest layer	0.00	Depth to saturated zone	0.04	Too clayey	0.05
			Shrink-swell	0.89		
19D3:						
Sylvan--------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Slope	0.04
	Thickest layer	0.00			Too clayey	0.57
43A, 43B:						
Ipava---------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Depth to saturated zone	0.14
	Thickest layer	0.00	Depth to saturated zone	0.14		
			Shrink-swell	0.59		
50A:						
Virden--------------	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.02
			Shrink-swell	0.35		

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand		Potential as source of roadfill		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
53F:						
Bloomfield----------	Fair		Poor		Poor	
	Thickest layer	0.13	Slope	0.00	Slope	0.00
	Bottom layer	0.15			Too sandy	0.32
68A:						
Sable---------------	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.98
			Shrink-swell	0.87		
75C:						
Drury---------------	Poor		Fair		Good	
	Bottom layer	0.00	Low strength	0.22		
	Thickest layer	0.00				
86B:						
Osco----------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.64
	Thickest layer	0.00	Shrink-swell	0.87		
206A:						
Thorp---------------	Fair		Poor		Poor	
	Thickest layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Bottom layer	0.01	Low strength	0.00	Too clayey	0.57
			Shrink-swell	0.99		
242A:						
Kendall-------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Depth to saturated zone	0.04
	Thickest layer	0.00	Depth to saturated zone	0.04	Too clayey	0.57
			Shrink-swell	0.99		
243B:						
St. Charles---------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.57
	Thickest layer	0.00	Shrink-swell	0.95		
257A, 257B:						
Clarksdale----------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.01
	Thickest layer	0.00	Depth to saturated zone	0.04	Depth to saturated zone	0.04
			Shrink-swell	0.50		
271D2:						
Timula--------------	Poor		Good		Fair	
	Bottom layer	0.00			Slope	0.04
	Thickest layer	0.00			Carbonate content	0.92
274E2:						
Seaton--------------	Poor		Poor		Poor	
	Bottom layer	0.00	Low strength	0.00	Slope	0.00
	Thickest layer	0.00	Slope	0.18		

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand		Potential as source of roadfill		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
274F, 274G:						
Seaton--------------	Poor		Poor		Poor	
	Bottom layer	0.00	Low strength	0.00	Slope	0.00
	Thickest layer	0.00	Slope	0.00		
279B, 279C2:						
Rozetta-------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.60
	Thickest layer	0.00	Shrink-swell	0.90		
280B, 280B2, 280C2, 280C3:						
Fayette------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.64
	Thickest layer	0.00	Shrink-swell	0.87		
280D2, 280D3:						
Fayette-------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Slope	0.04
	Thickest layer	0.00	Shrink-swell	0.87	Too clayey	0.57
280E2:						
Fayette-------------	Poor		Poor		Poor	
	Bottom layer	0.00	Low strength	0.00	Slope	0.00
	Thickest layer	0.00	Slope	0.18	Too clayey	0.57
			Shrink-swell	0.87		
470C2:						
Keller--------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Depth to saturated zone	0.14
	Thickest layer	0.00	Depth to saturated zone	0.14	Too clayey	0.64
			Shrink-swell	0.38		
549F, 549G:						
Marseilles----------	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to bedrock	0.00	Slope	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.39
			Slope	0.00	Too acid	0.88
			Shrink-swell	0.87	Depth to bedrock	0.90
570C2:						
Martinsville--------	Fair		Fair		Fair	
	Thickest layer	0.00	Shrink-swell	0.94	Too clayey	0.57
	Bottom layer	0.02				
605D2:						
Ursa----------------	Poor		Poor		Poor	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.00
	Thickest layer	0.00	Shrink-swell	0.16	Slope	0.04
630C3:						
Navlys--------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.64
	Thickest layer	0.00				
675B:						
Greenbush-----------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.70
	Thickest layer	0.00	Shrink-swell	0.91		

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand: Rating class	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
699A:						
Timewell	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.01
	Thickest layer	0.00	Depth to saturated zone	0.14	Depth to saturated zone	0.14
			Shrink-swell	0.55		
802B:						
Orthents	Poor		Poor		Good	
	Bottom layer	0.00	Low strength	0.00		
	Thickest layer	0.00	Shrink-swell	0.87		
802E:						
Orthents	Poor		Poor		Poor	
	Bottom layer	0.00	Low strength	0.00	Slope	0.00
	Thickest layer	0.00	Slope	0.32		
			Shrink-swell	0.87		
823B, 823C:						
Schuline	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.60
	Thickest layer	0.00	Shrink-swell	0.87		
823D:						
Schuline	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Slope	0.04
	Thickest layer	0.00	Shrink-swell	0.87	Too clayey	0.60
823F:						
Schuline	Poor		Poor		Poor	
	Bottom layer	0.00	Slope	0.00	Slope	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.60
			Shrink-swell	0.87		
824B:						
Swanwick	Poor		Poor		Poor	
	Bottom layer	0.00	Low strength	0.00	Hard to reclaim	0.00
	Thickest layer	0.00	Shrink-swell	0.96	Rock fragments	0.50
					Too clayey	0.64
835G:						
Earthen dam	Not rated		Not rated		Not rated	
855A, 855B:						
Timewell	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.05
	Thickest layer	0.00	Depth to saturated zone	0.14	Depth to saturated zone	0.14
			Shrink-swell	0.59	Too acid	0.98
Ipava	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.06
	Thickest layer	0.00	Depth to saturated zone	0.14	Depth to saturated zone	0.14
			Shrink-swell	0.41		
864:						
Pits, quarries	Not rated		Not rated		Not rated	

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand		Potential as source of roadfill		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
871G:						
Lenzburg	Poor		Poor		Poor	
	Bottom layer	0.00	Slope	0.00	Slope	0.00
	Thickest layer	0.00	Low strength	0.00	Rock fragments	0.50
			Shrink-swell	0.57	Too clayey	0.67
					Hard to reclaim	0.68
872B:						
Rapatee	Poor		Poor		Poor	
	Bottom layer	0.00	Low strength	0.00	Hard to reclaim	0.00
	Thickest layer	0.00	Shrink-swell	0.96	Too clayey	0.68
1071A:						
Darwin	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00	Too clayey	0.00
	Thickest layer	0.00	Shrink-swell	0.00	Depth to saturated zone	0.00
			Low strength	0.00		
3070A:						
Beaucoup	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.86
			Shrink-swell	0.87		
3077A:						
Huntsville	Poor		Poor		Good	
	Bottom layer	0.00	Low strength	0.00		
	Thickest layer	0.00	Shrink-swell	0.87		
3107A:						
Sawmill	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.98
			Shrink-swell	0.87		
3284A:						
Tice	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Depth to saturated zone	0.14
	Thickest layer	0.00	Depth to saturated zone	0.14		
			Shrink-swell	0.87		
3333A:						
Wakeland	Poor		Fair		Fair	
	Bottom layer	0.00	Depth to saturated zone	0.04	Depth to saturated zone	0.04
	Thickest layer	0.00				
3404A:						
Titus	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.01
			Shrink-swell	0.12		
3634A:						
Blyton	Poor		Fair		Fair	
	Bottom layer	0.00	Depth to saturated zone	0.98	Depth to saturated zone	0.98
	Thickest layer	0.00				

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand: Rating class	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
3641L:						
Quiver---------------	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.64
			Shrink-swell	0.87		
7075B:						
Drury----------------	Poor		Fair		Good	
	Bottom layer	0.00	Low strength	0.22		
	Thickest layer	0.00				
7087B:						
Dickinson------------	Fair		Poor		Good	
	Thickest layer	0.03	Low strength	0.00		
	Bottom layer	0.67				
7242A:						
Kendall--------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Depth to saturated zone	0.04
	Thickest layer	0.00	Depth to saturated zone	0.04	Too clayey	0.57
			Shrink-swell	0.95		
7430B:						
Raddle---------------	Poor		Fair		Good	
	Bottom layer	0.00	Low strength	0.78		
	Thickest layer	0.00				
7741B:						
Oakville-------------	Fair		Good		Poor	
	Thickest layer	0.44			Too sandy	0.00
	Bottom layer	0.67				
8070A:						
Beaucoup-------------	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.76
			Shrink-swell	0.87		
8071A:						
Darwin---------------	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00	Too clayey	0.00
	Thickest layer	0.00	Low strength	0.00	Depth to saturated zone	0.00
			Shrink-swell	0.00		
8104A:						
Virgil---------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Depth to saturated zone	0.04
	Thickest layer	0.00	Depth to saturated zone	0.04	Too clayey	0.67
			Shrink-swell	0.97		
8284A:						
Tice-----------------	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Depth to saturated zone	0.14
	Thickest layer	0.00	Depth to saturated zone	0.14	Too clayey	0.76
			Shrink-swell	0.87		

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand: Rating class	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
8336A:						
Wilbur	Poor		Fair		Fair	
	Bottom layer	0.00	Depth to saturated zone	0.32	Depth to saturated zone	0.32
	Thickest layer	0.00				
8396A:						
Vesser	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Thickest layer	0.00	Low strength	0.00		
			Shrink-swell	0.87		
8404A:						
Titus	Poor		Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.01
			Shrink-swell	0.12		
8415A:						
Orion	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Depth to saturated zone	0.14
	Thickest layer	0.00	Depth to saturated zone	0.14		
9279B:						
Rozetta	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.60
	Thickest layer	0.00	Shrink-swell	0.87	Too acid	0.98
9279C2:						
Rozetta	Poor		Poor		Fair	
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.60
	Thickest layer	0.00	Shrink-swell	0.87	Too acid	0.98

Table 18a.--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	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
6C2, 6C3:						
Fishhook	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
7D2, 7D3:						
Atlas	Somewhat limited		Very limited		Very limited	
	Slope	0.02	Depth to saturated zone	1.00	Depth to water	1.00
			Hard to pack	0.71		
8F:						
Hickory	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.05	Depth to water	1.00
	Slope	0.36				
8G:						
Hickory	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.99	Piping	0.27	Depth to water	1.00
	Seepage	0.72				
16A:						
Rushville	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Ponding	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.08		
17A, 17B:						
Keomah	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.30		
19D3:						
Sylvan	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.06	Depth to water	1.00
	Slope	0.02				
43A, 43B:						
Ipava	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
50A:						
Virden	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
53F:						
Bloomfield	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.15	Depth to water	1.00
	Slope	0.45				

Table 18a.--Water Management--Continued

Map symbol and soil name	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
68A:						
Sable	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
75C:						
Drury	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.88	Depth to water	1.00
86B:						
Osco	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.03	Depth to water	1.00
206A:						
Thorp	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	0.10
			Depth to saturated zone	1.00		
			Piping	0.36		
			Seepage	0.01		
242A:						
Kendall	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.98	Cutbanks cave	0.10
243B:						
St. Charles	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.63	Depth to water	1.00
257A, 257B:						
Clarksdale	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.03	Cutbanks cave	0.10
271D2:						
Timula	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	Depth to water	1.00
	Slope	0.02				
274E2:						
Seaton	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.90	Depth to water	1.00
	Slope	0.18				
274F:						
Seaton	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.93	Depth to water	1.00
	Slope	0.36				
274G:						
Seaton	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.99	Piping	0.94	Depth to water	1.00
	Seepage	0.72				
279B, 279C2:						
Rozetta	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.01	Depth to water	1.00

Table 18a.--Water Management--Continued

Map symbol and soil name	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
280B, 280B2, 280C2, 280C3:						
Fayette	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.21	Depth to water	1.00
280D2, 280D3:						
Fayette	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.08	Depth to water	1.00
	Slope	0.02				
280E2:						
Fayette	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.03	Depth to water	1.00
	Slope	0.18				
470C2:						
Keller	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
549F:						
Marseilles	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.36	Thin layer	0.70	Depth to water	1.00
	Depth to bedrock	0.04				
549G:						
Marseilles	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.99	Thin layer	0.70	Depth to water	1.00
	Depth to bedrock	0.04				
570C2:						
Martinsville	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	Depth to water	1.00
			Seepage	0.02		
605D2:						
Ursa	Somewhat limited		Not limited		Very limited	
	Slope	0.02			Depth to water	1.00
630C3:						
Navlys	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.02	Depth to water	1.00
675B:						
Greenbush	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.17	Depth to water	1.00
					Slow refill	0.28
699A:						
Timewell	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
802B:						
Orthents	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.04	Piping	0.50	Depth to water	1.00
802E:						
Orthents	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.15	Piping	0.50	Depth to water	1.00
	Seepage	0.04				

Table 18a.--Water Management--Continued

Map symbol and soil name	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
823B, 823C:						
Schuline------------	Not limited		Somewhat limited		Very limited	
			Piping	0.01	Depth to water	1.00
823D:						
Schuline------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.02	Piping	0.01	Depth to water	1.00
823F:						
Schuline------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.45	Piping	0.01	Depth to water	1.00
824B:						
Swanwick------------	Not limited		Not limited		Very limited	
					Depth to water	1.00
835G:						
Earthen dam---------	Not rated		Not rated		Not rated	
855A, 855B:						
Timewell------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
					Cutbanks cave	0.10
Ipava---------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
					Cutbanks cave	0.10
864:						
Pits, quarries------	Not rated		Not rated		Not rated	
871G:						
Lenzburg------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.88	Piping	0.01	Depth to water	1.00
	Seepage	0.04				
872B:						
Rapatee-------------	Somewhat limited		Not limited		Very limited	
	Seepage	0.02			Depth to water	1.00
1071A:						
Darwin--------------	Not limited		Very limited		Very limited	
			Ponding	1.00	Slow refill	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Hard to pack	1.00		
3070A:						
Beaucoup------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Ponding	1.00	Slow refill	0.96
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.24		
3077A:						
Huntsville----------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.50	Depth to water	1.00

Table 18a.--Water Management--Continued

Map symbol and soil name	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
3107A:						
Sawmill	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.02		
3284A:						
Tice	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.16		
3333A:						
Wakeland	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	1.00		
3404A:						
Titus	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Ponding	1.00	Slow refill	0.96
			Depth to saturated zone	1.00	Cutbanks cave	0.10
3634A:						
Blyton	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Piping	1.00	Slow refill	0.28
			Depth to saturated zone	0.68	Depth to water	0.14
					Cutbanks cave	0.10
3641L:						
Quiver	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Ponding	1.00	Slow refill	0.96
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.10		
7075B:						
Drury	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.88	Depth to water	1.00
7087B:						
Dickinson	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.67	Depth to water	1.00
7242A:						
Kendall	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.93	Cutbanks cave	0.10
7430B:						
Raddle	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	Depth to water	1.00
7741B:						
Oakville	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.67	Depth to water	1.00

Table 18a.--Water Management--Continued

Map symbol and soil name	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
8070A:						
Beaucoup	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Ponding	1.00	Slow refill	0.96
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.06		
8071A:						
Darwin	Not limited		Very limited		Very limited	
			Ponding	1.00	Slow refill	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Hard to pack	1.00		
8104A:						
Virgil	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.04		
8284A:						
Tice	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.44		
8336A:						
Wilbur	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	1.00		
8396A:						
Vesser	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.05		
8404A:						
Titus	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Ponding	1.00	Slow refill	0.96
			Depth to saturated zone	1.00	Cutbanks cave	0.10
8415A:						
Orion	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	1.00		
9279B:						
Rozetta	Somewhat limited		Not limited		Very limited	
	Seepage	0.72			Depth to water	1.00
					Slow refill	0.28

Table 18a.--Water Management--Continued

Map symbol and soil name	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
9279C2:						
Rozetta-------------	Somewhat limited		Not limited		Very limited	
	Seepage	0.72			Depth to water	1.00
					Slow refill	0.28

Table 18b.--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	Grassed waterways and surface drains		Terraces and diversions		Subsurface drains		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
6C2, 6C3:								
Fishhook----	Somewhat limited		Very limited		Very limited		Very limited	
	Slope	0.99	Water erosion	1.00	Depth to saturated zone	1.00	Water erosion	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10	Depth to saturated zone	1.00
			Slope	0.99			Slope	0.06
7D2, 7D3:								
Atlas-------	Very limited		Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Slope	0.96	Slope	0.98
			Water erosion	0.89	Cutbanks cave	0.10	Available water	0.32
8F, 8G:								
Hickory-----	Very limited		Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00	Slope	1.00
			Slope	1.00	Cutbanks cave	0.10		
16A:								
Rushville---	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.50		
17A:								
Keomah------	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
17B:								
Keomah------	Somewhat limited		Very limited		Very limited		Very limited	
	Slope	0.25	Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10	Water erosion	1.00
			Slope	0.25				
19D3:								
Sylvan------	Very limited		Very limited		Somewhat limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	0.96	Water erosion	1.00
			Slope	1.00	Cutbanks cave	0.50	Slope	0.98
43A:								
Ipava-------	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
43B:								
Ipava-------	Somewhat limited		Very limited		Very limited		Very limited	
	Slope	0.25	Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
			Slope	0.25				

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways and surface drains		Terraces and diversions		Subsurface drains		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50A:								
Virden------	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
53F:								
Bloomfield--	Very limited		Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00	Soil blowing	1.00
					Cutbanks cave	1.00	Slope	1.00
							Available water	0.98
68A:								
Sable-------	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
75C:								
Drury-------	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.99	Water erosion	1.00	Cutbanks cave	0.10	Water erosion	1.00
			Slope	0.99			Slope	0.06
86B:								
Osco--------	Somewhat limited		Very limited		Somewhat limited		Not limited	
	Slope	0.25	Water erosion	1.00	Depth to saturated zone	0.15		
			Slope	0.25	Cutbanks cave	0.10		
206A:								
Thorp-------	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
242A:								
Kendall-----	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
243B:								
St. Charles	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.25	Water erosion	1.00	Cutbanks cave	0.10	Water erosion	1.00
			Slope	0.25				
257A:								
Clarksdale--	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways and surface drains: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Subsurface drains: Rating class and limiting features	Value	Sprinkler irrigation: Rating class and limiting features	Value
257B:								
Clarksdale	Somewhat limited		Very limited		Very limited		Very limited	
	Slope	0.25	Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10	Water erosion	1.00
			Slope	0.25				
271D2:								
Timula	Very limited		Very limited		Somewhat limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	0.96	Water erosion	1.00
			Slope	1.00	Cutbanks cave	0.50	Slope	0.98
274E2, 274F, 274G:								
Seaton	Very limited		Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00	Slope	1.00
			Slope	1.00	Cutbanks cave	0.50	Water erosion	1.00
279B:								
Rozetta	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.25	Water erosion	1.00	Depth to saturated zone	0.15	Water erosion	1.00
			Slope	0.25	Cutbanks cave	0.10		
279C2:								
Rozetta	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.99	Water erosion	1.00	Depth to saturated zone	0.15	Water erosion	1.00
			Slope	0.99	Cutbanks cave	0.10	Slope	0.06
280B, 280B2:								
Fayette	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.25	Water erosion	1.00	Cutbanks cave	0.10	Water erosion	1.00
			Slope	0.25				
280C2, 280C3:								
Fayette	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.99	Water erosion	1.00	Cutbanks cave	0.10	Water erosion	1.00
			Slope	0.99			Slope	0.06
280D2, 280D3:								
Fayette	Very limited		Very limited		Somewhat limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	0.96	Water erosion	1.00
			Slope	1.00	Cutbanks cave	0.10	Slope	0.98
280E2:								
Fayette	Very limited		Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00	Slope	1.00
			Slope	1.00	Cutbanks cave	0.10	Water erosion	1.00
470C2:								
Keller	Somewhat limited		Very limited		Very limited		Very limited	
	Slope	0.99	Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10	Slope	0.06
			Slope	0.99				

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways and surface drains: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Subsurface drains: Rating class and limiting features	Value	Sprinkler irrigation: Rating class and limiting features	Value
549F, 549G:								
Marseilles--	Very limited		Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to soft bedrock	0.10	Slope	1.00	Cutbanks cave	0.10	Slope	1.00
			Depth to soft bedrock	0.10	Depth to soft bedrock	0.10	Available water	0.11
570C2:								
Martinsville	Somewhat limited		Somewhat limited		Very limited		Somewhat limited	
	Slope	0.99	Slope	0.99	Cutbanks cave	1.00	Slope	0.06
			Water erosion	0.89				
605D2:								
Ursa--------	Very limited		Very limited		Somewhat limited		Somewhat limited	
	Slope	1.00	Slope	1.00	Slope	0.96	Slope	0.98
			Water erosion	0.89	Depth to saturated zone	0.15	Available water	0.13
					Cutbanks cave	0.10		
					Too clayey	0.01		
630C3:								
Navlys------	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.99	Water erosion	1.00	Depth to saturated zone	0.15	Water erosion	1.00
			Slope	0.99	Cutbanks cave	0.10	Slope	0.06
675B:								
Greenbush---	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.25	Water erosion	1.00	Depth to saturated zone	0.15	Water erosion	1.00
			Slope	0.25	Cutbanks cave	0.10		
699A:								
Timewell----	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
802B:								
Orthents----	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.36	Water erosion	1.00	Cutbanks cave	0.10	Water erosion	1.00
			Slope	0.36				
802E:								
Orthents----	Very limited		Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00	Water erosion	1.00
			Slope	1.00	Cutbanks cave	0.10	Slope	1.00
823B:								
Schuline----	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.25	Water erosion	1.00	Cutbanks cave	0.10	Water erosion	1.00
			Slope	0.25			Available water	0.74
823C:								
Schuline----	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.99	Water erosion	1.00	Cutbanks cave	0.10	Water erosion	1.00
			Slope	0.99			Available water	0.74
							Slope	0.06

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways and surface drains		Terraces and diversions		Subsurface drains		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
823D:								
Schuline----	Very limited		Very limited		Somewhat limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	0.96	Water erosion	1.00
			Slope	1.00	Cutbanks cave	0.10	Slope	0.98
							Available water	0.74
823F:								
Schuline----	Very limited		Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00	Slope	1.00
			Slope	1.00	Cutbanks cave	0.10	Water erosion	1.00
							Available water	0.74
824B:								
Swanwick----	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.25	Water erosion	1.00	Depth to saturated zone	0.47	Water erosion	1.00
			Slope	0.25	Cutbanks cave	0.10	Available water	0.77
835G:								
Earthen dam	Not rated		Not rated		Not rated		Not rated	
855A:								
Timewell----	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
Ipava-------	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
855B:								
Timewell----	Somewhat limited		Very limited		Very limited		Very limited	
	Slope	0.25	Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
			Slope	0.25				
Ipava-------	Somewhat limited		Very limited		Very limited		Very limited	
	Slope	0.25	Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
			Slope	0.25				
864:								
Pits, quarries---	Not rated		Not rated		Not rated		Not rated	
871G:								
Lenzburg----	Very limited		Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00	Slope	1.00
	Rock fragments	0.31	Slope	1.00	Cutbanks cave	0.10	Available water	0.05
			Rock fragments	0.31				
872B:								
Rapatee-----	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.25	Water erosion	1.00	Depth to saturated zone	0.47	Water erosion	1.00
			Slope	0.25	Cutbanks cave	0.10	Available water	0.50

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways and surface drains: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Subsurface drains: Rating class and limiting features	Value	Sprinkler irrigation: Rating class and limiting features	Value
1071A:								
Darwin------	Not limited		Very limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00	Ponding	1.00
			Depth to saturated zone	1.00	Flooding	1.00	Depth to saturated zone	1.00
			Water erosion	0.56	Depth to saturated zone	1.00	Flooding	1.00
					Too clayey	0.24	Available water	0.40
					Cutbanks cave	0.10		
3070A:								
Beaucoup----	Not limited		Very limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00	Ponding	1.00
			Depth to saturated zone	1.00	Flooding	1.00	Depth to saturated zone	1.00
			Water erosion	0.89	Depth to saturated zone	1.00	Flooding	1.00
					Cutbanks cave	0.10		
3077A:								
Huntsville--	Not limited		Somewhat limited		Very limited		Very limited	
			Water erosion	0.89	Flooding	1.00	Flooding	1.00
					Depth to saturated zone	0.15		
					Cutbanks cave	0.10		
3107A:								
Sawmill-----	Not limited		Very limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00	Ponding	1.00
			Depth to saturated zone	1.00	Flooding	1.00	Flooding	1.00
			Water erosion	0.56	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Cutbanks cave	0.10		
3284A:								
Tice--------	Not limited		Very limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Flooding	1.00	Depth to saturated zone	1.00
			Water erosion	0.89	Depth to saturated zone	1.00	Flooding	1.00
					Cutbanks cave	0.10		
3333A:								
Wakeland----	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Flooding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
					Cutbanks cave	0.10		
3404A:								
Titus-------	Not limited		Very limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00	Ponding	1.00
			Depth to saturated zone	1.00	Flooding	1.00	Depth to saturated zone	1.00
			Water erosion	0.89	Depth to saturated zone	1.00	Flooding	1.00
					Cutbanks cave	0.10		
3634A:								
Blyton------	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	1.00	Depth to saturated zone	0.99		
					Cutbanks cave	0.10		

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways and surface drains		Terraces and diversions		Subsurface drains		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3641L:								
Quiver	Not limited		Very limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00	Ponding	1.00
			Depth to saturated zone	1.00	Flooding	1.00	Flooding	1.00
			Water erosion	0.89	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Cutbanks cave	0.10		
7075B:								
Drury	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.25	Water erosion	1.00	Cutbanks cave	0.10	Water erosion	1.00
			Slope	0.25				
7087B:								
Dickinson	Somewhat limited		Somewhat limited		Very limited		Somewhat limited	
	Slope	0.25	Slope	0.25	Cutbanks cave	1.00	Available water	0.20
			Water erosion	0.17				
7242A:								
Kendall	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10		
7430B:								
Raddle	Somewhat limited		Very limited		Somewhat limited		Not limited	
	Slope	0.25	Water erosion	1.00	Cutbanks cave	0.10		
			Slope	0.25				
7741B:								
Oakville	Somewhat limited		Very limited		Very limited		Very limited	
	Slope	0.36	Too sandy	1.00	Cutbanks cave	1.00	Soil blowing	1.00
			Slope	0.36			Available water	1.00
8070A:								
Beaucoup	Not limited		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	Depth to saturated zone	1.00
			Water erosion	0.89	Flooding	0.60		
					Cutbanks cave	0.10		
8071A:								
Darwin	Not limited		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	Depth to saturated zone	1.00
			Water erosion	0.56	Too clayey	0.68	Available water	0.40
					Flooding	0.60		
					Cutbanks cave	0.10		
8104A:								
Virgil	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Flooding	0.60		
					Cutbanks cave	0.10		

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways and surface drains: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Subsurface drains: Rating class and limiting features	Value	Sprinkler irrigation: Rating class and limiting features	Value
8284A:								
Tice--------	Not limited		Very limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.89	Flooding	0.60		
					Cutbanks cave	0.10		
8336A:								
Wilbur------	Not limited		Very limited		Very limited		Not limited	
			Water erosion	1.00	Depth to saturated zone	1.00		
			Depth to saturated zone	1.00	Flooding	0.60		
					Cutbanks cave	0.10		
8396A:								
Vesser------	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Flooding	0.60		
					Cutbanks cave	0.10		
8404A:								
Titus-------	Not limited		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	Depth to saturated zone	1.00
			Water erosion	0.89	Flooding	0.60		
					Cutbanks cave	0.10		
8415A:								
Orion-------	Not limited		Very limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Flooding	0.60		
					Cutbanks cave	0.10		
9279B:								
Rozetta-----	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.25	Water erosion	1.00	Depth to saturated zone	0.15	Water erosion	1.00
			Slope	0.25	Cutbanks cave	0.10		
9279C2:								
Rozetta-----	Somewhat limited		Very limited		Somewhat limited		Very limited	
	Slope	0.99	Water erosion	1.00	Depth to saturated zone	0.15	Water erosion	1.00
			Slope	0.99	Cutbanks cave	0.10	Slope	0.06

Table 19.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated)

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	
6C2:												
Fishhook-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-15
	6-27	Silty clay loam	CL, ML	A-6, A-7, A-7-6	0	0	100	100	95-100	90-100	35-50	10-25
	27-58	Clay loam, clay, silty clay loam	CH, CL	A-7, A-7-6	0-1	0-5	95-100	90-100	80-90	75-85	40-60	20-35
	58-80	Clay loam, clay, silty clay loam	CH, CL	A-7, A-7-6	0-1	0-5	95-100	90-100	80-90	75-85	40-60	20-35
6C3:												
Fishhook-----	0-5	Silty clay loam	ML	A-6, A-7, A-7-6	0	0	100	100	95-100	90-100	35-50	10-20
	5-27	Silty clay loam	CL, ML	A-6, A-7, A-7-6	0	0	100	100	95-100	90-100	35-50	10-25
	27-68	Clay loam, clay, silty clay loam	CH, CL	A-7, A-7-6	0-1	0-5	95-100	90-100	80-90	75-85	40-60	20-35
	68-82	Clay loam, clay, silty clay loam	CH, CL	A-7, A-7-6	0-1	0-5	95-100	90-100	80-90	75-85	40-60	20-35
7D2:												
Atlas--------	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	75-95	25-35	5-15
	7-51	Silty clay loam, clay, clay loam	CH	A-7, A-7-6	0	0	100	95-100	95-100	75-95	50-70	30-45
	51-60	Clay loam, clay, loam	CH, CL	A-6, A-7, A-7-6	0	0	95-100	90-100	90-100	65-95	35-55	20-30
7D3:												
Atlas--------	0-4	Silty clay loam	CH, CL	A-7-6, A-6	0	0	100	100	95-100	75-100	38-65	25-40
	4-66	Silty clay loam, clay, clay loam, silty clay	CH	A-7-6, A-7	0	0	100	95-100	95-100	75-95	50-70	30-45
	66-80	Clay loam, clay, loam	CH, CL	A-6, A-7-6, A-7	0	0	95-100	90-100	80-100	60-95	35-55	20-30

Table 19.--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	
8F:												
Hickory------	0-4	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	4-12	Loam	CL, ML, CL-ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	12-53	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	53-58	Loam, sandy loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
	58-63	Loam, sandy loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
8G:												
Hickory------	0-4	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	4-12	Loam	CL, ML, CL-ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	12-40	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	40-58	Loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
	58-63	Loam, sandy loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
16A:												
Rushville----	0-7	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	NP-15
	7-13	Silt loam, silt	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	NP-15
	13-32	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	95-100	45-60	20-35
	32-50	Silty clay loam, silty clay	CH, CL, MH, ML	A-7-6, A-7-5	0	0	100	100	95-100	95-100	45-60	15-30
	50-80	Silt loam, silty clay loam	CL	A-6, A-7-6, A-4	0	0	100	100	95-100	90-100	30-45	8-20
17A:												
Keomah-------	0-11	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-35	10-15
	11-18	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-35	10-20
	18-33	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	100	95-100	45-55	25-30
	33-51	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	100	95-100	35-45	15-25
	51-89	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15

Table 19.--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	
17B:												
Keomah-------	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-35	10-15
	9-31	Silty clay, silty clay loam	CH, CL	A-7, A-7-6	0	0	100	100	100	95-100	45-55	25-30
	31-51	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	100	95-100	35-45	15-25
	51-80	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
19D3:												
Sylvan-------	0-9	Silty clay loam	CL	A-6, A-7, A-7-6	0	0	100	100	100	95-100	35-50	20-30
	9-28	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6	0	0	100	100	100	95-100	35-50	20-30
	28-60	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	5-20
43A:												
Ipava--------	0-20	Silt loam	ML, CL	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	20-40	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	45-70	25-40
	40-60	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
43B:												
Ipava--------	0-17	Silt loam	CL, ML	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	17-58	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	45-70	25-40
	58-60	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
50A:												
Virden-------	0-16	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	30-50	10-25
	16-49	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	95-100	40-60	20-40
	49-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	30-50	10-25
53F:												
Bloomfield---	0-4	Loamy fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	70-100	4-35	0-14	NP
	4-29	Loamy sand, loamy fine sand, sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	70-100	4-35	0-14	NP
	29-60	Loamy sand, fine sand, loamy fine sand, sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	65-100	4-35	0-14	NP

Table 19.--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	
68A:												
Sable--------	0-17	Silty clay loam	CH, CL, MH, ML	A-7-6	0	0	100	100	95-100	95-100	41-65	15-35
	17-23	Silty clay loam	CH, CL, MH, ML	A-7-6	0	0	100	100	95-100	95-100	41-65	15-35
	23-60	Silty clay loam, silt loam	CL, CH	A-7-6	0	0	100	100	95-100	95-100	40-55	20-35
75C:												
Drury--------	0-7	Silt loam	CL, ML	A-4, A-6	0	0	100	95-100	95-100	90-100	25-35	10-15
	7-43	Silt loam	CL	A-4, A-6	0	0	100	95-100	95-100	90-100	30-35	10-15
	43-80	Silt loam	CL, ML	A-4, A-6	0	0	100	95-100	95-100	55-95	25-35	10-15
86B:												
Osco---------	0-14	Silt loam	CL, ML	A-6, A-4	0	0	100	100	100	95-100	35-45	7-20
	14-55	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	40-50	15-25
	55-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	100	95-100	35-45	7-25
206A:												
Thorp--------	0-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	95-100	90-100	30-49	7-18
	14-19	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	95-100	90-100	28-37	7-17
	19-43	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	95-100	95-100	90-100	32-46	15-25
	43-50	Sandy clay loam, clay loam, silt loam	CL, SC	A-4, A-6, A-7	0	0	90-100	90-100	80-100	40-90	29-42	10-21
	50-65	Stratified sandy loam to silty clay loam	CL-ML, ML, SC-SM, SM, SC	A-2, A-4	0	0	85-100	85-100	65-90	20-85	16-27	2-21
242A:												
Kendall------	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	20-35	5-15
	9-16	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	20-35	5-15
	16-44	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	30-45	10-20
	44-60	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	25-35	8-15
	60-80	Stratified sandy loam to silt loam	CL, CL-ML, SC-SM, SC	A-4	0	0-3	95-100	90-100	70-90	40-70	20-30	NP-10
243B:												
St. Charles--	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	22-35	7-15
	8-50	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-40	10-20
	50-60	Clay loam, silt loam, sandy loam, loam	CL, SC	A-4, A-6	0	0	90-100	75-100	75-95	40-80	20-35	8-20

Table 19.--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	
257A:												
Clarksdale---	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	8-16	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	20-35	8-18
	16-47	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	40-65	25-40
	47-67	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	25-45	10-25
	67-80	Silt loam	CL	A-6	0	0	95-100	95-100	95-100	90-100	25-40	10-20
257B:												
Clarksdale---	0-9	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	9-29	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	40-65	25-40
	29-47	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	90-100	35-45	15-25
	47-80	Silt loam	CL	A-6	0	0	95-100	95-100	95-100	90-100	25-40	10-20
271D2:												
Timula-------	0-7	Silt loam	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
	7-22	Silt loam	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
	22-60	Silt loam, silt	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
274E2:												
Seaton-------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	20-35	5-15
	6-47	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-100	25-40	5-20
	47-60	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-100	25-40	5-20
274F:												
Seaton-------	0-5	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	24-35	5-15
	5-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	20-30	5-15
	9-57	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	90-100	30-40	10-15
	57-80	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-100	25-35	7-15
274G:												
Seaton-------	0-5	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	24-35	5-15
	5-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	20-30	5-15
	9-46	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	90-100	30-40	10-15
	46-80	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-100	25-35	7-15
279B:												
Rozetta------	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	7-11	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-30	5-15
	11-55	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	55-60	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20

Table 19.--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	
279C2:												
Rozetta------	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	8-56	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	56-80	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20
280B:												
Fayette------	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	9-39	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	39-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280B2:												
Fayette------	0-8	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
	8-56	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	56-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280C2:												
Fayette------	0-8	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
	8-64	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	64-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280C3:												
Fayette------	0-8	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	8-48	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	48-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280D2:												
Fayette------	0-6	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
	6-48	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	48-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280D3:												
Fayette------	0-8	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	8-36	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	36-60	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20

Table 19.--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	
280E2:												
Fayette------	0-4	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
	4-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	60-77	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
470C2:												
Keller-------	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	100	99-100	95-100	35-45	10-18
	9-28	Silty clay loam, silt loam	CL, ML	A-6, A-7, A-7-6	0	0	100	100	98-100	94-100	35-47	17-25
	28-60	Silty clay loam, clay loam, clay	CH, CL	A-6, A-7, A-7-6	0	0-5	94-100	84-100	77-98	61-86	40-56	21-33
	60-80	Silty clay loam, clay loam, clay	CH, CL	A-6, A-7-6	0	0-5	94-100	84-100	77-98	61-86	40-56	21-33
549F:												
Marseilles---	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-15
	10-35	Silty clay loam, silty clay, clay loam	CH, CL	A-7-6, A-7	0-1	0-5	95-100	90-100	85-100	80-95	40-60	15-30
	35-60	Weathered bedrock			---	---	---	---	---	---	---	---
549G:												
Marseilles---	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-15
	10-35	Clay loam, silty clay, silty clay loam	CH, CL	A-7-6	0-1	0-5	95-100	90-100	85-100	80-95	40-60	15-30
	35-60	Weathered bedrock			---	---	---	---	---	---	---	---
570C2:												
Martinsville	0-9	Loam	ML, CL-ML, CL, SC-SM	A-4	0	0	100	85-100	75-100	45-70	15-25	3-8
	9-52	Clay loam, silty clay loam, sandy clay loam	CL, SC	A-4, A-6	0	0	95-100	85-100	70-100	40-90	25-40	7-15
	52-80	Stratified sand to silt loam	SM, SC-SM, SC, CL-ML	A-1, A-2-4, A-4	0	0	95-100	85-100	45-95	10-85	15-25	NP-8

Table 19.--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	
605D2:												
Ursa----------	0-6	Silt loam	CL, ML	A-4, A-6	0	0	100	94-100	88-100	74-96	27-43	9-18
	6-56	Silty clay, clay loam, clay, silty clay loam	CH, CL	A-7, A-7-6	0	0-5	95-100	88-97	79-94	60-85	46-57	25-33
	56-80	Clay loam, loam, clay	CH, CL	A-6, A-7, A-7-6	0-2	0-5	95-98	83-97	74-93	54-84	35-55	17-32
630C3:												
Navlys-------	0-6	Silty clay loam	CL	A-6, A-7, A-7-6	0	0	100	100	100	95-100	35-50	20-30
	6-31	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6	0	0	100	100	100	95-100	35-50	20-30
	31-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	5-20
675B:												
Greenbush----	0-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	60-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	11-20
699A:												
Timewell-----	0-18	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-40	5-15
	18-40	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	45-60	25-40
	40-67	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-50	20-35
	67-80	Silt loam	CL	A-6	0	0	100	100	90-100	80-100	30-40	10-20
802B:												
Orthents-----	0-6	Loam	CL	A-6	0-1	0-5	95-100	90-100	85-95	60-90	20-40	10-20
	6-60	Loam, silt loam, clay loam	CL	A-6	0-1	0-5	95-100	90-100	85-95	60-90	20-40	10-20
802E:												
Orthents-----	0-6	Loam	CL	A-6	0-1	0-5	95-100	90-100	85-95	60-90	20-40	10-20
	6-60	Loam, silt loam, clay loam	CL	A-6	0-1	0-5	95-100	90-100	85-95	60-90	20-40	10-20
823B:												
Schuline-----	0-5	Silty clay loam	CL	A-6, A-7	0-1	0-2	90-100	85-100	80-95	75-90	30-50	10-25
	5-80	Loam, silty clay loam, clay loam	CL	A-6, A-7	0-2	0-5	90-100	85-100	80-95	70-85	30-50	10-25

Table 19.--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	
823C:												
Schuline-----	0-5	Silty clay loam	CL	A-6, A-7	0-1	0-2	90-100	85-100	80-95	75-90	30-50	10-25
	5-80	Loam, silty clay loam, clay loam	CL	A-6, A-7	0-2	0-5	90-100	85-100	80-95	70-85	30-50	10-25
823D:												
Schuline-----	0-5	Silty clay loam	CL	A-6, A-7	0-1	0-2	90-100	85-100	80-95	75-90	30-50	10-25
	5-80	Loam, silty clay loam, clay loam	CL	A-6, A-7	0-2	0-5	90-100	85-100	80-95	70-85	30-50	10-25
823F:												
Schuline-----	0-5	Silty clay loam	CL	A-6, A-7	0-1	0-2	90-100	85-100	80-95	75-90	30-50	10-25
	5-80	Loam, silty clay loam, clay loam	CL	A-6, A-7	0-2	0-5	90-100	85-100	80-95	70-85	30-50	10-25
824B:												
Swanwick-----	0-7	Silt loam	CL, ML	A-6, A-7	0	0	95-100	88-100	88-100	85-100	31-41	14-19
	7-20	Silty clay loam, silt loam, loam	CL, ML	A-4, A-6, A-7	0	0	90-100	80-100	80-100	80-95	24-45	9-25
	20-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0	0	88-100	75-100	70-100	65-95	37-47	19-25
835G.												
Earthen dam												
855A:												
Timewell-----	0-18	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-40	5-15
	18-40	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	45-60	25-40
	40-67	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-50	20-35
	67-80	Silt loam	CL	A-6	0	0	100	100	90-100	80-100	30-40	10-20
Ipava---------	0-14	Silt loam	CL, ML	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	14-41	Silty clay loam, silty clay	CH, CL	A-7, A-7-6	0	0	100	100	95-100	90-100	45-70	25-40
	41-80	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20

Table 19.--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	
855B:												
Timewell-----	0-16	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-40	5-15
	16-36	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	45-60	25-40
	36-59	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-50	20-35
	59-80	Silt loam, silty clay loam	CL	A-6	0	0	100	100	90-100	80-100	30-40	10-20
Ipava--------	0-12	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	12-41	Silty clay loam, silty clay	CH, CL	A-7-6, A-7	0	0	100	100	95-100	90-100	45-70	25-40
	41-80	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
864. Pits, quarries												
871G:												
Lenzburg-----	0-5	Silty clay loam	CL	A-6, A-7, A-7-6	0-1	2-10	80-100	75-100	65-95	55-85	35-50	15-25
	5-38	Silty clay loam, clay loam, gravelly loam	CL	A-6, A-7	0-2	0-15	75-95	70-90	65-85	60-85	25-45	10-25
	38-60	Silty clay, clay loam, gravelly clay loam	CH, CL	A-6, A-7, A-7-6	0-5	0-25	70-95	60-90	55-90	50-90	30-55	15-30
872B:												
Rapatee------	0-3	Silty clay loam, silt loam	ML, CL	A-4, A-6, A-7-6	0	0	100	100	95-100	90-100	39-47	10-18
	3-48	Silty clay loam, silt loam	CL, ML	A-4, A-6, A-7-6	0	0-10	90-100	75-100	70-100	65-95	26-45	10-25
	48-60	Clay loam, silty clay loam, loam	CL, ML	A-4, A-6	0	0-15	90-100	65-90	60-90	55-80	24-43	9-25
1071A:												
Darwin-------	0-15	Silty clay	CH, CL	A-7, A-7-6	0	0	100	100	100	90-100	45-85	25-55
	15-60	Silty clay, loam	CH, CL	A-7, A-7-6	0	0	100	100	100	85-100	45-85	25-55

Table 19.--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	
3070A:												
Beaucoup-----	0-16	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	35-45	15-20
	16-64	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	35-45	15-20
	64-80	Stratified silty clay loam to very fine sandy loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	90-100	65-95	20-41	5-25
3077A:												
Huntsville---	0-43	Silt loam	CL	A-6	0	0	100	95-100	90-100	85-100	25-40	10-20
	43-60	Silt loam	CL	A-6	0	0	100	95-100	90-100	85-100	20-35	10-20
3107A:												
Sawmill------	0-10	Silty clay loam	CL, ML	A-7-6	0	0	100	97-100	95-100	85-100	40-46	16-21
	10-32	Silty clay loam	CL, ML	A-7-6	0	0	100	97-100	95-100	85-100	40-46	16-21
	32-58	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	97-100	85-100	80-95	37-46	16-22
	58-65	Silty clay loam, clay loam	CL, ML	A-7-6, A-6	0	0	100	97-100	85-100	80-95	37-46	16-22
3284A:												
Tice---------	0-14	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-95	30-45	10-25
	14-52	Silty clay loam, silt loam	CH, CL	A-7, A-7-6	0	0	100	100	95-100	85-95	40-55	15-30
	52-72	Stratified loam to silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	60-95	55-80	25-45	5-20
3333A:												
Wakeland-----	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-100	16-28	3-9
	10-50	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-100	16-28	3-9
	50-80	Silt loam, loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	60-100	16-28	3-9
3404A:												
Titus--------	0-13	Silty clay loam	CH, CL	A-7, A-7-6	0	0	100	100	95-100	90-100	40-55	20-30
	13-67	Silty clay loam, silty clay	CH, CL	A-7, A-7-6	0	0	100	100	95-100	90-100	40-55	20-30
	67-79	Silty clay loam, silt loam, loam	CL	A-6	0	0	100	90-100	70-90	55-85	20-40	10-25
3634A:												
Blyton-------	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-100	20-30	3-9
	10-80	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-100	20-30	3-9

Table 19.--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	
3641L:												
Quiver-------	0-9	Silty clay loam	CL	A-7, A-6	0	0	100	100	90-100	85-100	20-45	15-25
	9-65	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	95-100	80-100	60-100	20-45	10-25
7075B:												
Drury--------	0-7	Silt loam	CL, ML	A-4, A-6	0	0	100	95-100	95-100	90-100	25-35	10-15
	7-43	Silt loam	CL	A-4, A-6	0	0	100	95-100	95-100	90-100	30-35	10-15
	43-80	Silt loam, loam	CL, ML	A-4, A-6	0	0	100	95-100	95-100	55-95	25-35	10-15
7087B:												
Dickinson----	0-9	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	100	100	85-95	30-50	15-30	NP-10
	9-20	Fine sandy loam, sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	100	100	85-95	30-50	15-30	NP-10
	20-43	Fine sandy loam, sandy loam	SC, SC-SM, SM	A-4	0	0	100	100	85-95	35-50	15-30	NP-10
	43-60	Sand, loamy fine sand, loamy sand	SM, SP-SM	A-2, A-3, A-2-4	0	0	100	100	65-100	4-35	0-14	NP
7242A:												
Kendall------	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-95	20-35	5-15
	9-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-95	15-30	5-15
	14-54	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-45	10-20
	54-60	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	25-35	8-15
	60-80	Stratified sandy loam to clay loam	CL, CL-ML, SC, SC-SM	A-4	0	0-5	95-100	90-100	70-90	40-70	15-25	4-15
7430B:												
Raddle-------	0-15	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-35	8-15
	15-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	80-100	20-30	4-14
7741B:												
Oakville-----	0-14	Loamy fine sand	SM	A-2, A-2-4	0	0	100	90-100	55-80	15-35	0-14	NP
	14-36	Fine sand, loamy fine sand	SM, SP-SM	A-2, A-2-4	0	0	100	95-100	65-95	10-35	0-14	NP
	36-60	Sand, fine sand	SM, SP-SM	A-2, A-3, A-2-4	0	0	100	90-100	50-80	10-35	0-14	NP

Table 19.--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	
8070A:												
Beaucoup-----	0-15	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	30-45	15-25
	15-48	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	30-45	15-30
	48-60	Stratified silt loam to silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	90-100	65-95	25-45	5-25
	60-80	Stratified silt loam to silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	60-95	20-40	5-20
8071A:												
Darwin-------	0-12	Silty clay	CH, CL	A-7, A-7-6	0	0	100	100	100	90-100	45-85	25-55
	12-40	Silty clay, clay	CH, CL	A-7, A-7-6	0	0	100	100	100	85-100	45-85	25-55
	40-60	Silty clay loam, silty clay	CH, CL	A-6, A-7, A-7-6	0	0	100	100	95-100	90-100	35-70	20-45
8104A:												
Virgil-------	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	90-100	85-95	20-35	8-20
	9-15	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-95	20-35	5-20
	15-52	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	30-50	15-30
	52-60	Clay loam, sandy loam, silty loam	CL, CL-ML, SC, SC-SM	A-2-4, A-2-6, A-4, A-6	0	0-5	90-100	85-100	70-100	30-90	20-35	5-15
8284A:												
Tice---------	0-11	Silty clay loam, silt loam	CL, ML	A-6, A-4	0	0	100	100	90-100	85-100	30-40	6-13
	11-51	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	30-45	15-30
	51-80	Stratified silt loam to silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	60-95	20-40	5-20
8336A:												
Wilbur-------	0-7	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	70-100	20-30	5-10
	7-41	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	80-100	20-30	5-10
	41-65	Silt loam, loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	80-100	60-100	20-35	5-15
8396A:												
Vesser-------	0-14	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-40	10-20
	14-26	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-40	10-20
	26-80	Silty clay loam	CL	A-7, A-7-6	0	0	100	100	98-100	95-100	40-50	15-25

Table 19.--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	
8404A:												
Titus--------	0-13	Silty clay loam	CH, CL	A-7, A-7-6	0	0	100	100	95-100	90-100	40-55	20-30
	13-68	Silty clay loam, silty clay	CH, CL	A-7, A-7-6	0	0	100	100	95-100	90-100	40-55	20-30
	68-80	Silty clay loam, silt loam, loam	CL	A-6	0	0	100	90-100	70-90	55-85	20-40	10-25
8415A:												
Orion--------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	80-100	25-35	4-12
	6-25	Silt loam, stratified silt loam to very fine sand	CL, CL-ML	A-4	0	0	100	100	90-100	70-80	20-30	4-10
	25-60	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	85-100	20-40	4-18
9279B:												
Rozetta------	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	9-66	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	66-76	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20
9279C2:												
Rozetta------	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	7-66	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	66-70	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20

Table 20.--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	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
6C2:														
Fishhook------------	0-6	0-7	66-80	20-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	4	6	48
	6-27	0-7	58-73	27-35	1.40-1.60	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	27-58	15-35	20-50	35-45	1.55-1.75	0.06-0.2	0.09-0.16	6.0-8.9	0.0-0.5	.28	.28			
	58-80	15-35	20-50	35-45	1.55-1.75	0.06-0.2	0.09-0.16	6.0-8.9	0.0-0.3	.28	.28			
6C3:														
Fishhook------------	0-5	0-7	61-73	27-35	1.35-1.55	0.6-2	0.20-0.22	3.0-5.9	0.5-1.0	.37	.37	3	6	48
	5-27	0-7	58-73	27-35	1.40-1.60	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	27-68	15-35	20-50	35-45	1.55-1.75	0.06-0.2	0.09-0.16	6.0-8.9	0.0-1.0	.28	.28			
	68-82	15-35	20-50	35-45	1.55-1.75	0.06-0.2	0.09-0.16	6.0-8.9	0.0-1.0	.28	.28			
7D2:														
Atlas---------------	0-7	5-30	43-75	20-27	1.30-1.50	0.2-0.6	0.20-0.25	3.0-5.9	1.0-3.0	.32	.32	3	6	48
	7-51	10-35	20-55	35-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-1.0	.28	.28			
	51-60	20-40	30-55	25-45	1.35-1.60	0.06-0.2	0.07-0.18	3.0-5.9	0.0-1.0	.28	.28			
7D3:														
Atlas---------------	0-4	10-35	25-60	30-40	1.35-1.55	0.06-0.2	0.14-0.19	6.0-8.9	0.5-1.0	.28	.28	2	7	38
	4-66	10-35	20-52	38-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-1.0	.28	.28			
	66-80	20-35	20-55	25-45	1.35-1.60	0.06-0.2	0.07-0.18	3.0-5.9	0.0-1.0	.28	.28			
8F:														
Hickory-------------	0-4	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
	12-53	15-45	20-61	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	53-58	30-45	23-55	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
	58-63	30-45	25-55	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.32			
8G:														
Hickory-------------	0-4	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
	12-40	15-45	20-58	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	40-58	30-45	23-55	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
	58-63	30-45	25-55	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.32			
16A:														
Rushville-----------	0-7	0-7	66-85	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	7-13	0-7	71-90	10-22	1.30-1.50	0.06-0.2	0.15-0.20	0.0-2.9	0.0-1.0	.55	.55			
	13-32	0-7	45-65	35-48	1.30-1.50	0.01-0.06	0.09-0.20	6.0-8.9	0.0-0.5	.37	.37			
	32-50	0-7	51-70	30-42	1.40-1.60	0.01-0.2	0.11-0.20	6.0-8.9	0.0-0.5	.37	.37			
	50-80	0-7	63-82	18-30	1.40-1.55	0.06-0.6	0.16-0.21	0.0-2.9	0.0-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
17A:														
Keomah--------------	0-11	0-7	67-84	16-26	1.35-1.45	0.6-2	0.19-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	11-18	0-7	67-84	16-26	1.40-1.60	0.2-0.6	0.17-0.21	0.0-2.9	0.1-1.0	.49	.49			
	18-33	0-7	51-65	35-42	1.30-1.40	0.06-0.2	0.15-0.19	6.0-8.9	0.1-0.5	.37	.37			
	33-51	0-7	58-73	27-35	1.35-1.45	0.2-0.6	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	51-89	0-7	66-85	15-27	1.40-1.60	0.2-2	0.19-0.22	0.0-2.9	0.0-0.2	.49	.49			
17B:														
Keomah--------------	0-9	0-7	67-84	16-26	1.30-1.40	0.6-2	0.19-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-31	0-7	51-65	35-42	1.30-1.40	0.06-0.2	0.15-0.19	6.0-8.9	0.0-0.5	.37	.37			
	31-51	0-7	58-73	27-35	1.35-1.45	0.2-0.6	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	51-80	0-7	66-85	15-27	1.40-1.60	0.2-2	0.19-0.22	0.0-2.9	0.0-0.2	.49	.49			
19D3:														
Sylvan--------------	0-9	0-7	61-73	27-32	1.25-1.45	0.6-2	0.20-0.22	3.0-5.9	0.0-1.0	.37	.37	5	6	48
	9-28	0-7	58-75	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	28-60	0-7	66-90	10-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
43A:														
Ipava---------------	0-20	0-7	66-80	20-27	1.15-1.35	0.6-2	0.22-0.24	3.0-5.9	4.0-5.0	.28	.28	5	6	48
	20-40	0-7	50-65	35-43	1.25-1.50	0.2-0.6	0.11-0.20	6.0-8.9	0.5-1.0	.37	.37			
	40-60	0-7	63-80	20-30	1.30-1.55	0.2-0.6	0.20-0.22	3.0-5.9	0.0-0.5	.49	.49			
43B:														
Ipava---------------	0-17	0-7	66-80	20-27	1.15-1.35	0.6-2	0.22-0.24	3.0-5.9	4.0-5.0	.28	.28	5	6	48
	17-58	0-7	50-65	35-43	1.25-1.50	0.2-0.6	0.11-0.20	6.0-8.9	0.5-1.0	.37	.37			
	58-60	0-7	63-80	20-30	1.30-1.55	0.2-0.6	0.20-0.22	3.0-5.9	0.0-0.5	.49	.49			
50A:														
Virden--------------	0-16	0-7	58-73	27-35	1.20-1.40	0.6-2	0.21-0.24	3.0-5.9	3.0-6.0	.24	.24	5	6	48
	16-49	0-7	51-65	35-42	1.20-1.45	0.2-0.6	0.11-0.20	6.0-8.9	0.0-2.0	.37	.37			
	49-60	0-7	60-75	25-33	1.25-1.55	0.2-0.6	0.18-0.22	3.0-5.9	0.0-0.5	.43	.43			
53F:														
Bloomfield----------	0-4	75-85	5-20	5-10	1.45-1.65	6-20	0.09-0.13	0.0-2.9	0.5-2.0	.02	.02	5	2	134
	4-29	75-86	8-23	2-10	1.45-1.65	6-20	0.08-0.12	0.0-2.9	0.0-1.0	.15	.15			
	29-60	75-86	7-20	5-13	1.60-1.80	2-20	0.08-0.12	0.0-2.9	0.0-1.0	.15	.15			
68A:														
Sable---------------	0-17	0-7	58-73	27-35	1.15-1.35	0.6-2	0.21-0.23	3.0-5.9	5.0-6.0	.24	.24	5	6	48
	17-23	0-7	58-73	27-35	1.20-1.40	0.6-2	0.18-0.20	3.0-5.9	2.0-4.0	.24	.24			
	23-60	0-7	58-76	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
75C:														
Drury---------------	0-7	1-15	70-80	15-25	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.49	.49	5	5	56
	7-43	1-15	65-80	18-25	1.25-1.45	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.49	.49			
	43-80	5-25	60-77	15-22	1.30-1.50	0.6-2	0.12-0.21	0.0-2.9	0.1-0.5	.49	.49			
86B:														
Osco----------------	0-14	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	14-55	0-7	58-76	24-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	55-60	0-7	63-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
206A:														
Thorp---------------	0-14	2-15	58-78	20-27	1.15-1.35	0.2-0.6	0.22-0.24	0.0-2.9	4.0-6.0	.28	.28	5	6	48
	14-19	3-15	60-79	18-25	1.30-1.50	0.2-0.6	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	19-43	3-15	50-75	22-35	1.35-1.55	0.06-0.2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	43-50	10-55	15-72	18-30	1.40-1.60	0.06-0.2	0.15-0.22	3.0-5.9	0.0-0.5	.28	.28			
	50-65	15-75	1-80	5-30	1.50-1.70	2-6	0.05-0.13	0.0-2.9	0.0-0.5	.28	.28			
242A:														
Kendall-------------	0-9	0-10	63-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-16	0-10	65-82	18-25	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.1-1.0	.49	.49			
	16-44	0-10	55-73	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	44-60	1-10	63-70	15-27	1.45-1.55	0.6-2	0.18-0.21	0.0-2.9	0.0-0.5	.43	.43			
	60-80	30-50	35-55	5-20	1.40-1.60	0.6-2	0.14-0.17	0.0-2.9	0.0-0.5	.28	.28			
243B:														
St. Charles---------	0-8	0-10	63-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	8-50	0-10	55-73	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	50-60	30-50	33-50	15-30	1.30-1.50	0.6-2	0.11-0.16	0.0-2.9	0.0-0.5	.32	.32			
257A:														
Clarksdale----------	0-8	0-7	66-80	20-27	1.30-1.50	0.6-2	0.22-0.25	3.0-5.9	1.0-3.0	.37	.37	5	6	48
	8-16	0-7	66-85	15-27	1.25-1.50	0.2-0.6	0.20-0.22	0.0-2.9	0.0-1.0	.43	.43			
	16-47	0-7	48-65	35-45	1.30-1.50	0.2-0.6	0.11-0.20	6.0-8.9	0.0-0.5	.37	.37			
	47-67	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	3.0-5.9	0.0-0.5	.43	.43			
	67-80	0-7	66-82	18-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
257B:														
Clarksdale----------	0-9	0-7	66-80	20-27	1.30-1.50	0.6-2	0.22-0.25	3.0-5.9	1.0-3.0	.37	.37	5	6	48
	9-29	0-7	48-65	35-45	1.30-1.50	0.2-0.6	0.11-0.20	6.0-8.9	0.0-0.5	.37	.37			
	29-47	0-7	58-73	27-35	1.35-1.45	0.6-2	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
	47-80	0-7	66-82	18-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
271D2:														
Timula--------------	0-7	1-10	72-85	10-18	1.30-1.60	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	7-22	1-10	72-85	10-18	1.30-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
	22-60	1-10	72-89	10-18	1.40-1.60	0.6-2	0.18-0.20	0.0-2.9	0.2-0.5	.55	.55			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
274E2:														
Seaton--------------	0-6	0-7	71-85	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.43	.43	5	5	56
	6-47	0-7	66-82	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	47-60	0-7	71-85	10-22	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.55	.55			
274F:														
Seaton--------------	0-5	0-7	71-89	10-22	1.10-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	5-9	0-7	71-89	10-22	1.10-1.45	0.6-2	0.21-0.23	0.0-2.9	0.5-1.5	.49	.49			
	9-57	0-7	68-85	15-25	1.20-1.60	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	57-80	0-7	71-89	10-22	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.55	.55			
274G:														
Seaton--------------	0-5	0-7	71-89	10-22	1.10-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	5-9	0-7	71-89	10-22	1.10-1.45	0.6-2	0.21-0.23	0.0-2.9	0.5-1.5	.49	.49			
	9-46	0-7	68-85	15-25	1.20-1.60	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	46-80	0-7	71-89	10-22	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.55	.55			
279B:														
Rozetta-------------	0-7	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	7-11	0-7	66-88	12-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.1-1.0	.49	.49			
	11-55	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
	55-60	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
279C2:														
Rozetta-------------	0-8	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	8-56	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	56-80	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
280B:														
Fayette-------------	0-9	0-7	66-85	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-39	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	39-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
280B2:														
Fayette-------------	0-8	1-7	66-74	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	8-56	1-7	58-74	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	56-80	1-7	67-77	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
280C2:														
Fayette-------------	0-8	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	8-64	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	64-80	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
280C3:														
Fayette-------------	0-8	0-7	61-73	27-32	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37	4	6	48
	8-48	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	48-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
280D2:														
Fayette-------------	0-6	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	6-48	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	48-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
280D3:														
Fayette-------------	0-8	0-7	61-73	27-32	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37	4	6	48
	8-36	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	36-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
280E2:														
Fayette-------------	0-4	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	4-60	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	60-77	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
470C2:														
Keller--------------	0-9	0-7	66-80	20-27	1.30-1.40	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	4	6	48
	9-28	0-7	58-73	25-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	28-60	15-35	20-50	30-45	1.50-1.70	0.06-0.2	0.10-0.19	6.0-8.9	0.0-0.5	.28	.28			
	60-80	15-35	20-50	30-45	1.50-1.70	0.06-0.2	0.10-0.19	6.0-8.9	0.0-0.2	.28	.28			
549F, 549G:														
Marseilles----------	0-10	0-15	58-80	20-27	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	3	6	48
	10-35	0-25	43-73	27-42	1.35-1.60	0.06-0.2	0.09-0.20	3.0-6.0	0.0-0.5	.37	.37			
	35-60	---	---	---	---	0.0015-0.2	---	---	---	---	---			
570C2:														
Martinsville--------	0-9	30-50	30-58	12-20	1.35-1.45	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	9-52	12-50	17-68	20-33	1.40-1.60	0.6-2	0.16-0.20	3.0-5.9	0.0-0.5	.32	.32			
	52-80	15-90	0-80	5-20	1.50-1.70	0.6-6	0.08-0.17	0.0-2.9	0.0-0.2	.28	.28			
605D2:														
Ursa----------------	0-6	5-25	48-75	15-27	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.32	.32	3	6	48
	6-56	15-35	30-50	35-45	1.50-1.70	0.06-0.2	0.09-0.17	6.0-8.9	0.5-1.0	.28	.28			
	56-80	15-40	25-45	25-45	1.55-1.75	0.06-0.2	0.08-0.17	3.0-5.9	0.0-0.5	.28	.28			
630C3:														
Navlys--------------	0-6	0-7	61-73	27-32	1.25-1.45	0.6-2	0.20-0.22	3.0-5.9	0.0-1.0	.37	.37	4	6	48
	6-31	0-7	58-75	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	31-60	0-7	66-82	18-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
675B:														
Greenbush-----------	0-14	0-7	68-82	18-25	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	14-60	0-7	58-74	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	60-80	0-7	66-82	18-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
699A:														
Timewell------------	0-18	0-7	66-80	20-27	1.15-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	18-40	0-7	51-65	35-42	1.20-1.40	0.2-0.6	0.12-0.17	6.0-8.9	0.0-1.0	.37	.37			
	40-67	0-7	53-70	25-40	1.20-1.40	0.2-0.6	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
	67-80	0-7	63-80	20-30	1.30-1.50	0.2-0.6	0.16-0.21	3.0-5.9	0.0-0.5	.49	.49			
802B, 802E:														
Orthents------------	0-6	30-45	25-48	22-30	1.70-1.75	0.2-0.6	0.18-0.22	3.0-5.9	0.5-2.0	.43	.43	5	6	48
	6-60	30-45	25-50	22-30	1.70-1.80	0.2-0.6	0.16-0.20	3.0-5.9	0.2-1.0	.43	.43			
823B, 823C, 823D, 823F:														
Schuline-----------	0-5	10-30	40-60	27-35	1.30-1.60	0.6-2	0.18-0.21	3.0-5.9	0.5-1.0	.37	.37	3	6	48
	5-80	15-45	25-55	18-35	1.60-1.80	0.06-0.2	0.08-0.12	3.0-5.9	0.2-0.5	.37	.37			
824B:														
Swanwick------------	0-7	1-10	65-78	21-27	1.25-1.60	0.2-0.6	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37	4	6	48
	7-20	1-35	40-80	15-35	1.50-1.70	0.06-0.2	0.08-0.12	0.0-2.9	0.0-1.0	.37	.43			
	20-60	1-35	30-70	27-35	1.60-1.90	0.01-0.06	0.05-0.12	3.0-5.9	0.0-1.0	.37	.43			
835G. Earthen dam														
855A:														
Timewell------------	0-18	0-7	66-80	20-27	1.15-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	18-40	0-7	51-65	35-42	1.20-1.40	0.2-0.6	0.12-0.17	6.0-8.9	0.0-1.0	.37	.37			
	40-67	0-7	53-70	25-40	1.20-1.40	0.2-0.6	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
	67-80	0-7	63-80	20-30	1.30-1.50	0.2-0.6	0.16-0.21	3.0-5.9	0.0-0.5	.49	.49			
Ipava---------------	0-14	0-7	66-80	20-27	1.15-1.35	0.6-2	0.22-0.24	3.0-5.9	4.0-5.0	.28	.28	5	6	48
	14-41	0-7	50-65	35-43	1.25-1.50	0.2-0.6	0.11-0.20	6.0-8.9	0.5-1.0	.37	.37			
	41-80	0-7	63-80	20-30	1.30-1.55	0.2-0.6	0.20-0.22	3.0-5.9	0.0-0.5	.49	.49			
855B:														
Timewell------------	0-16	1-7	66-79	20-27	1.15-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	16-36	1-7	51-64	35-42	1.20-1.40	0.2-0.6	0.12-0.17	6.0-8.9	0.0-1.0	.37	.37			
	36-59	1-7	53-74	25-40	1.20-1.40	0.2-0.6	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
	59-80	0-7	63-80	20-30	1.30-1.50	0.2-0.6	0.16-0.21	3.0-5.9	0.0-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
855B:														
Ipava---------------	0-12	1-7	66-79	20-27	1.15-1.35	0.6-2	0.22-0.24	3.0-5.9	4.0-5.0	.28	.28	5	6	48
	12-41	1-7	50-64	35-43	1.25-1.50	0.2-0.6	0.11-0.20	6.0-8.9	0.5-1.0	.37	.37			
	41-80	1-7	63-79	20-30	1.30-1.55	0.2-0.6	0.20-0.22	3.0-5.9	0.0-0.5	.49	.49			
864.														
Pits, quarries														
871G:														
Lenzburg------------	0-5	15-50	15-58	27-35	1.30-1.60	0.6-2	0.17-0.22	3.0-5.9	0.5-4.0	.32	.32	5	6	48
	5-38	15-50	15-60	20-35	1.40-1.70	0.2-0.6	0.11-0.17	3.0-5.9	0.2-1.0	.43	.43			
	38-60	15-45	15-50	25-45	1.40-1.70	0.2-0.6	0.08-0.18	6.0-8.9	0.2-1.0	.43	.43			
872B:														
Rapatee-------------	0-3	0-7	65-76	24-35	1.25-1.60	0.2-0.6	0.15-0.20	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	3-48	0-10	55-80	15-35	1.50-1.90	0.06-0.6	0.08-0.15	3.0-5.9	0.0-2.5	.37	.43			
	48-60	2-35	30-80	15-35	1.60-1.90	0.0015-0.06	0.03-0.18	0.0-2.9	0.0-0.8	.37	.43			
1071A:														
Darwin--------------	0-15	1-10	45-58	40-45	1.20-1.40	0.01-0.06	0.11-0.14	9.0-25.0	4.0-5.0	.24	.24	5	4	86
	15-60	1-10	35-54	45-60	1.30-1.50	0.01-0.06	0.11-0.14	9.0-25.0	0.0-2.0	.28	.28			
3070A:														
Beaucoup------------	0-16	1-15	55-70	27-35	1.15-1.35	0.2-0.6	0.15-0.20	3.0-5.9	5.0-6.0	.28	.28	5	6	48
	16-64	1-15	55-70	27-35	1.30-1.50	0.2-0.6	0.18-0.20	3.0-5.9	1.0-2.0	.32	.32			
	64-80	5-55	35-70	10-30	1.35-1.55	0.2-0.6	0.18-0.22	3.0-5.9	0.5-1.0	.32	.32			
3077A:														
Huntsville----------	0-43	0-15	58-82	18-27	1.15-1.35	0.6-2	0.22-0.24	3.0-5.9	2.0-4.0	.32	.32	5	6	48
	43-60	5-30	43-77	18-27	1.20-1.40	0.6-2	0.20-0.22	3.0-5.9	0.2-0.5	.49	.49			
3107A:														
Sawmill-------------	0-10	3-15	58-70	27-35	1.25-1.45	0.6-2	0.19-0.22	3.0-5.9	4.5-7.0	.28	.28	5	6	48
	10-32	3-15	58-70	27-35	1.25-1.45	0.6-2	0.19-0.22	3.0-5.9	4.5-7.0	.28	.28			
	32-58	5-20	45-68	27-35	1.30-1.50	0.6-2	0.17-0.20	3.0-5.9	1.5-3.5	.32	.32			
	58-65	5-25	40-70	25-35	1.30-1.50	0.6-2	0.17-0.20	3.0-5.9	1.5-3.5	.32	.32			
3284A:														
Tice----------------	0-14	0-15	50-73	24-35	1.25-1.45	0.6-2	0.15-0.20	3.0-5.9	2.0-4.0	.28	.28	5	6	48
	14-52	5-20	45-71	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.32	.32			
	52-72	5-40	30-80	15-30	1.40-1.60	0.6-2	0.11-0.18	3.0-5.9	0.0-1.0	.32	.32			
3333A:														
Wakeland------------	0-10	5-25	57-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-50	5-25	57-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	0.0-1.0	.55	.55			
	50-80	5-25	57-80	10-18	1.30-1.50	0.6-2	0.18-0.24	0.0-2.9	0.0-0.5	.55	.55			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors: Kw	Erosion factors: Kf	Erosion factors: T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
3404A:														
Titus----------------	0-13	1-15	45-64	35-45	1.30-1.50	0.06-0.2	0.11-0.18	6.0-8.9	2.0-4.0	.28	.28	5	4	86
	13-67	1-15	45-64	35-45	1.30-1.60	0.06-0.2	0.11-0.22	6.0-8.9	0.2-1.0	.32	.32			
	67-79	15-30	40-60	20-30	1.45-1.75	0.2-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.32	.32			
3634A:														
Blyton---------------	0-10	5-20	62-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-80	5-20	62-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	0.5-2.0	.55	.55			
3641L:														
Quiver---------------	0-9	0-15	40-73	27-35	1.15-1.35	0.2-0.6	0.15-0.20	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	9-65	0-15	40-73	20-35	1.40-1.50	0.2-0.6	0.18-0.22	0.3-5.9	0.0-1.0	.32	.32			
7075B:														
Drury----------------	0-7	1-15	70-80	15-25	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.49	.49	5	5	56
	7-43	1-15	65-80	18-25	1.25-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
	43-80	5-33	45-77	15-22	1.30-1.50	0.6-2	0.12-0.21	0.0-2.9	0.1-0.3	.49	.49			
7087B:														
Dickinson------------	0-9	45-80	10-45	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	1.0-2.0	.15	.15	4	3	86
	9-20	45-80	10-45	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	1.0-1.0	.15	.15			
	20-43	45-80	10-45	10-15	1.45-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.24	.24			
	43-60	70-92	5-25	3-10	1.60-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.15	.15			
7242A:														
Kendall--------------	0-9	0-10	63-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-14	0-10	65-82	18-25	1.25-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-1.0	.49	.49			
	14-54	0-10	55-73	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	54-60	3-10	63-70	15-27	1.45-1.55	0.6-2	0.18-0.21	0.0-2.9	0.0-0.5	.43	.43			
	60-80	30-50	35-52	5-28	1.55-1.70	0.6-2	0.11-0.20	0.0-2.9	0.0-0.5	.28	.28			
7430B:														
Raddle---------------	0-15	0-15	63-88	12-22	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	15-60	0-15	59-85	15-26	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.49	.49			
7741B:														
Oakville-------------	0-14	70-90	0-20	2-14	1.30-1.55	6-20	0.09-0.12	0.0-2.9	0.5-2.0	.02	.02	5	2	134
	14-36	70-95	0-20	0-10	1.30-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.15	.15			
	36-60	86-95	0-10	0-10	1.40-1.65	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
8070A:														
Beaucoup-------------	0-15	0-15	55-70	27-35	1.15-1.35	0.2-0.6	0.15-0.20	3.0-5.9	5.0-6.0	.28	.28	5	6	48
	15-48	0-15	55-70	27-35	1.30-1.50	0.2-0.6	0.18-0.20	3.0-5.9	0.0-2.0	.32	.32			
	48-60	5-45	40-70	15-30	1.35-1.55	0.2-0.6	0.18-0.22	3.0-5.9	0.0-1.0	.32	.32			
	60-80	5-45	40-70	10-30	1.40-1.65	0.2-0.6	0.18-0.22	3.0-5.9	0.0-1.0	.32	.32			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
8071A:														
Darwin	0-12	1-10	45-58	40-45	1.20-1.40	0.01-0.06	0.11-0.14	9.0-25.0	4.0-5.0	.28	.28	5	4	86
	12-40	1-10	35-50	45-60	1.30-1.50	0.01-0.06	0.11-0.14	9.0-25.0	0.0-2.0	.28	.28			
	40-60	5-15	35-60	30-55	1.40-1.60	0.06-0.2	0.10-0.20	6.0-8.9	0.0-0.5	.32	.32			
8104A:														
Virgil	0-9	0-10	63-80	15-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	9-15	0-10	63-80	15-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.49	.49			
	15-52	0-10	55-73	27-35	1.35-1.55	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	52-60	20-52	33-50	15-30	1.45-1.75	0.6-6	0.11-0.16	0.0-2.9	0.2-0.5	.32	.32			
8284A:														
Tice	0-11	1-15	53-79	20-32	1.15-1.35	0.6-2	0.15-0.20	3.0-5.9	5.0-6.0	.28	.28	5	6	48
	11-51	1-15	50-73	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-2.0	.32	.32			
	51-80	5-40	45-80	10-30	1.40-1.65	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	.49	.49			
8336A:														
Wilbur	0-7	5-15	70-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-41	5-15	70-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	0.2-0.8	.49	.49			
	41-65	5-45	45-70	10-26	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.55	.55			
8396A:														
Vesser	0-14	0-15	59-80	20-26	1.30-1.35	0.6-2	0.20-0.24	3.0-5.9	2.0-3.0	.32	.32	5	6	48
	14-26	0-15	63-82	18-22	1.35-1.40	0.6-2	0.18-0.22	3.0-5.9	0.1-1.0	.37	.37			
	26-80	5-20	45-65	30-35	1.40-1.45	0.6-2	0.17-0.21	3.0-5.9	0.0-1.0	.32	.32			
8404A:														
Titus	0-13	2-9	51-63	35-40	1.30-1.50	0.06-0.2	0.18-0.22	6.0-8.9	2.0-4.0	.28	.28	5	4	86
	13-68	2-15	40-63	35-45	1.30-1.60	0.06-0.2	0.11-0.22	6.0-8.9	0.2-1.0	.32	.32			
	68-80	15-30	40-65	20-30	1.45-1.75	0.2-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.32	.32			
8415A:														
Orion	0-6	1-15	67-89	10-18	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	6-25	2-15	67-88	10-18	1.20-1.30	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.55	.55			
	25-60	2-15	55-88	5-30	1.25-1.45	0.6-2	0.18-0.22	0.0-2.9	3.0-8.0	.37	.37			
9279B:														
Rozetta	0-9	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-66	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	66-76	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
9279C2:														
Rozetta-------------	0-7	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	7-66	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	66-70	0-7	66-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			

Table 21.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Soil reaction	Cation-exchange capacity	Calcium carbonate	Organic matter
	In	pH	meq/100 g	Pct	Pct
6C2:					
Fishhook--------	0-6	5.1-7.3	14-22	0	1.0-3.0
	6-27	4.5-7.3	16-23	0	0.0-1.0
	27-58	4.5-7.8	21-29	0-25	0.0-0.5
	58-80	6.1-8.4	21-29	0-25	0.0-0.3
6C3:					
Fishhook--------	0-5	5.1-7.3	17-23	0	0.5-1.0
	5-27	4.5-7.3	16-23	0	0.0-1.0
	27-68	4.5-7.8	21-29	0-25	0.0-1.0
	68-82	6.1-8.4	21-29	0-25	0.0-1.0
7D2:					
Atlas-----------	0-7	4.5-7.3	14-22	0	1.0-3.0
	7-51	4.5-7.3	21-29	0	0.0-1.0
	51-60	6.1-7.8	12-20	0-25	0.0-1.0
7D3:					
Atlas-----------	0-4	4.5-7.3	19-26	0	0.5-1.0
	4-66	4.5-7.8	18-29	0-25	0.0-1.0
	66-80	6.1-7.8	12-20	0-25	0.0-1.0
8F:					
Hickory---------	0-4	4.5-7.3	14-19	0	1.0-3.0
	4-12	4.5-7.3	9.0-14	0	0.0-0.5
	12-53	4.5-7.3	16-22	0	0.0-0.5
	53-58	5.1-7.8	9.0-19	0-15	0.0-0.5
	58-63	5.6-8.4	5.0-15	0-25	0.0-0.5
8G:					
Hickory---------	0-4	4.5-7.3	14-19	0	1.0-3.0
	4-12	4.5-7.3	9.0-14	0	0.0-0.5
	12-40	4.5-7.3	16-22	0	0.0-0.5
	40-58	5.1-7.8	9.0-19	0-15	0.0-0.5
	58-63	5.6-8.4	5.0-15	0-25	0.0-0.5
16A:					
Rushville-------	0-7	4.5-7.3	4.0-17	0	1.0-3.0
	7-13	4.5-7.3	3.0-13	0	0.0-1.0
	13-32	4.5-6.5	20-33	0	0.0-0.5
	32-50	4.5-7.8	18-30	0	0.0-0.5
	50-80	5.6-8.4	10-20	0-15	0.0-0.5
17A:					
Keomah----------	0-11	5.1-7.3	10-26	0	1.0-3.0
	11-18	5.1-7.3	9.0-24	0	0.1-1.0
	18-33	5.1-6.5	28-41	0	0.1-0.5
	33-51	5.6-7.3	16-29	0	0.1-0.5
	51-89	6.1-7.3	8.0-18	0-15	0.0-0.2
17B:					
Keomah----------	0-9	5.1-7.3	10-26	0	1.0-3.0
	9-31	5.1-6.5	28-41	0	0.0-0.5
	31-51	5.6-7.3	16-29	0	0.1-0.5
	51-80	6.1-7.3	8.0-18	0-15	0.0-0.2

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation-exchange capacity	Calcium carbonate	Organic matter
	In	pH	meq/100 g	Pct	Pct
19D3:					
Sylvan----------	0-9	5.6-7.3	17-21	0	0.0-1.0
	9-28	5.6-7.3	15-22	0	0.0-0.5
	28-60	6.6-8.4	6.0-18	0-35	0.0-0.5
43A:					
Ipava-----------	0-20	5.6-7.3	20-27	0	4.0-5.0
	20-40	5.6-7.8	22-27	0	0.5-1.0
	40-60	6.1-8.4	12-19	0-15	0.0-0.5
43B:					
Ipava-----------	0-17	5.6-7.3	20-27	0	4.0-5.0
	17-58	5.6-7.8	22-27	0-5	0.5-1.0
	58-60	6.1-8.4	12-19	0-15	0.0-0.5
50A:					
Virden----------	0-16	5.6-7.8	24-30	0	3.0-6.0
	16-49	5.6-7.8	21-27	0	0.0-2.0
	49-60	5.6-8.4	15-20	0-25	0.0-0.5
53F:					
Bloomfield------	0-4	5.1-7.8	4.0-10	0	0.5-2.0
	4-29	5.1-7.3	1.0-7.0	0	0.0-1.0
	29-60	5.1-7.8	3.0-8.0	0	0.0-1.0
68A:					
Sable-----------	0-17	5.6-7.3	26-33	0	5.0-6.0
	17-23	5.6-7.3	20-30	0	2.0-4.0
	23-60	5.6-7.8	15-23	0-10	0.2-1.0
75C:					
Drury-----------	0-7	5.6-7.8	8.0-16	0	1.0-3.0
	7-43	5.6-7.3	11-15	0	0.2-0.8
	43-80	6.1-7.8	9.0-12	0-15	0.1-0.5
86B:					
Osco------------	0-14	5.1-7.3	18-25	0	3.0-4.0
	14-55	5.1-6.5	15-23	0	0.0-1.0
	55-60	5.6-7.3	12-18	0-15	0.0-0.5
206A:					
Thorp-----------	0-14	5.1-7.8	20-28	0	4.0-6.0
	14-19	5.1-7.3	11-17	0	0.5-1.0
	19-43	5.1-7.3	13-22	0	0.0-0.5
	43-50	5.6-7.8	12-19	0-5	0.0-0.5
	50-65	6.1-8.4	3.0-13	0-20	0.0-0.5
242A:					
Kendall---------	0-9	5.1-7.3	14-22	0	1.0-3.0
	9-16	5.1-7.3	11-17	0	0.1-1.0
	16-44	4.5-7.3	16-22	0	0.0-0.5
	44-60	5.1-7.8	9.0-19	0-10	0.0-0.5
	60-80	7.4-8.4	2.0-13	0-15	0.0-0.5
243B:					
St. Charles-----	0-8	5.1-7.8	14-22	0	1.0-3.0
	8-50	4.5-7.3	15-22	0	0.0-0.5
	50-60	5.1-7.3	9.0-19	0	0.0-0.5

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation-exchange capacity	Calcium carbonate	Organic matter
	In	pH	meq/100 g	Pct	Pct
257A:					
Clarksdale------	0-8	5.1-7.3	10-22	0	1.0-3.0
	8-16	5.1-7.3	9.0-18	0	0.0-1.0
	16-47	5.1-7.3	21-28	0	0.0-0.5
	47-67	6.1-8.4	12-19	0-15	0.0-0.5
	67-80	6.1-8.4	12-18	0-15	0.0-0.5
257B:					
Clarksdale------	0-9	5.1-7.3	10-22	0	1.0-3.0
	9-29	5.1-7.3	21-28	0	0.0-0.5
	29-47	5.6-7.3	16-23	0	0.0-0.5
	47-80	6.1-8.4	12-18	0-15	0.0-0.5
271D2:					
Timula----------	0-7	6.1-7.8	8.0-15	0	1.0-2.0
	7-22	6.1-7.8	8.0-15	0-5	0.2-0.5
	22-60	7.4-8.4	6.0-12	5-35	0.2-0.5
274E2:					
Seaton----------	0-6	5.6-7.3	10-17	0	0.5-2.0
	6-47	4.5-7.3	11-16	0	0.5-1.0
	47-60	5.6-8.4	9.0-15	0-35	0.2-0.5
274F:					
Seaton----------	0-5	5.6-7.3	8.0-19	0	1.0-3.0
	5-9	5.6-7.3	8.0-19	0	0.5-1.5
	9-57	4.5-7.3	11-16	0	0.5-1.0
	57-80	5.6-8.4	6.0-15	0-35	0.2-0.5
274G:					
Seaton----------	0-5	5.6-7.3	8.0-19	0	1.0-3.0
	5-9	5.6-7.3	8.0-19	0	0.5-1.5
	9-46	4.5-7.3	11-16	0	0.5-1.0
	46-80	4.5-7.3	11-16	0	0.2-0.5
279B:					
Rozetta---------	0-7	5.1-7.3	10-22	0	1.0-3.0
	7-11	4.5-7.3	7.0-17	0	0.1-1.0
	11-55	4.5-6.0	16-22	0	0.0-0.5
	55-60	5.6-7.8	12-17	0-15	0.0-0.5
279C2:					
Rozetta---------	0-8	5.1-7.3	10-22	0	1.0-2.0
	8-56	4.5-6.0	16-22	0	0.2-0.5
	56-80	5.6-7.8	12-17	0-15	0.2-0.5
280B:					
Fayette---------	0-9	5.1-7.3	15-20	0	1.0-3.0
	9-39	4.5-6.0	15-20	0	0.0-1.0
	39-60	5.1-7.8	15-20	0-15	0.0-0.5
280B2:					
Fayette---------	0-8	5.1-7.3	18-25	0	1.0-2.0
	8-56	4.5-6.0	15-20	0	0.0-0.5
	56-80	5.1-7.8	15-20	0-15	0.0-0.5
280C2:					
Fayette---------	0-8	5.1-7.3	18-25	0	1.0-2.0
	8-64	4.5-6.0	15-20	0	0.0-0.5
	64-80	5.1-7.8	15-20	0-15	0.0-0.5

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation-exchange capacity	Calcium carbonate	Organic matter
	In	pH	meq/100 g	Pct	Pct
280C3:					
Fayette---------	0-8	5.1-7.3	25-30	0	0.0-1.0
	8-48	4.5-6.0	15-20	0	0.0-0.5
	48-60	5.1-7.8	15-20	0-15	0.0-0.5
280D2:					
Fayette---------	0-6	5.1-7.3	18-25	0	1.0-2.0
	6-48	4.5-6.0	15-20	0	0.0-0.5
	48-60	5.1-7.8	15-20	0-15	0.0-0.5
280D3:					
Fayette---------	0-8	5.1-7.3	25-30	0	0.0-1.0
	8-36	4.5-6.0	15-20	0	0.0-0.5
	36-60	5.1-7.8	15-20	0-15	0.0-0.5
280E2:					
Fayette---------	0-4	5.1-7.3	18-25	0	1.0-2.0
	4-60	4.5-6.0	15-25	0	0.0-0.5
	60-77	5.1-7.8	15-20	0-15	0.0-0.5
470C2:					
Keller----------	0-9	5.6-7.8	18-26	0	3.0-4.0
	9-28	5.1-7.3	16-22	0	0.0-1.0
	28-60	5.1-7.8	18-25	0	0.0-0.5
	60-80	5.1-7.8	18-25	0	0.0-0.2
549F, 549G:					
Marseilles------	0-10	5.1-6.5	14-22	0	1.0-3.0
	10-35	4.5-6.5	16-27	0	0.0-0.5
	35-60	---	---	---	---
570C2:					
Martinsville----	0-9	5.1-7.3	8.0-14	0	1.0-2.0
	9-52	5.1-7.3	10-18	0	0.0-0.5
	52-80	5.1-8.4	3.0-10	0-45	0.0-0.2
605D2:					
Ursa------------	0-6	4.5-7.3	11-22	0	1.0-2.0
	6-56	4.5-7.3	21-27	0	0.5-1.0
	56-80	5.6-8.4	15-27	0-5	0.0-0.5
630C3:					
Navlys----------	0-6	5.6-7.3	16-20	0	0.0-1.0
	6-31	5.6-7.3	15-23	0	0.0-1.0
	31-60	6.6-8.4	11-17	0-35	0.0-0.5
675B:					
Greenbush-------	0-14	5.1-7.3	20-25	0	2.0-3.0
	14-60	4.5-7.3	25-30	0	0.5-1.0
	60-80	5.6-7.3	20-25	0	0.0-0.5
699A:					
Timewell--------	0-18	5.1-7.3	18-24	0	3.0-4.0
	18-40	4.5-6.0	21-25	0	0.0-1.0
	40-67	5.6-7.3	15-25	0	0.0-0.5
	67-80	5.6-8.4	12-18	0-10	0.0-0.5
802B, 802E:					
Orthents--------	0-6	5.6-7.8	10-25	0-10	0.5-2.0
	6-60	5.6-7.8	10-20	0-20	0.2-1.0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation-exchange capacity	Calcium carbonate	Organic matter
	In	pH	meq/100 g	Pct	Pct
823B, 823C, 823D, 823F:					
Schuline-------	0-5	5.6-7.3	17-25	0-10	0.5-1.0
	5-80	5.6-7.3	11-22	0-35	0.2-0.5
824B:					
Swanwick--------	0-7	5.1-7.8	16-22	0	0.0-0.5
	7-20	4.5-8.4	9.0-22	0-20	0.0-1.0
	20-60	4.5-8.4	16-22	0-20	0.0-1.0
835G. Earthen dam					
855A:					
Timewell--------	0-18	5.1-7.3	18-24	0	3.0-4.0
	18-40	4.5-6.0	21-25	0	0.0-1.0
	40-67	5.6-7.3	15-25	0	0.0-0.5
	67-80	5.6-8.4	12-18	0-10	0.0-0.5
Ipava-----------	0-14	5.6-7.3	20-27	0	4.0-5.0
	14-41	5.6-7.8	22-27	0	0.5-1.0
	41-80	5.6-8.4	12-19	0-20	0.0-0.5
855B:					
Timewell--------	0-16	5.1-7.3	18-24	0	3.0-4.0
	16-36	4.5-6.0	21-25	0	0.0-1.0
	36-59	5.6-7.3	15-25	0	0.0-0.5
	59-80	5.6-8.4	12-18	0-10	0.0-0.5
Ipava-----------	0-12	5.6-7.3	20-27	0	4.0-5.0
	12-41	5.6-7.8	22-27	0	0.5-1.0
	41-80	5.6-8.4	12-19	0-20	0.0-0.5
864. Pits, quarries					
871G:					
Lenzburg--------	0-5	6.6-8.4	17-29	0-20	0.5-4.0
	5-38	6.6-8.4	12-23	0-25	0.2-1.0
	38-60	7.4-8.4	15-29	0-26	0.2-1.0
872B:					
Rapatee---------	0-3	6.1-7.3	20-35	0-1	2.0-4.0
	3-48	6.6-8.4	10-30	0-15	0.0-2.5
	48-60	6.6-8.4	10-25	0-10	0.0-0.8
1071A:					
Darwin----------	0-15	6.1-7.8	32-37	0	4.0-5.0
	15-60	6.1-7.8	27-40	0	0.0-2.0
3070A:					
Beaucoup--------	0-16	5.6-7.8	26-33	0	5.0-6.0
	16-64	5.6-7.8	16-25	0-5	1.0-2.0
	64-80	6.1-8.4	9.0-20	0-15	0.5-1.0
3077A:					
Huntsville------	0-43	5.6-7.8	17-24	0	2.0-4.0
	43-60	5.6-7.8	11-17	0	0.2-0.5

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation-exchange capacity	Calcium carbonate	Organic matter
	In	pH	meq/100 g	Pct	Pct
3107A:					
Sawmill---------	0-10	6.1-7.8	23-36	0	4.5-7.0
	10-32	6.1-7.8	23-36	0	4.5-7.0
	32-58	6.1-7.8	18-34	0	1.5-3.5
	58-65	6.1-7.8	18-34	0-5	1.5-3.5
3284A:					
Tice------------	0-14	6.1-7.8	20-27	0	2.0-4.0
	14-52	5.6-7.8	16-23	0	0.0-1.0
	52-72	5.6-7.8	9.0-20	0-20	0.0-1.0
3333A:					
Wakeland--------	0-10	5.6-7.3	4.0-12	0	1.0-3.0
	10-50	5.6-7.8	4.0-12	0	0.0-1.0
	50-80	5.6-7.8	4.0-12	0	0.0-0.5
3404A:					
Titus-----------	0-13	6.1-7.3	28-35	0	2.0-4.0
	13-67	6.1-7.8	21-29	0	0.2-1.0
	67-79	6.1-7.8	12-19	0-5	0.2-0.5
3634A:					
Blyton----------	0-10	5.6-7.3	4.0-12	0	1.0-3.0
	10-80	5.6-7.8	4.0-12	0	0.5-2.0
3641L:					
Quiver----------	0-9	5.6-7.8	22-29	0	3.0-4.0
	9-65	6.6-8.4	12-23	0	0.0-1.0
7075B:					
Drury-----------	0-7	5.6-7.8	8.0-16	0	1.0-3.0
	7-43	5.6-7.3	11-15	0	0.1-0.5
	43-80	6.1-7.8	9.0-12	0-15	0.1-0.3
7087B:					
Dickinson-------	0-9	5.6-7.3	15-20	0	1.0-2.0
	9-20	5.6-7.3	15-20	0	1.0-1.0
	20-43	5.1-6.5	15-20	0	0.5-1.0
	43-60	5.6-7.3	5.0-10	0	0.0-0.5
7242A:					
Kendall---------	0-9	5.1-7.3	14-20	0	1.0-3.0
	9-14	5.1-7.3	11-16	0	0.1-1.0
	14-54	4.5-7.3	16-22	0	0.0-0.5
	54-60	5.1-7.8	9.0-19	0-15	0.0-0.5
	60-80	5.6-8.4	6.0-16	0-15	0.0-0.5
7430B:					
Raddle----------	0-15	5.6-7.3	11-22	0	2.0-4.0
	15-60	5.6-7.3	12-18	0	0.5-2.0
7741B:					
Oakville--------	0-14	4.5-7.3	2.0-10	0	0.5-2.0
	14-36	4.5-7.3	1.0-2.0	0	0.0-0.5
	36-60	5.6-7.3	1.0-2.0	0	0.0-0.5
8070A:					
Beaucoup--------	0-15	5.6-7.8	26-33	0	5.0-6.0
	15-48	5.6-7.8	16-25	0	0.0-2.0
	48-60	6.1-7.8	9.0-20	0-5	0.0-1.0
	60-80	6.1-8.4	6.0-20	0-25	0.0-1.0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation-exchange capacity	Calcium carbonate	Organic matter
	In	pH	meq/100 g	Pct	Pct
8071A:					
Darwin----------	0-12	6.1-7.8	32-37	0	4.0-5.0
	12-40	6.1-7.8	27-40	0	0.0-2.0
	40-60	6.6-8.4	18-34	0-15	0.0-0.5
8104A:					
Virgil----------	0-9	6.1-7.8	13-24	0	2.0-4.0
	9-15	5.1-7.3	9.0-18	0	0.5-1.0
	15-52	5.1-7.8	16-23	0	0.2-1.0
	52-60	5.6-8.4	9.0-19	0-30	0.2-0.5
8284A:					
Tice------------	0-11	5.6-7.8	26-33	0	5.0-6.0
	11-51	5.6-7.8	16-25	0	0.0-2.0
	51-80	6.1-8.4	6.0-20	0-25	0.0-1.0
8336A:					
Wilbur----------	0-7	5.6-7.3	4.0-16	0	1.0-3.0
	7-41	5.6-7.8	4.0-15	0	0.2-0.8
	41-65	5.6-7.8	4.0-16	0	0.1-0.5
8396A:					
Vesser----------	0-14	5.6-7.3	25-30	0	2.0-3.0
	14-26	5.1-6.5	20-25	0	0.1-1.0
	26-80	5.1-6.5	25-30	0	0.0-1.0
8404A:					
Titus-----------	0-13	6.1-7.3	25-32	0	2.0-4.0
	13-68	6.1-7.8	21-29	0	0.2-1.0
	68-80	6.1-7.8	12-19	0-5	0.2-0.5
8415A:					
Orion-----------	0-6	5.6-7.8	7.0-20	0	1.0-3.0
	6-25	5.6-7.8	7.0-20	0	1.0-3.0
	25-60	5.6-7.8	10-35	0	3.0-8.0
9279B:					
Rozetta---------	0-9	5.1-7.3	10-22	0	1.0-3.0
	9-66	4.5-6.0	16-22	0	0.2-0.5
	66-76	5.6-7.8	12-17	0-15	0.2-0.5
9279C2:					
Rozetta---------	0-7	5.1-7.3	10-22	0	1.0-2.0
	7-66	4.5-6.0	16-22	0	0.2-0.5
	66-70	5.6-7.8	12-17	0-15	0.2-0.5

Table 22.--Water Features

(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	Hydro-logic group	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency	Water table: Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table
		Ft						Ft	Ft	
6C2, 6C3:										
Fishhook	D	---	---	---	---	---	Jan-May	1.0-2.0	1.5-3.5	Perched
7D2, 7D3:										
Atlas	D	---	---	---	---	---	Jan-May	0.5-2.0	1.2-2.5	Perched
8F, 8G:										
Hickory	B	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
16A:										
Rushville	D	0.0-0.5	Brief	Frequent	---	---	Jan-May	0.0-1.0	>6.0	Apparent
17A, 17B:										
Keomah	C	---	---	---	---	---	Jan-May	0.5-2.0	>6.0	Apparent
19D3:										
Sylvan	B	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
43A, 43B:										
Ipava	B	---	---	---	---	---	Jan-May	1.0-2.0	>6.0	Apparent
50A:										
Virden	B/D	0.0-0.5	Brief	Frequent	---	---	Jan-May	0.0-1.0	>6.0	Apparent
53F:										
Bloomfield	A	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
68A:										
Sable	B/D	0.0-0.5	Brief	Occasional	---	---	Jan-May	0.0-1.0	>6.0	Apparent
75C:										
Drury	B	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
86B:										
Osco	B	---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
206A:										
Thorp	C/D	0.0-0.5	Brief	Occasional	---	---	Jan-May	0.0-1.0	>6.0	Apparent
242A:										
Kendall	B	---	---	---	---	---	Jan-May	0.5-2.0	>6.0	Apparent
243B:										
St. Charles	B	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
257A, 257B:										
Clarksdale	C	---	---	---	---	---	Jan-May	0.5-2.0	>6.0	Apparent
271D2:										
Timula	B	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
274E2, 274F, 274G:										
Seaton	B	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
279B, 279C2:										
Rozetta	B	---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency	Water table: Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table
		Ft						Ft	Ft	
280B, 280B2, 280C2, 280C3, 280D2, 280D3, 280E2:										
Fayette	B	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
470C2:										
Keller	C	---	---	---	---	---	Jan-May	1.0-2.0	1.5-3.3	Perched
549F, 549G:										
Marseilles	B	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
570C2:										
Martinsville	B	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
605D2:										
Ursa	C	---	---	---	---	---	Feb-Apr	4.0-5.5	5.0-6.0	Perched
630C3:										
Navlys	B	---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
675B:										
Greenbush	B	---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
699A:										
Timewell	B	---	---	---	---	---	Jan-May	1.0-2.0	>6.0	Apparent
802B, 802E:										
Orthents	B	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
823B, 823C, 823D, 823F:										
Schuline	B	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
824B:										
Swanwick	D	---	---	---	---	---	Feb-Apr	3.5-5.0	4.5-6.0	Perched
835G. Earthen dam										
855A, 855B:										
Timewell	B	---	---	---	---	---	Jan-May	1.0-2.0	>6.0	Apparent
Ipava	B	---	---	---	---	---	Jan-May	1.0-2.0	>6.0	Apparent
864. Pits, quarries										
871G:										
Lenzburg	B	---	---	---	---	---	Jan-Dec	>6.0	>6.0	---
872B:										
Rapatee	D	---	---	---	---	---	Feb-Apr	3.5-5.0	4.5-6.0	Perched
1071A:										
Darwin	D	0.0-1.0	Long	Frequent	Brief	Frequent	Jan-Jun	0.0-1.0	>6.0	Apparent
3070A:										
Beaucoup	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
3077A:										
Huntsville	B	---	---	---	Brief	Frequent	Feb-Apr	4.0-6.0	>6.0	Apparent

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency	Water table: Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table
		Ft						Ft	Ft	
3107A:										
Sawmill	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
3284A:										
Tice	B	---	---	---	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent
3333A:										
Wakeland	C	---	---	---	Brief	Frequent	Jan-May	0.5-2.0	>6.0	Apparent
3404A:										
Titus	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
3634A:										
Blyton	B	---	---	---	Brief	Frequent	Feb-Apr	2.0-3.5	>6.0	Apparent
3641L:										
Quiver	B/D	0.0-1.0	Long	Frequent	Long	Frequent	Jan-Jun	0.0-1.0	>6.0	Apparent
7075B:										
Drury	B	---	---	---	Very brief	Rare	Jan-Dec	>6.0	>6.0	---
7087B:										
Dickinson	B	---	---	---	Very brief	Rare	Jan-Dec	>6.0	>6.0	---
7242A:										
Kendall	B	---	---	---	Very brief	Rare	Jan-May	0.5-2.0	>6.0	Apparent
7430B:										
Raddle	B	---	---	---	Very brief	Rare	Jan-Dec	>6.0	>6.0	---
7741B:										
Oakville	A	---	---	---	Very brief	Rare	Jan-Dec	>6.0	>6.0	---
8070A:										
Beaucoup	B/D	0.0-0.5	Brief	Frequent	Brief	Occasional	Jan-May	0.0-1.0	>6.0	Apparent
8071A:										
Darwin	D	0.0-1.0	Brief	Frequent	Brief	Occasional	Jan-May	0.0-1.0	>6.0	Apparent
8104A:										
Virgil	B	---	---	---	Brief	Occasional	Jan-May	0.5-2.0	>6.0	Apparent
8284A:										
Tice	B	---	---	---	Brief	Occasional	Jan-May	1.0-2.0	>6.0	Apparent
8336A:										
Wilbur	B	---	---	---	Brief	Occasional	Jan-Apr	1.5-2.0	>6.0	Apparent
8396A:										
Vesser	C/D	---	---	---	Brief	Occasional	Jan-May	0.0-1.0	>6.0	Apparent
8404A:										
Titus	B/D	0.0-0.5	Brief	Frequent	Brief	Occasional	Jan-May	0.0-1.0	>6.0	Apparent
8415A:										
Orion	C	---	---	---	Brief	Occasional	Jan-May	1.0-2.0	>6.0	Apparent

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency	Water table: Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table
		Ft						Ft	Ft	
9279B, 9279C2:										
Rozetta---------------	B	---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent

Table 23.--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		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
6C2, 6C3:					
Fishhook	---	---	High	High	Moderate
7D2, 7D3:					
Atlas	---	---	High	High	Moderate
8F, 8G:					
Hickory	---	---	Moderate	Moderate	Moderate
16A:					
Rushville	---	---	High	High	High
17A, 17B:					
Keomah	---	---	High	High	Moderate
19D3:					
Sylvan	---	---	High	Moderate	Moderate
43A, 43B:					
Ipava	---	---	High	High	Moderate
50A:					
Virden	---	---	High	High	Moderate
53F:					
Bloomfield	---	---	Low	Low	High
68A:					
Sable	---	---	High	High	Low
75C:					
Drury	---	---	High	Low	Moderate
86B:					
Osco	---	---	High	Moderate	Moderate
206A:					
Thorp	---	---	High	High	Moderate
242A:					
Kendall	---	---	High	High	Moderate
243B:					
St. Charles	---	---	High	Moderate	Moderate
257A, 257B:					
Clarksdale	---	---	High	High	Moderate
271D2:					
Timula	---	---	High	Low	Low
274E2, 274F, 274G:					
Seaton	---	---	High	Low	Moderate
279B, 279C2:					
Rozetta	---	---	High	Moderate	Moderate

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
280B, 280B2, 280C2, 280C3, 280D2, 280D3, 280E2:					
Fayette	---	---	High	Moderate	Moderate
470C2:					
Keller	---	---	High	High	Moderate
549F, 549G:					
Marseilles	Bedrock (paralithic)	20-40	High	High	Moderate
570C2:					
Martinsville	---	---	Moderate	Moderate	Moderate
605D2:					
Ursa	---	---	Moderate	High	Moderate
630C3:					
Navlys	---	---	High	Moderate	Moderate
675B:					
Greenbush	---	---	High	Moderate	Moderate
699A:					
Timewell	---	---	High	High	Moderate
802B, 802E:					
Orthents	---	---	Moderate	Moderate	Moderate
823B, 823C, 823D, 823F:					
Schuline	---	---	Moderate	Moderate	Low
824B:					
Swanwick	---	---	High	Moderate	High
835G. Earthen dam					
855A, 855B:					
Timewell	---	---	High	High	Moderate
Ipava	---	---	High	High	Moderate
864. Pits, quarries					
871G:					
Lenzburg	---	---	Moderate	Moderate	Low
872B:					
Rapatee	---	---	High	Moderate	Low
1071A:					
Darwin	---	---	High	High	Low
3070A:					
Beaucoup	---	---	High	High	Low
3077A:					
Huntsville	---	---	High	Low	Low

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
3107A:					
Sawmill	---	---	High	High	Low
3284A:					
Tice	---	---	High	High	Low
3333A:					
Wakeland	---	---	High	High	Low
3404A:					
Titus	---	---	High	High	Low
3634A:					
Blyton	---	---	High	Moderate	Low
3641L:					
Quiver	---	---	High	High	Low
7075B:					
Drury	---	---	High	Low	Moderate
7087B:					
Dickinson	---	---	Moderate	Low	Moderate
7242A:					
Kendall	---	---	High	High	Moderate
7430B:					
Raddle	---	---	High	Low	Low
7741B:					
Oakville	---	---	Low	Low	Moderate
8070A:					
Beaucoup	---	---	High	High	Low
8071A:					
Darwin	---	---	High	High	Low
8104A:					
Virgil	---	---	High	High	Moderate
8284A:					
Tice	---	---	High	High	Low
8336A:					
Wilbur	---	---	High	Moderate	Low
8396A:					
Vesser	---	---	High	High	Moderate
8404A:					
Titus	---	---	High	High	Low
8415A:					
Orion	---	---	High	High	Low
9279B, 9279C2:					
Rozetta	---	---	High	Moderate	Moderate