United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Kentucky Natural Resources and Environmental Protection Cabinet and Kentucky Agricultural Experiment Station

Soil Survey of Bath County, Kentucky

How To Use This Soil Survey

General Soil Map

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

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

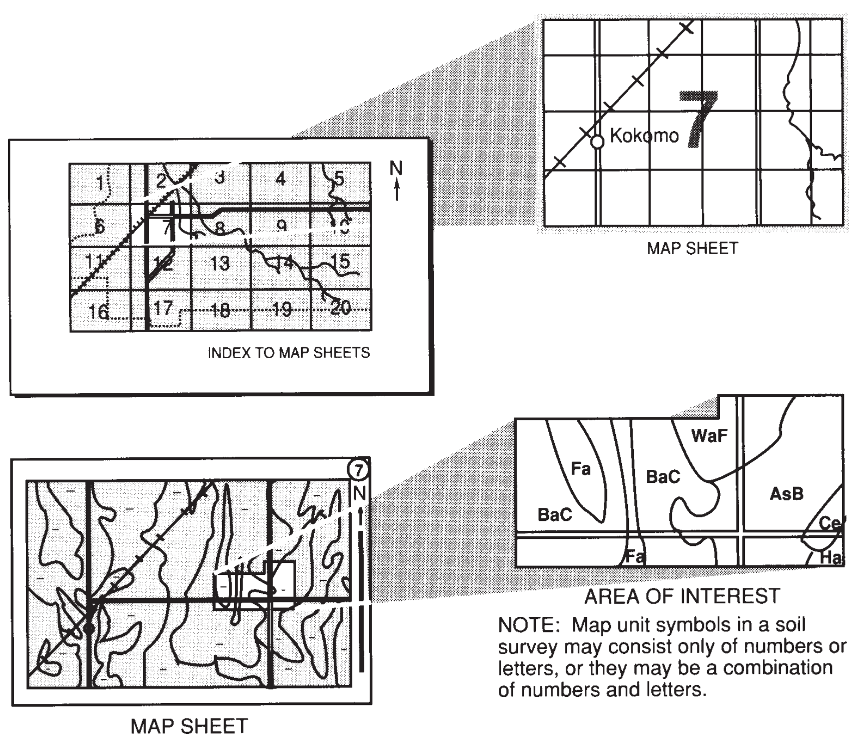
Detailed Soil Maps

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

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

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

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



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

Major fieldwork for this soil survey was completed in 2006. Soil names and descriptions were approved in 2006. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2006. This survey was made cooperatively by the Natural Resources Conservation Service, the Kentucky Natural Resources and Environmental Protection Cabinet, and the Kentucky Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Bath County Conservation District.

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

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

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Foreword

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

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

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

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

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

Michael D. Hubbs
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Bath County, Kentucky

By Steve E. Jacobs and Robert A. Eigel, Natural Resources Conservation Service

Fieldwork by Steve E. Jacobs, Bruce A. Waters, Richard D. Jones, Douglas H. Hines, Laura D. Weingartner, John E. Graham, and Robert A. Eigel, Natural Resources Conservation Service

Maps compiled by Steve E. Jacobs and John E. Graham, Natural Resources Conservation Service

Soil Correlation by Steven J. Blanford, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with
Kentucky Natural Resources and Environmental Protection Cabinet and Kentucky Agricultural Experiment Station

Bath County is in northeastern Kentucky along the Licking River (fig. 1). The county has a land area of 177,555 acres, or about 277 square miles, and a water area of 4,199 acres. The Licking River makes up the eastern boundary of the county while the remainder of the county is bordered by Bourbon, Menifee, Montgomery, and Nicholas Counties. The county is in the Outer Bluegrass, Knobs, and Eastern Kentucky Coalfields physiographic regions.

This soil survey updates the survey of Bath County, Kentucky, published in 1963 *(46)*. It provides a modern digital soil survey on aerial orthophotography and contains additional updated interpretative information.

General Nature of the County

This section provides general information about Bath County. It discusses the population and farming, settlement, climate, and topography and drainage of the county.

Population and Farming

In 2000, Bath County had a population of 11,085. Agriculture is the principal occupation. In 2002, there were 692 farms in the county and the average farm size was 156 acres *(24)*. A total of 29,000 acres, or about 16 percent of the acreage in the county, was used as harvested cropland. About 23,800 acres of this cropland, or 82 percent, was used for the production of alfalfa or other hay. Principal crops grown in the county are corn, soybeans, tobacco, and wheat. In 2004, the county ranked 21rst in Kentucky for burley tobacco production, producing 3.3 million pounds *(23)*. Corn is grown for both silage and grain, and wheat is grown mostly as a cover crop. About 37

Figure 1.—Location of Bath County in Kentucky.

percent of the county is in pasture and 41 percent is in forestland. Livestock products are also important to the county and include beef cattle, dairy products, hogs, sheep, and goats. The Cave Run Lake recreation area and portions of the Daniel Boone National Forest are in the southeastern part of the county.

Settlement

Bath County was formed in 1811 from part of Montgomery County and named for the many springs in the area thought to have medicinal value. Owingsville, the county seat, was established in 1811 and named for Thomas Dye Owings, owner of a local iron foundry who donated land for the town.

In the late 1800's, mining of iron ore and logging were major industries in the county. Beginning around 1790, several charcoal-fired iron furnaces were built in the county. The furnaces were in operation at different times until about the 1870's, when both the iron deposits and the timber needed to make charcoal were depleted. Furnaces were built in the county. The Bourbon Furnace on Slate Creek and the Clear Creek Furnace near Young Spring in the southeast are the best preserved. Both iron and timber were floated down the Licking River to market during this time.

Today, agriculture is still the principal occupation in the county. There are several industrial plants located in Owingsville. Many residents work outside the county in surrounding communities.

Climate

In Bath County the summers are hot in the valleys and slightly cooler in the hills. Winters are moderately cold. Rainfall is fairly heavy and is well distributed throughout the year. Snow falls nearly every winter, but the snow cover usually lasts only a few days.

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

In winter, the average temperature is 34.7 degrees F and the average daily minimum temperature is 24.6 degrees. The lowest temperature on record, which occurred at Farmers on January 28, 1963, is -28 degrees. In summer, the average temperature is 73.5 degrees and the average daily maximum temperature is 85.8 degrees. The highest temperature, which occurred at Farmers on August 19, 1936, is 106 degrees.

Growing degree days are shown in table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The average annual total precipitation is 47.33 inches. Of this, 29.09 inches, or about 61 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 4.18 inches, recorded at Farmers on August 4, 1972. Thunderstorms occur on about 42 days each year, and most occur in July.

The average seasonal snowfall is 6.7 inches. The greatest snow depth at any one time during the period of record was 12 inches, recorded on February 6, 1998. On an average, 12 days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 16.0 inches, recorded on January 21, 1927.

The average relative humidity in mid-afternoon is about 61 percent. Humidity is higher at night, and the average at dawn is about 83 percent. The sun shines 66 percent of the time possible in summer and 39 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 10.8 miles per hour, in March.

Topography and Drainage

Bath County has a diverse topography. It includes parts of three major physiographic regions—the Outer Bluegrass, the Knobs, and the Eastern Coalfields. The Outer Bluegrass region is the largest of the three and covers the northwestern four-fifths of the county. It includes the minor physiographic regions known as the Hills of the Bluegrass in the north along the Licking River. The Knobs are at the southern boundary with the Eastern Coalfields. The southeastern part of the county is in the Eastern Coalfields region. The Eastern Coalfields region includes the minor physiographic region known as the Mississippian Plateau along its northern boundary with the Outer Bluegrass region.

The Outer Bluegrass and the Knobs physiographic regions are in the Kentucky Bluegrass Major Land Resource Area (MLRA 121) while the Eastern Coalfields physiographic region is in the Western Allegheny Plateau Major Land Resource Area (MLRA 124).

The Outer Bluegrass physiographic region in the northwestern part of the survey area is characterized by broad, gently sloping ridgetops, moderately sloping to steep side slopes, and moderately wide to narrow floodplains. The gently sloping and moderately sloping ridgetops and floodplains are used for row crops or hay, and the moderately sloping to steep side slopes are used as pasture or woodland. The included Hills of the Bluegrass region in the north along the Licking River is characterized by narrow, moderately sloping ridgetops, moderately steep and steep side slopes, and narrow, gently sloping floodplains. The moderately sloping ridgetops are used for row crops and hay, and the steeper side slopes and narrow floodplains are used for pasture or woodland.

The Knobs region at the southern boundary is characterized by a narrow band of conical shaped hills (knobs) and long, moderately wide ridgetops breaking to very steep side slopes separated by narrow to moderately wide valleys. The gently sloping to moderately steep ridgetops are used for row crops, hay, or pasture, and the very steep side slopes and knobs are mostly used as woodland.

The Outer Bluegrass physiographic region and the included Hills of the Bluegrass region and the Knobs region are drained in the west by the watershed of Hinkston Creek that forms part of the Bath-Montgomery County line. Drainage in the northern part of the county is by the watersheds of Little Flat Creek and Flat Creek and in the center and southern parts by the watersheds of White Oak Creek and Slate Creek. These later four streams flow eastward into the Licking River, which forms the Bath-Fleming County line.

The Eastern Coalfields physiographic region and the included Mississippian Plateau region in the southeastern part of the county are characterized by long, narrow ridgetops and very steep side slopes separated by narrow valleys. These regions are almost entirely in woodland. The western part of the region is drained by the Mill Creek watershed that drains into Slate Creek. The central part is drained by the watersheds of Mud Lick Creek and Salt Lick Creek flowing into the Licking River near the town of Salt Lick. The eastern part drains into Cave Run Lake and the Licking River, which form the Bath-Rowan County line.

The elevation in Bath County ranges from about 585 feet along the Licking River at its western exit from the county to more than 1,260 feet on peaks in the southeastern part of the county along the Bath-Menifee County line.

For more detailed information, see “Physiography and Geology” located in the “Formation of the Soils” section.

How This Survey Was Made

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

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

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries *(48)*.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research *(43, 48)*.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs *(40)*. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

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

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

General Soil Map Units

The general soil map shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern. For the general soil map units in this survey, the urban map units were not used to determine the map unit composition.

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

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

1. Licking River Floodplains and Terraces: Nolin-Allegheny-Cotaco

Very deep, well drained and moderately well drained, nearly level to moderately steep, silty or loamy soils

Setting

Location in the survey area: Areas adjacent to the Licking River
Landform: Floodplains and terraces in Licking River valley
Slope range: 0 to 20 percent

Composition

Major components:
Nolin soils—17 percent
Allegheny soils—10 percent
Cotaco soils—10 percent

Minor inclusions: Boonewood, Elk, Lawrence, Newark, Otwood, and Uniontown soils

Land Use

Major uses: Crops, hay, pasture, and woodland

2. Salt Lick Creek Floodplains and Terraces: Chagrin-Lobdell-Holly

Very deep, well drained to poorly drained, nearly level to gently sloping, loamy soils

Setting

Location in the survey area: Areas adjacent to Salt Lick Creek

Landform: Floodplains and terraces in Salt Lick valley
Slope range: 0 to 3 percent

Composition

Major components:
Chagrin soils—15 percent
Lobdell soils—13 percent
Holly soils—13 percent

Minor inclusions: Allegheny, Cotaco, Grigsby, Johnsburg, Melvin, and Orrville soils

Land Use

Major uses: Crops, hay, pasture, and woodland

3. Limestone and Loess Uplands: Lowell-Faywood-Sandview

Very deep, well drained, nearly level to moderately steep, silty or clayey soils

Setting

Location in the survey area: Sharpsburg area
Landform: Ridges and hills on uplands
Slope range: 0 to 20 percent

Composition

Major components:
Lowell soils—52 percent
Faywood soils—16 percent
Sandview soils—10 percent

Minor inclusions: Cynthiana, Nicholson, and Nolin soils

Land Use

Major uses: Crops, hay, pasture, and woodland

4. Shale and Limestone Uplands: Eden-Lowell-Faywood

Moderately deep and deep, well drained, nearly level to steep, clayey soils

Setting

Location in the survey area: Bethel area
Landform: Ridges and hills on uplands
Slope range: 2 to 40 percent

Composition

Major components:
Eden soils—35 percent
Lowell soils—26 percent
Faywood soils—10 percent

Minor inclusions: Boonewood, Cynthiana, and Nolin soils

Land Use

Major uses: Hay, pasture, woodland, and a few crops

5. Limestone Uplands: Lowell-Faywood-Cynthiana

Shallow to deep, well drained, gently sloping to steep, clayey soils

Setting

Location in the survey area: Mount Pleasant Church and Pebble area
Landform: Ridges and hills on uplands
Slope range: 2 to 40 percent

Composition

Major components:
Lowell soils—32 percent
Faywood soils—31 percent
Cynthiana soils—20 percent

Minor inclusions: Boonewood, Eden, and Nicholson soils

Land Use

Major uses: Hay, pasture, woodland, and a few crops

6. Calcareous Shale Uplands: Beasley-Shrouts-Cynthiana

Shallow to deep, well drained, nearly level to steep, clayey soils

Setting

Location in the survey area: Owingsville and Polksville areas
Landform: Ridges and hills on uplands
Slope range: 2 to 30 percent

Composition

Major components:
Beasley soils—18 percent
Shrouts soils—15 percent
Cynthiana soils—13 percent

Minor inclusions: Faywood and Lowell soils

Land Use

Major uses: Crops, hay, pasture, woodland, and urban areas

7. Limestone and Dolomite Uplands: Crider-Vertrees-Beasley

Deep and very deep, well drained, nearly level to moderately steep, silty or clayey soils

Setting

Location in the survey area: Kendall Springs area

Landform: Ridges and hills on uplands
Slope range: 0 to 20 percent

Composition

Major components:
Crider soils—21 percent
Vertrees soils—17 percent
Beasley soils—17 percent

Minor inclusions: Fairmount, Faywood, Lawrence, Nicholson, Robertsville, and Shrouts soils

Land Use

Major uses: Crops, hay, pasture, and woodland

8. High-Level Fluvial Deposits: Cotaco-Johnsburg

Very deep, moderately well drained and somewhat poorly drained, gently sloping to moderately steep, loamy or silty soils

Setting

Location in the survey area: Peastick area
Landform: High-level terraces
Slope range: 0 to 20 percent

Composition

Major components:
Cotaco soils—65 percent
Johnsburg soils—13 percent

Minor inclusions: Allegheny, Beasley, Elk, Mullins, Otwood, and Shrouts soils

Land Use

Major uses: Crops, hay, pasture, and woodland

9. Black Shale Uplands: Trappist-Muse

Moderately deep to very deep, well drained, gently sloping to very steep, clayey soils

Setting

Location in the survey area: Southeastern portion of the county
Landform: Ridges and hills on uplands—the Knobs
Slope range: 2 to 60 percent

Composition

Major components:
Trappist soils—28 percent
Muse soils—13 percent

Minor inclusions: Berea, Covedale, Gilpin, Morehead, Rohan, and Tilsit soils

Land Use

Major uses: Hay, pasture, woodland, and a few crops

10. Shale and Sandstone Hills and Flats: Gilpin-Shelocta-Berks

Moderately deep to very deep, well drained to somewhat poorly drained, gently sloping to steep, loamy or loamy-skeletal soils

Setting

Location in the survey area: Southeastern portion of the county
Landform: Flats, hillslopes, and ridges on hills
Slope range: 2 to 40 percent

Composition

Major components:
Gilpin soils—38 percent
Shelocta soils—24 percent
Berks soils—13 percent

Minor inclusions: Brownsville, Bledsoe, Caneyville, Chagrin, Johnsburg, and Tilsit soils

Land Use

Major uses: Hay, pasture, woodland, and a few crops

11. Sandstone, Shale, and Siltstone Hills: Brownsville-Berks-Caneyville

Moderately deep and deep, well drained, steep and very steep, loamy-skeletal or clayey soils

Setting

Location in the survey area: Southeastern portion of the county
Landform: Hillslopes on hills
Slope range: 30 to 60 percent

Composition

Major components:
Brownsville soils—20 percent
Berks soils—20 percent
Caneyville soils—20 percent

Minor inclusions: Alticrest, Bledsoe, Gilpin, Helechawa, and Shelocta soils

Land Use

Major uses: Parks and woodland

Detailed Soil Map Units

The map units delineated on the detailed soil maps represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Lowell silt loam, 2 to 6 percent slopes, is a phase of the Lowell series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes. A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Shrouts-Beasley-Rock outcrop complex, 6 to 20 percent slopes, eroded, is an example.

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

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

AgB—Allegheny-Cotaco loams, 2 to 6 percent slopes

Map Unit Composition

Major components:
Allegheny and similar soils—60 percent
Cotaco and similar soils—30 percent

Contrasting inclusions:
Elk soils—5 percent
Newark soils—5 percent

Setting

Allegheny

Landform: Stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-loamy mixed alluvium of the Quaternary System on ridgetops and stream terraces
Elevation: 620 to 870 feet

Cotaco

Landform: Stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-loamy mixed alluvium of the Quaternary System on ridgetops and stream terraces
Elevation: 620 to 870 feet

Soil Properties and Qualities

Allegheny

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high

Available water capacity: High (about 9.7 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: 3.3 to 4.2 feet
Water table kind: Apparent
Flooding: None
Ponding: None
Surface layer texture: Loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Cotaco

Depth class: Very deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 0.5 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Moderate (about 6.6 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: 1.2 to 2.4 feet
Water table kind: Apparent
Flooding: None
Ponding: None
Surface layer texture: Loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Allegheny

Surface layer—0 to 10 inches; loam
Subsoil—10 to 63 inches; clay loam
Substratum—63 to 90 inches; fine sandy loam

Cotaco

Surface layer—0 to 11 inches; loam
Subsoil—11 to 41 inches; loam
Substratum—41 to 99 inches; loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soils: No

AgC—Allegheny-Cotaco loams, 6 to 12 percent slopes

Map Unit Composition

Major components:
Allegheny and similar soils—70 percent
Cotaco and similar soils—20 percent

Contrasting inclusions:
Chagrin soils—4 percent
Faywood soils—3 percent
Lowell soils—3 percent

Setting

Allegheny

Landform: Stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-loamy mixed alluvium of the Quaternary System on ridgetops and stream terraces
Elevation: 620 to 870 feet

Cotaco

Landform: Stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-loamy mixed alluvium of the Quaternary System on ridgetops and stream terraces
Elevation: 620 to 870 feet

Soil Properties and Qualities

Allegheny

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high

Available water capacity: High (about 9.7 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: 3.3 to 4.2 feet
Water table kind: Apparent
Flooding: None
Ponding: None
Surface layer texture: Loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Cotaco

Depth class: Very deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 0.5 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Moderate (about 6.6 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: 1.2 to 2.4 feet
Water table kind: Apparent
Flooding: None
Ponding: None
Surface layer texture: Loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Allegheny

Surface layer—0 to 10 inches; loam
Subsoil—10 to 63 inches; clay loam
Substratum—63 to 90 inches; fine sandy loam

Cotaco

Surface layer—0 to 11 inches; loam
Subsoil—11 to 41 inches; loam
Substratum—41 to 99 inches; loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3e
Prime farmland: Farmland of statewide importance
Hydric soils: No

AlD2—Allegheny loam, 12 to 20 percent slopes, eroded

Map Unit Composition

Major components:
Allegheny and similar soils—85 percent

Contrasting inclusions:
Cotaco soils—5 percent
Elk soils—5 percent
Faywood soils—5 percent

Setting

Landform: Stream terrace in river valley
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-loamy mixed alluvium of the Quaternary System on ridgetops and stream terraces
Elevation: 620 to 870 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: High (about 9.7 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: High
Depth to the top of the seasonal high water table: 3.3 to 4.2 feet
Water table kind: Apparent
Flooding: None
Ponding: None
Surface layer texture: Loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 5 inches; loam
Subsoil—5 to 63 inches; clay loam
Substratum—63 to 90 inches; fine sandy loam

Use and Management Considerations

Major Land Uses: Hayland, pasture, woodland, and a few small areas of cultivated cropland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland
Hydric soil: No

BaB—Beasley silt loam, 2 to 6 percent slopes

Map Unit Composition

Major components:
Beasley and similar soils—85 percent

Contrasting inclusions:
Shrouts soils—8 percent
Nicholson soils—7 percent

Setting

Landform: Ridge on upland
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from calcareous shale, dolomite, and/or calcareous siltstone of the Silurian System and calcareous shale and dolomite of the Preachersville Member of the Ordovician System
Elevation: 620 to 1,080 feet

Soil Properties and Qualities

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 7.3 inches to a depth of 50 inches)
Depth to restrictive features: Paralithic bedrock—40 to 60 inches to weathered shale
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 21 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 7 inches; silt loam
Subsoil—7 to 29 inches; silty clay
Substratum—29 to 50 inches; silty clay
Paralithic bedrock—50 to 70 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Moderately well suited

Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

BcC2—Beasley silt loam, 6 to 12 percent slopes, eroded

Map Unit Composition

Major components:
Beasley and similar soils—85 percent

Contrasting inclusions:
Nicholson soils—5 percent
Shrouts soils—5 percent
Vertrees soils—5 percent

Setting

Landform: Ridge on upland
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from calcareous shale, dolomite, and/or calcareous siltstone of the Silurian System and calcareous shale and dolomite of the Preachersville Member of the Ordovician System
Elevation: 620 to 1,080 feet

Soil Properties and Qualities

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 7.3 inches to a depth of 50 inches)
Depth to restrictive features: Paralithic bedrock—40 to 60 inches to weathered shale
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 21 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 29 inches; silty clay
Substratum—29 to 50 inches; silty clay
Paralithic bedrock—50 to 70 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Moderately well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3e
Prime farmland: Farmland of statewide importance
Hydric soil: No

BeD2—Beasley-Shrouts silt loams, 12 to 20 percent slopes, eroded

Map Unit Composition

Major components:
Beasley and similar soils—70 percent
Shrouts and similar soils—20 percent

Contrasting inclusions:
Vertrees soils—10 percent

Setting

Beasley

Landform: Ridge on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from calcareous shale, dolomite, and/or calcareous siltstone of the Silurian System and calcareous shale and dolomite of the Preachersville Member of the Ordovician System
Elevation: 620 to 1,080 feet

Shrouts

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from calcareous shale and/or calcareous siltstone of the Silurian System
Elevation: 620 to 1,080 feet

Soil Properties and Qualities

Beasley

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 7.3 inches to a depth of 50 inches)
Depth to restrictive features: Paralithic bedrock—40 to 60 inches to weathered shale
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 21 percent
Shrink-swell potential: Moderate

Shrouts

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 2.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 4.1 inches to a depth of 30 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silty clay loam

Calcium carbonate maximum: 38 percent
Shrink-swell potential: Moderate

Typical Profile

Beasley

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 29 inches; silty clay
Substratum—29 to 50 inches; silty clay
Paralithic bedrock—50 to 70 inches; weathered shale bedrock

Shrouts

Surface layer—0 to 4 inches; silty clay loam
Subsoil—4 to 18 inches; silty clay
Substratum—18 to 30 inches; channery silty clay
Paralithic bedrock—30 to 40 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Hayland, pasture, and woodland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Poorly suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock of the Shrouts soil restricts the rooting depth.

Woodland

Suitability: Moderately well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland
Hydric soils: No

BrB—Berea silt loam, 2 to 6 percent slopes

Map Unit Composition

Major components:
Berea and similar soils—80 percent

Contrasting inclusions:
Cotaco soils—5 percent
Morehead soils—5 percent
Tilsit soils—5 percent
Trappist soils—5 percent

Setting

Landform: Knob on upland
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-silty colluvium over clayey residuum weathered from acid, fissile, black shale of the Devonian System
Elevation: 680 to 850 feet

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 0.5 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 5.4 inches to a depth of 31 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered black shale; lithic bedrock—20 to 40 inches to unweathered black shale
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: 1.2 to 2.3 feet
Water table kind: Perched
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 9 inches; silt loam
Subsoil—9 to 21 inches; silt loam
Substratum—21 to 31 inches; channery silty clay loam
Paralithic bedrock—31 to 36 inches; weathered shale bedrock
Lithic bedrock—36 to 46 inches; unweathered shale bedrock

Use and Management Considerations

Major Land Uses: Hayland, pasture, woodland, and a few small areas of cultivated cropland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Soil wetness may limit the use of log trucks.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

BrC—Berea silt loam, 6 to 12 percent slopes

Map Unit Composition

Major components:
Berea and similar soils—80 percent

Contrasting inclusions:
Cotaco soils—5 percent
Morehead soils—5 percent
Tilsit soils—5 percent
Trappist soils—5 percent

Setting

Landform: Knob on upland
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-silty colluvium over clayey residuum weathered from acid, fissile, black shale of the Devonian System
Elevation: 680 to 850 feet

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 0.5 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 5.4 inches to a depth of 31 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered black shale; lithic bedrock—20 to 40 inches to unweathered black shale
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: 1.2 to 2.3 feet
Water table kind: Perched
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 9 inches; silt loam
Subsoil—9 to 21 inches; silt loam
Substratum—21 to 31 inches; channery silty clay loam
Paralithic bedrock—31 to 36 inches; weathered shale bedrock
Lithic bedrock—36 to 46 inches; unweathered shale bedrock

Use and Management Considerations

Major Land Uses: Hayland, pasture, woodland, and a few small areas of cultivated cropland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Moderately suited

Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Soil wetness may limit the use of log trucks.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3e
Prime farmland: Farmland of statewide importance
Hydric soil: No

BsD—Berks channery silt loam, 6 to 20 percent slopes

Map Unit Composition

Major components:
Berks and similar soils—70 percent

Contrasting inclusions:
Brownsville soils—10 percent
Gilpin soils—10 percent
Shelocta soils—10 percent

Setting

Landform: Hillslope on hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy-skeletal residuum weathered from siltstone, sandstone, and shale of the Borden Formation of the Mississippian System
Elevation: 900 to 1,300 feet

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): High
Available water capacity: Very low (about 2.0 inches to a depth of 27 inches)

Depth to restrictive features: Lithic bedrock—20 to 40 inches to unweathered sandstone
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Channery silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 4 inches; channery silt loam
Subsoil—4 to 27 inches; very channery silt loam
Lithic bedrock—27 to 37 inches; unweathered sandstone bedrock

Use and Management Considerations

Major Land Uses: Pasture and woodland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock restricts the rooting depth.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The moderate depth to bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments on the surface restrict the use of equipment during harvest, site preparation, and planting.
- Coarse textured soil material may create equipment limitations.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland
Hydric soil: No

BsF—Berks channery silt loam, 20 to 50 percent slopes

Map Unit Composition

Major components:
Berks and similar soils—70 percent

Contrasting inclusions:
Brownsville soils—10 percent
Gilpin soils—10 percent
Shelocta soils—10 percent

Setting

Landform: Hillslope on hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy-skeletal residuum weathered from siltstone, sandstone, and shale of the Borden Formation of the Mississippian System
Elevation: 900 to 1,300 feet

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): High
Available water capacity: Very low (about 2.0 inches to a depth of 27 inches)
Depth to restrictive features: Lithic bedrock—20 to 40 inches to unweathered sandstone
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Channery silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 4 inches; channery silt loam
Subsoil—4 to 27 inches; very channery silt loam
Lithic bedrock—27 to 37 inches; unweathered sandstone bedrock

Use and Management Considerations

Major Land Uses: Woodland

Cropland

Suitability:
- This soil is unsuited to cropland.

Pasture and hayland

Suitability:
- This soil is unsuited to pasture and hayland.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- Rock fragments on the surface restrict the use of equipment during harvest, site preparation, and planting.
- Coarse textured soil material may create equipment limitations.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 7e
Prime farmland: Not prime farmland
Hydric soil: No

BvA—Blago silt loam, 0 to 3 percent slopes

Map Unit Composition

Major components:
Blago and similar soils—85 percent

Contrasting inclusions:
Berea soils—5 percent
Johnsburg soils—5 percent
Morehead soils—5 percent

Setting

Landform: Depressions and stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Clayey alluvium over clayey residuum weathered from acid, fissile, black shale of the Devonian System
Elevation: 800 to 840 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Organic matter content in the surface layer: 2.0 to 10.0 percent
Saturated hydraulic conductivity (Ksat): Low
Available water capacity: High (about 9.9 inches to a depth of 60 inches)
Depth to restrictive features: Paralithic bedrock—60 to 96 inches to weathered black shale; lithic bedrock—60 to 96 inches to unweathered black shale
Potential for surface runoff: Negligible
Depth to the top of the seasonal high water table: 0.0 to 1.0 foot
Water table kind: Perched
Flooding: None
Ponding: None

Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 20 inches; silt loam
Subsoil—20 to 43 inches; silty clay loam
Substratum—43 to 90 inches; silty clay
Paralithic bedrock—90 to 95 inches; weathered shale bedrock
Lithic bedrock—95 to 105 inches; unweathered shale bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The risk of compaction increases when the soil is wet.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3w
Prime farmland: Prime farmland if drained
Hydric soil: Yes
Hydric criteria: 2B3

BwA—Boonewood silt loam, 0 to 4 percent slopes, frequently flooded

Map Unit Composition

Major components:
Boonewood and similar soils—75 percent

Contrasting inclusions:
Elk soils—7 percent
Newark soils—6 percent
Nolin soils—6 percent
Woolper soils—6 percent

Setting

Landform: Floodplain in valley
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale deposited over limestone bedrock of the Ordovician System
Elevation: 600 to 850 feet

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 3.0 to 5.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Low (about 3.8 inches to a depth of 32 inches)
Depth to restrictive features: Lithic bedrock—20 to 40 inches to unweathered limestone bedrock
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: 1.4 to 2.0 feet
Water table kind: Perched
Flooding: Frequent
Flooding duration: Brief
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 8 inches; silt loam
Subsoil—8 to 27 inches; silt loam
Substratum—27 to 32 inches; channery silt loam
Lithic bedrock—32 to 36 inches; unweathered limestone bedrock

Use and Management Considerations

Major Land Uses: Hayland, pasture, woodland, and a few small areas of cultivated crops

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The moderate depth to bedrock restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Frequent flooding during winter restricts the use of winter grain crops.
- Flooding may damage crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- Flooding may damage pastures.
- The moderate depth to bedrock restricts the rooting depth.

Woodland

Suitability: Moderately well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should focus on streamside management zones and stream crossings and should include best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The moderate depth to bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if protected from flooding or not frequently flooded during the growing season
Hydric soil: No

BxF—Brownsville-Berks channery silt loams, 30 to 70 percent slopes, extremely stony

Map Unit Composition

Major components:
Brownsville and similar soils—45 percent
Berks and similar soils—40 percent

Contrasting inclusions:
Gilpin soils—8 percent
Shelocta soils—7 percent

Setting

Brownsville

Landform: Hillslope on hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy-skeletal colluvium derived from siltstone and/or loamy-skeletal residuum weathered from siltstone, sandstone, and shale of the Borden Formation of the Mississippian System
Elevation: 900 to 1,300 feet

Berks

Landform: Hillslope on hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy-skeletal residuum weathered from siltstone, sandstone, and shale of the Borden Formation of the Mississippian System
Elevation: 900 to 1,300 feet

Soil Properties and Qualities

Brownsville

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): High
Available water capacity: Low (about 4.6 inches to a depth of 46 inches)
Depth to restrictive features: Lithic bedrock—40 to 60 inches to unweathered sandstone
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Channery silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Berks

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): High
Available water capacity: Very low (about 2.0 inches to a depth of 27 inches)
Depth to restrictive features: Lithic bedrock—20 to 40 inches to unweathered sandstone
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Channery silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Brownsville

Surface layer—0 to 7 inches; channery silt loam
Subsoil—7 to 25 inches; very channery silt loam
Subsoil—25 to 46 inches; extremely channery silt loam
Lithic bedrock—46 to 56 inches; unweathered sandstone bedrock

Berks

Surface layer—0 to 4 inches; channery silt loam

Subsoil—4 to 27 inches; very channery silt loam
Lithic bedrock—27 to 37 inches; unweathered sandstone bedrock

Use and Management Considerations

Major Land Uses: Woodland

Cropland

Suitability:
- These soils are unsuited to cropland.

Pasture and hayland

Suitability:
- These soils are unsuited to pasture and hayland.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- Rock fragments on the surface restrict the use of equipment during harvest, site preparation, and planting.
- Coarse textured soil material may create equipment limitations.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 7e
Prime farmland: Not prime farmland
Hydric soils: No

CaE—Caneyville-Bledsoe-Rock outcrop complex, 12 to 35 percent slopes

Map Unit Composition

Major components:
Caneyville and similar soils—40 percent
Bledsoe and similar soils—35 percent
Rock outcrop—15 percent

Contrasting inclusions:
Gilpin soils—5 percent
Shelocta soils—5 percent

Setting

Caneyville

Landform: Hill on upland

Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone of the Newman Formation of the Mississippian System
Elevation: 1,060 to 1,300 feet

Bledsoe

Landform: Hill on upland
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey colluvium weathered from shale of the Renfro and Nada Members of the Borden Formation of the Mississippian System
Elevation: 1,060 to 1,300 feet

Rock outcrop

Landform: Hill on upland
Landform position (three-dimensional): Free face
Parent material: Limestone
Elevation: 1,060 to 1,300 feet

Properties and Qualities of the Caneyville and Bledsoe Soils

Caneyville

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 4.7 inches to a depth of 30 inches)
Depth to restrictive features: Lithic bedrock—20 to 40 inches to unweathered limestone
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Bledsoe

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: High (about 10.0 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Fine sandy loam

Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Caneyville

Surface layer—0 to 6 inches; silt loam
Subsoil—6 to 30 inches; silty clay
Lithic bedrock—30 to 40 inches; unweathered limestone bedrock

Bledsoe

Surface layer—0 to 13 inches; fine sandy loam
Subsoil—13 to 54 inches; silty clay loam
Subsoil—54 to 84 inches; silty clay

Rock outcrop

This part of the map unit consists of limestone ledges or escarpments.

Use and Management Considerations

Major Land Uses: Pasture and woodland

Cropland

Suitability:
- This map unit is unsuited to cropland.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock of the Caneyville soil restricts the rooting depth.
- Rock outcrops may limit machinery operations.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: Caneyville and Bledsoe—6e; Rock outcrop—8s
Prime farmland: Not prime farmland
Hydric soils: Caneyville and Bledsoe—no; Rock outcrop—unranked

ChA—Chagrin loam, 0 to 3 percent slopes, frequently flooded

Map Unit Composition

Major components:
Chagrin and similar soils—85 percent

Contrasting inclusions:
Grigsby soils—4 percent
Lobdell soils—4 percent
Nolin soils—4 percent
Orrville soils—3 percent

Setting

Landform: Floodplain in river valley
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy mixed alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 600 to 820 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: High (about 10.4 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: 4.0 to 6.0 feet
Water table kind: Apparent
Flooding: Frequent
Flooding duration: Brief
Ponding: None
Surface layer texture: Loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 11 inches; loam
Subsoil—11 to 48 inches; loam
Substratum—48 to 96 inches; sandy loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- Frequent flooding during winter restricts the use of winter grain crops.
- Flooding may damage crops.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- Flooding may damage pastures.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should focus on streamside management zones and stream crossings and should include best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if protected from flooding or not frequently flooded during the growing season
Hydric soil: No

CoB—Cotaco loam, 2 to 6 percent slopes

Map Unit Composition

Major components:
Cotaco and similar soils—85 percent

Contrasting inclusions:
Allegheny soils—4 percent
Chagrin soils—4 percent
Lobdell soils—4 percent
Newark soils—3 percent

Setting

Landform: Stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-loamy alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 620 to 870 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 0.5 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Moderate (about 6.6 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches

Potential for surface runoff: Very low
Depth to the top of the seasonal high water table: 1.2 to 2.4 feet
Water table kind: Apparent
Flooding: None
Ponding: None
Surface layer texture: Loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 11 inches; loam
Subsoil—11 to 41 inches; loam
Substratum—41 to 99 inches; loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

CoC—Cotaco loam, 6 to 12 percent slopes

Map Unit Composition

Major components:
Cotaco and similar soils—80 percent

Contrasting inclusions:
Allegheny soils—5 percent
Chagrin soils—5 percent
Lobdell soils—5 percent
Newark soils—5 percent

Setting

Landform: Stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-loamy alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 620 to 870 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 0.5 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Moderate (about 6.6 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: 1.2 to 2.4 feet
Water table kind: Apparent
Flooding: None
Ponding: None
Surface layer texture: Loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 11 inches; loam
Subsoil—11 to 41 inches; loam
Substratum—41 to 99 inches; loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Soil wetness may limit the use of log trucks.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section "Use and Management of the Soils" for more information.

Interpretive Groups

Land capability classification: 3e
Prime farmland: Farmland of statewide importance
Hydric soil: No

CpC—Covedale-Trappist silt loams, 6 to 12 percent slopes

Map Unit Composition

Major components:
Covedale and similar soils—60 percent
Trappist and similar soils—30 percent

Contrasting inclusions:
Muse soils—5 percent
Rohan soils—5 percent

Setting

Covedale

Landform: Knob on upland
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Fine-silty colluvium and/or residuum weathered from acid, fissile, black shale of the Ohio Shale Member of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet

Trappist

Landform: Knob on upland
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from acid, fissile, black shale of the Ohio Shale Member of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet

Soil Properties and Qualities

Covedale

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 7.9 inches to a depth of 60 inches)
Depth to restrictive features: Paralithic bedrock—60 to 80 inches to weathered shale; lithic bedrock—60 to 80 inches to unweathered shale
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Trappist

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 3.5 inches to a depth of 30 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale; lithic bedrock—20 to 40 inches to unweathered shale
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Covedale

Surface layer—0 to 8 inches; silt loam
Subsoil—8 to 42 inches; silty clay loam
Substratum—42 to 72 inches; silty clay
Paralithic bedrock—72 to 76 inches; weathered shale bedrock
Lithic bedrock—76 to 86 inches; unweathered shale bedrock

Trappist

Surface layer—0 to 4 inches; silt loam
Subsoil—4 to 18 inches; channery silty clay loam
Substratum—18 to 30 inches; very channery silty clay
Paralithic bedrock—30 to 35 inches; weathered shale bedrock
Lithic bedrock—35 to 39 inches; unweathered shale bedrock

Use and Management Considerations

Major Land Uses: Hayland, pasture, woodland, and a few small areas of cropland

Cropland

Suitability: Poorly suited

Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock of the Trappist soil restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock of the Trappist soil restricts the rooting depth.

Woodland

Suitability: Moderately well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3e
Prime farmland: Farmland of statewide importance
Hydric soils: No

CpD—Covedale-Trappist silt loams, 12 to 30 percent slopes

Map Unit Composition

Major components:
Covedale and similar soils—50 percent
Trappist and similar soils—40 percent

Contrasting inclusions:
Muse soils—5 percent
Rohan soils—5 percent

Setting

Covedale

Landform: Knob on upland
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear

Parent material: Fine-silty colluvium and/or residuum weathered from acid, fissile, black shale of the Ohio Shale Member of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet

Trappist

Landform: Knob on upland
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from acid, fissile, black shale of the Ohio Shale Member of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet

Soil Properties and Qualities

Covedale

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 7.9 inches to a depth of 60 inches)
Depth to restrictive features: Paralithic bedrock—60 to 80 inches to weathered shale; lithic bedrock—60 to 80 inches to unweathered shale
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Trappist

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 3.5 inches to a depth of 30 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale; lithic bedrock—20 to 40 inches to unweathered shale
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Covedale

Surface layer—0 to 8 inches; silt loam

Subsoil—8 to 42 inches; silty clay loam
Substratum—42 to 72 inches; silty clay
Paralithic bedrock—72 to 76 inches; weathered shale bedrock
Lithic bedrock—76 to 86 inches; unweathered shale bedrock

Trappist

Surface layer—0 to 4 inches; silt loam
Subsoil—4 to 18 inches; channery silty clay loam
Substratum—18 to 30 inches; very channery silty clay
Paralithic bedrock—30 to 35 inches; weathered shale bedrock
Lithic bedrock—35 to 39 inches; unweathered shale bedrock

Use and Management Considerations

Major Land Uses: Hayland, pasture, and woodland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock of the Trappist soil restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock of the Trappist soil restricts the rooting depth.

Woodland

Suitability: Moderately well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section "Use and Management of the Soils" for more information.

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland
Hydric soils: No

CrA—Crider silt loam, 0 to 2 percent slopes

Map Unit Composition

Major components:
Crider and similar soils—85 percent

Contrasting inclusions:
Vertrees soils—9 percent
Nicholson soils—6 percent

Setting

Landform: Ridge on karst upland
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Thin, fine-silty loess over clayey residuum weathered from dolomitic limestone of the Bisher Formation of the Silurian System
Elevation: 860 to 1,030 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: High (about 11.0 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 15 inches; silt loam
Subsoil—15 to 34 inches; silty clay loam
Subsoil—34 to 92 inches; silty clay loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, and pasture

Cropland

Suitability: Well suited
Management concerns and considerations:
- Karst (sinkhole) areas increase the potential for ground-water contamination.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited

Management concerns and considerations:
- Karst (sinkhole) areas increase the potential for ground-water contamination.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 1
Prime farmland: All areas are prime farmland
Hydric soil: No

CrB—Crider silt loam, 2 to 6 percent slopes

Map Unit Composition

Major components:
Crider and similar soils—85 percent

Contrasting inclusions:
Vertrees soils—9 percent
Nicholson soils—6 percent

Setting

Landform: Ridge on karst upland
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Thin, fine-silty loess over clayey residuum weathered from dolomitic limestone of the Bisher Formation of the Silurian System
Elevation: 860 to 1,030 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: High (about 11.0 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 15 inches; silt loam
Subsoil—15 to 34 inches; silty clay loam
Subsoil—34 to 92 inches; silty clay loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Karst (sinkhole) areas increase the potential for ground-water contamination.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- Karst (sinkhole) areas increase the potential for ground-water contamination.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

CyD2—Cynthiana-Faywood complex, very rocky, 6 to 20 percent slopes, eroded

Map Unit Composition

Major components:
Cynthiana and similar soils—50 percent
Faywood and similar soils—30 percent

Contrasting inclusions:
Eden soils—5 percent
Fairmount soils—5 percent

Lowell soils—5 percent
Rock outcrop—5 percent

Setting

Cynthiana

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone of the Bull Fork, Grant Lake, and Fairview Formations of the Ordovician System
Elevation: 800 to 1,080 feet

Faywood

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone of the Bull Fork, Grant Lake, and Fairview Formations of the Ordovician System
Elevation: 800 to 1,080 feet

Soil Properties and Qualities

Cynthiana

Depth class: Shallow
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Very low (about 2.4 inches to a depth of 18 inches)
Depth to restrictive features: Lithic bedrock—10 to 20 inches to unweathered limestone
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Flaggy silty clay loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Faywood

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 2.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 4.8 inches to a depth of 31 inches)
Depth to restrictive features: Lithic bedrock—20 to 40 inches to unweathered limestone
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None

Surface layer texture: Silty clay loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Cynthiana

Surface layer—0 to 3 inches; flaggy silty clay loam
Subsoil—3 to 18 inches; flaggy clay
Lithic bedrock—18 to 22 inches; unweathered limestone bedrock

Faywood

Surface layer—0 to 3 inches; silty clay loam
Subsoil—3 to 23 inches; silty clay
Substratum—23 to 31 inches; very channery silty clay
Lithic bedrock—31 to 35 inches; unweathered limestone bedrock

Use and Management Considerations

Major Land Uses: Pasture and woodland

Cropland

Suitability:
- These soils are unsuited to cropland.

Pasture and hayland

Suitability: Poorly suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The shallow and moderately deep bedrock restricts the rooting depth.
- Rock outcrops may limit machinery operations.

Woodland

Suitability: Poorly suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- Rock fragments on the surface restrict the use of equipment during harvest, site preparation, and planting.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: Cynthiana—6s; Faywood—4e
Prime farmland: Not prime farmland
Hydric soils: No

CyE2—Cynthiana-Faywood complex, rocky, 20 to 40 percent slopes, eroded

Map Unit Composition

Major components:
Cynthiana and similar soils—45 percent
Faywood and similar soils—40 percent

Contrasting inclusions:
Fairmount soils—5 percent
Lowell soils—5 percent
Eden soils—4 percent
Rock outcrop—1 percent

Setting

Cynthiana

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone of the Bull Fork, Grant Lake, and Fairview Formations of the Ordovician System
Elevation: 800 to 1,080 feet

Faywood

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone of the Bull Fork, Grant Lake, and Fairview Formations of the Ordovician System
Elevation: 800 to 1,080 feet

Soil Properties and Qualities

Cynthiana

Depth class: Shallow
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Very low (about 2.4 inches to a depth of 18 inches)
Depth to restrictive features: Lithic bedrock—10 to 20 inches to unweathered limestone
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Flaggy silty clay loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Faywood

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 2.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 4.8 inches to a depth of 31 inches)
Depth to restrictive features: Lithic bedrock—20 to 40 inches to unweathered limestone
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silty clay loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Cynthiana

Surface layer—0 to 3 inches; flaggy silty clay loam
Subsoil—3 to 18 inches; flaggy clay
Lithic bedrock—18 to 22 inches; unweathered limestone bedrock

Faywood

Surface layer—0 to 3 inches; silty clay loam
Subsoil—3 to 23 inches; silty clay
Substratum—23 to 31 inches; very channery silty clay
Lithic bedrock—31 to 35 inches; unweathered limestone bedrock

Use and Management Considerations

Major Land Uses: Pasture and woodland

Cropland

Suitability:
- These soils are unsuited to cropland.

Pasture and hayland

Suitability:
- These soils are unsuited to pasture and hayland.

Woodland

Suitability: Poorly suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments on the surface restrict the use of equipment during harvest, site preparation, and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: Cynthiana—7s; Faywood—6e
Prime farmland: Not prime farmland
Hydric soils: No

DAM—Dam, large

This map unit consists of the dam built across the Licking River to create Cave Run Lake. It is an earth and rockfill dam with a central impervious core, and it is founded on bedrock. The dam is 148 feet high, 2,700 feet long, and about 30 feet wide across the top. The elevation at the top of the dam is 788 feet above mean sea level.

The composition of this map unit is variable, and no generalized interpretations can be given.

EdD2—Eden silty clay loam, 6 to 20 percent slopes, eroded

Map Unit Composition

Major components:
Eden and similar soils—85 percent

Contrasting inclusions:
Faywood soils—6 percent
Lowell soils—6 percent
Cynthiana soils—3 percent

Setting

Landform: Convex hill on upland
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from interbedded calcareous shale, siltstone, and limestone of the Kope and Clays Ferry Formation of the Ordovician System
Elevation: 620 to 880 feet

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Low
Available water capacity: Low (about 3.6 inches to a depth of 32 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None

Surface layer texture: Silty clay loam
Calcium carbonate maximum: 12 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 3 inches; silty clay loam
Subsoil—3 to 32 inches; flaggy silty clay
Paralithic bedrock—32 to 42 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Hayland, pasture, and woodland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The moderate depth to bedrock restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The moderate depth to bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments on the surface restrict the use of equipment during harvest, site preparation, and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 4e

Prime farmland: Not prime farmland
Hydric soil: No

EeE2—Eden-Lowell complex, 20 to 40 percent slopes, eroded

Map Unit Composition

Major components:
Eden and similar soils—60 percent
Lowell and similar soils—20 percent

Contrasting inclusions:
Cynthiana soils—8 percent
Faywood soils—8 percent
Fairmount soils—4 percent

Setting

Eden

Landform: Convex hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from interbedded calcareous shale, siltstone, and limestone of the Kope and Clays Ferry Formation of the Ordovician System
Elevation: 620 to 880 feet

Lowell

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from interbedded calcareous shale, siltstone, and limestone of the Kope and Clays Ferry Formation of the Ordovician System
Elevation: 620 to 880 feet

Soil Properties and Qualities

Eden

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Low
Available water capacity: Low (about 3.6 inches to a depth of 32 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None

Surface layer texture: Silty clay loam
Calcium carbonate maximum: 12 percent
Shrink-swell potential: Moderate

Lowell

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 8.5 inches to a depth of 51 inches)
Depth to restrictive features: Lithic bedrock—40 to 60 inches to unweathered limestone
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 3 percent
Shrink-swell potential: Moderate

Typical Profile

Eden

Surface layer—0 to 3 inches; silty clay loam
Subsoil—3 to 32 inches; flaggy silty clay
Paralithic bedrock—32 to 42 inches; weathered shale bedrock

Lowell

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 39 inches; silty clay
Substratum—39 to 51 inches; channery clay
Lithic bedrock—51 to 55 inches; unweathered limestone bedrock

Use and Management Considerations

Major Land Uses: Pasture and woodland

Cropland

Suitability:
- These soils are unsuited to cropland.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The slope may restrict the use of some farm equipment.
- The moderate depth to bedrock of the Eden soil restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.

- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- Rock fragments on the surface restrict the use of equipment during harvest, site preparation, and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 6e
Prime farmland: Not prime farmland
Hydric soils: No

EkB—Elk silt loam, 2 to 6 percent slopes

Map Unit Composition

Major components:
Elk and similar soils—80 percent

Contrasting inclusions:
Otwood soils—5 percent
Uniontown soils—5 percent
Newark soils—3 percent
Nolin soils—3 percent
Lawrence soils—2 percent
Lowell soils—2 percent

Setting

Landform: Stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 640 to 750 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Very high (about 12.3 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: 3.0 to 5.0 feet
Water table kind: Apparent
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 9 inches; silt loam
Subsoil—9 to 29 inches; silt loam
Subsoil—29 to 62 inches; silty clay loam
Subsoil—62 to 102 inches; silty clay

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

EkC—Elk silt loam, 6 to 12 percent slopes

Map Unit Composition

Major components:
Elk and similar soils—80 percent

Contrasting inclusions:
Newark soils—5 percent
Nolin soils—5 percent
Otwood soils—5 percent
Uniontown soils—5 percent

Setting

Landform: Stream terrace in river valley

Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 640 to 750 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Very high (about 12.3 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: 3.0 to 5.0 feet
Water table kind: Apparent
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 9 inches; silt loam
Subsoil—9 to 29 inches; silt loam
Subsoil—29 to 62 inches; silty clay loam
Subsoil—62 to 102 inches; silty clay

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.

- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3e
Prime farmland: Farmland of statewide importance
Hydric soil: No

ElD2—Elk silt loam, 12 to 20 percent slopes, eroded

Map Unit Composition

Major components:
Elk and similar soils—80 percent

Contrasting inclusions:
Newark soils—5 percent
Nolin soils—5 percent
Otwood soils—5 percent
Woolper soils—5 percent

Setting

Landform: Stream terrace in river valley
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 640 to 750 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Very high (about 12.3 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: High
Depth to the top of the seasonal high water table: 3.0 to 5.0 feet
Water table kind: Apparent
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 29 inches; silt loam
Subsoil—29 to 62 inches; silty clay loam
Subsoil—62 to 102 inches; silty clay

Use and Management Considerations

Major Land Uses: Hayland, pasture, woodland, and a few small areas of cultivated cropland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland
Hydric soil: No

FaF2—Fairmount-Faywood complex, 20 to 60 percent slopes, eroded

Map Unit Composition

Major components:
Fairmount and similar soils—45 percent
Faywood and similar soils—40 percent

Contrasting inclusions:
Cynthiana soils—5 percent
Eden soils—5 percent
Lowell soils—5 percent

Setting

Fairmount

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Fairview Formation, the Tate Member of the Grant Lake Formation, and the Sunset Member of the Bull Fork Formation of the Ordovician System
Elevation: 700 to 900 feet

Fayood

Landform: Upland and hill
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Fairview, Grant Lake, and Bull Fork Formations of the Ordovician System
Elevation: 700 to 900 feet

Soil Properties and Qualities

Fairmount

Depth class: Shallow
Drainage class: Well drained
Organic matter content in the surface layer: 3.0 to 7.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Very low (about 2.2 inches to a depth of 15 inches)
Depth to restrictive features: Lithic bedrock—10 to 20 inches to unweathered limestone
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Channery silty clay loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Faywood

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 2.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 4.8 inches to a depth of 31 inches)
Depth to restrictive features: Lithic bedrock—20 to 40 inches to unweathered limestone
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None

Surface layer texture: Silty clay loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Fairmount

Surface layer—0 to 5 inches; channery silty clay loam
Subsoil—5 to 15 inches; channery silty clay
Lithic bedrock—15 to 19 inches; unweathered limestone bedrock

Faywood

Surface layer—0 to 3 inches; silty clay loam
Subsoil—3 to 23 inches; silty clay
Substratum—23 to 31 inches; very channery silty clay
Lithic bedrock—31 to 35 inches; unweathered limestone bedrock

Use and Management Considerations

Major Land Uses: Pasture and woodland

Cropland

Suitability:
- These soils are unsuited to cropland.

Pasture and hayland

Suitability:
- These soils are unsuited to pasture and hayland.

Woodland

Suitability: Moderately well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The shallow and moderate depth to bedrock may interfere with the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- Rock fragments on the surface restrict the use of equipment during harvest, site preparation, and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 7e
Prime farmland: Not prime farmland
Hydric soils: No

FyB2—Faywood-Lowell complex, 2 to 6 percent slopes, eroded

Map Unit Composition

Major components:
Faywood and similar soils—45 percent
Lowell and similar soils—35 percent

Contrasting inclusions:
Cynthiana soils—10 percent
Eden soils—10 percent

Setting

Faywood

Landform: Ridge on upland
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Bull Fork, Grant Lake, and Fairview Formations of the Ordovician System
Elevation: 740 to 1,080 feet

Lowell

Landform: Ridge on upland
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Bull Fork, Grant Lake, and Fairview Formations of the Ordovician System
Elevation: 740 to 1,080 feet

Soil Properties and Qualities

Faywood

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 2.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 4.8 inches to a depth of 31 inches)
Depth to restrictive features: Lithic bedrock—20 to 40 inches to unweathered limestone
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silty clay loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Lowell

Depth class: Deep

Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 8.5 inches to a depth of 51 inches)
Depth to restrictive features: Lithic bedrock—40 to 60 inches to unweathered limestone
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 3 percent
Shrink-swell potential: Moderate

Typical Profile

Faywood

Surface layer—0 to 3 inches; silty clay loam
Subsoil—3 to 23 inches; silty clay
Substratum—23 to 31 inches; very channery silty clay
Lithic bedrock—31 to 35 inches; unweathered limestone bedrock

Lowell

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 39 inches; silty clay
Substratum—39 to 51 inches; channery clay
Lithic bedrock—51 to 55 inches; unweathered limestone bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The moderate depth to bedrock of the Faywood soil restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock of the Faywood soil restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.

- A timber harvest plan should include best management practices.
- The moderate depth to bedrock of the Faywood soil may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soils: No

FyC2—Faywood-Lowell complex, 6 to 12 percent slopes, eroded

Map Unit Composition

Major components:
Faywood and similar soils—50 percent
Lowell and similar soils—35 percent

Contrasting inclusions:
Cynthiana soils—8 percent
Eden soils—7 percent

Setting

Faywood

Landform: Ridge on upland
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Bull Fork, Grant Lake, and Fairview Formations of the Ordovician System
Elevation: 740 to 1,080 feet

Lowell

Landform: Ridge on upland
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Bull Fork, Grant Lake, and Fairview Formations of the Ordovician System
Elevation: 740 to 1,080 feet

Soil Properties and Qualities

Faywood

Depth class: Moderately deep

Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 2.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 4.8 inches to a depth of 31 inches)
Depth to restrictive features: Lithic bedrock—20 to 40 inches to unweathered limestone
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silty clay loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Lowell

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 8.5 inches to a depth of 51 inches)
Depth to restrictive features: Lithic bedrock—40 to 60 inches to unweathered limestone
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 3 percent
Shrink-swell potential: Moderate

Typical Profile

Faywood

Surface layer—0 to 3 inches; silty clay loam
Subsoil—3 to 23 inches; silty clay
Substratum—23 to 31 inches; very channery silty clay
Lithic bedrock—31 to 35 inches; unweathered limestone bedrock

Lowell

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 39 inches; silty clay
Substratum—39 to 51 inches; channery clay
Lithic bedrock—51 to 55 inches; unweathered limestone bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The moderate depth to bedrock of the Faywood soil restricts the rooting depth.

- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock of the Faywood soil restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The moderate depth to bedrock of the Faywood soil may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3e
Prime farmland: Farmland of statewide importance
Hydric soils: No

FyD2—Faywood-Lowell complex, 12 to 20 percent slopes, eroded

Map Unit Composition

Major components:
Faywood and similar soils—50 percent
Lowell and similar soils—35 percent

Contrasting inclusions:
Cynthiana soils—8 percent
Eden soils—7 percent

Setting

Faywood

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear

Parent material: Clayey residuum weathered from limestone and shale of the Bull Fork, Grant Lake, and Fairview Formations of the Ordovician System
Elevation: 740 to 1,080 feet

Lowell

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Bull Fork, Grant Lake, and Fairview Formations of the Ordovician System
Elevation: 740 to 1,080 feet

Soil Properties and Qualities

Faywood

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 2.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 4.8 inches to a depth of 31 inches)
Depth to restrictive features: Lithic bedrock—20 to 40 inches to unweathered limestone
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silty clay loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Lowell

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 8.5 inches to a depth of 51 inches)
Depth to restrictive features: Lithic bedrock—40 to 60 inches to unweathered limestone
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 3 percent
Shrink-swell potential: Moderate

Typical Profile

Faywood

Surface layer—0 to 3 inches; silty clay loam
Subsoil—3 to 23 inches; silty clay
Substratum—23 to 31 inches; very channery silty clay
Lithic bedrock—31 to 35 inches; unweathered limestone bedrock

Lowell

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 39 inches; silty clay
Substratum—39 to 51 inches; channery clay
Lithic bedrock—51 to 55 inches; unweathered limestone bedrock

Use and Management Considerations

Major Land Uses: Hayland, pasture, woodland, and a few small areas of cultivated cropland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The moderate depth to bedrock of the Faywood soil restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock of the Faywood soil restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The moderate depth to bedrock of the Faywood soil may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland
Hydric soils: No

GlB—Gilpin silt loam, 2 to 6 percent slopes

Map Unit Composition

Major components:
Gilpin and similar soils—85 percent

Contrasting inclusions:
Shelocta soils—8 percent
Tilsit soils—7 percent

Setting

Landform: Knob on upland
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-loamy residuum weathered from shale, siltstone, and sandstone of the Nada, Cowbell, and Nancy Members of the Borden Formation of the Mississippian System
Elevation: 720 to 1,100 feet

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Low (about 4.5 inches to a depth of 36 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 7 inches; silt loam
Subsoil—7 to 20 inches; silt loam
Subsoil—20 to 36 inches; channery silt loam
Paralithic bedrock—36 to 46 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The moderate depth to bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

GpD2—Gilpin silt loam, 6 to 20 percent slopes, eroded

Map Unit Composition

Major components:
Gilpin and similar soils—80 percent

Contrasting inclusions:
Berks soils—10 percent
Shelocta soils—10 percent

Setting

Landform: Knob on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-loamy residuum weathered from shale, siltstone, and sandstone of the Nada, Cowbell, and Nancy Members of the Borden Formation of the Mississippian System
Elevation: 700 to 1,300 feet

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Low (about 4.4 inches to a depth of 36 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale

Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 20 inches; silt loam
Subsoil—20 to 36 inches; channery silt loam
Paralithic bedrock—36 to 46 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Hayland, pasture, woodland, and a few small areas of cropland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The moderate depth to bedrock restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The moderate depth to bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland
Hydric soil: No

GpE2—Gilpin silt loam, 20 to 40 percent slopes, eroded

Map Unit Composition

Major components:
Gilpin and similar soils—80 percent

Contrasting inclusions:
Shelocta soils—10 percent
Berks soils—5 percent
Brownsville soils—5 percent

Setting

Landform: Knob on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-loamy residuum weathered from shale, siltstone, and sandstone of the Nada, Cowbell, and Nancy Members of the Borden Formation of the Mississippian System
Elevation: 700 to 1,300 feet

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Low (about 4.4 inches to a depth of 36 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 20 inches; silt loam
Subsoil—20 to 36 inches; channery silt loam
Paralithic bedrock—36 to 46 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Pasture and woodland

Cropland

Suitability:
- This soil is unsuited to cropland.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

- The slope may restrict the use of some farm equipment.
- The moderate depth to bedrock restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The moderate depth to bedrock may interfere with the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 6e
Prime farmland: Not prime farmland
Hydric soil: No

GrA—Grigsby fine sandy loam, 0 to 4 percent slopes, frequently flooded

Map Unit Composition

Major components:
Grigsby and similar soils—85 percent

Contrasting inclusions:
Chagrin soils—5 percent
Lobdell soils—5 percent
Orrville soils—5 percent

Setting

Landform: Floodplain in river valley
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy mixed alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 600 to 820 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): High
Available water capacity: Moderate (about 6.6 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Very low
Depth to the top of the seasonal high water table: 3.3 to 6.0 feet
Water table kind: Apparent

Flooding: Frequent
Flooding duration: Brief
Ponding: None
Surface layer texture: Fine sandy loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 12 inches; fine sandy loam
Subsoil—12 to 59 inches; fine sandy loam
Substratum—59 to 96 inches; fine sandy loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- Frequent flooding during winter restricts the use of winter grain crops.
- Flooding may damage crops.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- Flooding may damage pastures.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should focus on streamside management zones and stream crossings and should include best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if protected from flooding or not frequently flooded during the growing season
Hydric soil: No

HeF—Helechawa-Alticrest-Rock outcrop complex, 30 to 50 percent slopes

Map Unit Composition

Major components:
Helechawa and similar soils—35 percent
Alticrest and similar soils—30 percent
Rock outcrop—25 percent

Contrasting inclusions:
Gilpin soils—3 percent
Shelocta soils—3 percent
Bledsoe soils—2 percent
Caneyville soils—2 percent

Setting

Helechawa

Landform: Hillslope on hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy colluvium derived from sandstone and siltstone of the Breathitt and Lee Formations of the Pennsylvanian System
Elevation: 1,060 to 1,440 feet

Alticrest

Landform: Ridge on hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy residuum weathered from sandstone and siltstone of the Breathitt and Lee Formations of the Pennsylvanian System
Elevation: 1,060 to 1,440 feet

Rock outcrop

Landform: Ridge on hills
Landform position (three-dimensional): Free face
Parent material: Sandstone
Elevation: 1,060 to 1,440 feet

Properties and Qualities of the Helechawa and Alticrest Soils

Helechawa

Depth class: Very deep
Drainage class: Somewhat excessively drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): High
Available water capacity: Moderate (about 6.9 inches to a depth of 60 inches)
Depth to restrictive features: Lithic bedrock—60 to 80 inches to unweathered sandstone
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Sandy loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Alticrest

Depth class: Moderately deep
Drainage class: Well drained

Organic matter content in the surface layer: 1.0 to 2.0 percent
Saturated hydraulic conductivity (Ksat): High
Available water capacity: Low (about 3.8 inches to a depth of 28 inches)
Depth to restrictive features: Lithic bedrock—20 to 40 inches to unweathered sandstone
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Sandy loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Helechawa

Surface layer—0 to 9 inches; sandy loam
Subsoil—9 to 33 inches; loamy sand
Substratum—33 to 70 inches; sandy loam
Lithic bedrock—70 to 80 inches; unweathered sandstone bedrock

Alticrest

Surface layer—0 to 8 inches; sandy loam
Subsoil—8 to 28 inches; sandy loam
Lithic bedrock—28 to 38 inches; unweathered sandstone bedrock

Rock outcrop

This part of the map unit consists of sandstone ledges or escarpments.

Use and Management Considerations

Major Land Uses: Woodland

Cropland

Suitability:
- This map unit is unsuited to cropland.

Pasture and hayland

Suitability:
- This map unit is unsuited to pasture and hayland.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The moderate depth to bedrock of the Alticrest soil may interfere with the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- Coarse textured soil material may create equipment limitations.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: Helechawa and Alticrest—7s; Rock outcrop—7s
Prime farmland: Not prime farmland
Hydric soils: Helechawa and Alticrest—no; Rock outcrop—unranked

Ho—Holly loam, 0 to 2 percent slopes, frequently flooded

Map Unit Composition

Major components:
Holly and similar soils— 85 percent

Contrasting inclusions:
Chagrin soils—4 percent
Lobdell soils—4 percent
Orrville soils—4 percent
Grigsby soils—3 percent

Setting

Landform: Floodplain in river valley
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy mixed alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 640 to 820 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Organic matter content in the surface layer: 2.0 to 5.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: High (about 10.7 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Very low
Depth to the top of the seasonal high water table: 0.0 to 1.0 foot
Water table kind: Apparent
Flooding: Frequent
Flooding duration: Brief
Ponding: None
Surface layer texture: Loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 10 inches; loam
Subsoil—10 to 35 inches; loam
Substratum—35 to 80 inches; loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Poorly suited

Management concerns and considerations:
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- Frequent flooding during winter restricts the use of winter grain crops.
- Flooding may damage crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should focus on streamside management zones and stream crossings and should include best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3w
Prime farmland: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil: Yes
Hydric criteria: 2B3

JoA—Johnsburg silt loam, 0 to 4 percent slopes

Map Unit Composition

Major components:
Johnsburg and similar soils—85 percent

Contrasting inclusions:
Cotaco soils—4 percent
Mullins soils—4 percent
Tilsit soils—4 percent
Morehead soils—3 percent

Setting

Landform: Flats on Knobs on upland and stream terrace in river valley
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve and tread
Down-slope shape: Concave

Across-slope shape: Linear
Parent material: Fine-silty alluvium of the Quaternary System on stream terraces and fine-silty residuum weathered from shale and siltstone of the Nancy Member of the Borden Formation of the Mississippian System on uplands
Elevation: 720 to 1,100 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Organic matter content in the surface layer: 1.0 to 2.0 percent
Saturated hydraulic conductivity (Ksat): Very low
Available water capacity: Low (about 5.0 inches to a depth of 24 inches)
Depth to restrictive features: Fragipan—24 to 40 inches
Potential for surface runoff: Very low
Depth to the top of the seasonal high water table: 1.0 to 1.2 feet
Water table kind: Perched
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 9 inches; silt loam
Subsoil—9 to 24 inches; silt loam
Subsoil—24 to 64 inches; silt loam
Substratum—64 to 82 inches; silt loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The fragipan restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- The fragipan restricts the rooting depth.
- Compaction may occur when the soil is wet.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.

- A timber harvest plan should include best management practices.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3w
Prime farmland: Prime farmland if drained
Hydric soil: No

LaA—Lawrence silt loam, 0 to 3 percent slopes

Map Unit Composition

Major components:
Lawrence and similar soils—85 percent

Contrasting inclusions:
Otwood soils—5 percent
Robertsville soils—5 percent
Uniontown soils—5 percent

Setting

Landform: Stream terrace in river valley and broad flats on uplands
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-silty material over clayey residuum weathered from calcareous shale and dolomite of the Silurian System on uplands and fine-silty alluvium of the Quaternary System on stream terraces
Elevation: 640 to 740 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Very low
Available water capacity: Low (about 3.7 inches to a depth of 18 inches)
Depth to restrictive features: Fragipan—18 to 32 inches
Potential for surface runoff: Very low
Depth to the top of the seasonal high water table: 1.0 to 1.2 feet
Water table kind: Perched
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 10 inches; silt loam
Subsoil—10 to 18 inches; silt loam
Subsoil—18 to 62 inches; silt loam
Substratum—62 to 88 inches; silty clay loam
Substratum—88 to 98 inches; stratified clay loam to silty clay loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The fragipan restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- The fragipan restricts the rooting depth.
- Compaction may occur when the soil is wet.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3w
Prime farmland: Prime farmland if drained
Hydric soil: No

LbA—Lobdell loam, 0 to 3 percent slopes, frequently flooded

Map Unit Composition

Major components:
Lobdell and similar soils—85 percent

Contrasting inclusions:
Chagrin soils—5 percent
Grigsby soils—5 percent
Orrville soils—5 percent

Setting

Landform: Floodplain in river valley
Down-slope shape: Linear

Across-slope shape: Linear
Parent material: Fine-loamy mixed alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 640 to 820 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: High (about 10.3 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Very low
Depth to the top of the seasonal high water table: 1.3 to 1.7 feet
Water table kind: Apparent
Flooding: Frequent
Flooding duration: Brief
Ponding: None
Surface layer texture: Loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 11 inches; loam
Subsoil—11 to 46 inches; loam
Substratum—46 to 96 inches; loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- Frequent flooding during winter restricts the use of winter grain crops.
- Flooding may damage crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- Flooding may damage pastures.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should focus on streamside management zones and stream crossings and should include best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.

- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if protected from flooding or not frequently flooded during the growing season
Hydric soil: No

LoB—Lowell silt loam, 2 to 6 percent slopes

Map Unit Composition

Major components:
Lowell and similar soils—85 percent

Contrasting inclusions:
Faywood soils—5 percent
Sandview soils—5 percent
Nicholson soils—3 percent
Eden soils—2 percent

Setting

Landform: Ridge on upland
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Grant Lake, Bull Fork, and Clays Ferry Formations of the Ordovician System
Elevation: 740 to 1,030 feet

Soil Properties and Qualities

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 8.5 inches to a depth of 51 inches)
Depth to restrictive features: Lithic bedrock—40 to 60 inches to unweathered limestone
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 3 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 8 inches; silt loam
Subsoil—8 to 39 inches; silty clay
Substratum—39 to 51 inches; channery clay
Lithic bedrock—51 to 55 inches; unweathered limestone bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

LoC—Lowell silt loam, 6 to 12 percent slopes

Map Unit Composition

Major components:
Lowell and similar soils—85 percent

Contrasting inclusions:
Eden soils—5 percent
Faywood soils—5 percent
Sandview soils—5 percent

Setting

Landform: Ridge on upland
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear

Parent material: Clayey residuum weathered from limestone and shale of the Grant Lake, Bull Fork, and Clays Ferry Formations of the Ordovician System
Elevation: 740 to 1,030 feet

Soil Properties and Qualities

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 8.5 inches to a depth of 51 inches)
Depth to restrictive features: Lithic bedrock—40 to 60 inches to unweathered limestone
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 3 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 8 inches; silt loam
Subsoil—8 to 39 inches; silty clay
Substratum—39 to 51 inches; channery clay
Lithic bedrock—51 to 55 inches; unweathered limestone bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3e
Prime farmland: Farmland of statewide importance
Hydric soil: No

LwC—Lowell-Woolper complex, 6 to 12 percent slopes

Map Unit Composition

Major components:
Lowell and similar soils—55 percent
Woolper and similar soils—25 percent

Contrasting inclusions:
Boonewood soils—5 percent
Elk soils—5 percent
Lawrence soils—5 percent
Uniontown soils—5 percent

Setting

Lowell

Landform: Ridge on upland
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Bull Fork, Grant Lake, and Clays Ferry Formations of the Ordovician System
Elevation: 640 to 750 feet

Woolper

Landform: Stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium and/or colluvium derived from limestone, dolomite, and shale of the Ordovician and Silurian Systems
Elevation: 640 to 750 feet

Soil Properties and Qualities

Lowell

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 8.5 inches to a depth of 51 inches)
Depth to restrictive features: Lithic bedrock—40 to 60 inches to unweathered limestone
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None

Surface layer texture: Silt loam
Calcium carbonate maximum: 3 percent
Shrink-swell potential: Moderate

Woolper

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 4.0 to 6.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: High (about 9.8 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: Rare
Ponding: None
Surface layer texture: Silty clay loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Lowell

Surface layer—0 to 8 inches; silt loam
Subsoil—8 to 39 inches; silty clay
Substratum—39 to 51 inches; channery clay
Lithic bedrock—51 to 55 inches; unweathered limestone bedrock

Woolper

Surface layer—0 to 11 inches; silty clay loam
Subsoil—11 to 42 inches; silty clay
Substratum—42 to 103 inches; silty clay

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.

- A timber harvest plan should include best management practices.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3e
Prime farmland: Farmland of statewide importance
Hydric soils: No

Me—Melvin silt loam, 0 to 2 percent slopes, frequently flooded

Map Unit Composition

Major components:
Melvin and similar soils—85 percent

Contrasting inclusions:
Newark soils—5 percent
Robertsville soils—5 percent
Uniontown soils—5 percent

Setting

Landform: Floodplain in river valley
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 600 to 800 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Organic matter content in the surface layer: 0.5 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Very high (about 12.6 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Very low
Depth to the top of the seasonal high water table: 0.0 to 1.0 foot
Water table kind: Apparent
Flooding: Frequent
Flooding duration: Brief
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 9 inches; silt loam
Subsoil—9 to 62 inches; silt loam
Substratum—62 to 92 inches; silty clay loam

Use and Management Considerations

Major Land Uses: Hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- Frequent flooding during the winter restricts the use of winter grain crops.
- Flooding may damage crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should focus on streamside management zones and stream crossings and should include all best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3w
Prime farmland: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil: Yes
Hydric criteria: 2B3

MoB—Morehead silt loam, 0 to 6 percent slopes, occasionally flooded

Map Unit Composition

Major components:
Morehead and similar soils—85 percent

Contrasting inclusions:
Berea soils—4 percent

Newark soils—4 percent
Tilsit soils—4 percent
Woolper soils—3 percent

Setting

Landform: Stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Fine-silty mixed alluvium derived from sandstone, siltstone, limestone, and shale of the Quaternary System
Elevation: 680 to 850 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: High (about 11.9 inches to a depth of 60 inches)
Depth to restrictive features: Paralithic bedrock—60 to 80 inches to weathered, acid shale
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: 1.7 to 2.4 feet
Water table kind: Perched
Flooding: Occasional
Flooding duration: Brief
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 14 inches; silt loam
Subsoil—14 to 36 inches; silt loam
Subsoil—36 to 65 inches; silt loam
Paralithic bedrock—65 to 75 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- Flooding may damage crops.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- Flooding may damage pastures.

Woodland

Suitability: Moderately well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should focus on streamside management zones and stream crossings and should include best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2w
Prime farmland: All areas are prime farmland
Hydric soil: No

Mu—Mullins silt loam, 0 to 2 percent slopes, ponded

Map Unit Composition

Major components:
Mullins and similar soils—85 percent

Contrasting inclusions:
Cotaco soils—3 percent
Holly soils—3 percent
Johnsburg soils—3 percent
Morehead soils—3 percent
Tilsit soils—3 percent

Setting

Landform: Depressions and flats on upland and depressions and stream terrace in river valley
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve and tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Fine-silty lacustrine deposits of the Quaternary System over fine-silty residuum weathered from shale and siltstone of the Nancy Member of the Borden Formation (Mississippian System) on stream terraces and fine-silty material weathered from siltstone and shale of the Nancy Member of the Borden Formation (Mississippian System) on uplands
Elevation: 640 to 1,100 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Very low
Available water capacity: Low (about 5.5 inches to a depth of 26 inches)

Depth to restrictive features: Fragipan—12 to 28 inches; paralithic bedrock—80 to 90 inches to weathered shale
Potential for surface runoff: Negligible
Depth to the top of the seasonal high water table: 0.0 to 1.0 foot
Water table kind: Perched
Flooding: None
Ponding: Frequent
Ponding duration: Brief
Depth of ponding: 0.0 to 1.0 foot
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 8 inches; silt loam
Subsoil—8 to 26 inches; silt loam
Subsoil—26 to 71 inches; silty clay loam
Substratum—71 to 82 inches; channery silt loam
Paralithic bedrock—82 to 92 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Woodland

Cropland

Suitability:
- This soil is unsuited to cropland.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- The fragipan restricts the rooting depth.
- Compaction may occur when the soil is wet.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Ponding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 5w
Prime farmland: Not prime farmland
Hydric soil: Yes
Hydric criteria: 2B3

Ne—Newark silt loam, 0 to 2 percent slopes, frequently flooded

Map Unit Composition

Major components:
Newark and similar soils—85 percent

Contrasting inclusions:
Lawrence soils—5 percent
Melvin soils—5 percent
Uniontown soils—5 percent

Setting

Landform: Floodplain in river valley
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 600 to 800 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: High (about 11.9 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Very low
Depth to the top of the seasonal high water table: 1.0 to 1.2 feet
Water table kind: Apparent
Flooding: Frequent
Flooding duration: Brief
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 9 inches; silt loam
Subsoil—9 to 37 inches; silt loam
Substratum—37 to 105 inches; silt loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- Frequent flooding during winter restricts the use of winter grain crops.
- Flooding may damage crops.

- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should focus on streamside management zones and stream crossings and should include best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil: No

NhB—Nicholson silt loam, 2 to 6 percent slopes

Map Unit Composition

Major components:
Nicholson and similar soils—80 percent

Contrasting inclusions:
Crider soils—5 percent
Lawrence soils—5 percent
Lowell soils—5 percent
Sandview soils—5 percent

Setting

Landform: Ridge on upland
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Thin, fine-silty loess over clayey residuum weathered from limestone, siltstone, calcareous shale, and dolomite of the Ordovician and Silurian Systems
Elevation: 840 to 1,070 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Very low
Available water capacity: Low (about 4.9 inches to a depth of 24 inches)
Depth to restrictive features: Fragipan—16 to 30 inches
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: 1.2 to 2.3 feet
Water table kind: Perched
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 8 inches; silt loam
Subsoil—8 to 24 inches; silty clay loam
Subsoil—24 to 34 inches; silty clay loam
Subsoil—34 to 48 inches; silty clay
Substratum—48 to 80 inches; clay

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The fragipan restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The fragipan restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

NoA—Nolin silt loam, 0 to 4 percent slopes, frequently flooded

Map Unit Composition

Major components:
Nolin and similar soils—85 percent

Contrasting inclusions:
Boonewood soils—5 percent
Elk soils—5 percent
Newark soils—5 percent

Setting

Landform: Floodplain in river valley
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 600 to 800 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Very high (about 12.6 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Very low
Depth to the top of the seasonal high water table: More than 6.0 feet
Water table kind: Apparent
Flooding: Frequent
Flooding duration: Brief
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 12 inches; silt loam
Subsoil—12 to 74 inches; silt loam
Substratum—74 to 80 inches; silt loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- Frequent flooding during winter restricts the use of winter grain crops.
- Flooding may damage crops.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- Flooding may damage pastures.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should focus on streamside management zones and stream crossings and should include best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if protected from flooding or not frequently flooded during the growing season
Hydric soil: No

OrA—Orrville loam, 0 to 3 percent slopes, frequently flooded

Map Unit Composition

Major components:
Orrville and similar soils—85 percent

Contrasting inclusions:
Chagrin soils—5 percent
Holly soils—5 percent
Lobdell soils—5 percent

Setting

Landform: Floodplain in river valley
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy mixed alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 640 to 820 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: High (about 9.4 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Very low
Depth to the top of the seasonal high water table: 1.0 to 1.2 feet
Water table kind: Apparent
Flooding: Frequent
Flooding duration: Brief
Ponding: None
Surface layer texture: Loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 8 inches; loam
Subsoil—8 to 40 inches; loam
Substratum—40 to 96 inches; loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- Frequent flooding during winter restricts the use of winter grain crops.
- Flooding may damage crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should focus on streamside management zones and stream crossings and should include best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil: No

OtB—Otwood silt loam, 2 to 6 percent slopes

Map Unit Composition

Major components:
Otwood and similar soils—80 percent

Contrasting inclusions:
Elk soils—5 percent
Lawrence soils—5 percent
Nolin soils—5 percent
Uniontown soils—5 percent

Setting

Landform: Stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 640 to 750 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 0.5 to 2.0 percent
Saturated hydraulic conductivity (Ksat): Very low
Available water capacity: Low (about 4.8 inches to a depth of 23 inches)
Depth to restrictive features: Fragipan—20 to 36 inches
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: 1.2 to 2.4 feet
Water table kind: Perched
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 9 inches; silt loam
Subsoil—9 to 23 inches; silt loam
Subsoil—23 to 53 inches; silt loam
Subsoil—53 to 93 inches; silty clay loam
Substratum—93 to 99 inches; silty clay loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The fragipan restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The fragipan restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

Pm—Pits, mine

Map Unit Composition

Major components:
Pits, mine—100 percent

Use and Management Considerations

The major land use is an abandoned iron ore mine. Onsite investigation is needed to determine the suitability of this map unit for specific uses. Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 8s
Prime farmland: Not prime farmland
Hydric soils: Unranked

Pt—Pits, quarry

Map Unit Composition

Major components:
Pits, quarry—100 percent

Use and Management Considerations

The major land use is an abandoned or active rock quarry. Onsite investigation is needed to determine the suitability of this map unit for specific uses. Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 8s
Prime farmland: Not prime farmland
Hydric soils: Unranked

Rb—Robertsville silt loam, 0 to 2 percent slopes, ponded

Map Unit Composition

Major components:
Robertsville and similar soils—85 percent

Contrasting inclusions:
Lawrence soils—5 percent
Melvin soils—5 percent
Otwood soils—5 percent

Setting

Landform: Depressions and stream terrace in river valley and depressions and flats on upland
Landform position (three-dimensional): Tread and interfluve
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Fine-silty material over calcareous shale and dolomite of the Upper Crab Orchard Formation of the Silurian System on uplands and fine-silty mixed alluvium of the Quaternary System on stream terraces
Elevation: 700 to 950 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Very low
Available water capacity: Low (about 3.8 inches to a depth of 19 inches)
Depth to restrictive features: Fragipan—15 to 36 inches
Potential for surface runoff: Negligible
Depth to the top of the seasonal high water table: 0.0 to 1.0 foot
Water table kind: Perched
Flooding: None
Ponding: Frequent

Ponding duration: Brief
Depth of ponding: 0.0 to 1.0 foot
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 6 inches; silt loam
Subsoil—6 to 19 inches; silt loam
Subsoil—19 to 69 inches; silt loam
Substratum—69 to 100 inches; silty clay loam

Use and Management Considerations

Major Land Uses: Pasture and woodland

Cropland

Suitability:
- This soil is unsuited to cropland.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- The fragipan restricts the rooting depth.
- Compaction may occur when the soil is wet.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Ponding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 5w
Prime farmland: Not prime farmland
Hydric soil: Yes
Hydric criteria: 2B3

RoF2—Rohan-Trappist complex, 12 to 60 percent slopes, eroded

Map Unit Composition

Major components:
Rohan and similar soils—55 percent
Trappist and similar soils—35 percent

Contrasting inclusions:
Gilpin soils—5 percent
Muse soils—5 percent

Setting

Rohan

Landform: Knob on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy-skeletal residuum weathered from acid, fissile, black shale of the Ohio Shale Member of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet

Trappist

Landform: Knob on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from acid, fissile, black shale of the Ohio Shale Member of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet

Soil Properties and Qualities

Rohan

Depth class: Shallow
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Very low (about 0.9 inch to a depth of 10 inches)
Depth to restrictive features: Paralithic bedrock—10 to 20 inches to weathered shale; lithic bedrock—10 to 20 inches to unweathered shale
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Channery silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Trappist

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 3.5 inches to a depth of 30 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale; lithic bedrock—20 to 40 inches to unweathered shale
Potential for surface runoff: Very high

Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Rohan

Surface layer—0 to 4 inches; channery silt loam
Subsoil—4 to 10 inches; very channery silty clay loam
Paralithic bedrock—10 to 14 inches; weathered shale bedrock
Lithic bedrock—14 to 24 inches; unweathered shale bedrock

Trappist

Surface layer—0 to 4 inches; silt loam
Subsoil—4 to 18 inches; channery silty clay loam
Substratum—18 to 30 inches; very channery silty clay
Paralithic bedrock—30 to 35 inches; weathered shale bedrock
Lithic bedrock—35 to 39 inches; unweathered shale bedrock

Use and Management Considerations

Major Land Uses: Woodland

Cropland

Suitability:
- These soils are unsuited to cropland.

Pasture and hayland

Suitability:
- These soils are unsuited to pasture and hayland.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The shallow and moderate depth to bedrock may interfere with the construction of haul roads and log landings.
- The depth to bedrock restricts the use of equipment during site preparation for planting or seeding and interferes with the use of mechanical planting.
- Rock fragments on the surface restrict the use of equipment during harvest, site preparation, and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: Rohan—7s; Trappist—7e

Prime farmland: Not prime farmland
Hydric soils: No

SaB—Sandview-Lowell silt loams, 2 to 6 percent slopes

Map Unit Composition

Major components:
Sandview and similar soils—55 percent
Lowell and similar soils—30 percent

Contrasting inclusions:
Faywood soils—8 percent
Nicholson soils—7 percent

Setting

Sandview

Landform: Ridge on upland
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Thin, fine-silty loess over clayey residuum weathered from limestone of the Grant Lake Formation of the Ordovician System
Elevation: 850 to 1,030 feet

Lowell

Landform: Ridge on upland
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Bull Fork, Grant Lake, and Fairview Formations of the Ordovician System
Elevation: 850 to 1,030 feet

Soil Properties and Qualities

Sandview

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: High (about 10.8 inches to a depth of 60 inches)
Depth to restrictive features: Lithic bedrock—60 to 80 inches to unweathered limestone
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Lowell

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 8.5 inches to a depth of 51 inches)
Depth to restrictive features: Lithic bedrock—40 to 60 inches to unweathered limestone
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 3 percent
Shrink-swell potential: Moderate

Typical Profile

Sandview

Surface layer—0 to 9 inches; silt loam
Subsoil—9 to 30 inches; silty clay loam
Subsoil—30 to 65 inches; silty clay
Lithic bedrock—65 to 75 inches; unweathered limestone bedrock

Lowell

Surface layer—0 to 8 inches; silt loam
Subsoil—8 to 39 inches; silty clay
Substratum—39 to 51 inches; channery clay
Lithic bedrock—51 to 55 inches; unweathered limestone bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.

- A timber harvest plan should include best management practices.
- The low soil strength may create unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soils: No

ShB—Shelocta-Skidmore complex, 0 to 6 percent slopes, frequently flooded

Map Unit Composition

Major components:
Shelocta and similar soils—45 percent
Skidmore and similar soils—35 percent

Contrasting inclusions:
Gilpin soils—10 percent
Grigsby soils—5 percent
Lobdell soils—5 percent

Setting

Shelocta

Landform: Hillslope on hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy colluvium derived from sandstone, shale, and siltstone of the Mississippian System
Elevation: 700 to 860 feet

Skidmore

Landform: Valley on floodplain
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy-skeletal, mixed alluvium derived from sandstone, siltstone, and shale of the Quaternary System over Nancy Shale of the Borden Formation of the Mississippian System
Elevation: 700 to 860 feet

Soil Properties and Qualities

Shelocta

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 5.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Moderate (about 8.2 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Low

Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Skidmore

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 2.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Low (about 4.6 inches to a depth of 60 inches)
Depth to restrictive features: Paralithic bedrock—60 to 80 inches to weathered shale
Potential for surface runoff: Very low
Depth to the top of the seasonal high water table: 3.0 to 4.0 feet
Water table kind: Perched
Flooding: Frequent
Flooding duration: Brief
Ponding: None
Surface layer texture: Loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Shelocta

Surface layer—0 to 7 inches; silt loam
Subsoil—7 to 25 inches; channery silt loam
Subsoil—25 to 60 inches; very channery silt loam
Substratum—60 to 95 inches; channery loam

Skidmore

Surface layer—0 to 13 inches; loam
Subsoil—13 to 64 inches; extremely gravelly loam
Paralithic bedrock—64 to 74 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and woodland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Frequent flooding during winter restricts the use of winter grain crops.
- Flooding may damage crops.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- Flooding may damage pastures.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should focus on streamside management zones and stream crossings and should include best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section "Use and Management of the Soils" for more information.

Interpretive Groups

Land capability classification: Shelocta—2e; Skidmore—2w
Prime farmland: Shelocta—all areas are prime farmland; Skidmore—not prime farmland
Hydric soils: No

SID—Shelocta silt loam, 6 to 20 percent slopes

Map Unit Composition

Major components:
Shelocta and similar soils—85 percent

Contrasting inclusions:
Gilpin soils—10 percent
Muse soils—5 percent

Setting

Landform: Hillslope on hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy colluvium derived from sandstone, shale, and siltstone over residuum of the Mississippian System
Elevation: 750 to 900 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 5.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Moderate (about 8.2 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam

Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 7 inches; silt loam
Subsoil—7 to 25 inches; channery silt loam
Subsoil—25 to 60 inches; very channery silt loam
Substratum—60 to 95 inches; channery loam

Use and Management Considerations

Major Land Uses: Hayland, pasture, woodland, and a few small areas of cultivated cropland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland
Hydric soil: No

SpF2—Shelocta-Gilpin silt loams, 20 to 60 percent slopes, eroded

Map Unit Composition

Major components:
Shelocta and similar soils—50 percent
Gilpin and similar soils—40 percent

Contrasting inclusions:
Berks soils—5 percent
Brownsville soils—5 percent

Setting

Shelocta

Landform: Hillslope on hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-silty colluvium derived from sandstone, shale, and siltstone of the Mississippian System
Elevation: 700 to 1,300 feet

Gilpin

Landform: Hillslope on hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-loamy residuum weathered from shale, siltstone, and sandstone of the Nada, Cowbell, and Nancy Members of the Borden Formation of the Mississippian System
Elevation: 700 to 1,300 feet

Soil Properties and Qualities

Shelocta

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 5.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Moderate (about 8.1 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Gilpin

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: Low (about 4.4 inches to a depth of 36 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet

Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Shelocta

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 25 inches; channery silt loam
Substratum—25 to 60 inches; very channery silt loam
Substratum—60 to 95 inches; channery loam

Gilpin

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 20 inches; silt loam
Subsoil—20 to 36 inches; channery silt loam
Paralithic bedrock—36 to 46 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Woodland

Cropland

Suitability:
- These soils are unsuited to cropland.

Pasture and hayland

Suitability:
- These soils are unsuited to pasture and hayland.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- Rock fragments on the surface restrict the use of equipment during harvest, site preparation, and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 7e
Prime farmland: Not prime farmland
Hydric soils: No

SrD2—Shrouts-Beasley-Rock outcrop complex, 6 to 20 percent slopes, eroded

Map Unit Composition

Major components:
Shrouts and similar soils—55 percent
Beasley and similar soils—25 percent
Rock outcrop—15 percent

Contrasting inclusions:
Vertrees soils—5 percent

Setting

Shrouts

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from calcareous shale and/or calcareous siltstone of the Silurian System
Elevation: 700 to 1,080 feet

Beasley

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from calcareous shale dolomite and/or calcareous siltstone of the Silurian System and calcareous shale and dolomite of the Preachersville Member of the Ordovician System
Elevation: 700 to 1,080 feet

Rock outcrop

Landform: Hill on upland
Landform position (three-dimensional): Free face
Parent material: Shale and siltstone
Elevation: 700 to 1,080 feet

Properties and Qualities of the Shrouts and Beasley Soils

Shrouts

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 2.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 4.1 inches to a depth of 30 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None

Surface layer texture: Silty clay loam
Calcium carbonate maximum: 38 percent
Shrink-swell potential: Moderate

Beasley

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 7.3 inches to a depth of 50 inches)
Depth to restrictive features: Paralithic bedrock—40 to 60 inches to weathered shale
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 21 percent
Shrink-swell potential: Moderate

Typical Profile

Shrouts

Surface layer—0 to 4 inches; silty clay loam
Subsoil—4 to 18 inches; silty clay
Substratum—18 to 30 inches; channery silty clay
Paralithic bedrock—30 to 40 inches; weathered shale bedrock

Beasley

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 29 inches; silty clay
Substratum—29 to 50 inches; silty clay
Paralithic bedrock—50 to 70 inches; weathered shale bedrock

Rock outcrop

This part of the map unit consists of siltstone and dolomite ledges or escarpments.

Use and Management Considerations

Major Land Uses: Pasture and woodland

Cropland

Suitability:
- This map unit is unsuited to cropland.

Pasture and hayland

Suitability: Poorly suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock of the Shrouts soil restricts the rooting depth.
- Rock outcrops may limit machinery operations.

Woodland

Suitability: Moderately well suited

Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The moderate depth to bedrock of the Shrouts soil may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: Shelocta and Beasley—6e; Rock outcrop—8s
Prime farmland: Not prime farmland
Hydric soils: Shelocta and Beasley—no; Rock outcrop—unranked

StE2—Shrouts-Beasley complex, 20 to 30 percent slopes, eroded

Map Unit Composition

Major components:
Shrouts and similar soils—70 percent
Beasley and similar soils—20 percent

Contrasting inclusions:
Vertrees soils—4 percent
Cynthiana soils—3 percent
Woolper soils—3 percent

Setting

Shrouts

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from calcareous shale and/or calcareous siltstone of the Silurian System
Elevation: 620 to 1,080 feet

Beasley

Landform: Hill on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear

Parent material: Clayey residuum weathered from calcareous shale dolomite and/or calcareous siltstone of the Silurian System and calcareous shale and dolomite of the Preachersville Member of the Ordovician System
Elevation: 620 to 1,080 feet

Soil Properties and Qualities

Shrouts

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 2.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 4.1 inches to a depth of 30 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silty clay loam
Calcium carbonate maximum: 38 percent
Shrink-swell potential: Moderate

Beasley

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.5 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Moderate (about 7.3 inches to a depth of 50 inches)
Depth to restrictive features: Paralithic bedrock—40 to 60 inches to weathered shale
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 21 percent
Shrink-swell potential: Moderate

Typical Profile

Shrouts

Surface layer—0 to 4 inches; silty clay loam
Subsoil—4 to 18 inches; silty clay
Substratum—18 to 30 inches; channery silty clay
Paralithic bedrock—30 to 40 inches; weathered shale bedrock

Beasley

Surface layer—0 to 5 inches; silt loam
Subsoil—5 to 29 inches; silty clay
Substratum—29 to 50 inches; silty clay
Paralithic bedrock—50 to 70 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Pasture and woodland

Cropland

Suitability:
- These soils are unsuited to cropland.

Pasture and hayland

Suitability: Poorly suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The slope may restrict the use of some farm equipment.
- The moderate depth to bedrock of the Shrouts soil restricts the rooting depth.

Woodland

Suitability: Moderately well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The moderate depth to bedrock of the Shrouts soil may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 6e
Prime farmland: Not prime farmland
Hydric soils: No

TIB—Tilsit silt loam, 0 to 6 percent slopes

Map Unit Composition

Major components:
Tilsit and similar soils: 90 percent

Contrasting inclusions:
Berea soils—4 percent
Johnsburg soils—3 percent
Morehead soils—3 percent

Setting

Landform: Knob on upland
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear

Parent material: Fine-silty residuum weathered from siltstone of the Cowbell and Nancy Members of the Borden Formation of the Mississippian System
Elevation: 740 to 1,000 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Very low
Available water capacity: Low (about 4.2 inches to a depth of 22 inches)
Depth to restrictive features: Fragipan—18 to 28 inches; paralithic bedrock—60 to 80 inches to weathered shale
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: 1.2 to 2.1 feet
Water table kind: Perched
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 7 inches; silt loam
Subsoil—7 to 22 inches; silt loam
Subsoil—22 to 53 inches; silt loam
Substratum—53 to 72 inches; silt loam
Paralithic bedrock—72 to 82 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The fragipan restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The fragipan restricts the rooting depth.

Woodland

Suitability: Well suited

Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

TlC—Tilsit silt loam, 6 to 12 percent slopes

Map Unit Composition

Major components:
Tilsit and similar soils—90 percent

Contrasting inclusions:
Berea soils—4 percent
Gilpin soils—3 percent
Johnsburg soils—3 percent

Setting

Landform: Knob on upland
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-silty residuum weathered from siltstone of the Cowbell and Nancy Members of the Borden Formation of the Mississippian System
Elevation: 740 to 1,440 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Very low
Available water capacity: Low (about 4.2 inches to a depth of 22 inches)
Depth to restrictive features: Fragipan—18 to 28 inches; paralithic bedrock—60 to 80 inches to weathered shale
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: 1.2 to 2.1 feet
Water table kind: Perched
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Low

Typical Profile

Surface layer—0 to 7 inches; silt loam
Subsoil—7 to 22 inches; silt loam
Subsoil—22 to 53 inches; silt loam
Substratum—53 to 72 inches; silt loam
Paralithic bedrock—72 to 82 inches; weathered shale bedrock

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The fragipan restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with planting and harvesting.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The fragipan restricts the rooting depth.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Soil wetness may limit the use of log trucks.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3e
Prime farmland: Farmland of statewide importance
Hydric soil: No

TrB2—Trappist silt loam, 2 to 6 percent slopes, eroded

Map Unit Composition

Major components:
Trappist and similar soils—85 percent

Contrasting inclusions:
Covedale soils—4 percent
Muse soils—4 percent
Rohan soils—4 percent
Shelocta soils—3 percent

Setting

Landform: Knob on upland
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from acid, fissile, black shale of the Ohio Shale Member of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 3.5 inches to a depth of 30 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale; lithic bedrock—20 to 40 inches to unweathered shale
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 4 inches; silt loam
Subsoil—4 to 18 inches; channery silty clay loam
Substratum—18 to 30 inches; very channery silty clay
Paralithic bedrock—30 to 35 inches; weathered shale bedrock
Lithic bedrock—35 to 39 inches; unweathered shale bedrock

Use and Management Considerations

Major Land Uses: Hayland, pasture, woodland, and a few small areas of cropland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The moderate depth to bedrock restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock restricts the rooting depth.

Woodland

Suitability: Moderately well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The moderate depth to bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

TrC2—Trappist silt loam, 6 to 12 percent slopes, eroded

Map Unit Composition

Major components:
Trappist and similar soils—85 percent

Contrasting inclusions:
Covedale soils—4 percent
Muse soils—4 percent
Rohan soils—4 percent
Shelocta soils—3 percent

Setting

Landform: Knob on upland
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from acid, fissile, black shale of the Ohio Shale Member of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low

Available water capacity: Low (about 3.5 inches to a depth of 30 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale; lithic bedrock—20 to 40 inches to unweathered shale
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 4 inches; silt loam
Subsoil—4 to 18 inches; channery silty clay loam
Substratum—18 to 30 inches; very channery silty clay
Paralithic bedrock—30 to 35 inches; weathered shale bedrock
Lithic bedrock—35 to 39 inches; unweathered shale bedrock

Use and Management Considerations

Major Land Uses: Hayland, pasture, woodland, and a few small areas of cropland

Cropland

Suitability: Poorly suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The moderate depth to bedrock restricts the rooting depth.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Moderately well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.
- The moderate depth to bedrock restricts the rooting depth.

Woodland

Suitability: Moderately well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The moderate depth to bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3e
Prime farmland: Farmland of statewide importance
Hydric soil: No

TsF2—Trappist-Muse silt loams, 20 to 60 percent slopes, eroded

Map Unit Composition

Major components:
Trappist and similar soils—45 percent
Muse and similar soils—35 percent

Contrasting inclusions:
Covedale soils—10 percent
Rohan soils—10 percent

Setting

Trappist

Landform: Knob on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from acid, fissile, black shale of the Ohio Shale Member of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet

Muse

Landform: Knob on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey colluvium and/or residuum weathered from acid, fissile, black shale of the Ohio Shale Member of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet

Soil Properties and Qualities

Trappist

Depth class: Moderately deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 3.5 inches to a depth of 30 inches)
Depth to restrictive features: Paralithic bedrock—20 to 40 inches to weathered shale; lithic bedrock—20 to 40 inches to unweathered shale
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: More than 6 feet

Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Muse

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 1.0 to 3.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: Low (about 5.6 inches to a depth of 41 inches)
Depth to restrictive features: Paralithic bedrock—40 to 60 inches to weathered shale; lithic bedrock—40 to 60 inches to unweathered shale
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: 3.0 to 4.7 feet
Water table kind: Perched
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Trappist

Surface layer—0 to 4 inches; silt loam
Subsoil—4 to 18 inches; channery silty clay loam
Substratum—18 to 30 inches; very channery silty clay
Paralithic bedrock—30 to 35 inches; weathered shale bedrock
Lithic bedrock—35 to 39 inches; unweathered shale bedrock

Muse

Surface layer—0 to 9 inches; silt loam
Subsoil—9 to 26 inches; silty clay
Substratum—26 to 41 inches; very channery silty clay
Paralithic bedrock—41 to 45 inches; weathered shale bedrock
Lithic bedrock—45 to 55 inches; unweathered shale bedrock

Use and Management Considerations

Major Land Uses: Pasture and woodland

Cropland

Suitability:
- These soils are unsuited to cropland.

Pasture and hayland

Suitability:
- These soils are unsuited to pasture and hayland.

Woodland

Suitability: Moderately well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.

- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 7e
Prime farmland: Not prime farmland
Hydric soils: No

UnB—Uniontown silt loam, 0 to 6 percent slopes

Map Unit Composition

Major components:
Uniontown and similar soils—80 percent

Contrasting inclusions:
Elk soils—5 percent
Lawrence soils—5 percent
Newark soils—5 percent
Otwood soils—5 percent

Setting

Landform: Stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 640 to 750 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Organic matter content in the surface layer: 1.0 to 2.5 percent
Saturated hydraulic conductivity (Ksat): Moderately high
Available water capacity: High (about 11.2 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: 1.7 to 2.4 feet
Water table kind: Apparent
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 12 inches; silt loam
Subsoil—12 to 23 inches; silt loam

Subsoil—23 to 81 inches; silty clay loam
Substratum—81 to 100 inches; silty clay loam

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

UrC—Urban land-Alfic Udarents complex, clayey substratum - over hard bedrock, 0 to 12 percent slopes

Map Unit Composition

Major components:
Urban land—60 percent
Alfic Udarents and similar soils—40 percent

General Description

Urban land

Urban land mainly consist of areas where the surface is covered by streets, buildings, parking lots, and driveways. The remainder consists of soil material disturbed in the process of urbanization.

Alfic Udarents

Alfic Udarents consists of deep, clayey soils over hard bedrock where a portion of the topsoil and upper subsoil has been removed, smoothed, or used as fill in land development for urban areas and adjacent areas.

Setting

Urban land

Landform: Ridge on upland
Landform position (two-dimensional): Summit and shoulder
Landform position (three-dimensional): Interfluve and side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Ordovician System
Elevation: 600 to 1,030 feet

Alfic Udarents

Landform: Ridge on upland
Landform position (two-dimensional): Summit and shoulder
Landform position (three-dimensional): Interfluve and side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Ordovician System
Elevation: 600 to 1,030 feet

Properties and Qualities of Alfic Udarents

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.0 to 0.5 percent
Saturated hydraulic conductivity (Ksat): Very low to moderately low
Available water capacity: Moderate (about 6.7 inches to a depth of 43 inches)
Depth to restrictive features: Lithic bedrock—43 inches to unweathered limestone and shale
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silty clay
Calcium carbonate maximum: 3 percent
Shrink-swell potential: Moderate

Typical Profile of Alfic Udarents

Surface layer—0 to 31 inches; silty clay
Subsoil—31 to 43 inches; channery clay
Lithic bedrock—43 to 47 inches; unweathered limestone and shale bedrock

Use and Management Considerations

The major land uses of Urban land are urban areas on lithic (hard) bedrock. The major land uses of Alfic Udarents are areas adjacent to urban areas on lithic (hard) bedrock. An onsite investigation is needed to determine the suitability of this map unit for specific uses. Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: None assigned

Prime farmland: Not prime farmland
Hydric soils: No

UrD—Urban land-Alfic Udarents complex, clayey substratum - over hard bedrock, 12 to 25 percent slopes

Map Unit Composition

Major components:
Urban land—60 percent
Alfic Udarents and similar soils—40 percent

General Description

Urban land

Urban land mainly consists of areas where the surface is covered by streets, buildings, parking lots, and driveways. The remainder consists of soil material disturbed in the process of urbanization.

Alfic Udarents

Alfic Udarents consists of deep, clayey soils over hard bedrock where a portion of the topsoil and upper subsoil has been removed, smoothed, or used as fill in land development for urban areas and adjacent areas.

Setting

Urban land

Landform: Ridge on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Ordovician System
Elevation: 600 to 1,030 feet

Alfic Udarents

Landform: Ridge on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone and shale of the Ordovician System
Elevation: 600 to 1,030 feet

Properties and Qualities of Alfic Udarents

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.0 to 0.5 percent
Saturated hydraulic conductivity (Ksat): Very low to moderately low
Available water capacity: Moderate (about 6.7 inches to a depth of 43 inches)
Depth to restrictive features: Lithic bedrock—43 inches to unweathered limestone and shale

Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silty clay
Calcium carbonate maximum: 3 percent
Shrink-swell potential: Moderate

Typical Profile of Alfic Udarents

Surface layer—0 to 31 inches; silty clay
Subsoil—31 to 43 inches; channery clay
Lithic bedrock—43 to 47 inches; unweathered limestone and shale bedrock

Use and Management Considerations

The major land uses of Urban land are urban areas on lithic (hard) bedrock. The major land uses of Alfic Udarents are areas adjacent to urban areas on lithic (hard) bedrock. An onsite investigation is needed to determine the suitability of this map unit for specific uses. Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: None assigned
Prime farmland: Not prime farmland
Hydric soils: No

UsC—Urban land-Alfic Udarents complex, clayey substratum - over soft bedrock, 0 to 12 percent slopes

Map Unit Composition

Major components:
Urban land—60 percent
Alfic Udarents and similar soils—40 percent

General Description

Urban land

Urban land mainly consists of areas where the surface is covered by streets, buildings, parking lots, and driveways. The remainder consists of soil material disturbed in the process of urbanization.

Alfic Udarents

Alfic Udarents consists of deep, clayey soils over soft bedrock where a portion of the topsoil and upper subsoil has been removed, smoothed, or used as fill in land development for urban areas and adjacent areas.

Setting

Urban land

Landform: Ridge on upland
Landform position (two-dimensional): Summit and shoulder
Landform position (three-dimensional): Interfluve and side slope
Down-slope shape: Convex
Across-slope shape: Linear

Parent material: Clayey residuum weathered from calcareous shale and/or calcareous siltstone of the Silurian System
Elevation: 680 to 1,020 feet

Alfic Udarents

Landform: Ridge on upland
Landform position (two-dimensional): Summit and shoulder
Landform position (three-dimensional): Interfluve and side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from calcareous shale and/or calcareous siltstone of the Silurian System
Elevation: 680 to 1,020 feet

Properties and Qualities of Alfic Udarents

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.0 to 0.5 percent
Saturated hydraulic conductivity (Ksat): Very low to moderately low
Available water capacity: Low (about 5.8 inches to a depth of 43 inches)
Depth to restrictive features: Paralithic bedrock—43 inches to weathered shale
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silty clay
Calcium carbonate maximum: 21 percent
Shrink-swell potential: Moderate

Typical Profile of Alfic Udarents

Surface layer—0 to 22 inches; silty clay
Subsoil—22 to 43 inches; silty clay
Paralithic bedrock—43 to 53 inches; weathered shale bedrock

Use and Management Considerations

The major land uses of Urban land are urban areas on paralithic (soft) bedrock. The major land uses of Alfic Udarents are areas adjacent to urban areas on paralithic (soft) bedrock. An onsite investigation is needed to determine the suitability of this map unit for specific uses. Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: None assigned
Prime farmland: Not prime farmland
Hydric soils: No

UsD—Urban land-Alfic Udarents complex, clayey substratum - over soft bedrock, 12 to 25 percent slopes

Map Unit Composition

Major components:
Urban land—60 percent
Alfic Udarents and similar soils—40 percent

General Description

Urban land

Urban land mainly consists of areas where the surface is covered by streets, buildings, parking lots, and driveways. The remainder consists of soil material disturbed in the process of urbanization.

Alfic Udarents

Alfic Udarents consists of deep, clayey soils over soft bedrock where a portion of the topsoil and upper subsoil has been removed, smoothed, or used as fill in land development for urban areas and adjacent areas.

Setting

Urban land

Landform: Ridge on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from calcareous shale and/or calcareous siltstone of the Silurian System
Elevation: 680 to 1,020 feet

Alfic Udarents

Landform: Ridge on upland
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from calcareous shale and/or calcareous siltstone of the Silurian System
Elevation: 680 to 1,020 feet

Properties and Qualities of Alfic Udarents

Depth class: Deep
Drainage class: Well drained
Organic matter content in the surface layer: 0.0 to 0.5 percent
Saturated hydraulic conductivity (Ksat): Very low to moderately low
Available water capacity: Low (about 5.8 inches to a depth of 43 inches)
Depth to restrictive features: Paralithic bedrock—43 inches to weathered shale
Potential for surface runoff: High
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silty clay
Calcium carbonate maximum: 21 percent
Shrink-swell potential: Moderate

Typical Profile of Alfic Udarents

Surface layer—0 to 22 inches; silty clay
Subsoil—22 to 43 inches; silty clay
Paralithic bedrock—43 to 53 inches; weathered shale bedrock

Use and Management Considerations

The major land uses of Urban land are urban areas on paralithic (soft) bedrock. The major land uses of Alfic Udarents are areas adjacent to urban areas on paralithic (soft) bedrock. An onsite investigation is needed to determine the suitability of this map unit for specific uses. Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: None assigned
Prime farmland: Not prime farmland
Hydric soils: No

Ux—Urban land-Udorthents complex, smoothed, 0 to 50 percent slopes

Map Unit Composition

Major components:
Urban land—60 percent
Udorthents and similar soils—40 percent

General Description

Urban land

Urban land mainly consists of areas where the surface is covered by asphalt, such as roads, parking areas, and also a few buildings.

Udorthents

Udorthents consists of nearly level to very steep areas of soil and rock material that have been filled, shaped, and graded for the construction of buildings, roads, and parking lots and areas adjacent to these structures.

Setting

Urban land

Landform: Ridge on upland or stream terrace in river valley
Elevation: 700 to 900 feet

Udorthents

Landform: Ridge on upland or stream terrace in river valley
Down-slope shape: Linear
Across-slope shape: Linear
Elevation: 700 to 900 feet

Properties and Qualities of Udorthents

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: Variable
Saturated hydraulic conductivity (Ksat): Variable
Available water capacity: Not rated
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Very high
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None

Ponding: None
Surface layer texture: Variable
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Not rated

Use and Management Considerations

The major land use of Urban land is the Cave Run Park area. The major land uses of Udorthents are areas adjacent to urban areas at Cave Run Park. An onsite investigation is needed to determine the suitability of this map unit for specific uses.

Interpretive Groups

Land capability classification: None assigned
Prime farmland: Not prime farmland
Hydric soils: No

VeC—Vertrees silt loam, 6 to 12 percent slopes

Map Unit Composition

Major components:
Vertrees and similar soils—85 percent

Contrasting inclusions:
Beasley soils—5 percent
Crider soils—5 percent
Nicholson soils—5 percent

Setting

Landform: Ridge on upland
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from dolomitic limestone of the Bisher Formation of the Silurian System
Elevation: 620 to 1,000 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: High (about 10.0 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 11 inches; silt loam

Subsoil—11 to 82 inches; silty clay
Subsoil—82 to 98 inches; clay

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 3e
Prime farmland: Farmland of statewide importance
Hydric soil: No

VeD—Vertrees silt loam, 12 to 20 percent slopes

Map Unit Composition

Major components:
Vertrees and similar soils—85 percent

Contrasting inclusions:
Beasley soils—5 percent
Crider soils—5 percent
Nicholson soils—5 percent

Setting

Landform: Hill on upland

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from dolomitic limestone of the Bisher Formation of the Silurian System
Elevation: 620 to 1,000 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 2.0 to 4.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: High (about 10.0 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Medium
Depth to the top of the seasonal high water table: More than 6 feet
Flooding: None
Ponding: None
Surface layer texture: Silt loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 11 inches; silt loam
Subsoil—11 to 82 inches; silty clay
Subsoil—82 to 98 inches; clay

Use and Management Considerations

Major Land Uses: Hayland, pasture, woodland, and a few small areas of cultivated cropland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The slope may cause erosion during the construction of haul roads and log landings.

- The slope creates unsafe operating conditions for log trucks and equipment used for site preparation and planting.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.
- The stickiness of the soil restricts the use of equipment for site preparation and planting to the drier periods.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland
Hydric soil: No

W—Water

This map unit consists of areas inundated with water for most of the year. It generally includes rivers, lakes, and ponds. Cave Run Lake and the Licking River account for 2,752 and 950 acres, respectively. An additional 380 acres is made up by creeks, lakes, streams, sediments ponds, and farm ponds.

No interpretations are given for this map unit.

WoB—Woolper silty clay loam, 0 to 6 percent slopes

Map Unit Composition

Major components:
Woolper and similar soils—75 percent

Contrasting inclusions:
Boonewood soils—5 percent
Elk soils—5 percent
Lawrence soils—5 percent
Lowell soils—5 percent
Uniontown soils—5 percent

Setting

Landform: Stream terrace in river valley
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium and/or colluvium derived from limestone, dolomite, and calcareous shale of the Ordovician and Silurian Systems
Elevation: 640 to 750 feet

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Organic matter content in the surface layer: 4.0 to 6.0 percent
Saturated hydraulic conductivity (Ksat): Moderately low
Available water capacity: High (about 9.8 inches to a depth of 60 inches)
Depth to restrictive features: More than 80 inches
Potential for surface runoff: Low
Depth to the top of the seasonal high water table: More than 6 feet

Flooding: None
Ponding: None
Surface layer texture: Silty clay loam
Calcium carbonate maximum: 0 percent
Shrink-swell potential: Moderate

Typical Profile

Surface layer—0 to 11 inches; silty clay loam
Subsoil—11 to 42 inches; silty clay
Substratum—42 to 103 inches; silty clay

Use and Management Considerations

Major Land Uses: Cropland, hayland, pasture, and a few small areas of woodland

Cropland

Suitability: Moderately well suited
Management concerns and considerations:
- The rate of surface runoff, the hazard of erosion, and the amount of nutrient losses are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland

Suitability: Well suited
Management concerns and considerations:
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient losses are increased because of the slope.

Woodland

Suitability: Well suited
Management concerns and considerations:
- Proper planning for timber harvesting is essential in order to minimize negative impacts to soil and water quality.
- A timber harvest plan should include best management practices.
- The low soil strength interferes with the construction of haul roads and log landings and creates unsafe conditions for log trucks.

Refer to the section “Use and Management of the Soils” for more information.

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland
Hydric soil: No

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, doughtiness, 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; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

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, slightly limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately well suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

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

Crops and Pasture

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

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service. Additional information on crops in Bath County can be found at the Kentucky Agricultural Statistics Service website.

In 2005, about 29,000 acres in Bath County was used for crops *(24)*. Of this acreage, about 2,800 acres was used for alfalfa, 21,000 acres for other hay crops, 920 acres for tobacco, 2,600 acres for soybeans, and 1,500 acres for corn.

Wheat is the most common close-grown crop. Wheat, barley, oats, and rye are generally grown as a winter cover crop in tobacco fields.

Deep and very deep, well drained soils on uplands and terraces are suited to most crops grown in the county. Allegheny, Crider, Elk, Lowell, Sandview, and Vertrees soils that have slopes of less than 6 percent are in this category. Generally, crops can be planted and harvested earlier on these soils than crops that are grown on other soils in the survey area.

Most of the deep and very deep, well drained upland soils are suited to orchards and nursery plants. Soils in low positions on the landscape, where frost is frequent and air drainage is poor, generally are poorly suited to early vegetables, small fruits, and orchard crops.

About 15 percent of the soils in Bath County are well suited to row crops. Most of these soils are on bottomland that is subject to flooding, stream terraces, and ridgetops. The broad, nearly level and gently sloping terraces and ridgetops are suited to grain crops. Deep and very deep, nearly level and gently sloping, well drained soils such as Allegheny, Crider, Elk, Lowell, Sandview, and Vertrees are suited to tobacco and alfalfa. During years of normal rainfall, the moderately well drained Cotaco, Nicholson, Otwood, and Tilsit soils produce high yields of tobacco. Soils that have slopes of 6 to 15 percent and are on terraces and uplands and soils that have a problem with drainage or are on floodplains and subject to frequent flooding are commonly used for hay and pasture. In addition to land that is currently being cropped, some idle land, pasture, or woodland has potential for use as cropland. Food production could be increased by applying the latest technology to all the cropland in the county. The information in this soil survey can facilitate the application of such technology.

The local offices of the Natural Resources Conservation Service and the Kentucky Cooperative Extension Service can provide the latest information and recommendations for growing crops.

Managing Cropland

The main management needs on the cropland and pasture in the county are measures that help to control erosion, maintain and improve soil fertility and tilth, and minimize water pollution caused by runoff containing soil particles, nutrients, organic matter, pesticides, and herbicides.

Water erosion is the primary management concern on most of the cropland and pasture in Bath County. It is a hazard if the slope is more than 2 percent. Except for some nearly level soils on floodplains and terraces, such as Blago, Boonewood, Chagrin, Grigsby, Holly, Johnsburg, Lawrence, Lobdell, Morehead, Mullins, Newark, Nolin, Orrville, Skidmore, Uniontown, and Woolper soils, and nearly level soils on uplands, such as Crider, Johnsburg, and Tilsit soils, almost all the cropland and pasture in the survey area has slopes ranging from 2 to 40 percent. As slope increases, the hazard of erosion also increases.

Erosion of the surface layer is damaging because it reduces the productivity of the soils and can result in sedimentation of streams, ponds, lakes, and rivers. Soil productivity is reduced as organic matter and plant nutrients are lost and part of the subsoil is incorporated into the plow layer. Surface erosion is especially damaging on soil thats have a clayey subsoil, such as Beasley, Covedale, Lowell, Muse, and Vertrees soils, and on soils that have a fragipan in the subsoil that limits the root zone, such as Johnsburg, Lawrence, Nicholson, Otwood, and Tilsit soils. Surface erosion is also a concern on Alticrest, Berea, Berks, Caneyville, Eden, Faywood, Gilpin, Shrouts, and Trappist soils that are moderately deep over bedrock and on Cynthiana, Fairmount, and Rohan soils that are shallow to bedrock. The pollution caused by erosion reduces the quality of water for municipal and recreational uses and for livestock, fish, and wildlife.

Erosion-control measures generally help to provide a protective vegetative cover, reduce the rate of runoff, and increase the rate of water infiltration. A cropping system that keeps vegetation on the soil for extended periods can generally keep soil losses to an amount that does not reduce the productivity of the soil. On livestock farms, a cropping system that includes grasses and legumes helps to control erosion on sloping land, provides nitrogen, and improves tilth for subsequent crops.

Erosion is controlled in Bath County mainly through cultural practices, such as a conservation tillage system, a cropping sequence that includes grasses and legumes, cover crops, and a rotation grazing system, rather than through structural measures, such as terraces and diversions. These cultural practices generally are better suited to the irregularly shaped slopes in many areas of Beasley, Covedale, Faywood, Lowell, Shrouts, and Shelocta soils. Contour farming and contour stripcropping are better suited to soils that have smooth, uniform slopes, such as Crider, Nicholson, Sandview, Tilsit, and Vertrees soils. Information about erosion-control measures for each kind of soil in the county is available at the local office of the Natural Resources Conservation Service.

Soil drainage is a major management concern on some soils in Bath County used for crops and pasture. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning. Unless drained, the somewhat poorly drained soils in the county are so wet that the production of crops is restricted. These soils include Johnsburg, Lawrence, Newark, and Orrville soils. Blago, Holly, Melvin, Mullins, and Robertsville soils are poorly drained and are so wet that the production of crops is very restricted. Mullins and Robertsville soils have a hard, compact, brittle fragipan in the subsoil and are ponded with surface water for several months during the year. These soils are also addressed in the “Hydric Soils” section.

Small areas of the wetter soils in depressions and along drainageways are commonly included with the moderately well drained Berea, Cotaco, Lobdell, Morehead, Nicholson, Otwood, Tilsit, and Uniontown soils. Drainage systems are not generally installed in these moderately well drained soils. Drainage systems have previously been installed in some areas of the somewhat poorly drained Newark and Orrville soils. The somewhat poorly drained Johnsburg and Lawrence soils have a hard, compact, brittle fragipan in the subsoil which limits the depth to which tile drains can function. Open ditches are used in some areas of Johnsburg and Lawrence soils to remove excess water. In areas of the moderately well drained soils, a drainage system generally is not needed but the crops that can withstand slight wetness should be selected for planting.

The maintenance problems and needs of both surface and subsurface drainage systems vary with the kind of soil. A combination of open ditches and tile drainage is used in areas of the somewhat poorly drained Johnsburg, Lawrence, Newark, and Orrville soils that are intensively cropped.

Soil fertility is medium or high in all of the soils of Bath County used for crops and pasture. Although many of the upland soils formed in parent material high in bases, leaching has caused the surface layer and upper part of the subsoil of many of these soils to become acidic. Applications of ground limestone are needed to raise the pH level sufficiently for the production of many crops on these upland soils and also on the soils of floodplains and terraces. The levels of phosphorus and potassium are naturally low in most soils in the survey area. Additions of lime and fertilizer should be based on the results of soil tests, the needs of the crop, and the expected yield levels. The Cooperative Extension Service can help to determine the kind and amount of fertilizer and lime needed and the proper method of application.

Tilth is an important factor affecting the germination of seeds and the infiltration of water into the soil. Soils that have good tilth have a surface layer that is granular and porous. Some of the soils in the survey area that are used for crops have a surface layer of silt loam that is light in color and low in organic matter content. Generally, the structure of such soils is weak. A surface crust forms during periods of heavy rainfall. The crust is hard when dry and nearly impervious to water. It reduces the rate of water infiltration and increases the runoff rate. For some of the eroded soils in sloping areas, part of the original surface layer has been lost, the plow layer has been mixed with the clayey subsoil, and poorer tilth has resulted from the increased clay content. For other soils that have been cropped continuously for long periods, much of the organic matter has been removed and the surface structure destroyed. Applying a system of rotating fields and adding manure and other organic material to the soil help to control erosion and to improve soil structure, permeability, and soil tilth.

In 2005, there were more about 25,000 cattle and calves in Bath County *(24)*. Although not present in large numbers, sheep and hogs are also raised in the survey area. Most of the hayland and pasture in the county supports a mixture of grasses and legumes. Much of the hay is grown in a hay and pasture rotation system. With the exception of alfalfa and clovers, most hay is rolled into large, round bales when harvested.

Since about 50 percent of the farm income in Bath County is derived from the sale of livestock or livestock products, a high-quality forage program is necessary. A successful livestock program depends on a large supply of farm-grown feed of good quality. A good forage program can furnish as much as 78 percent of the feed required for beef cattle and 66 percent of that required for dairy cattle *(15)*. On much of the pasture in the survey area, renovation, brush control, and measures that prevent overgrazing are needed.

The suitability of the soils in the county to produce grasses and legumes varies widely because of differences in the depth to bedrock or other root-limiting layers, drainage, the available water capacity, and many other properties. The selection of forage species is important, and the suitability of the different soils to the selected species should be considered.

The nearly level and gently sloping soils that are deep and well drained should be used for the most productive crops, such as corn silage, alfalfa, and a mixture of alfalfa and orchardgrass or alfalfa and timothy. On the steeper soils, sod-forming grasses, such as tall fescue and bluegrass, are needed to help control soil erosion. Alfalfa should be grown with cool-season grasses in areas where the soil is well drained and at least 2 feet deep over bedrock. The more poorly drained soils or those that are less than 2 feet deep over bedrock are suited to clover-grass mixtures or to pure stands of clover or grasses. Legumes can be established through renovation in areas that support sod-forming grasses.

Tall fescue is an important cool-season grass that is suited to a wide range of soil conditions. It is grown for both hay and pasture. As it grows during the period from August to November, the fescue commonly is allowed to accumulate in the field. It is grazed in the late fall and in winter. Applications of nitrogen fertilizer help to achieve the maximum production when the fescue is accumulating in the field.

Warm-season grasses, which are planted from early April to late May, alleviate the “summer slump” of cool-season grasses, such as tall fescue and Kentucky bluegrass. Warm-season grasses grow well during the summer, especially from mid-June to September, when the cool season-grasses taper off. Examples of warm-season grasses are big bluestem, switchgrass, indiangrass, and Caucasian bluestem.

Renovation can increase forage yields in areas that have a good stand of grass. It involves partially destroying the sod, applying lime and fertilizer, and seeding the desirable forage species. Adding legumes to these grass stands helps to provide high-quality feed, increase summer production, and supply nitrogen to the grasses. Under growing conditions in Kentucky, alfalfa can fix 200 to 300 pounds of nitrogen per acre per year; red clover, 100 to 200 pounds; and ladino clover, 100 to 150 pounds. An acre of Korean lespedeza, vetch, or other annual forage legumes can fix 75 to 100 pounds of nitrogen per year *(16)*.

Additional information about managing pasture and hayland can be obtained from the offices of the Natural Resources Conservation Service and the Kentucky Cooperative Extension Service.

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 *(45)*. The criteria used in grouping the soils do not include major and generally expensive land forming 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. 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 unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

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

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

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w,* or *s*, to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, 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, wildlife habitat, or recreation.

The capability classification of map units in this survey area is given in the section "Detailed Soil Map Units" and in table 5. The acreage of soils in each capability class or subclass is shown in table 6.

Yields per Acre

The average yields per acre that can be expected of the principal crops and hay and pasture under a high level of management are shown in table 5, parts I and II. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Prime and Important Farmland

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 48,000 acres in Bath County, or 26 percent of the total acreage, meets the soil requirements for prime farmland. Scattered areas of this land are throughout the county, but most are in the central and northern parts of the county, mainly in general soil map units 1, 3, 5, 7, and 8.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 7. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

Farmland of Statewide Importance

This is land, in addition to prime farmland, that is of statewide importance for the production of food, feed, fiber, and oilseed crops. Generally, farmland of statewide importance includes those soils that almost meet the requirements for prime farmland and that economically produce a high yield of crops when treated and managed according to acceptable farming methods. The map units in the survey area that are considered farmland of statewide importance are listed in table 7. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

About 22,000 acres in Bath County, or 12 percent to the total acreage, meets the soil requirements for additional farmland of statewide importance. Scattered areas of this land are throughout the county, but most are in the central and northern parts of the county, mainly in general soil map units 1, 3, 5, 6, 7, and 8.

Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology *(13, 29, 35, 37)*. Criteria for each 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 *(17)*. These soils 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 non-hydric 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 *(18)*. These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" *(43)* and "Keys to Soil Taxonomy" *(44)* and in the "Soil Survey Manual" *(48)*.

If soils are wet enough for a long enough period 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 in this survey area are specified in "Field Indicators of Hydric Soils in the United States" *(19)*.

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.

The following map units meet the definition of hydric soils and, in addition, 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 *(29)*.

BvA	Blago silt loam, 0 to 3 percent slopes
Ho	Holly loam, 0 to 2 percent slopes, frequently flooded
Me	Melvin silt loam, 0 to 2 percent slopes, frequently flooded
Mu	Mullins silt loam, 0 to 2 percent slopes, ponded
Rb	Robertsville silt loam, 0 to 2 percent slopes, ponded

Map units that are made up of hydric soils may have small areas, or inclusions, of non-hydric soils in the higher positions on the landform, and map units made up of non-hydric soils may have inclusions of hydric soils in the lower positions on the landform.

The following map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

JoA	Johnsburg silt loam, 0 to 4 percent slopes
LaA	Lawrence silt loam, 0 to 3 percent slopes
Ne	Newark silt loam, 0 to 2 percent slopes, frequently flooded
OrA	Orrville loam, 0 to 3 percent slopes, frequently flooded

Forest Productivity and Management

About 74,000 acres in Bath County or about 41 percent of the total acreage is forestland *(42)*. The survey area is in the Western Mesophytic Forest Region. The characteristic trees in this region are American beech, American sycamore, black locust, black oak, black walnut, chestnut oak, chinkapin oak, hickory, northern red oak, red maple, sugar maple, white ash, white oak, and yellow-poplar. The dominant forest types are oak-hickory, oak-pine, and loblolly-shortleaf pine. Additional forestry information for Bath County is available at the Kentucky Division of Forestry website and the U.S. Forest Service website.

The forestland tracts in the survey area are generally private land, U.S. Forest Service land, or commercial holdings ranging from a few acres to many thousand acres. Harvesting of timber is usually done by local loggers using selective-cut method on most small tracts and both selective-cut and clear-cut methods on larger tracts. Most of the forestland can produce 50 cubic feet or more of wood per acre per year, but actual production is about 33 cubic feet. The lower production rate results because most of the forestland is unmanaged, not well stocked, and cut over too often and, when loggers cut trees, they tend to remove the best trees, leaving inferior ones to reseed the cutover areas. In addition, many forestland tracts in farms are also open to livestock, resulting in further damage to the woodland. The woodland can be improved by removing low-quality trees from fully stocked and understocked stands of all sizes, replanting after harvest, and restricting livestock access.

The wood industry of Bath County consists mainly of commercial sawmills and pallet mills. It produces rough lumber, pallets, dimension stock, wood chips, and fuel wood. Several mills in adjacent counties and states buy logs or standing timber from landowners in the county.

Soils vary in their ability to produce productive forestland. Depth, fertility, texture, and the available water capacity influence tree growth. Elevation, aspect, and climate determine the species of trees that can grow on a site. Available water capacity and depth of the root zone are major influences on tree growth. Elevation and aspect are of particular importance in mountainous areas, such as the eastern part of Bath County. The section “Detailed Soil Map Units” provides information on suitability and management for the soil map units in the county.

The tables in this section can help forest owners or managers plan the use of soils for wood crops. Table 8 shows the potential productivity of the soils for wood crops, and table 9 rates the soils according to the limitations that affect various aspects of forest management. Additional forestry information is available at the Kentucky Division of Forestry website.

Forestland Productivity

In table 8, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available at the local office of the Natural Resources Conservation Service or on the Internet.

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

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

Forestland Management

In table 9, part I through V, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately well suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Recreation

The soils of the survey area are rated in table 10, parts I and II, according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

The ratings in the table are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in table 10 can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas.

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

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

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

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

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

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

Wildlife Habitat

The most important wildlife species in Bath County are cottontail rabbit, gray squirrel, fox squirrel, raccoon, opossum, skunk, red fox, gray fox, coyote, grouse, wild turkey, bobwhite quail, mourning dove, bobcat, white-tailed deer, and black bear. A number of predatory birds are also found in the county. They include barn owl, screech owl, sparrow hawk, Cooper’s hawk, red-tailed hawk, osprey, and bald eagle. The survey area also includes many other species of birds and mammals. It has about 28 species of mammals, 106 species of birds, and 27 species of amphibians and reptiles. Although the types of habitat required by wildlife vary, deer and squirrels generally use woodland habitat; rabbits, quail, and doves use openland habitat; and ducks and geese use wetland habitat. Additional wildlife information for Bath County is available at the Kentucky Fish and Wildlife Service website.

Photographers, birdwatchers, sportsmen, and others are interested in the flora and fauna of Bath County. The ponds and streams in the survey area are inhabited by a variety of fish, including warm-water game fish, panfish, and rough fish. Examples are largemouth bass and bluegill. Cave Run Lake is noted for muskie fishing.

Successful management of wildlife habitat requires a suitable combination of food, cover, and water. Lack of any one of these necessities, imbalance between them, or an inadequate distribution of them can severely limit or eliminate the population of desirable wildlife species.

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 the appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Additional wildlife information can be found at the Kentucky Fish and Wildlife Service website.

In table 11, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian-olive, autumn olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, 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 bobwhite quail, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and bear.

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 estimated data and test data in the “Soil Properties” section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Table 12, parts I and II, 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 table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

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

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

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

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

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

Sanitary Facilities

Table 13, parts I and II, 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. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

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

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

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

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

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

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

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

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

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

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

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

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Table 14, parts I, II, and III, show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage.

Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of this table, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the table are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

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 agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are generally favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, permeability, depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Permeability and reaction affect performance. Permanently frozen soils are unsuitable for waste treatment.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Construction Materials

Table 15, parts I and II, give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

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

The soils are rated as a *probable* or *improbable* source of sand and gravel. A rating of *probable* means that the source material is likely to be in or below the soil. The numerical ratings in these columns indicate the degree of probability. The number 0.00 indicates that the soil is an improbable source. A number between 0.00 and 1.00 indicates the degree to which the soil is a probable source of sand or gravel.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 15, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

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

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

Table 16 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

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

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations 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 17 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

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

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system *(2)* and the system adopted by the American Association of State Highway and Transportation Officials *(1)*.

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 18 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 table 18, 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 table 18, 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 table 18, 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.

Saturated hydraulic conductivity 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 micrometers per second (um/sec), 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 18, 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 18 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" *(40)*, which is available at the local office of the Natural Resources Conservation Service or on the Internet.

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

Chemical Properties

Table 19 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

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

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

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

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

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.

Water Features

Table 20 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.

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

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

Water table refers to a saturated zone in the soil. Table 20 indicates, by month, depth to the top *(upper limit)* and base *(lower limit)* of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 20 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

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

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 21 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

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

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories *(43, 44)*. 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 22 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

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

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

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” *(48)*. Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” *(43)* and in “Keys to Soil Taxonomy” *(44)*. Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Allegheny Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): AgB—Allegheny-Cotaco loams, 2 to 6 percent slopes; AgC—Allegheny-Cotaco loams, 6 to 12 percent slopes; AlD2—Allegheny loam, 12 to 20 percent slopes, eroded
Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Stream terrace in river valley
Landform position(s) (three-dimensional): Riser and tread
Parent material: Fine-loamy alluvium on high-level fluvial deposits of the Quaternary System on ridgetops and fine-loamy acid alluvium of the Quaternary System on stream terraces
Elevation: 620 to 870 feet
Slope: 2 to 20 percent
Taxonomic classification: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Allegheny loam in an area of Allegheny-Cotaco loams, 2 to 6 percent slopes; in a harvested tobacco field, about 2.5 miles northwest of the intersection of Kentucky Highway 11 and Leadford Road and about 2,500 feet southeast of the confluence of Little Flat Creek and the Licking River; USGS Sherburne, Kentucky topographic quadrangle; lat. 38 degrees 17 minutes 55.20 seconds N. and long. 83 degrees 50 minutes 2.10 seconds W.; UTM Zone 17, 252178 meters easting, 4242753 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 10 inches; dark yellowish brown (10YR 4/4) loam; weak fine granular structure; very friable; common very fine roots between peds; many very fine vesicular pores; 1 percent nonflat subrounded indurated $^{1}/_{5}$- to 3-inch quartz fragments; slightly acid, pH 6.5; clear smooth boundary. (5 to 10 inches thick)

Bt1—10 to 20 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; few very fine roots between peds; many very fine vesicular pores; 25 percent discontinuous distinct strong brown (7.5YR 5/6) clay films on vertical faces of peds; 1 percent nonflat subrounded indurated $^{1}/_{5}$- to 3-inch quartz fragments; strongly acid, pH 5.5; gradual smooth boundary.

Bt2—20 to 40 inches; strong brown (7.5YR 5/6) clay loam; 10 percent medium distinct irregular yellowish brown (10YR 5/6) and 10 percent coarse distinct irregular yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; few very fine roots between peds; many very fine vesicular pores; 60 percent continuous distinct yellowish brown (10YR 5/6) clay films on all faces of peds; 1 percent nonflat subrounded indurated $^{1}/_{5}$- to 3-inch quartz fragments; strongly acid, pH 5.5; clear smooth boundary.

Bt3—40 to 63 inches; strong brown (7.5YR 5/8) sandy clay loam; 5 percent medium prominent irregular pale yellow (2.5Y 7/3), 5 percent coarse prominent irregular pale yellow (2.5Y 7/3), 5 percent coarse prominent irregular light olive brown (2.5Y 5/6), and 5 percent medium prominent irregular light olive brown (2.5Y 5/6) mottles; moderate medium subangular blocky structure parting to moderate fine platy; firm; few very fine roots between peds; many very fine vesicular pores; 30 percent discontinuous distinct strong brown (7.5YR 5/6) clay films on all faces of peds; 1 percent nonflat subrounded indurated 1/5- to 3-inch quartz fragments; strongly acid, pH 5.5; clear smooth boundary. (Combined thickness of the Bt horizon ranges from 20 to 55 inches.)

C—63 to 90 inches; 50 percent yellowish brown (10YR 5/8) and 50 percent yellowish brown (10YR 5/6) fine sandy loam; 5 percent medium distinct irregular light olive brown (2.5Y 5/4), 5 percent coarse distinct irregular light olive brown (2.5Y 5/4), 5 percent coarse distinct irregular strong brown (7.5YR 5/6), and 5 percent medium distinct irregular strong brown (7.5YR 5/6) mottles; massive; very firm; few very fine roots between peds; many very fine vesicular pores; 2 percent medium distinct irregular extremely weakly cemented iron depletions with clear boundaries throughout and 3 percent fine distinct irregular extremely weakly cemented light gray (2.5Y 7/2) iron depletions with clear boundaries throughout; 1 percent nonflat subrounded indurated 1/5- to 3-inch quartz fragments; strongly acid, pH 5.5. (10 to 30 inches thick)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Ochric epipedon, redoximorphic depletions with chroma of 2 or less, and argillic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 40 to 50 inches

Ap horizon(s):
Hue—7.5YR or 10YR
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—loam
Rock fragments—0 to 7 percent subrounded indurated fine gravel and 0 to 8 percent subrounded indurated medium and coarse gravel
Reaction—pH 3.6 to 6.5
Organic matter content—1.0 to 4.0 percent

Bt horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—3 to 8 moist
Texture—silty clay loam, gravelly loam, clay loam, or sandy clay loam
Rock fragments—0 to 20 percent subrounded indurated fine gravel and 0 to 10 percent subrounded indurated medium and coarse gravel
Reaction—pH 3.6 to 5.5
Organic matter content—0.1 to 1.0 percent

C horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—3 to 8 moist
Texture—sandy clay loam, clay loam, fine sandy loam, or gravelly sandy loam
Redoximorphic features—in shades of brown, gray, olive, or yellow
Rock fragments—0 to 20 percent subrounded indurated fine gravel and 0 to 15 percent subrounded indurated medium and coarse gravel
Reaction—pH 3.6 to 5.5
Organic matter content—0.1 to 1.0 percent

Alticrest Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): HeF—Helechawa-Alticrest-Rock outcrop complex, 30 to 50 percent slopes
Depth class: Moderately deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): High
Landform(s): Ridge on hills
Landform position(s) (two-dimensional): Summit
Landform position(s) (three-dimensional): Crest
Parent material: Coarse-loamy residuum weathered from sandstone, siltstone, and shale of the Breathitt and Lee Formations of the Pennsylvanian System
Elevation: 1,100 to 1,440 feet
Slope: 30 to 60 percent
Taxonomic classification: Coarse-loamy, siliceous, semiactive, mesic Typic Dystrochrepts

Typical Pedon

Alticrest sandy loam in an area of Helechawa-Alticrest-Rock outcrop complex, 30 to 50 percent slopes; on a woodland shoulder slope/ridgetop in the Daniel Boone National Forest about 2,700 feet north and 600 feet west of Tater Knob Lookout Tower; USGS Salt Lick, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 48.00 seconds N. and long. 83 degrees 32 minutes 33.00 seconds W.; UTM Zone 17, 276943 meters easting, 4215875 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 3 inches; very dark grayish brown (10YR 3/2) sandy loam; weak fine granular structure; very friable; many fine and many medium roots throughout; 3 percent nonflat rounded indurated $^{1}/_{12}$- to 3-inch quartz fragments and 6 percent flat angular very strongly cemented 6- to 15-inch sandstone fragments; very strongly acid, pH 4.5; gradual wavy boundary. (1 to 4 inches thick)

BA—3 to 8 inches; brown (10YR 4/3) sandy loam; weak medium subangular blocky structure parting to weak fine granular; very friable; many fine and many medium roots throughout; 3 percent nonflat rounded indurated $^{1}/_{12}$- to 3-inch quartz fragments and 6 percent flat angular very strongly cemented 6- to 15-inch sandstone fragments; very strongly acid, pH 5.0; gradual smooth boundary. (2 to 8 inches thick)

Bw1—8 to 20 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; very friable; few fine, few medium, and few coarse roots throughout; 3 percent nonflat rounded indurated $^{1}/_{12}$- to 3-inch quartz fragments and 6 percent flat angular very strongly cemented 6- to 15-inch sandstone fragments; very strongly acid, pH 5.0; clear smooth boundary.

Bw2—20 to 28 inches; strong brown (7.5YR 5/6) sandy loam; weak medium subangular blocky structure; very friable; few fine, few medium, and few coarse roots throughout; 3 percent flat angular very strongly cemented 6- to 15-inch sandstone fragments and 3 percent nonflat rounded indurated $^{1}/_{12}$- to 3-inch quartz fragments; very strongly acid, pH 5.0; abrupt smooth boundary. (Combined thickness of the Bw horizon ranges from 10 to 34 inches.)

R—28 to 38 inches; unweathered sandstone bedrock.

Range in Characteristics

Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Diagnostic feature(s): Ochric epipedon, lithic contact, and argillic horizon

Surface fragments: 3 to 15 percent indurated sandstone stones
Depth to seasonal high water table: More than 6 feet

A and BA horizon(s):
Hue—7.5YR or 10YR
Value—3 or 4 moist
Chroma—2 to 4 moist
Texture—sandy loam
Rock fragments—0 to 2 percent rounded indurated fine gravel, 0 to 3 percent rounded indurated medium and coarse gravel, and 0 to 10 percent subangular strongly cemented channers and flagstones
Reaction—pH 4.5 to 5.5
Organic matter content—1.0 to 2.0 percent

Bw horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6 moist
Chroma—3 to 8 moist
Texture—channery sandy loam, loam, or sandy loam
Rock fragments—0 to 2 percent rounded indurated fine gravel, 0 to 3 percent rounded indurated medium and coarse gravel, and 0 to 10 percent subangular strongly cemented channers and flagstones
Reaction—pH 4.5 to 5.5
Organic matter content—0.0 to 0.5 percent

R horizon(s):
Bedrock—unweathered sandstone

Beasley Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): BaB—Beasley silt loam, 2 to 6 percent slopes; BcC2—Beasley silt loam, 6 to 12 percent slopes, eroded; BeD2—Beasley-Shrouts silt loams, 12 to 20 percent slopes, eroded; SrD2—Shrouts-Beasley-Rock outcrop complex, 6 to 20 percent slopes, eroded; StE2—Shrouts-Beasley complex, 20 to 30 percent slopes, eroded
Depth class: Deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Hill on upland and ridge on upland
Landform position(s) (two-dimensional): Summit, shoulder, and backslope
Landform position(s) (three-dimensional): Interfluve and side slope
Parent material: Clayey residuum weathered from calcareous shale, dolomite, and/or calcareous siltstone of the Silurian System and calcareous shale and dolomite of the Preachersville Member of the Ordovician System
Elevation: 620 to 1,080 feet
Slope: 2 to 30 percent
Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Beasley silt loam, 2 to 6 percent slopes; in a pasture 1.0 mile east of Kendall Springs, about 0.4 mile southwest of Carpenter Road, about 0.8 mile north of Elys Branch Mill Creek; USGS Preston, Kentucky topographic quadrangle; lat. 38 degrees 5 minutes 54.00 seconds N. and long. 83 degrees 45 minutes 29.00 seconds W.; UTM Zone 17, 258153 meters easting, 4220329 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; many fine roots throughout; slightly acid, pH 6.5; clear smooth boundary. (4 to 8 inches thick)

Bt—7 to 23 inches; yellowish brown (10YR 5/6) silty clay; moderate medium angular blocky structure; very firm; common fine roots between peds; 40 percent discontinuous clay films on vertical faces of peds; 1 percent medium prominent spherical weakly cemented black (10YR 2/1) iron-manganese concretions and 1 percent medium prominent irregular black (10YR 2/1) iron-manganese masses; moderately acid, pH 6.0; gradual wavy boundary. (10 to 24 inches thick)

BC—23 to 29 inches; yellowish brown (10YR 5/4) clay; 5 percent medium distinct light olive brown (2.5Y 5/6), 5 percent medium distinct strong brown (7.5YR 5/6), and 5 percent medium distinct light brownish gray (10YR 6/2) mottles; weak medium angular blocky structure; very firm; few fine roots between peds; 10 percent discontinuous clay films on vertical faces of peds; 1 percent medium prominent spherical weakly cemented black (10YR 2/1) iron-manganese concretions and 1 percent medium prominent irregular black (10YR 2/1) iron-manganese masses; moderately acid, pH 6.0; gradual wavy boundary. (0 to 20 inches thick)

C—29 to 50 inches; pale red (2.5YR 6/2) silty clay; 5 percent medium distinct light olive brown (2.5Y 5/6) and 5 percent medium distinct yellowish brown (10YR 5/6) mottles; massive; very firm; 5 percent flat subangular moderately cemented $^{1}/_{12}$- to 6-inch calcareous shale fragments and 5 percent flat subangular moderately cemented $^{1}/_{12}$- to 6-inch calcareous siltstone fragments; moderately alkaline, pH 8.0; abrupt smooth boundary. (0 to 25 inches thick)

Cr—50 to 70 inches; weathered calcareous shale bedrock.

Range in Characteristics

Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Diagnostic feature(s): Ochric epipedon, argillic horizon, and paralithic contact
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

A horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—0 to 8 percent subangular indurated channers and 0 to 2 percent subangular indurated flagstones
Calcium carbonate equivalent—0 to 1 percent
Reaction—pH 4.5 to 7.3
Organic matter content—0.5 to 4.0 percent

Bt horizon(s):
Hue—7.5YR or 10YR
Value—4 or 5 moist
Chroma—3 to 8 moist
Texture—clay or silty clay
Rock fragments—0 to 8 percent subangular indurated channers and 0 to 2 percent subangular indurated flagstones
Calcium carbonate equivalent—0 to 8 percent
Reaction—pH 4.5 to 7.3
Organic matter content—0.0 to 0.5 percent

BC horizon(s):
Hue—7.5YR or 2.5Y

Value—4 or 5 moist
Chroma—3 to 8 moist
Texture—clay or silty clay
Rock fragments—0 to 8 percent subangular indurated channers and 0 to 2 percent subangular indurated flagstones
Calcium carbonate equivalent—0 to 8 percent
Reaction—pH 4.5 to 7.3
Organic matter content—0.0 to 0.5 percent

C horizon(s):
Hue—2.5Y
Value—5 or 6 moist
Chroma—2 to 6 moist
Lithochromic mottles—in shades of brown, gray, olive, or red
Texture—clay, silty clay loam, or silty clay
Rock fragments—0 to 30 percent subangular indurated channers and 0 to 5 percent subangular indurated flagstones
Calcium carbonate equivalent—3 to 21 percent
Reaction—pH 6.6 to 8.4
Organic matter content—0.0 to 0.5 percent

Cr horizon(s):
Bedrock—weathered, layered calcareous shale and siltstone

Berea Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: The Knobs
Map unit(s): BrB—Berea silt loam, 2 to 6 percent slopes; BrC—Berea silt loam, 6 to 12 percent slopes
Depth class: Moderately deep
Drainage class: Moderately well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Knob on upland
Landform position(s) (two-dimensional): Footslope
Landform position(s) (three-dimensional): Base slope
Parent material: Fine-silty colluvium over clayey residuum weathered from acid, fissile, black shale of the Sunbury and Bedford, New Albany Shale, and Ohio Shale Formations of the Devonian System
Elevation: 680 to 850 feet
Slope: 2 to 12 percent
Taxonomic classification: Fine-silty, mixed, semiactive, mesic Aquic Hapludults

Typical Pedon

Berea silt loam, 2 to 6 percent slopes; in a pasture about 1,800 feet southeast of the intersection of Kentucky Highway 965 and Satterfield Road, about 1,200 feet east of Kentucky Highway 965, just south of an old house, and about 500 feet west of Gooden Branch; USGS Preston, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 3.70 seconds N. and long. 83 degrees 45 minutes 4.60 seconds W.; UTM Zone 17, 258590 meters easting, 4215050 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 9 inches; brown (10YR 4/3) silt loam; moderate medium granular structure and moderate fine granular structure; friable; common fine roots throughout; moderately acid, pH 6.0; clear wavy boundary. (4 to 10 inches thick)

Bt1—9 to 14 inches; 50 percent brown (10YR 4/3) and 50 percent light olive brown (2.5Y 5/4) silt loam; weak medium subangular blocky structure and weak fine subangular blocky structure; friable; common very fine roots throughout; 10 percent discontinuous distinct clay films on vertical faces of peds; strongly acid, pH 5.5; clear wavy boundary.

Bt2—14 to 21 inches; 50 percent light olive brown (2.5Y 5/6) and 50 percent light olive brown (2.5Y 5/4) silt loam; moderate medium subangular blocky structure; friable; few fine roots throughout; 60 percent discontinuous faint clay films on vertical faces of peds; 10 percent medium distinct irregular light yellowish brown (2.5Y 6/3) iron depletions with clear boundaries in matrix, 10 percent fine distinct irregular light brownish gray (2.5Y 6/2) iron depletions with clear boundaries in matrix, and 20 percent fine distinct irregular light yellowish brown (2.5Y 6/3) iron depletions with clear boundaries in matrix; strongly acid, pH 5.5; abrupt smooth boundary. (Combined thickness of the Bt horizon ranges from 10 to 30 inches.)

2Cg1—21 to 26 inches; 50 percent yellowish brown (10YR 5/8) and 50 percent light yellowish brown (2.5Y 6/3) channery silty clay loam; massive; firm; few fine and few very fine roots throughout; 20 percent discontinuous faint clay films on vertical faces of peds; 10 percent fine distinct irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries in matrix and 10 percent medium distinct irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries in matrix; 15 percent flat angular strongly cemented $^1/_{12}$- to 6-inch acid shale fragments; very strongly acid, pH 4.5; clear smooth boundary.

2Cg2—26 to 31 inches; yellowish brown (10YR 5/8) very channery silty clay loam; massive; firm; few fine roots throughout; 20 percent discontinuous faint clay films on vertical faces of peds; 10 percent fine distinct irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries in matrix and 10 percent medium distinct irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries in matrix; 30 percent flat angular strongly cemented $^1/_{12}$- to 6-inch acid shale fragments; very strongly acid, pH 4.5; abrupt smooth boundary. (Combined thickness of the 2C horizon ranges from 10 to 30 inches.)

2Cr—31 to 36 inches; weathered acid, fissile, black shale bedrock.

2R—36 to 46 inches; unweathered acid, fissile, black shale bedrock.

Range in Characteristics

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock

Diagnostic feature(s): Ochric epipedon, lithic contact, redoximorphic depletions with chroma of 2 or less, argillic horizon, and paralithic contact

Surface fragments: None

Seasonal high water table: January, February, March, April, May, November, and December

Depth to top of water table: 15 to 28 inches

Ap horizon(s):

Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—0 to 10 percent angular strongly cemented channers
Reaction—pH 3.6 to 5.5
Organic matter content—0.5 to 3.0 percent

Bt horizon(s):

Hue—7.5YR to 2.5Y
Value—4 to 6 moist

Chroma—4 to 6 moist
Texture—silt loam or silty clay loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 10 percent angular strongly cemented channers
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.3 percent

2Cg horizon(s):
Hue—7.5YR to 5Y
Value—3 to 6 moist
Chroma—1 to 8 moist
Texture—very channery silty clay, clay, or channery silty clay loam
Redoximorphic features—in shades of brown, gray, olive, or red
Rock fragments—0 to 40 percent angular strongly cemented channers
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.3 percent

2Cr horizon(s):
Bedrock—weathered, acid, fissile black shale

2R horizon(s):
Bedrock—unweathered, acid, fissile, black shale

Berks Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): BsD—Berks channery silt loam, 6 to 20 percent slopes; BsF—Berks channery silt loam, 20 to 50 percent slopes; BxF—Brownsville-Berks channery silt loams, 30 to 70 percent slopes, extremely stony
Depth class: Moderately deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): High
Landform(s): Hillslope on hills
Landform position(s) (two-dimensional): Shoulder and backslope
Landform position(s) (three-dimensional): Side slope
Parent material: Loamy-skeletal residuum weathered from siltstone and sandstone of the Cowbell and Farmers Members of the Borden Formation of the Mississippian System
Elevation: 900 to 1,300 feet
Slope: 6 to 70 percent
Taxonomic classification: Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

Typical Pedon

Berks channery silt loam in an area of Brownsville-Berks channery silt loams, 30 to 70 percent slopes, extremely stony; on a wooded side slope in the Daniel Boone National Forest, about 1.9 miles east of Tater Knob Lookout Tower and 0.7 mile north of the Bath-Menifee County line; USGS Salt Lick, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 33.00 seconds N. and long. 83 degrees 30 minutes 28.00 seconds W.; UTM Zone 17, 279981 meters easting, 4215366 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 4 inches; brown (10YR 4/3) channery silt loam; weak fine granular structure; very friable; many fine, many medium, and common coarse roots throughout; 25 percent flat subangular indurated $^{1}/_{12}$- to 6-inch siltstone fragments; very strongly acid, pH 4.5; gradual smooth boundary. (2 to 8 inches thick)

Bw1—4 to 14 inches; light yellowish brown (10YR 6/4) very channery silt loam; moderate medium subangular blocky structure; friable; common fine and common medium roots throughout; few fine tubular pores; 35 percent flat subangular strongly cemented 1/12- to 6-inch siltstone fragments; very strongly acid, pH 4.5; gradual smooth boundary.

Bw2—14 to 27 inches; light yellowish brown (2.5Y 6/4) very channery silt loam; weak medium subangular blocky structure; firm; few fine, few medium, and few coarse roots throughout; few fine tubular pores; 55 percent flat subangular indurated 1/12- to 6-inch siltstone fragments; very strongly acid, pH 4.5; abrupt smooth boundary. (Combined thickness of the Bw horizon ranges from 12 to 30 inches.)

R—27 to 37 inches; unweathered siltstone bedrock.

Range in Characteristics

Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Diagnostic feature(s): Ochric epipedon, lithic contact, and argillic horizon
Surface fragments: 0 to 10 percent nonflat subangular indurated sandstone stones and 0 to 10 percent nonflat angular indurated siltstone stones
Depth to seasonal high water table: More than 6 feet

A horizon(s):
Hue—10YR
Value—3 to 5 moist
Chroma—2 to 4 moist
Texture—channery silt loam
Rock fragments—10 to 50 percent subangular indurated channers
Reaction—pH 3.6 to 6.5
Organic matter content—2.0 to 4.0 percent

Bw horizon(s):
Hue—5YR to 2.5Y
Value—4 to 6 moist
Chroma—3 to 8 moist
Texture—very channery loam, extremely channery silt loam, or very channery silt loam
Rock fragments—15 to 75 percent subangular indurated channers
Reaction—pH 3.6 to 6.5
Organic matter content—0.0 to 0.5 percent

R horizon(s):
Bedrock—unweathered shale, siltstone, or sandstone

Blago Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: The Knobs
Map unit(s): BvA—Blago silt loam, 0 to 3 percent slopes
Depth class: Very deep
Drainage class: Poorly drained
Saturated hydraulic conductivity (Ksat): Low
Landform(s): Depressions and stream terrace in river valley
Landform position(s) (three-dimensional): Tread
Parent material: Clayey alluvium over clayey residuum weathered from acid, fissile, black shale of the Sunbury and Bedford, New Albany Shale, and Ohio Shale Formations of the Devonian System
Elevation: 800 to 840 feet

Slope: 0 to 3 percent
Taxonomic classification: Fine, mixed, active, mesic Typic Umbraquults

Typical Pedon

Blago silt loam, 0 to 3 percent slopes; in a harvested tobacco field about 0.5 mile south of the intersection of Satterfield-Blevins Valley Road and Mill Creek Road to a gravel driveway on the west side of Mill Creek Road, about 1,500 feet west on the gravel driveway to an old barn, about 50 feet into the field to the northwest of the barn; USGS Olympia, Kentucky topographic quadrangle; lat. 38 degrees 2 minutes 54.50 seconds N. and long. 83 degrees 44 minutes 34.00 seconds W.; UTM Zone 17, 259327 meters easting, 4214745 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 12 inches; black (10YR 2/1) silt loam; weak fine granular structure; friable; many fine roots between peds; moderately acid, pH 6.0; clear smooth boundary. (Combined thickness of the A horizon is 10 to 24 inches.)

AB—12 to 20 inches; dark gray (10YR 4/1) silt loam; weak medium subangular blocky structure; firm; common fine roots between peds; 1 percent nonflat rounded strongly cemented $^{1}/_{5}$- to $^{3}/_{4}$-inch unspecified fragments; very strongly acid, pH 4.5; gradual smooth boundary.

Btg—20 to 30 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium subangular blocky structure; firm; common fine roots between peds; 40 percent discontinuous distinct dark yellowish brown (10YR 4/4) clay films on vertical faces of peds; 10 percent medium distinct irregular extremely weakly cemented yellowish brown (10YR 5/6) masses of oxidized iron with clear boundaries between peds; 1 percent nonflat rounded strongly cemented $^{1}/_{5}$- to $^{3}/_{4}$-inch unspecified fragments; very strongly acid, pH 4.5; clear smooth boundary.

2Btg—30 to 43 inches; light brownish gray (10YR 6/2) silty clay loam; weak medium subangular blocky structure; firm; few fine roots between peds; 40 percent discontinuous distinct dark yellowish brown (10YR 4/4) clay films on vertical faces of peds; 15 percent medium distinct irregular extremely weakly cemented yellowish brown (10YR 5/6) masses of oxidized iron with clear boundaries between peds and 15 percent medium distinct irregular extremely weakly cemented yellowish brown (10YR 5/8) masses of oxidized iron with clear boundaries between peds; very strongly acid, pH 4.5; clear smooth boundary. (Combined thickness of the Bt/2Bt horizon is 14 to 40 inches.)

2BCg—43 to 60 inches; gray (10YR 6/1) silty clay; weak medium subangular blocky structure; firm; few fine roots between peds; 30 percent medium distinct irregular extremely weakly cemented yellowish brown (10YR 5/6) masses of oxidized iron with clear boundaries between peds; very strongly acid, pH 4.5; gradual smooth boundary.

2C1—60 to 83 inches; brownish yellow (10YR 6/8) silty clay; massive; firm; 35 percent medium prominent irregular extremely weakly cemented light gray (2.5Y 7/1) iron depletions with clear boundaries in matrix; 5 percent nonflat subangular strongly cemented $^{1}/_{12}$- to $^{1}/_{5}$-inch ironstone nodules; very strongly acid, pH 5.0; gradual smooth boundary.

2C2—83 to 90 inches; strong brown (7.5YR 5/8) silty clay; massive; firm; 25 percent medium prominent irregular extremely weakly cemented light gray (2.5Y 7/1) iron depletions with clear boundaries in matrix and 25 percent medium distinct irregular extremely weakly cemented brown (7.5YR 4/2) iron-manganese masses with clear boundaries between peds; 5 percent nonflat subangular strongly cemented $^{1}/_{12}$- to $^{1}/_{5}$-inch ironstone nodules; very strongly acid, pH 5.0; abrupt smooth boundary. (Combined thickness of the 2C horizon is 10 to 50 inches.)

2Cr—90 to 95 inches; weathered acid, fissile, black shale bedrock.
2R—95 to 105 inches; unweathered acid, fissile, black shale bedrock.

Range in Characteristics

Depth to restrictive feature: 60 to 96 inches to paralithic bedrock; 60 to 96 inches to lithic bedrock
Diagnostic feature(s): Redoximorphic concentrations, lithic contact, umbric epipedon, redoximorphic depletions with chroma of 2 or less, aquic conditions, lithologic discontinuity, argillic horizon, and paralithic contact
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 0 to 12 inches

Ap horizon(s):
Hue—10YR or 2.5Y
Value—3 or less moist
Chroma—3 or less moist
Texture—silt loam
Rock fragments—0 to 6 percent rounded strongly cemented fine gravel and 0 to 4 percent rounded strongly cemented medium and coarse gravel
Reaction—pH 3.6 to 7.3
Organic matter content—2.0 to 10.0 percent

AB horizon(s):
Hue—10YR or 2.5Y
Value—4 or less moist
Chroma—3 or less moist
Texture—silt loam or silty clay loam
Rock fragments—0 to 6 percent rounded strongly cemented fine gravel and 0 to 4 percent rounded strongly cemented medium and coarse gravel
Reaction—pH 3.6 to 7.3
Organic matter content—2.0 to 10.0 percent

Btg and 2Btg horizons:
Hue—10YR or 2.5Y
Value—4 to 6 moist
Chroma—2 or less moist
Texture—silty clay, clay, or silty clay loam
Redoximorphic features—in shades of brown, gray, yellow, or red
Rock fragments—0 to 6 percent rounded strongly cemented fine gravel and 0 to 4 percent rounded strongly cemented medium and coarse gravel
Reaction—pH 3.6 to 5.5
Organic matter content—0.5 to 1.2 percent

2BC and 2C horizons:
Hue—7.5YR or 10YR
Value—4 to 6 moist
Chroma—2 to 8 moist
Texture—silty clay loam, silty clay, or channery clay
Redoximorphic features—in shades of brown, gray, yellow, or red
Rock fragments—0 to 23 percent subangular strongly cemented fine gravel and 0 to 17 percent subangular strongly cemented medium and coarse gravel
Reaction—pH 3.6 to 5.5
Organic matter content—0.2 to 0.5 percent

2Cr horizon(s):
Bedrock—weathered, acid, fissile, black shale

2R horizon(s):
Bedrock—unweathered, acid, fissile, black shale

Bledsoe Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): CaE—Caneyville-Bledsoe-Rock outcrop complex, 12 to 35 percent slopes
Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Hill on upland
Landform position(s) (two-dimensional): Shoulder
Landform position(s) (three-dimensional): Side slope
Parent material: Clayey colluvium weathered from shale of the Renfro and Nada Members of the Borden Formation of the Mississippian System
Elevation: 1,060 to 1,300 feet
Slope: 12 to 35 percent
Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Bledsoe fine sandy loam in an area of Caneyville-Bledsoe-Rock outcrop complex, 12 to 35 percent slopes; on a woodland shoulder slope/ridgetop in the Daniel Boone National Forest, about 2,200 feet north and 1,400 feet east of Tater Knob Lookout Tower, on a north-facing slope near the head of Peter Cave Run; USGS Salt Lick, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 42.00 seconds N. and long. 83 degrees 32 minutes 16.00 seconds W.; UTM Zone 17, 277348 meters easting, 4215713 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 3 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak medium subangular blocky structure parting to weak fine granular; very friable; many fine, common medium, and common coarse roots throughout; moderately alkaline, pH 8.0; gradual wavy boundary. (2 to 6 inches thick)

AB—3 to 7 inches; light yellowish brown (10YR 6/4) sandy loam; weak medium subangular blocky structure; very friable; many fine, common medium, and common coarse roots throughout; moderately alkaline, pH 8.0; gradual wavy boundary. (0 to 6 inches thick)

BE—7 to 13 inches; light yellowish brown (10YR 6/4) sandy loam; weak medium subangular blocky structure; friable; many fine, common medium, and common coarse roots throughout; few fine tubular pores; moderately alkaline, pH 8.0; gradual smooth boundary. (0 to 7 inches thick)

2Bt1—13 to 20 inches; strong brown (7.5YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm; common fine, common medium, and few coarse roots throughout; few fine tubular pores; 40 percent discontinuous clay films on vertical faces of peds; 1 percent medium distinct irregular iron-manganese masses; strongly acid, pH 5.5; gradual smooth boundary.

2Bt2—20 to 40 inches; brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure and moderate medium angular blocky structure; firm; few fine and few medium roots throughout; few fine tubular pores; 45 percent continuous clay films on vertical faces of peds; 25 percent medium distinct irregular iron-manganese masses; moderately acid, pH 6.0; gradual smooth boundary.

2Bt3—40 to 54 inches; strong brown (7.5YR 4/6) silty clay; moderate medium angular blocky structure and moderate medium subangular blocky structure; firm; few fine and few medium roots throughout; few fine tubular pores; 40 percent discontinuous clay films on vertical faces of peds; 25 percent medium distinct irregular iron-manganese masses; moderately acid, pH 6.0; gradual smooth boundary. (Combined thickness of the 2Bt horizon is 20 to 45 inches.)

2BC—54 to 71 inches; strong brown (7.5YR 5/6) silty clay; weak medium subangular blocky structure; firm; few fine and few medium roots throughout; 1 percent medium distinct irregular iron-manganese masses; 1 percent nonflat rounded indurated $^{1}/_{12}$- to 3-inch quartz fragments; moderately acid, pH 6.0; gradual smooth boundary. (0 to 20 inches thick)

2C—71 to 84 inches; strong brown (7.5YR 5/6) clay; massive; very firm; 5 percent nonflat rounded indurated $^{1}/_{12}$- to 3-inch quartz fragments; moderately acid, pH 6.0. (0 to 20 inches thick)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Ochric epipedon and argillic horizon
Surface fragments: 0 to 3 percent indurated sandstone and unspecified flagstones
Depth to seasonal high water table: More than 6 feet

A, AB, and BE horizons:
Hue—7.5YR or 10YR
Value—3 to 6 moist
Chroma—2 to 4 moist
Texture—fine sandy loam or sandy loam
Rock fragments—0 to 10 percent subangular very indurated channers and 0 to 5 percent subangular very indurated flagstones
Reaction—pH 5.6 to 7.8
Organic matter content—2.0 to 4.0 percent

2Bt horizon(s):
Hue—5YR to 10YR
Value—4 to 6 moist
Chroma—3 to 8 moist
Texture—channery silty clay loam, very channery silty clay loam, silty clay, or silty clay loam
Rock fragments—0 to 15 percent subangular indurated channers, 0 to 5 percent indurated flagstones, and 0 to 5 percent subangular indurated stones
Reaction—pH 5.6 to 7.8
Organic matter content—0.0 to 0.5 percent

2BC and 2C horizons:
Hue—5YR to 10YR
Value—4 to 6 moist
Chroma—3 to 8 moist
Texture—channery silty clay loam, clay, silty clay, or channery silty clay
Rock fragments—0 to 10 percent subangular indurated channers, 0 to 10 percent subangular indurated flagstones, and 0 to 10 percent subangular indurated stones
Reaction—pH 5.6 to 7.8
Organic matter content—0.0 to 0.5 percent

Boonewood Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): BwA—Boonewood silt loam, 0 to 4 percent slopes, frequently flooded
Depth class: Moderately deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Floodplain in valley
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale deposited over limestone bedrock of the Ordovician System
Elevation: 600 to 850 feet
Slope: 0 to 4 percent
Taxonomic classification: Fine-silty, mixed, active, mesic Fluvaquentic Eutrudepts

Typical Pedon

Boonewood silt loam, 0 to 4 percent slopes, frequently flooded; in a pasture about 0.9 mile northeast of the intersection of Kentucky Highway 1106 and Big Flat South Road, about 300 feet east of Big Flat South Road, adjacent to an intermittent drain; USGS Owingsville, Kentucky topographic quadrangle; lat. 38 degrees 13 minutes 52.00 seconds N. and long. 83 degrees 48 minutes 59.00 seconds W.; UTM Zone 17, 253483 meters easting, 4235208 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 8 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; very friable; many fine roots throughout; moderately alkaline, pH 8.0; clear smooth boundary. (6 to 10 inches thick)

Bw1—8 to 15 inches; brown (10YR 4/3) silt loam; moderate medium subangular blocky structure; friable; common fine roots throughout; 1 percent flat subangular indurated $^{1}/_{12}$- to 6-inch limestone fragments; moderately alkaline, pH 8.0; gradual smooth boundary.

Bw2—15 to 27 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; common fine roots throughout; 25 percent discontinuous faint dark yellowish brown (10YR 4/6) silt coats on vertical faces of peds; 25 percent fine distinct irregular extremely weakly cemented light brownish gray (2.5Y 6/2) iron depletions with clear boundaries throughout; 5 percent flat subangular indurated $^{1}/_{12}$- to 6-inch limestone fragments; moderately alkaline, pH 8.0; gradual smooth boundary. (Combined thickness of the Bw horizon is 8 to 25 inches.)

C—27 to 32 inches; brown (10YR 4/3) channery silt loam; friable; 25 percent discontinuous faint dark yellowish brown (10YR 4/6) silt coats on vertical faces of peds; 25 percent fine prominent irregular extremely weakly cemented light olive gray (5Y 6/2) iron depletions with clear boundaries throughout; 15 percent flat subangular indurated $^{1}/_{12}$- to 6-inch limestone fragments; moderately alkaline, pH 8.0; abrupt smooth boundary. (2 to 8 inches thick)

R—32 to 36 inches; unweathered limestone bedrock.

Range in Characteristics

Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Diagnostic feature(s): Ochric epipedon, lithic contact, redoximorphic depletions with chroma of 2 or less, aquic conditions, and cambic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 17 to 24 inches

Ap horizon(s):
Hue—10YR
Value—4 moist
Chroma—3 or 4 moist
Texture—silt loam
Rock fragments—0 to 8 percent subangular indurated channers
Reaction—pH 6.1 to 8.4
Organic matter content—3.0 to 5.0 percent

Bw horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—3 to 6 moist
Texture—silty clay loam or silt loam
Redoximorphic features—in shades of brown, gray, or olive
Rock fragments—0 to 8 percent subangular indurated channers
Reaction—pH 6.1 to 8.4
Organic matter content—0.0 to 0.5 percent

C horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—2 to 6 moist
Texture—channery silt loam, silt loam, or silty clay loam
Redoximorphic features—in shades of brown, gray, or olive
Rock fragments—0 to 15 percent subangular indurated channers
Reaction—pH 6.1 to 8.4
Organic matter content—0.0 to 0.5 percent

R horizon(s):
Bedrock—unweathered limestone

Brownsville Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): BxF—Brownsville-Berks channery silt loams, 30 to 70 percent slopes, extremely stony
Depth class: Deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): High
Landform(s): Hillslope on hills
Landform position(s) (two-dimensional): Backslope
Landform position(s) (three-dimensional): Side slope
Parent material: Loamy-skeletal colluvium derived from siltstone, sandstone, and shale and/or loamy-skeletal residuum weathered from siltstone, sandstone, and shale of the Cowbell and Nancy Formations of the Borden Formation of the Mississippian System
Elevation: 900 to 1,300 feet
Slope: 30 to 70 percent
Taxonomic classification: Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

Typical Pedon

Brownsville channery silt loam in an area of Brownsville-Berks channery silt loams, 30 to 70 percent slopes, extremely stony; on a woodland side slope in the Daniel Boone

National Forest, about 1.9 miles east of Tater Knob Lookout Tower and 0.5 mile north of the Bath-Menifee County line; USGS Salt Lick, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 28.00 seconds N. and long. 83 degrees 30 minutes 29.00 seconds W.; UTM Zone 17, 279951 meters easting, 4215214 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 7 inches; dark grayish brown (10YR 4/2) channery silt loam; weak fine granular structure and weak medium subangular blocky structure; friable; many fine, many medium, and common coarse roots throughout; 25 percent flat subangular indurated 1/12- to 6-inch siltstone fragments; very strongly acid, pH 5.0; gradual smooth boundary. (2 to 8 inches thick)

Bw1—7 to 11 inches; light olive brown (2.5Y 5/4) channery silt loam; weak medium subangular blocky structure; friable; common fine, common medium, and common coarse roots throughout; common fine tubular pores; 25 percent flat subangular indurated 1/12- to 6-inch siltstone fragments; very strongly acid, pH 5.0; gradual smooth boundary.

Bw2—11 to 25 inches; light olive brown (2.5Y 5/4) very channery silt loam; weak medium subangular blocky structure; friable; common fine, common medium, and few coarse roots throughout; common fine tubular pores; 40 percent flat subangular indurated 1/12- to 6-inch siltstone fragments; very strongly acid, pH 5.0; gradual smooth boundary.

Bw3—25 to 34 inches; light olive brown (2.5Y 5/4) very channery silt loam; weak medium subangular blocky structure; friable; common fine, common medium, and common coarse roots throughout; common fine tubular pores; 50 percent flat subangular indurated 1/12- to 6-inch siltstone fragments; very strongly acid, pH 5.0; gradual smooth boundary. (Combined thickness of the Bw horizon ranges from 15 to 50 inches.)

C—34 to 46 inches; light olive brown (2.5Y 5/4) extremely channery silt loam; massive; friable; common fine, few medium, and few coarse roots throughout; few fine tubular pores; 60 percent flat subangular indurated 1/12- to 6-inch siltstone fragments; very strongly acid, pH 5.0; abrupt smooth boundary. (0 to 40 inches thick)

R—46 to 56 inches; unweathered siltstone bedrock.

Range in Characteristics

Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Diagnostic feature(s): Ochric epipedon, lithic contact, and argillic horizon
Surface fragments: 3 to 10 percent nonflat subangular indurated sandstone stones and 3 to 10 percent nonflat angular indurated siltstone stones
Depth to seasonal high water table: More than 6 feet

A horizon(s):
Hue—10YR
Value—2 to 5 moist
Chroma—1 to 4 moist
Texture—channery silt loam
Rock fragments—5 to 35 percent subangular indurated channers
Reaction—pH 3.6 to 6.5
Organic matter content—1.0 to 3.0 percent

Bw horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—3 to 6 moist
Texture—very channery loam, very flaggy silt loam, very channery silt loam, or extremely channery loam

Rock fragments—15 to 85 percent subangular indurated channers
Reaction—pH 3.6 to 5.5
Organic matter content—0.3 to 1.0 percent

C horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—4 to 6 moist
Texture—extremely channery silt loam, extremely channery loam, or very flaggy silt loam
Rock fragments—30 to 90 percent subangular indurated channers
Reaction—pH 3.6 to 6.0
Organic matter content—0.0 to 0.3 percent

R horizon(s):
Bedrock—unweathered siltstone

Caneyville Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): CaE—Caneyville-Bledsoe-Rock outcrop complex, 12 to 35 percent slopes
Depth class: Moderately deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Hill on upland
Landform position(s) (two-dimensional): Shoulder
Landform position(s) (three-dimensional): Side slope
Parent material: Clayey residuum weathered from limestone of the Newman Limestone Formation of the Mississippian System
Elevation: 1,060 to 1,300 feet
Slope: 12 to 35 percent
Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Caneyville silt loam in an area of Caneyville-Bledsoe-Rock outcrop complex, 12 to 35 percent slopes; on a woodland shoulder slope/ridgetop in the Daniel Boone National Forest, about 2,200 feet north and 1,400 feet east of Tater Knob Lookout Tower; USGS Salt Lick, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 41.00 seconds N. and long. 83 degrees 32 minutes 16.00 seconds W.; UTM Zone 17, 277359 meters easting, 4215656 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 3 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; very friable; common fine and common very fine roots throughout; neutral, pH 7.0; clear wavy boundary. (1 to 5 inches thick)

E—3 to 6 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; common fine and common very fine roots throughout; few very fine tubular pores; slightly acid, pH 6.5; gradual smooth boundary. (0 to 6 inches thick)

Bt1—6 to 12 inches; strong brown (7.5YR 5/6) silty clay loam; 10 percent medium distinct irregular yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; friable; common fine, few medium, and common very fine roots throughout; few very fine tubular pores; 30 percent discontinuous faint clay films on vertical faces of peds; slightly acid, pH 6.5; gradual smooth boundary.

Bt2—12 to 17 inches; yellowish red (5YR 4/6) silty clay; 10 percent medium faint irregular strong brown (7.5YR 5/6) mottles; strong medium subangular blocky structure and strong medium angular blocky structure; very firm; common fine and common very fine roots throughout; few very fine tubular pores; 50 percent discontinuous faint clay films on vertical faces of peds; slightly acid, pH 6.5; clear smooth boundary.

Bt3—17 to 25 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent strong brown (7.5YR 5/6) silty clay; 10 percent medium faint irregular light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; firm; common fine and common very fine roots throughout; few very fine tubular pores; 30 percent discontinuous faint clay films on vertical faces of peds; slightly acid, pH 6.5; clear smooth boundary. (Combined thickness of the Bt horizon is 5 to 30 inches.)

BC—25 to 30 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent light yellowish brown (2.5Y 6/3) clay; weak medium subangular blocky structure; firm; few very fine roots throughout; slightly alkaline, pH 7.5; abrupt smooth boundary. (0 to 6 inches thick)

R—30 to 40 inches; unweathered limestone bedrock.

Range in Characteristics

Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Diagnostic feature(s): Ochric epipedon, lithic contact, and argillic horizon
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

A horizon(s):
Hue—7.5YR or 10YR
Value—3 to 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—0 to 8 percent angular indurated channers and 0 to 2 percent angular indurated flagstones
Reaction—pH 4.5 to 7.3
Organic matter content—2.0 to 4.0 percent

E horizon(s):
Hue—7.5YR or 10YR
Value—5 or 6 moist
Chroma—3 or 4 moist
Texture—silt loam or silty clay loam
Rock fragments—0 to 8 percent angular indurated channers and 0 to 2 percent angular indurated flagstones
Reaction—pH 4.5 to 7.3
Organic matter content—2.0 to 4.0 percent

Bt and BC horizons:
Hue—2.5YR to 10YR
Value—4 to 6 moist
Chroma—4 to 8 moist
Texture—silty clay, silty clay loam, or clay
Rock fragments—0 to 5 percent angular indurated channers, 0 to 7 percent angular indurated flagstones, and 0 to 3 percent angular indurated stones
Reaction—pH 4.5 to 7.3
Organic matter content—0.0 to 0.5 percent

R horizon(s):
Bedrock—unweathered limestone

Chagrin Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): ChA—Chagrin loam, 0 to 3 percent slopes, frequently flooded
Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Floodplain in river valley
Parent material: Fine-loamy mixed alluvium derived from sandstone, siltstone, shale, and limestone of the Quaternary System
Elevation: 600 to 820 feet
Slope: 0 to 3 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Dystric Fluventic Eutrudepts

Typical Pedon

Chagrin loam, 0 to 3 percent slopes, frequently flooded; in a field of soybean stubble about 1.25 miles northeast of the intersection of U.S. Highway 60 and Kentucky Highway 211, about 750 feet east of the confluence of Cow Creek and the Licking River; USGS Colfax, Kentucky topographic quadrangle; lat. 38 degrees 8 minutes 40.00 seconds N. and long. 83 degrees 37 minutes 28.60 seconds W.; UTM Zone 17, 269999 meters easting, 4225096 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 11 inches; brown (10YR 4/3) loam; moderate medium granular structure and moderate fine granular structure; very friable; few fine roots throughout; neutral, pH 7.0; clear smooth boundary. (6 to 12 inches thick)
Bw1—11 to 30 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure and weak fine subangular blocky structure; friable; slightly acid, pH 6.5; clear smooth boundary.
Bw2—30 to 48 inches; dark yellowish brown (10YR 4/6) loam; weak medium subangular blocky structure and weak fine subangular blocky structure; friable; moderately acid, pH 6.0; gradual smooth boundary. (Combined thickness of the Bw horizon ranges from 14 to 40 inches.)
C1—48 to 65 inches; yellowish brown (10YR 5/6) sandy loam; massive; very friable; 5 percent medium distinct irregular pale brown (10YR 6/3) iron depletions with clear boundaries in matrix; strongly acid, pH 5.5; gradual smooth boundary.
C2—65 to 96 inches; yellowish brown (10YR 5/6) sandy loam; massive; very friable; 1 percent fine distinct irregular pale brown (10YR 6/3) iron depletions with clear boundaries in matrix; strongly acid, pH 5.5. (Combined thickness of the C horizon is 10 inches or more.)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Ochric epipedon and cambic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 48 to 72 inches

Ap horizon(s):
Hue—7.5YR or 10YR
Value—4 moist
Chroma—2 to 4 moist
Texture—loam
Rock fragments—0 to 20 percent subrounded indurated fine gravel and 0 to 15 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.3
Organic matter content—2.0 to 4.0 percent

Bw horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6 moist
Chroma—3 to 6 moist
Texture—silt loam, loam, or sandy loam
Rock fragments—0 to 7 percent subrounded indurated fine gravel and 0 to 8 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.3
Organic matter content—0.5 to 1.0 percent

C horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6 moist
Chroma—3 to 6 moist
Texture—silt loam, loam, stratified gravelly fine sand to silt loam, or sandy loam
Redoximorphic features—in shades of brown or gray
Rock fragments—0 to 10 percent subrounded indurated fine gravel and 0 to 15 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.3
Organic matter content—0.3 to 1.0 percent

Cotaco Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): AgB—Allegheny-Cotaco loams, 2 to 6 percent slopes; AgC—Allegheny-Cotaco loams, 6 to 12 percent slopes; CoB—Cotaco loam, 2 to 6 percent slopes; CoC—Cotaco loam, 6 to 12 percent slopes
Depth class: Very deep
Drainage class: Moderately well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Stream terrace in river valley
Landform position(s) (three-dimensional): Tread
Parent material: Fine-loamy mixed alluvium on high-level fluvial deposits of the Quaternary System on ridgetops and fine-loamy mixed alluvium of the Quaternary System on stream terraces
Elevation: 620 to 870 feet
Slope: 2 to 12 percent
Taxonomic classification: Fine-loamy, mixed, semiactive, mesic Aquic Hapludults

Typical Pedon

Cotaco loam, 2 to 6 percent slopes; in a pasture about 2 miles north of the intersection of Waterdell Road and Johnson Fork Road, about 1,000 feet south of the bend in the Licking River; USGS Colfax, Kentucky topographic quadrangle; lat. 38 degrees 12 minutes 44.50 seconds N. and long. 83 degrees 41 minutes 1.50 seconds W.; UTM

Zone 17, 265034 meters easting, 4232782 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 11 inches; dark yellowish brown (10YR 4/4) loam; weak fine granular structure; very friable; many very fine roots throughout; common very fine irregular pores; moderately acid, pH 6.0; clear smooth boundary. (5 to 12 inches thick)

Bt1—11 to 18 inches; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; many very fine roots throughout; common very fine irregular pores; 20 percent discontinuous faint yellowish brown (10YR 5/4) clay films on all faces of peds; moderately acid, pH 6.0; clear smooth boundary.

Bt2—18 to 41 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent yellowish brown (10YR 5/8) loam; weak thin platy structure; friable; common very fine roots throughout; many very fine irregular pores; 30 percent discontinuous faint yellowish brown (10YR 5/4) clay films on all faces of peds; 1 percent fine distinct irregular extremely weakly cemented light gray (2.5Y 7/2) iron depletions with clear boundaries throughout and 1 percent medium distinct irregular extremely weakly cemented light gray (2.5Y 7/2) iron depletions with clear boundaries throughout; 1 percent nonflat subangular indurated 1/5- to 3/4-inch chert fragments; strongly acid, pH 5.5; clear smooth boundary. (Combined thickness of the Bt horizon ranges from 10 to 55 inches.)

C1—41 to 50 inches; light olive brown (2.5Y 5/6) loam; 25 percent medium distinct irregular yellowish brown (10YR 5/6) mottles; massive; very friable; many very fine irregular pores; 45 percent medium faint irregular extremely weakly cemented light brownish gray (2.5Y 6/2) iron depletions with diffuse boundaries throughout; strongly acid, pH 5.5; clear smooth boundary.

C2—50 to 99 inches; yellowish brown (10YR 5/6) loam; massive; very friable; many very fine irregular pores; 1 percent medium distinct irregular extremely weakly cemented light brownish gray (2.5Y 6/2) iron depletions with clear boundaries throughout and 1 percent medium distinct spherical moderately cemented dark brown (7.5YR 3/4) iron-manganese nodules with sharp boundaries throughout; strongly acid, pH 5.5. (Combined thickness of the C horizon ranges from 10 to more than 60 inches.)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Redoximorphic concentrations, ochric epipedon, aquic conditions, redoximorphic depletions with chroma of 2 or less, and argillic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 15 to 29 inches

Ap horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6 moist
Chroma—2 to 4 moist
Texture—loam
Rock fragments—0 to 15 percent subangular indurated fine gravel and 0 to 20 percent subangular indurated medium and coarse gravel
Reaction—pH 3.6 to 6.0
Organic matter content—0.5 to 4.0 percent

Bt horizon(s):
Hue—5YR to 2.5Y
Value—4 to 6 moist

Chroma—3 to 8 moist
Texture—clay loam, loam, or gravelly sandy clay loam
Redoximorphic features—in shades of brown, gray, or red
Rock fragments—0 to 15 percent subangular indurated fine gravel and 0 to 20 percent subangular indurated medium and coarse gravel
Reaction—pH 3.6 to 5.5
Organic matter content—0.5 to 1.0 percent

C horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 8 moist
Chroma—1 to 8 moist
Texture—loam, gravelly sandy clay loam, or clay loam
Redoximorphic features—in shades of brown, gray, or red
Rock fragments—0 to 27 percent subangular indurated fine gravel and 0 to 23 percent subangular indurated medium and coarse gravel
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

Covedale Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: The Knobs
Map unit(s): CpC—Covedale-Trappist silt loams, 6 to 12 percent slopes; CpD—Covedale-Trappist silt loams, 12 to 30 percent slopes
Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Knob on upland
Landform position(s) (two-dimensional): Footslope
Landform position(s) (three-dimensional): Base slope
Parent material: Fine-silty colluvium and/or residuum weathered from acid, fissile, black shale of the New Albany Shale and Ohio Shale Members of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet
Slope: 6 to 20 percent
Taxonomic classification: Fine-silty, mixed, active, mesic Typic Paleudults

Typical Pedon

Covedale silt loam in an area of Covedale-Trappist silt loams, 12 to 30 percent slopes; on a woodland footslope in the Daniel Boone National Forest, about 800 feet south of the intersection of Satterfield Road and Blevins Valley Road, about 100 feet east of Blevins Valley Road; USGS Olympia, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 12.00 seconds N. and long. 83 degrees 44 minutes 22.20 seconds W.; UTM Zone 17, 259631 meters easting, 4215276 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 8 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; very friable; many fine and many very fine roots throughout; strongly acid, pH 5.5; clear smooth boundary. (2 to 9 inches thick)
Bt1—8 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine and common very fine roots throughout; 60 percent continuous clay films on vertical faces of peds; strongly acid, pH 5.5; gradual smooth boundary.
Bt2—21 to 42 inches; strong brown (7.5YR 5/6) silty clay loam; 1 percent fine faint

irregular strong brown (7.5YR 5/8) and 1 percent fine distinct irregular pale brown (10YR 6/3) mottles; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; firm; few fine and few very fine roots throughout; 60 percent continuous clay films on vertical faces of peds; 1 percent flat subangular strongly cemented $^{1}/_{12}$- to $^{3}/_{4}$-inch acid shale fragments; strongly acid, pH 5.5; gradual smooth boundary. (Combined thickness of the Bt horizon ranges from 20 to 40 inches.)

C—42 to 72 inches; strong brown (7.5YR 5/8) and light brownish gray (10YR 6/2) silty clay; massive; very firm; 10 percent flat subangular strongly cemented $^{1}/_{12}$- to $^{3}/_{4}$-inch acid shale fragments; very strongly acid, pH 5.0; abrupt smooth boundary. (10 to 35 inches thick)

Cr—72 to 76 inches; weathered acid, fissile, black shale bedrock.

R—76 to 86 inches; unweathered acid, fissile, black shale bedrock.

Range in Characteristics

Depth to restrictive feature: 60 to 80 inches to paralithic bedrock; 60 to 80 inches to lithic bedrock

Diagnostic feature(s): Ochric epipedon, lithic contact, argillic horizon, and paralithic contact

Surface fragments: None

Depth to seasonal high water table: More than 6 feet

A horizon(s):

Hue—10YR
Value—3 to 5 moist
Chroma—2 to 6 moist
Texture—silt loam
Rock fragments—0 to 15 percent subangular strongly cemented channers
Reaction—pH 3.5 to 5.5
Organic matter content—1.0 to 3.0 percent

Bt horizon(s):

Hue—5YR to 10YR
Value—4 to 6 moist
Chroma—4 to 8 moist
Texture—clay, channery silty clay, or silty clay loam
Rock fragments—0 to 20 percent subangular strongly cemented channers
Reaction—pH 3.5 to 5.5
Organic matter content—0.0 to 0.5 percent

C horizon(s):

Hue—2.5YR to 5Y
Value—4 to 7 moist
Chroma—1 to 8 moist
Texture—very channery clay, clay, silty clay, or channery silty clay
Rock fragments—0 to 50 percent subangular strongly cemented channers and 0 to 10 percent subangular strongly cemented flagstones
Reaction—pH 3.5 to 5.0
Organic matter content—0.0 to 0.2 percent

Cr horizon(s):

Bedrock—weathered, acid, fissile, black shale

R horizon(s):

Bedrock—unweathered, acid, fissile, black shale

Crider Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): CrA—Crider silt loam, 0 to 2 percent slopes; CrB—Crider silt loam, 2 to 6 percent slopes
Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Ridge on karst upland
Landform position(s) (two-dimensional): Summit
Landform position(s) (three-dimensional): Interfluve
Parent material: Fine-silty loess over clayey residuum weathered from dolomitic limestone of the Bisher Formation of the Silurian System
Elevation: 860 to 1,030 feet
Slope: 0 to 6 percent
Taxonomic classification: Fine-silty, mixed, active, mesic Typic Paleudalfs

Typical Pedon

Crider silt loam, 2 to 6 percent slopes; in a pasture, about 1.25 miles north of Preston on Kentucky Highway 965 to a gravel road on the west side of Kentucky Highway 965, about 0.75 mile northwest on the gravel road, and about 50 feet on the northeast side of the gravel road; USGS Preston, Kentucky topographic quadrangle; lat. 38 degrees 6 minutes 13.90 seconds N. and long. 83 degrees 45 minutes 43.20 seconds W.; UTM Zone 17, 257823 meters easting, 4220942 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 15 inches; brown (10YR 4/3) silt loam; weak medium granular structure parting to weak fine granular; friable; common fine roots throughout; very strongly acid, pH 5.0; gradual smooth boundary. (5 to 15 inches thick)

Bt1—15 to 24 inches; brown (7.5YR 4/4) silt loam; weak medium subangular blocky structure parting to weak fine subangular blocky; friable; few fine roots throughout; 15 percent discontinuous distinct strong brown (7.5YR 4/6) clay films on vertical faces of peds; very strongly acid, pH 5.0; gradual smooth boundary. (8 to 20 inches thick)

2Bt2—24 to 34 inches; reddish brown (5YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; 40 percent discontinuous distinct strong brown (7.5YR 4/6) clay films on vertical faces of peds; 20 percent medium prominent irregular black (10YR 2/1) manganese masses in matrix and 20 percent fine prominent irregular black (10YR 2/1) manganese masses in matrix; moderately acid, pH 6.0; diffuse smooth boundary.

2Bt3—34 to 60 inches; yellowish red (5YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm; 60 percent discontinuous distinct strong brown (7.5YR 4/6) clay films on vertical faces of peds; 2 percent fine distinct spherical weakly cemented dark brown (7.5YR 3/3) iron-manganese concretions with sharp boundaries in matrix and 20 percent medium prominent irregular black (10YR 2/1) manganese masses with clear boundaries in matrix; moderately acid, pH 6.0; diffuse smooth boundary.

2Bt4—60 to 92 inches; yellowish red (5YR 5/6) silty clay loam; weak medium subangular blocky structure; firm; 1 percent fine distinct spherical weakly cemented dark brown (7.5YR 3/3) iron-manganese concretions with sharp boundaries in matrix; strongly acid, pH 5.5. (Combined thickness of the 2Bt horizon ranges from 30 to 70 inches.)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Ochric epipedon, lithologic discontinuity, and argillic horizon
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

Ap horizon(s):
Hue—7.5YR or 10YR
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—none
Reaction—pH 5.1 to 7.3
Organic matter content—2.0 to 4.0 percent

Bt horizon(s):
Hue—5YR to 10YR
Value—4 or 5 moist
Chroma—4 to 6 moist
Texture—silt loam or silty clay loam
Rock fragments—0 to 5 percent angular indurated channers
Reaction—pH 5.1 to 7.3
Organic matter content—0.0 to 0.5 percent

2Bt horizon(s):
Hue—10R to 5YR
Value—3 to 5 moist
Chroma—4 to 8 moist
Texture—clay, silty clay loam, or silty clay
Rock fragments—0 to 5 percent angular indurated channers and 0 to 5 percent angular indurated flagstones
Reaction—pH 4.5 to 6.5
Organic matter content—0.0 to 0.5 percent

Cynthiana Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): CyD2—Cynthiana-Faywood complex, very rocky, 6 to 20 percent slopes, eroded; CyE2—Cynthiana-Faywood complex, rocky, 20 to 40 percent slopes, eroded
Depth class: Shallow
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Hill on upland
Landform position(s) (two-dimensional): Backslope
Landform position(s) (three-dimensional): Side slope
Parent material: Clayey residuum weathered from limestone of the Bull Fork and Grant Lake Formations of the Ordovician System
Elevation: 800 to 1,080 feet
Slope: 6 to 40 percent
Taxonomic classification: Clayey, mixed, active, mesic Lithic Hapludalfs

Typical Pedon

Cynthiana flaggy silty clay loam in an area of Cynthiana-Faywood complex, rocky, 20 to 40 percent slopes, eroded; in an unimproved pasture about 0.75 mile east of the intersection of Kentucky Highway 1106 and Big Flat South Road, on the south side of Big Flat South Road, across an intermittent drain; USGS Owingsville, Kentucky topographic quadrangle; lat. 38 degrees 13 minutes 31.40 seconds N. and long. 84 degrees 49 minutes 13.40 seconds W.; UTM Zone 17, 252121 meters easting, 4234831 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 3 inches; brown (10YR 4/3) flaggy silty clay loam; weak fine granular structure; friable; many fine roots throughout; 20 percent flat angular indurated 6- to 15-inch limestone fragments; slightly alkaline, pH 7.5; clear wavy boundary. (2 to 6 inches thick)

Bt—3 to 14 inches; yellowish brown (10YR 5/4) flaggy clay; moderate medium subangular blocky structure and moderate medium angular blocky structure; firm; common fine roots throughout; 40 percent discontinuous distinct clay films on vertical faces of peds; 30 percent flat angular indurated 6- to 15-inch limestone fragments; moderately alkaline, pH 8.0; gradual wavy boundary. (8 to 16 inches thick)

C—14 to 18 inches; light olive brown (2.5Y 5/4) flaggy clay; massive; very firm; few fine roots throughout; 40 percent discontinuous distinct clay films on vertical faces of peds; 30 percent flat angular indurated 6- to 15-inch limestone fragments; moderately alkaline, pH 8.0; abrupt smooth boundary. (0 to 5 inches thick)

R—18 to 22 inches; unweathered limestone bedrock.

Range in Characteristics

Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Diagnostic feature(s): Ochric epipedon, lithic contact, and argillic horizon
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

A horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—flaggy silty clay loam
Rock fragments—0 to 20 percent angular indurated channers and 0 to 20 percent angular indurated flagstones
Reaction—pH 6.1 to 7.8
Organic matter content—1.0 to 4.0 percent

Bt horizon(s):
Hue—10YR to 5Y
Value—4 or 5 moist
Chroma—4 to 6 moist
Texture—channery silty clay, flaggy silty clay, or flaggy clay
Rock fragments—3 to 25 percent angular indurated channers and 2 to 20 percent angular indurated flagstones
Reaction—pH 6.1 to 7.8
Organic matter content—0.0 to 0.5 percent

C horizon(s):
Hue—10YR to 5Y
Value—4 or 5 moist
Chroma—4 to 6 moist
Texture—flaggy silty clay or flaggy clay
Rock fragments—3 to 25 percent angular indurated channers and 2 to 20 percent angular indurated flagstones

Reaction—pH 6.1 to 7.8
Organic matter content—0.0 to 0.5 percent

R horizon(s):
Bedrock—unweathered limestone

Eden Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): EdD2—Eden silty clay loam, 6 to 20 percent slopes, eroded; EeE2—Eden-Lowell complex, 20 to 40 percent slopes, eroded
Depth class: Moderately deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Low
Landform(s): Convex hill on upland
Landform position(s) (two-dimensional): Shoulder and backslope
Landform position(s) (three-dimensional): Side slope and crest
Parent material: Clayey residuum weathered from interbedded calcareous shale, siltstone, and limestone of the Garrard Siltstone, Kope and Clays Ferry, and the Kope Formations of the Ordovician System
Elevation: 620 to 880 feet
Slope: 6 to 40 percent
Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Eden silty clay loam in an area of Eden-Lowell complex, 20 to 40 percent slopes, eroded; in a pasture about 0.25 mile northeast of the confluence of Flat Creek and the Licking River, about 200 feet up a side slope, east of a gravel road that is just off of Kentucky Highway 1325; USGS Sherburne, Kentucky topographic quadrangle; lat. 38 degrees 16 minutes 53.30 seconds N. and long. 83 degrees 47 minutes 55.60 seconds W.; UTM Zone 17, 255194 meters easting, 4240751 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 3 inches; brown (10YR 4/3) silty clay loam; weak fine granular structure; very friable; common fine and common very fine roots throughout; many very fine irregular pores; 1 percent flat subangular indurated $^{1}/_{12}$- to 6-inch limestone fragments, 1 percent flat subangular indurated 6- to 15-inch limestone fragments, 2 percent flat subangular very strongly cemented 6- to 15-inch siltstone fragments, and 3 percent flat subangular very strongly cemented $^{1}/_{12}$- to 6-inch siltstone fragments; slightly acid, pH 6.5; abrupt smooth boundary. (2 to 7 inches thick)

Bt1—3 to 9 inches; 50 percent dark yellowish brown (10YR 4/4) and 50 percent brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure parting to moderate fine subangular blocky; firm; common fine and common very fine roots throughout; many very fine irregular pores; 100 percent continuous distinct brown (10YR 4/3) clay films on vertical faces of peds; 1 percent flat subangular indurated 6- to 15-inch limestone fragments, 1 percent flat subangular indurated $^{1}/_{12}$- to 6-inch limestone fragments, 3 percent flat subangular very strongly cemented 6- to 15-inch siltstone fragments, and 5 percent flat subangular very strongly cemented $^{1}/_{12}$- to 6-inch siltstone fragments; slightly acid, pH 6.5; gradual wavy boundary.

Bt2—9 to 26 inches; 50 percent dark yellowish brown (10YR 4/4) and 50 percent brown (10YR 4/3) flaggy silty clay; strong medium subangular blocky structure; firm; common fine and common very fine roots throughout; many very fine irregular pores; 100 percent continuous distinct brown (10YR 4/3) clay films on vertical faces of peds; 1 percent flat subangular indurated $^{1}/_{12}$- to 6-inch limestone fragments, 1 percent flat subangular indurated 6- to 15-inch limestone fragments, 4 percent flat subangular very strongly cemented 6- to 15-inch siltstone fragments, and 8 percent flat subangular very strongly cemented $^{1}/_{12}$- to 6-inch siltstone fragments; slightly acid, pH 6.5; gradual wavy boundary. (Combined thickness of the Bt horizon ranges from 8 to 24 inches.)

BC—26 to 32 inches; olive brown (2.5Y 4/4) flaggy clay; 2 percent fine distinct irregular reddish brown (5YR 5/3) and 10 percent medium distinct irregular reddish brown (5YR 4/3) mottles; strong coarse angular blocky structure parting to strong medium subangular blocky; very firm; few fine and few very fine roots throughout; common very fine irregular pores; 100 percent continuous distinct olive brown (2.5Y 4/4) clay films on vertical faces of peds; 1 percent flat subangular indurated $^{1}/_{12}$- to 6-inch limestone fragments, 1 percent flat subangular indurated 6- to 15-inch limestone fragments, 7 percent flat subangular very strongly cemented 6- to 15-inch siltstone fragments, and 8 percent flat subangular very strongly cemented $^{1}/_{12}$- to 6-inch siltstone fragments; slightly acid, pH 6.5; clear wavy boundary. (5 to 20 inches thick)

Cr—32 to 42 inches; weathered shale bedrock.

Range in Characteristics

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Diagnostic feature(s): Ochric epipedon, argillic horizon, and paralithic contact
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

A horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silty clay loam
Rock fragments—0 to 12 percent subangular very strongly cemented channers and 0 to 13 percent subangular indurated flagstones
Calcium carbonate equivalent—0 to 1 percent
Reaction—pH 4.5 to 8.4
Organic matter content—0.5 to 3.0 percent

Bt and BC horizons:
Hue—10YR to 5Y
Value—4 or 5 moist
Chroma—3 to 6 moist
Texture—flaggy silty clay, flaggy clay, or silty clay
Rock fragments—6 to 15 percent subangular very strongly cemented channers and 5 to 20 percent subangular indurated flagstones
Calcium carbonate equivalent—0 to 12 percent
Reaction—pH 5.1 to 8.4
Organic matter content—0.0 to 0.5 percent

Cr horizon(s):
Bedrock—weathered, calcareous shale, siltstone, and limestone

Elk Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): EkB—Elk silt loam, 2 to 6 percent slopes; EkC—Elk silt loam, 6 to 12 percent slopes; ElD2—Elk silt loam, 12 to 20 percent slopes, eroded

Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Stream terrace on river valley
Landform position(s) (three-dimensional): Riser and tread
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 640 to 750 feet
Slope: 2 to 20 percent
Taxonomic classification: Fine-silty, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Elk silt loam, 2 to 6 percent slopes; in a pasture about 1,500 feet east of the confluence of Jones Branch and Slate Creek; USGS Owingsville, Kentucky topographic quadrangle; lat. 38 degrees 7 minutes 28.70 seconds N. and long. 83 degrees 47 minutes 53.40 seconds W.; UTM Zone 17, 254721 meters easting, 4223343 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 9 inches; brown (10YR 4/3) silt loam; moderate very fine granular structure; very friable; common fine and many very fine roots throughout; 1 percent fine distinct spherical extremely weakly cemented manganese masses with clear boundaries throughout; slightly acid, pH 6.5; clear smooth boundary. (7 to 12 inches thick)

Bt1—9 to 29 inches; strong brown (7.5YR 5/6) silt loam; strong fine subangular blocky structure; friable; common fine and common very fine roots throughout; 40 percent discontinuous distinct yellowish red (5YR 4/6) clay films on vertical faces of peds; 5 percent medium distinct spherical extremely weakly cemented iron-manganese masses with clear boundaries throughout; 2 percent nonflat subrounded indurated $^{1}/_{5}$- to $^{3}/_{4}$- inch quartz fragments; moderately acid, pH 6.0; clear smooth boundary.

Bt2—29 to 55 inches; strong brown (7.5YR 4/6) silty clay loam; strong medium subangular blocky structure parting to strong fine subangular blocky; friable; common fine and common very fine roots throughout; 30 percent discontinuous distinct yellowish red (5YR 4/6) clay films on vertical faces of peds; 5 percent medium distinct spherical extremely weakly cemented iron-manganese masses with clear boundaries throughout; moderately acid, pH 6.0; clear smooth boundary. (Combined thickness of the Bt horizon ranges from 20 to 50 inches.)

2Bt3—55 to 62 inches; brownish yellow (10YR 6/6) silty clay loam; 1 percent medium distinct irregular yellowish red (5YR 4/6) mottles; moderate medium subangular blocky structure parting to moderate fine subangular blocky; firm; 30 percent discontinuous distinct yellowish red (5YR 5/6) clay films on vertical faces of peds; 10 percent medium distinct spherical extremely weakly cemented yellowish red (5YR 4/6) iron-manganese masses with clear boundaries throughout; moderately acid, pH 6.0; clear smooth boundary.

2Bt4—62 to 102 inches; strong brown (7.5YR 5/8) silty clay; 10 percent medium distinct irregular very pale brown (10YR 7/4) mottles; moderate medium subangular blocky structure parting to moderate fine subangular blocky; firm; 25 percent patchy distinct yellowish red (5YR 5/6) clay films on vertical faces of peds; 15 percent medium distinct spherical extremely weakly cemented very pale brown (10YR 7/4) iron-manganese masses with clear boundaries throughout; 1 percent nonflat subrounded indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch quartz fragments; moderately acid, pH 6.0. (Combined thickness of the 2Bt horizon ranges from 20 to 60 inches.)

Range in Characteristics

Depth to restrictive feature: More than 80 inches

Diagnostic feature(s): Redoximorphic concentrations, ochric epipedon, lithologic discontinuity, and argillic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 36 to 60 inches

Ap horizon(s):
Hue—7.5YR or 10YR
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—0 to 5 percent subrounded indurated fine gravel and 0 to 5 percent subrounded indurated medium and coarse gravel
Reaction—pH 4.5 to 6.5
Organic matter content—0.5 to 3.0 percent

Bt horizon(s):
Hue—7.5YR or 10YR
Value—4 or 5 moist
Chroma—4 to 6 moist
Texture—silt loam or silty clay loam
Rock fragments—0 to 2 percent subrounded indurated fine gravel and 0 to 3 percent subrounded indurated medium and coarse gravel
Reaction—pH 4.5 to 6.5
Organic matter content—0.5 to 1.0 percent

2Bt3 horizon:
Hue—5YR to 10YR
Value—4 or 5 moist
Chroma—4 to 8 moist
Texture—silt loam or silty clay loam
Rock fragments—0 to 2 percent subrounded indurated fine gravel and 0 to 3 percent subrounded indurated medium and coarse gravel
Reaction—pH 4.5 to 6.5
Organic matter content—0.5 to 1.0 percent

2Bt4 horizon:
Hue—5YR to 10YR
Value—4 or 5 moist
Chroma—4 to 8 moist
Texture—silty clay loam, silt loam, gravelly silty clay loam, or silty clay
Rock fragments—0 to 15 percent subrounded indurated fine gravel and 0 to 20 percent subrounded indurated medium and coarse gravel
Reaction—pH 4.5 to 6.5
Organic matter content—0.0 to 0.5 percent

Fairmount Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): FaF2—Fairmount-Faywood complex, 20 to 60 percent slopes, eroded
Depth class: Shallow
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Hill on upland

Landform position(s) (two-dimensional): Backslope
Landform position(s) (three-dimensional): Side slope
Parent material: Clayey residuum weathered from limestone and shale of the Fairview Formation, the Tate Member of the Grant Lake Formation, and the Sunset Member of the Bull Fork Formation of the Ordovician System
Elevation: 700 to 900 feet
Slope: 20 to 60 percent
Taxonomic classification: Clayey, mixed, active, mesic Lithic Hapludolls

Typical Pedon

Fairmount channery silty clay loam in an area of Fairmount-Faywood complex, 20 to 60 percent slopes, eroded; in a wooded area about 0.75 mile north of Pebble and the intersection of Kentucky Highway 1602 and North Lick Branch Road, and about 500 feet east of North Lick Branch Road, adjacent to an intermittent drain (the site is about 0.25 mile south of the Licking River); USGS Sherburne, Kentucky topographic quadrangle; lat. 38 degrees 16 minutes 37.20 seconds N. and long. 83 degrees 44 minutes 55.10 seconds W.; UTM Zone 17, 259565 meters easting, 4240123 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 5 inches; very dark grayish brown (10YR 3/2) channery silty clay loam; moderate medium subangular blocky structure parting to moderate fine granular; firm; many fine and common very coarse roots throughout; 30 percent flat angular indurated $^{1}/_{12}$- to 6-inch limestone fragments; neutral, pH 7.0; clear wavy boundary. (5 to 10 inches thick)
Bw—5 to 11 inches; dark yellowish brown (10YR 4/4) channery silty clay; strong medium subangular blocky structure; very firm; many fine and common very coarse roots throughout; 20 percent continuous distinct brown (10YR 4/3) silt coats on vertical faces of peds; 30 percent flat angular indurated $^{1}/_{12}$- to 6-inch limestone fragments; neutral, pH 7.0; abrupt wavy boundary. (5 to 8 inches thick)
C—11 to 15 inches; dark yellowish brown (10YR 4/4) very channery clay; very firm; common fine roots throughout; 35 percent flat angular indurated $^{1}/_{12}$- to 6-inch limestone fragments; neutral, pH 7.0; abrupt wavy boundary. (2 to 5 inches thick)
R—15 to 19 inches; unweathered limestone bedrock.

Range in Characteristics

Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Diagnostic feature(s): Lithic contact, mollic epipedon, and cambic horizon
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

A horizon(s):
Hue—10YR or 2.5Y
Value—2 or 3 moist
Chroma—1 to 3 moist
Texture—channery silty clay loam
Rock fragments—3 to 30 percent angular indurated channers and 2 to 5 percent angular indurated flagstones
Reaction—pH 6.6 to 8.4
Organic matter content—3.0 to 7.0 percent

Bw and C horizons:
Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—flaggy silty clay loam, flaggy clay, or channery silty clay

Rock fragments—3 to 30 percent angular indurated channers and 2 to 5 percent angular indurated flagstones
Reaction—pH 6.6 to 8.4
Organic matter content—1.0 to 5.0 percent

R horizon(s):
Bedrock—unweathered limestone

Faywood Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): CyD2—Cynthiana-Faywood complex, very rocky, 6 to 20 percent slopes, eroded; CyE2—Cynthiana-Faywood complex, rocky, 20 to 40 percent slopes, eroded; FaF2—Fairmount-Faywood complex, 20 to 60 percent slopes, eroded; FyB2—Faywood-Lowell complex, 2 to 6 percent slopes, eroded; FyC2—Faywood-Lowell complex, 6 to 12 percent slopes, eroded; FyD2—Faywood-Lowell complex, 12 to 20 percent slopes, eroded
Depth class: Moderately deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Hill on upland and ridge on upland
Landform position(s) (two-dimensional): Summit, shoulder, and backslope
Landform position(s) (three-dimensional): Interfluve and side slope
Parent material: Clayey residuum weathered from limestone and shale of the Fairview, Bull Fork, and Grant Lake Formations of the Ordovician System
Elevation: 700 to 1,080 feet
Slope: 2 to 60 percent
Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Faywood silty clay loam in an area of Faywood-Lowell complex, 12 to 20 percent slopes, eroded; in a hayfield on a side slope near Reynoldsville, 3,000 feet west-northwest of the intersection of Kentucky Highway 36 and Kentucky Highway 1325, and about 1,300 feet north of Kentucky Highway 36; USGS Owingsville, Kentucky topographic quadrangle; lat. 38 degrees 11 minutes 43.00 seconds N. and long. 83 degrees 49 minutes 53.00 seconds W.; UTM Zone 17, 252054 meters easting, 4231264 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 3 inches; brown (10YR 4/3) silty clay loam; weak medium subangular blocky structure; friable; many fine roots throughout; moderately alkaline, pH 8.0; clear smooth boundary. (3 to 7 inches thick)
BA—3 to 7 inches; brown (10YR 4/3) silty clay; 10 percent medium distinct irregular yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; common fine roots throughout; 10 percent discontinuous faint clay films on vertical faces of peds; neutral, pH 7.0; clear smooth boundary. (0 to 6 inches thick)
Bt1—7 to 12 inches; yellowish brown (10YR 5/6) silty clay; moderate medium subangular blocky structure; firm; common fine roots throughout; 60 percent discontinuous faint clay films on vertical faces of peds; very strongly acid, pH 5.0; clear smooth boundary.
Bt2—12 to 23 inches; yellowish brown (10YR 5/4) silty clay; 10 percent medium distinct irregular light olive brown (2.5Y 5/4) mottles; weak medium subangular blocky structure; firm; few fine roots throughout; 60 percent continuous distinct clay

films on vertical faces of peds; strongly acid, pH 5.5; clear smooth boundary. (Combined thickness of the Bt horizon ranges from 10 to 25 inches.)

C—23 to 31 inches; light yellowish brown (2.5Y 6/4) very channery silty clay; 15 percent coarse distinct irregular dark reddish gray (5YR 4/2) and 15 percent medium distinct irregular dark reddish gray (5YR 4/2) mottles; massive; firm; few fine roots throughout; 30 percent clay films on rock fragments; 35 percent flat angular indurated $^{1}/_{12}$- to 6-inch limestone fragments; slightly alkaline, pH 7.5; abrupt smooth boundary. (0 to 10 inches thick)

R—31 to 35 inches; unweathered limestone and shale bedrock.

Range in Characteristics

Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Diagnostic feature(s): Ochric epipedon, lithic contact, and argillic horizon
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

A horizon(s):
Hue—10YR
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silty clay loam
Rock fragments—0 to 8 percent angular indurated channers and 0 to 7 percent angular indurated flagstones
Reaction—pH 5.1 to 8.0
Organic matter content—1.0 to 2.0 percent

BA and Bt horizons:
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—3 to 8 moist
Texture—silty clay, clay, or silty clay loam
Rock fragments—0 to 8 percent angular indurated channers and 0 to 7 percent angular indurated flagstones
Reaction—pH 5.1 to 7.8
Organic matter content—0.0 to 0.5 percent

C horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—4 to 8 moist
Texture—silty clay loam, clay, or very channery silty clay
Rock fragments—0 to 20 percent angular indurated channers and 0 to 15 percent angular indurated flagstones
Reaction—pH 5.1 to 7.8
Organic matter content—0.0 to 0.5 percent

R horizon(s):
Bedrock—unweathered limestone

Gilpin Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): GlB—Gilpin silt loam, 2 to 6 percent slopes; GpD2—Gilpin silt loam, 6 to 20 percent slopes, eroded; GpE2—Gilpin silt loam, 20 to 40 percent slopes, eroded; SpF2—Shelocta-Gilpin silt loams, 20 to 60 percent slopes, eroded

Depth class: Moderately deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Hillslope on hills and ridge on hills
Landform position(s) (two-dimensional): Summit and backslope
Landform position(s) (three-dimensional): Interfluve and side slope
Parent material: Fine-loamy residuum weathered from shale, siltstone, and sandstone of the Renfro and Nada, Cowbell, and Nancy Shale Members of the Borden Formation of the Mississippian System
Elevation: 700 to 1,300 feet
Slope: 2 to 60 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludults

Typical Pedon

Gilpin silt loam in an area of Shelocta-Gilpin silt loams, 20 to 60 percent slopes, eroded; on a woodland side slope in the Daniel Boone National Forest, about 1,400 feet south of Clear Creek Furnace and 400 feet west of Clear Creek; USGS Salt Lick, Kentucky topographic quadrangle; lat. 38 degrees 2 minutes 48.00 seconds N. and long. 83 degrees 35 minutes 21.00 seconds W.; UTM Zone 17, 272809 meters easting, 4214157 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 5 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure and weak fine granular structure; very friable; many fine, common medium, and common coarse roots throughout; 7 percent flat subangular strongly cemented $^1/_{12}$- to 6-inch siltstone fragments; very strongly acid, pH 5.0; gradual wavy boundary. (4 to 8 inches thick)

BA—5 to 10 inches; yellowish brown (10YR 5/4) silt loam; weak fine granular structure and weak medium subangular blocky structure; friable; common fine and common medium roots throughout; few fine tubular pores; 7 percent flat subangular strongly cemented $^1/_{12}$- to 6-inch siltstone fragments; very strongly acid, pH 5.0; gradual smooth boundary. (3 to 5 inches thick)

Bt1—10 to 20 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; common fine and common medium roots throughout; common fine tubular pores; 20 percent discontinuous distinct clay films on vertical faces of peds; 5 percent flat subangular strongly cemented $^1/_{12}$- to 6-inch siltstone fragments; very strongly acid, pH 5.0; gradual smooth boundary.

Bt2—20 to 31 inches; brownish yellow (10YR 6/6) channery silt loam; moderate medium subangular blocky structure; firm; few fine and few medium roots throughout; common fine tubular pores; 40 percent discontinuous distinct clay films on vertical faces of peds; 20 percent flat subangular strongly cemented $^1/_{12}$- to 6-inch siltstone fragments; very strongly acid, pH 5.0; gradual smooth boundary. (Combined thickness of the Bt horizon ranges from 12 to 26 inches.)

C—31 to 36 inches; brownish yellow (10YR 6/6) extremely channery silt loam; massive; firm; 60 percent flat subangular strongly cemented $^1/_{12}$- to 6-inch siltstone fragments; very strongly acid, pH 5.0; gradual smooth boundary. (0 to 10 inches thick)

Cr—36 to 46 inches; weathered shale bedrock.

Range in Characteristics

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Diagnostic feature(s): Ochric epipedon, argillic horizon, and paralithic contact
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

A horizon(s):
Hue—10YR to 2.5Y
Value—3 to 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—3 to 25 percent subangular strongly cemented channers and 2 to 15 percent subangular strongly cemented flagstones
Reaction—pH 3.6 to 5.5
Organic matter content—2.0 to 4.0 percent

BA and Bt horizons:
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—3 to 8 moist
Texture—silt loam, loam, channery silty clay loam, or channery silt loam
Rock fragments—3 to 25 percent subangular strongly cemented channers and 2 to 15 percent subangular strongly cemented flagstones
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

C horizon(s):
Hue—7.5YR to 2.5Y
Value—3 to 6 moist
Chroma—2 to 8 moist
Texture—extremely channery silt loam, channery loam, very channery loam, or channery silt loam
Rock fragments—15 to 55 percent subangular strongly cemented channers and 15 to 35 percent subangular strongly cemented flagstones
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

Cr horizon(s):
Bedrock—weathered shale, siltstone, or sandstone

Grigsby Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): GrA—Grigsby fine sandy loam, 0 to 4 percent slopes, frequently flooded
Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): High
Landform(s): Floodplain in river valley
Parent material: Coarse-loamy mixed alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 600 to 820 feet
Slope: 0 to 4 percent
Taxonomic classification: Coarse-loamy, mixed, active, mesic Dystric Fluventic Eutrudepts

Typical Pedon

Grigsby fine sandy loam, 0 to 4 percent slopes, frequently flooded; in a field of soybean stubble about 750 feet east of the low-water crossing of Kentucky Highway 211 and the Licking River, about 650 feet northeast of the intersection of Kentucky Highway 211 and a gravel road, about 150 feet south of the Licking River, and 20 feet south of a gravel road; USGS Farmers, Kentucky topographic quadrangle; lat. 38 degrees 10 minutes 37.10 seconds N. and long. 83 degrees 36 minutes 58.60 seconds W.; UTM Zone 17, 253310 meters easting, 4229199 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap1—0 to 6 inches; brown (10YR 4/3) fine sandy loam; moderate medium granular structure and moderate fine granular structure; very friable; common fine and common very fine roots throughout; neutral, pH 7.0; gradual smooth boundary.

Ap2—6 to 12 inches; dark yellowish brown (10YR 4/6) fine sandy loam; weak medium granular structure and weak fine granular structure; very friable; few fine and common very fine roots throughout; slightly acid, pH 6.5; gradual smooth boundary. (Thickness of the Ap horizon ranges from 6 to 12 inches.)

Bw—12 to 31 inches; dark yellowish brown (10YR 4/4) sandy loam; weak fine subangular blocky structure and weak medium subangular blocky structure; very friable; few fine and few very fine roots throughout; neutral, pH 7.0; clear smooth boundary. (10 to 45 inches thick)

C1—31 to 59 inches; yellowish brown (10YR 5/6) fine sandy loam; massive; very friable; few fine and few very fine roots throughout; neutral, pH 7.0; clear smooth boundary.

C2—59 to 96 inches; yellowish brown (10YR 5/6) stratified fine sandy loam to loam; massive; very friable; few fine and few very fine roots throughout; moderately acid, pH 6.0. (Combined thickness of the C horizon ranges from 12 to more than 65 inches.)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Ochric epipedon and cambic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 40 to 72 inches

Ap horizon(s):
Hue—10YR
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—fine sandy loam or sandy loam
Rock fragments—0 to 7 percent subrounded indurated fine gravel and 0 to 8 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.3
Organic matter content—1.0 to 4.0 percent

Bw horizon(s):
Hue—7.5YR or 10YR
Value—3 to 6 moist
Chroma—3 to 6 moist
Texture—silt loam, sandy loam, or fine sandy loam
Rock fragments—0 to 7 percent subrounded indurated fine gravel and 0 to 8 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.3
Organic matter content—1.0 to 4.0 percent

C horizon(s):
Hue—10YR or 2.5Y
Value—3 to 8 moist
Chroma—2 to 8 moist

Texture—fine sandy loam, gravelly sandy loam, or sandy loam
Rock fragments—0 to 30 percent subrounded indurated fine gravel and 0 to 30 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.1 to 7.3
Organic matter content—0.5 to 3.0 percent

Helechawa Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): HeF—Helechawa-Alticrest-Rock outcrop complex, 30 to 50 percent slopes
Depth class: Very deep
Drainage class: Somewhat excessively drained
Saturated hydraulic conductivity (Ksat): High
Landform(s): Hillslope on hills
Landform position(s) (two-dimensional): Shoulder and backslope
Landform position(s) (three-dimensional): Side slope
Parent material: Coarse-loamy colluvium derived from sandstone and siltstone of the Breathitt and Lee Formations of the Pennsylvanian System
Elevation: 1,100 to 1,440 feet
Slope: 30 to 60 percent
Taxonomic classification: Coarse-loamy, siliceous, semiactive, mesic Typic Dystrochrepts

Typical Pedon

Helechawa sandy loam in an area of Helechawa-Alticrest-Rock outcrop complex, 30 to 60 percent slopes; on a woodland shoulder slope/ridgetop in the Daniel Boone National Forest, about 2,500 feet north and 700 feet west of Tater Knob Lookout Tower; USGS Salt Lick, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 46.00 seconds N. and long. 83 degrees 32 minutes 36.00 seconds W.; UTM Zone 17, 276877 meters easting, 4215850 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 5 inches; dark yellowish brown (10YR 3/4) sandy loam; weak fine granular structure; very friable; common fine, common medium, and common very fine roots throughout; 5 percent nonflat rounded indurated $^{1}/_{12}$- to 3-inch quartz fragments and 7 percent flat subangular strongly cemented $^{1}/_{12}$- to 6-inch siltstone fragments; very strongly acid, pH 4.5; gradual smooth boundary. (2 to 6 inches thick)

BA—5 to 9 inches; 50 percent brown (10YR 4/3) and 50 percent yellowish brown (10YR 5/4) sandy loam; weak fine granular structure; very friable; common fine, few medium, and common very fine roots throughout; 5 percent nonflat rounded indurated $^{1}/_{12}$- to 3-inch quartz fragments and 5 percent flat subangular strongly cemented $^{1}/_{12}$- to 6-inch siltstone fragments; very strongly acid, pH 4.5; gradual smooth boundary. (4 to 10 inches thick)

Bw1—9 to 18 inches; light yellowish brown (10YR 6/4) loamy sand; weak medium subangular blocky structure; very friable; few fine, few medium, and few very fine roots throughout; 2 percent nonflat rounded indurated $^{1}/_{12}$- to 3-inch quartz fragments and 6 percent flat subangular strongly cemented $^{1}/_{12}$- to 6-inch siltstone fragments; very strongly acid, pH 5.0; gradual smooth boundary.

Bw2—18 to 33 inches; light brown (7.5YR 6/4) loamy sand; weak coarse subangular blocky structure; very friable; few fine and few very fine roots throughout; 2 percent nonflat rounded indurated $^{1}/_{12}$- to 3-inch quartz fragments; very strongly acid, pH 5.0; gradual smooth boundary.

Bw3—33 to 47 inches; brown (7.5YR 5/4) sandy loam; weak coarse subangular blocky structure; friable; few fine and few very fine roots throughout; 2 percent nonflat rounded indurated $^{1}/_{12}$- to 3-inch quartz fragments; very strongly acid, pH 5.0; gradual smooth boundary. (Thickness of the Bw horizon ranges from 20 to 45 inches.)

C—47 to 70 inches; brown (7.5YR 5/4) sandy loam; single grain; firm; 5 percent nonflat rounded indurated $^{1}/_{12}$- to 3-inch quartz fragments; strongly acid, pH 5.5; abrupt smooth boundary. (10 to 30 inches thick)

R—70 to 80 inches; unweathered sandstone bedrock.

Range in Characteristics

Depth to restrictive feature: 60 to 80 inches to lithic bedrock
Diagnostic feature(s): Ochric epipedon, lithic contact, and argillic horizon
Surface fragments: 3 to 15 percent indurated sandstone stones
Depth to seasonal high water table: More than 6 feet

A horizon(s):
Hue—7.5YR or 10YR
Value—3 to 5 moist
Chroma—1 to 4 moist
Texture—sandy loam
Rock fragments—0 to 10 percent rounded indurated fine gravel, 0 to 15 percent rounded indurated medium and coarse gravel, and 0 to 10 percent subangular strongly cemented channers and flagstones
Reaction—pH 3.6 to 6.5
Organic matter content—2.0 to 4.0 percent

BA and Bw horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6 moist
Chroma—3 to 8 moist
Texture—channery sandy loam, sandy loam, loam, or loamy sand
Rock fragments—0 to 10 percent rounded indurated fine gravel, 0 to 15 percent rounded indurated medium and coarse gravel, and 0 to 10 percent subangular strongly cemented channers and flagstones
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

C horizon(s):
Hue—7.5YR or 10YR
Value—5 to 7 moist
Chroma—3 to 6 moist
Texture—sandy loam, very channery sandy loam, very channery loam, or channery sandy loam
Rock fragments—0 to 10 percent rounded indurated fine gravel, 0 to 15 percent rounded indurated medium and coarse gravel, and 0 to 40 percent subangular strongly cemented channers and flagstones
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

R horizon(s):
Bedrock—unweathered sandstone

Holly Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): Ho—Holly loam, 0 to 2 percent slopes, frequently flooded
Depth class: Very deep
Drainage class: Poorly drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Floodplain in river valley
Parent material: Fine-loamy mixed alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 640 to 820 feet
Slope: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts

Typical Pedon

Holly loam, 0 to 2 percent slopes, frequently flooded; in a small woodlot about 3,000 feet south of the intersection of Kentucky Highway 211 and Sulphur Road, about 600 feet on the west side of Kentucky Highway 211 (the site was a depressional area along a perennial drain); USGS Salt Lick, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 51.40 seconds N. and long. 83 degrees 36 minutes 51.70 seconds W.; UTM Zone 17, 270647 meters easting, 4216174 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 10 inches; dark grayish brown (10YR 4/2) loam; weak fine granular structure; friable; common fine and few medium roots throughout; 1 percent fine faint irregular yellowish brown (10YR 5/4) iron depletions with clear boundaries in matrix and 10 percent medium prominent irregular strong brown (7.5YR 5/8) masses of oxidized iron with clear boundaries in matrix; strongly acid, pH 5.3; gradual smooth boundary. (5 to 10 inches thick)

Bg1—10 to 20 inches; grayish brown (10YR 5/2) loam; weak fine subangular blocky structure and weak medium subangular blocky structure; friable; common fine and few medium roots throughout; 1 percent fine faint irregular yellowish brown (10YR 5/4) iron depletions with clear boundaries in matrix and 10 percent medium prominent irregular strong brown (7.5YR 5/8) masses of oxidized iron with clear boundaries in matrix; strongly acid, pH 5.1; gradual smooth boundary.

Bg2—20 to 35 inches; light brownish gray (10YR 6/2) loam; weak fine subangular blocky structure and weak medium subangular blocky structure; friable; few fine roots throughout; 1 percent fine faint irregular yellowish brown (10YR 5/4) iron depletions with clear boundaries in matrix and 10 percent medium prominent irregular strong brown (7.5YR 5/8) masses of oxidized iron with clear boundaries in matrix; moderately acid, pH 5.6; gradual smooth boundary. (Combined thickness of the Bg horizon ranges from 15 to 32 inches.)

Cg1—35 to 44 inches; gray (2.5Y 6/1) loam; massive; friable; 1 percent fine faint irregular brownish yellow (10YR 6/6) iron depletions with clear boundaries in matrix, 10 percent medium prominent irregular black (10YR 2/1) manganese masses with clear boundaries in matrix, and 10 percent medium distinct irregular yellowish brown (10YR 5/8) masses of oxidized iron with clear boundaries in matrix; strongly acid, pH 5.1; clear smooth boundary.

Cg2—44 to 50 inches; gray (10YR 6/1) loam; massive; friable; 5 percent medium distinct irregular yellowish brown (10YR 5/8) masses of oxidized iron with clear boundaries in matrix and 5 percent coarse distinct irregular yellowish brown (10YR 5/8) masses of oxidized iron with clear boundaries in matrix; strongly acid, pH 5.1; clear smooth boundary.

Cg3—50 to 80 inches; gray (2.5Y 6/1) loam; massive; friable; 1 percent fine distinct irregular brownish yellow (10YR 6/6) iron depletions with clear boundaries in matrix, 5 percent medium distinct irregular yellowish brown (10YR 5/6) masses of oxidized iron with clear boundaries in matrix, and 10 percent medium prominent irregular black (10YR 2/1) masses of oxidized iron with clear boundaries in matrix; strongly acid, pH 5.1. (Combined thickness of the Cg horizon ranges from 30 to 50 inches.)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Redoximorphic concentrations, ochric epipedon, aquic conditions, redoximorphic depletions with chroma of 2 or less, and cambic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 0 to 12 inches

A horizon(s):
Hue—10YR
Value—2 to 4 moist
Chroma—1 or 2 moist
Texture—loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 4 percent subrounded indurated fine gravel and 0 to 6 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.1 to 7.3
Organic matter content—2.0 to 5.0 percent

Bg horizon(s):
Hue—10YR to 5Y
Value—4 to 6 moist
Chroma—2 or less moist
Texture—silt loam, loam, or sandy loam
Redoximorphic features—in shades of brown or yellow
Rock fragments—0 to 7 percent subrounded indurated fine gravel and 0 to 8 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.1 to 7.3
Organic matter content—0.5 to 2.0 percent

Cg horizon(s):
Hue—10YR to 5GY
Value—4 to 6 moist
Chroma—0 to 2 moist
Texture—silt loam, loam, or sandy loam
Redoximorphic features—in shades of brown or yellow
Rock fragments—0 to 10 percent subrounded indurated fine gravel and 0 to 15 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.1 to 7.8
Organic matter content—0.5 to 2.0 percent

Johnsburg Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: The Knobs
Map unit(s): JoA—Johnsburg silt loam, 0 to 4 percent slopes

Depth class: Very deep
Depth to fragipan: 24 inches
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity (Ksat): Very low
Landform(s): Stream terrace in river valley and knob on upland
Landform position(s) (two-dimensional): Summit
Landform position(s) (three-dimensional): Tread and interfluve
Parent material: Fine-silty alluvium of the Quaternary System on stream terraces and fine-silty residuum weathered from shale and siltstone of the Nancy Shale Member of the Borden Formation of the Mississippian System
Elevation: 720 to 1,100 feet
Slope: 0 to 4 percent
Taxonomic classification: Fine-silty, mixed, active, mesic Aquic Fragiudults

Typical Pedon

Johnsburg silt loam, 0 to 4 percent slopes; in an unimproved pasture, about 1.1 miles south of the intersection of Kentucky Highway 965 and Perry Road to a gravel road on the west side of Kentucky Highway 965, about 2,000 feet west on the gravel road, and about 50 feet south of the gravel road; USGS Preston, Kentucky topographic quadrangle; lat. 38 degrees 1 minute 59.00 seconds N. and long. 83 degrees 45 minutes 38.70 seconds W.; UTM Zone 17, 257699 meters easting, 4213080 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 9 inches; light olive brown (2.5Y 5/4) silt loam; weak fine granular structure; very friable; many fine roots throughout; slightly acid, pH 6.5; clear smooth boundary. (6 to 10 inches thick)

Bt—9 to 24 inches; olive yellow (2.5Y 6/6) silt loam; weak medium subangular blocky structure; friable; common fine roots throughout; 30 percent discontinuous faint (2.5Y 4/6) clay films on vertical faces of peds; 5 percent medium distinct irregular light gray (2.5Y 7/2) iron depletions with clear boundaries in matrix, 5 percent fine distinct irregular light gray (2.5Y 7/2) iron depletions with clear boundaries in matrix, and 10 percent fine distinct irregular very weakly cemented yellowish brown (10YR 5/8) masses of oxidized iron with clear boundaries between peds; slightly acid, pH 6.5; gradual smooth boundary. (10 to 30 inches thick)

Btx1—24 to 44 inches; olive yellow (2.5Y 6/6) silt loam; strong very coarse prismatic structure; very firm; 40 percent discontinuous faint clay films on vertical faces of peds; 10 percent coarse distinct irregular very weakly cemented yellowish brown (10YR 5/8) iron-manganese masses with clear boundaries between peds, 10 percent medium distinct irregular very weakly cemented yellowish brown (10YR 5/8) iron-manganese masses with clear boundaries between peds, 10 percent coarse distinct irregular light gray (2.5Y 7/2) iron depletions with clear boundaries in matrix, and 10 percent medium distinct irregular light gray (2.5Y 7/2) iron depletions with clear boundaries in matrix; strongly acid, pH 5.5; gradual smooth boundary.

Btx2—44 to 64 inches; light yellowish brown (2.5Y 6/3) silt loam; strong coarse prismatic structure; firm; 40 percent discontinuous faint clay films on vertical faces of peds; 10 percent medium distinct irregular very weakly cemented yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries between peds, 10 percent fine distinct irregular very weakly cemented yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries between peds, 10 percent coarse distinct irregular light gray (2.5Y 7/2) iron depletions with clear boundaries in matrix, and 10 percent medium distinct irregular light gray (2.5Y 7/2) iron depletions with clear boundaries in matrix; strongly acid, pH 5.5; gradual smooth boundary. (Combined thickness of the Btx horizon ranges from 25 to 40 inches.)

C—64 to 82 inches; light yellowish brown (2.5Y 6/3) silt loam; massive; firm; 10

percent coarse distinct irregular light gray (2.5Y 7/2) iron depletions with clear boundaries in matrix, 10 percent medium distinct irregular light gray (2.5Y 7/2) iron depletions with clear boundaries in matrix, 10 percent fine distinct irregular very weakly cemented yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries between peds, and 10 percent medium distinct irregular very weakly cemented yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries between peds; strongly acid, pH 5.5. (10 to 20 inches thick)

Range in Characteristics

Depth to restrictive feature: 24 to 40 inches to a fragipan
Diagnostic feature(s): Redoximorphic concentrations, fragipan, ochric epipedon, aquic conditions, redoximorphic depletions with chroma of 2 or less, and argillic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 12 to 15 inches

Ap horizon(s):
Hue—10YR
Value—4 to 6 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—none
Reaction—pH 4.5 to 6.5
Organic matter content—1.0 to 2.0 percent

Bt horizon(s):
Hue—10YR or 2.5Y
Value—5 or 6 moist
Chroma—1 to 6 moist
Texture—silty clay loam or silt loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—none
Reaction—pH 3.6 to 6.0
Organic matter content—0.0 to 0.5 percent

Btx horizon(s):
Hue—7.5YR to 2.5Y
Value—5 or 6 moist
Chroma—1 to 8 moist
Texture—loam, silty clay loam, or silt loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 3 percent subangular strongly cemented channers
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

C horizon(s):
Hue—10YR or 2.5Y
Value—5 or 6 moist
Chroma—1 to 6 moist
Texture—loam, sandy loam, or silt loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 10 percent subangular strongly cemented channers
Reaction—pH 3.6 to 5.0
Organic matter content—0.0 to 0.5 percent

Lawrence Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): LaA—Lawrence silt loam, 0 to 3 percent slopes
Depth class: Very deep
Depth to fragipan: 18 inches
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity (Ksat): Very low
Landform(s): Stream terrace in river valley
Landform position(s) (three-dimensional): Tread
Parent material: Fine-silty material over clayey residuum weathered from calcareous shale and dolomite on broad upland flats of the Silurian System and fine-silty alluvium of the Quaternary System on stream terraces
Elevation: 640 to 740 feet
Slope: 0 to 3 percent
Taxonomic classification: Fine-silty, mixed, semiactive, mesic Aquic Fragiudalfs

Typical Pedon

Lawrence silt loam, 0 to 3 percent slopes; in a hayfield about 1.25 miles southwest of the confluence of Slate Creek and the Licking River, about 2,000 feet east of Slate Creek; USGS Colfax, Kentucky topographic quadrangle; lat. 38 degrees 12 minutes 19.20 seconds N. and long. 83 degrees 42 minutes 40.70 seconds W.; UTM Zone 17, 262598 meters easting, 4232073 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap1—0 to 3 inches; 50 percent light olive brown (2.5Y 5/3) and 50 percent brown (10YR 4/3) silt loam; moderate fine granular structure; friable; many fine roots throughout; 10 percent medium prominent irregular strong brown (7.5YR 5/6) iron-manganese masses; 1 percent nonflat subangular indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch chert fragments and 1 percent nonflat rounded indurated $^{1}/_{5}$ to $^{3}/_{4}$-inch quartz fragments; moderately acid, pH 6.0; abrupt smooth boundary.

Ap2—3 to 10 inches; light olive brown (2.5Y 5/3) silt loam; moderate fine granular structure and moderate medium granular structure; friable; common fine roots throughout; 25 percent medium prominent irregular brown (7.5YR 4/4) iron-manganese masses; 1 percent nonflat subangular indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch chert fragments and 1 percent nonflat rounded indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch quartz fragments; strongly acid, pH 5.5; abrupt wavy boundary. (Combined thickness of the Ap horizon ranges from 6 to 12 inches.)

Bt—10 to 18 inches; light yellowish brown (2.5Y 6/4) silt loam; moderate fine subangular blocky structure and moderate medium subangular blocky structure; friable; common fine roots throughout; 30 percent discontinuous distinct clay films on vertical faces of peds; 25 percent medium prominent irregular strong brown (7.5YR 4/6) iron-manganese masses and 25 percent medium faint irregular grayish brown (2.5Y 5/2) iron depletions; strongly acid, pH 5.5; clear wavy boundary. (7 to 24 inches thick)

Btx1—18 to 27 inches; light yellowish brown (2.5Y 6/4) silt loam; moderate medium subangular blocky structure, weak coarse prismatic structure, and moderate coarse subangular blocky structure; very firm; few fine roots between peds; 30 percent discontinuous distinct clay films on vertical faces of peds; 25 percent medium faint irregular grayish brown (2.5Y 5/2) iron depletions and 25 percent medium prominent irregular strong brown (7.5YR 5/6) iron-manganese masses; very strongly acid, pH 5.0; clear wavy boundary.

Btx2—27 to 42 inches; pale yellow (2.5Y 7/3) silt loam; weak very coarse prismatic structure, moderate medium subangular blocky structure, and moderate coarse subangular blocky structure; very firm; few fine roots between peds; 60 percent discontinuous distinct clay films on vertical faces of peds; 25 percent medium distinct irregular light gray (10YR 7/2) iron depletions and 25 percent medium prominent irregular strong brown (7.5YR 5/6) iron-manganese masses; very strongly acid, pH 4.5; clear wavy boundary. (Combined thickness of the Btx horizon ranges from 10 to 30 inches.)

B´t—42 to 62 inches; strong brown (7.5YR 4/6) silt loam; moderate medium subangular blocky structure; firm; few very fine roots between peds; 30 percent discontinuous distinct clay films on vertical faces of peds; 15 percent coarse prominent irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries in matrix and 15 percent medium prominent irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries in matrix; moderately acid, pH 6.0; clear wavy boundary. (0 to 25 inches thick)

2BC—62 to 82 inches; yellowish brown (10YR 5/6) silty clay loam; weak medium subangular blocky structure; very firm; 10 percent discontinuous distinct clay films on vertical faces of peds; 15 percent coarse distinct irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries in matrix, 15 percent medium distinct irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries in matrix, and 25 percent medium prominent irregular yellowish red (5YR 4/6) iron-manganese masses with clear boundaries in matrix; neutral, pH 7.0; clear wavy boundary. (0 to 24 inches thick)

2C1—82 to 88 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; very firm; 25 percent medium prominent irregular strong brown (7.5YR 4/6) iron-manganese masses with clear boundaries in matrix and 25 percent medium distinct irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries in matrix; neutral, pH 7.0; clear wavy boundary.

2C2—88 to 98 inches; grayish brown (2.5Y 5/2) stratified clay loam to silty clay loam; very firm; 25 percent medium distinct irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries in matrix and 25 percent medium prominent irregular strong brown (7.5YR 4/6) iron-manganese masses with clear boundaries in matrix; slightly alkaline, pH 7.5. (Combined thickness of the 2C horizon ranges from 0 to 20 inches.)

Range in Characteristics

Depth to restrictive feature: 18 to 32 inches to a fragipan
Diagnostic feature(s): Redoximorphic concentrations, fragipan, ochric epipedon, aquic conditions, redoximorphic depletions with chroma of 2 or less, lithologic discontinuity, and argillic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 12 to 15 inches

Ap horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—0 to 5 percent rounded indurated fine gravel and 0 to 5 percent subangular indurated medium and coarse gravel
Reaction—pH 4.5 to 6.5
Organic matter content—1.0 to 4.0 percent

Bt and Btx1 horizons:
Hue—7.5YR to 2.5Y

Value—5 or 6 moist
Chroma—3 to 6 moist
Texture—silty clay loam or silt loam
Redoximorphic features—in shades of brown or gray
Rock fragments—0 to 5 percent rounded indurated fine gravel and 0 to 5 percent subangular indurated medium and coarse gravel
Reaction—pH 4.5 to 6.5
Organic matter content—0.0 to 0.5 percent

Btx2 and B´t horizons:
Hue—7.5YR to 5Y
Value—4 to 6 moist
Chroma—1 to 8 moist
Texture—silty clay loam or silt loam
Redoximorphic features—in shades of brown or gray
Rock fragments—0 to 5 percent rounded indurated fine gravel and 0 to 5 percent subangular indurated medium and coarse gravel
Reaction—pH 4.5 to 5.5
Organic matter content—0.0 to 0.5 percent

2BC and 2C1 horizons:
Hue—7.5YR to 5Y
Value—4 to 6 moist
Chroma—1 to 8 moist
Texture—silty clay, silty clay loam, or silt loam
Redoximorphic features—in shades of brown, gray, red, or yellow
Rock fragments—0 to 5 percent rounded indurated fine gravel and 0 to 5 percent subangular indurated medium and coarse gravel
Reaction—pH 4.5 to 7.3
Organic matter content—0.0 to 0.5 percent

2C2 horizon:
Hue—7.5YR to 5Y
Value—4 to 6 moist
Chroma—1 to 8 moist
Texture—silty clay, stratified clay loam to silty clay loam, or silt loam
Redoximorphic features—in shades of brown, gray, red, or yellow
Rock fragments—0 to 5 percent rounded indurated fine gravel and 0 to 5 percent subangular indurated medium and coarse gravel
Reaction—pH 4.5 to 7.3
Organic matter content—0.0 to 0.5 percent

Lobdell Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): LbA—Lobdell loam, 0 to 3 percent slopes, frequently flooded
Depth class: Very deep
Drainage class: Moderately well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Floodplain in river valley
Parent material: Fine-loamy mixed alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 640 to 820 feet

Slope: 0 to 3 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Fluvaquentic Eutrudepts

Typical Pedon

Lobdell loam, 0 to 3 percent slopes, frequently flooded; in a field of soybean stubble about 1.25 miles northeast of the intersection of U.S. Highway 60 and Kentucky Highway 211, about 725 feet east of the confluence of Cow Creek and the Licking River; USGS Colfax, Kentucky topographic quadrangle; lat. 38 degrees 8 minutes 41.80 seconds N. and long. 83 degrees 37 minutes 30.40 seconds W.; UTM Zone 17, 269957 meters easting, 4225153 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 11 inches; dark grayish brown (10YR 4/2) loam; moderate medium granular structure; friable; common fine and common very fine roots throughout; neutral, pH 7.0; clear smooth boundary. (6 to 12 inches thick)

Bw1—11 to 16 inches; dark yellowish brown (10YR 4/4) loam; moderate medium subangular blocky structure; friable; few fine and few very fine roots throughout; slightly acid, pH 6.5; clear smooth boundary.

Bw2—16 to 24 inches; dark yellowish brown (10YR 4/4) loam; moderate medium subangular blocky structure; friable; 30 percent medium distinct irregular light brownish gray (2.5Y 6/2) iron depletions with clear boundaries in matrix; moderately acid, pH 6.0; clear smooth boundary.

Bw3—24 to 46 inches; 50 percent dark yellowish brown (10YR 4/4) and 50 percent brown (7.5YR 4/4) loam; moderate medium subangular blocky structure; firm; 30 percent medium distinct irregular light brownish gray (2.5Y 6/2) iron depletions with clear boundaries in matrix; moderately acid, pH 6.0; gradual smooth boundary. (Combined thickness of the Bw horizon ranges from 20 to 40 inches.)

C1—46 to 64 inches; 50 percent dark yellowish brown (10YR 4/6) and 50 percent strong brown (7.5YR 4/6) loam; massive; firm; 30 percent medium distinct irregular light brownish gray (2.5Y 6/2) iron depletions with clear boundaries in matrix; moderately acid, pH 6.0; gradual smooth boundary.

C2—64 to 96 inches; 50 percent strong brown (7.5YR 4/6) and 50 percent dark yellowish brown (10YR 4/6) sandy loam; massive; friable; 30 percent medium distinct irregular light brownish gray (2.5Y 6/2) iron depletions with clear boundaries in matrix; moderately acid, pH 6.0. (Combined thickness of the C horizon ranges from 20 to 50 inches.)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Ochric epipedon, aquic conditions, redoximorphic depletions with chroma of 2 or less, and cambic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 16 to 20 inches

Ap horizon(s):
Hue—7.5YR or 10YR
Value—2 to 4 moist
Chroma—1 to 3 moist
Texture—loam
Rock fragments—0 to 2 percent subrounded indurated fine gravel and 0 to 3 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.3
Organic matter content—2.0 to 4.0 percent

Bw horizon(s):
Hue—7.5YR to 2.5Y
Value—4 or 5 moist
Chroma—3 or 4 moist
Texture—silt loam, loam, or sandy loam
Redoximorphic features—in shades of brown or gray
Rock fragments—0 to 7 percent subrounded indurated fine gravel and 0 to 8 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.3
Organic matter content—0.5 to 1.0 percent

C horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—1 to 8 moist
Texture—silt loam, loam, stratified gravelly fine sand to silt loam, or sandy loam
Redoximorphic features—in shades of brown or gray
Rock fragments—0 to 7 percent subrounded indurated fine gravel and 0 to 8 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.3
Organic matter content—0.3 to 1.0 percent

Lowell Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): EeE2—Eden-Lowell complex, 20 to 40 percent slopes, eroded; FyB2—Faywood-Lowell complex, 2 to 6 percent slopes, eroded; FyC2—Faywood-Lowell complex, 6 to 12 percent slopes, eroded; FyD2—Faywood-Lowell complex, 12 to 20 percent slopes, eroded; LoB—Lowell silt loam, 2 to 6 percent slopes; LoC—Lowell silt loam, 6 to 12 percent slopes; LwC—Lowell-Woolper complex, 6 to 12 percent slopes; SaB—Sandview-Lowell silt loams, 2 to 6 percent slopes
Depth class: Deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Hill on upland and ridge on upland
Landform position(s) (two-dimensional): Summit, shoulder, backslope, and footslope
Landform position(s) (three-dimensional): Interfluve, side slope, and base slope
Parent material: Clayey residuum weathered from limestone and shale of the Bull Fork, Grant Lake, Kope and Clays Ferry, and Kope Formations of the Ordovician System
Elevation: 620 to 1,080 feet
Slope: 2 to 40 percent
Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Lowell silt loam, 2 to 6 percent slopes; in a hayfield on a ridgetop near Reynoldsville, 2,800 feet west-northwest of the intersection of Kentucky Highway 36 and Kentucky Highway 1325, and about 1,100 feet north of Kentucky Highway 36; USGS Owingsville, Kentucky topographic quadrangle; lat. 38 degrees 11 minutes 41.00 seconds N. and long. 83 degrees 49 minutes 51.00 seconds W.; UTM Zone 17, 252090 meters easting, 4231213 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 8 inches; brown (10YR 4/3) silt loam; 10 percent medium distinct irregular yellowish brown (10YR 5/6) mottles; moderate medium granular structure and moderate fine granular structure; friable; many fine and common medium roots throughout; slightly alkaline, pH 7.5; gradual smooth boundary. (5 to 10 inches thick)

Bt1—8 to 13 inches; yellowish brown (10YR 5/6) silty clay loam; 10 percent medium distinct irregular dark yellowish brown (10YR 4/4) mottles; moderate medium subangular blocky structure; firm; common fine roots throughout; 40 percent discontinuous faint clay films on vertical faces of peds; 5 percent fine spherical moderately cemented black (10YR 2/1) iron-manganese nodules with clear boundaries in matrix; neutral, pH 7.0; gradual smooth boundary.

Bt2—13 to 21 inches; dark yellowish brown (10YR 4/6) silty clay; moderate medium subangular blocky structure; firm; few fine roots throughout; 60 percent continuous distinct clay films on vertical faces of peds; 5 percent fine spherical moderately cemented black (10YR 2/1) iron-manganese nodules with sharp boundaries in matrix, 5 percent fine irregular iron-manganese masses with clear boundaries in matrix, 5 percent medium spherical moderately cemented black (10YR 2/1) iron-manganese nodules with sharp boundaries in matrix, and 5 percent medium irregular iron-manganese masses with clear boundaries in matrix; neutral, pH 7.0; gradual smooth boundary.

Bt3—21 to 29 inches; yellowish brown (10YR 5/6) silty clay; 10 percent medium distinct irregular light yellowish brown (2.5Y 6/4) mottles; moderate medium subangular blocky structure; firm; few fine roots throughout; 60 percent continuous distinct clay films on vertical faces of peds; 20 percent medium irregular iron-manganese masses with clear boundaries in matrix; neutral, pH 7.0; clear smooth boundary. (Combined thickness of the Bt horizon ranges from 15 to 40 inches.)

BC—29 to 39 inches; yellowish brown (10YR 5/6) clay; 10 percent medium distinct irregular light yellowish brown (2.5Y 6/3) mottles; weak medium subangular blocky structure; very firm; few fine roots throughout; 50 percent discontinuous distinct clay films on rock fragments; 10 percent medium irregular iron-manganese masses with clear boundaries in matrix and 10 percent coarse irregular iron-manganese masses with clear boundaries in matrix; strongly acid, pH 5.5; clear smooth boundary. (0 to 20 inches thick)

C—39 to 51 inches; light olive brown (2.5Y 5/4) channery clay; 10 percent medium distinct irregular yellowish brown (10YR 5/6) mottles; massive; very firm; 25 percent flat angular indurated 2- to 150-millimeter limestone fragments; slightly alkaline, pH 7.5; abrupt smooth boundary. (0 to 20 inches thick)

R—51 to 55 inches; unweathered limestone and shale bedrock.

Range in Characteristics

Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Diagnostic feature(s): Ochric epipedon, lithic contact, and argillic horizon
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

Ap horizon(s):
Hue—7.5YR or 10YR
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—0 to 5 percent angular indurated channers
Reaction—pH 4.5 to 7.5
Organic matter content—1.0 to 4.0 percent

Bt and BC horizons:
Hue—7.5YR or 10YR

Value—4 or 5 moist
Chroma—3 to 6 moist
Texture—silty clay, silty clay loam, or clay
Rock fragments—0 to 5 percent angular indurated channers
Reaction—pH 4.5 to 7.0
Organic matter content—0.0 to 0.5 percent

C horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—4 to 8 moist
Texture—channery clay or silty clay
Rock fragments—1 to 30 percent angular indurated channers and 0 to 10 percent angular indurated flagstones
Calcium carbonate equivalent—0 to 3 percent
Reaction—pH 5.1 to 7.8
Organic matter content—0.0 to 0.5 percent

R horizon(s):
Bedrock—unweathered limestone and shale

Melvin Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): Me—Melvin silt loam, 0 to 2 percent slopes, frequently flooded
Depth class: Very deep
Drainage class: Poorly drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Floodplain in river valley
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 600 to 800 feet
Slope: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts

Typical Pedon

Melvin silt loam, 0 to 2 percent slopes, frequently flooded; in a hayfield about 900 feet southwest of the intersection of U.S. Highway 60 and Kentucky Highway 211, about 300 feet east of a small cemetery, and 50 feet south of a paved road; USGS Colfax, Kentucky topographic quadrangle; lat. 38 degrees 7 minutes 38.60 seconds N. and long. 83 degrees 37 minutes 50.10 seconds W.; UTM Zone 17, 269422 meters easting, 4223218 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 9 inches; grayish brown (10YR 5/2) silt loam; weak medium granular structure and weak fine granular structure; friable; common fine roots throughout; 15 percent medium distinct irregular strong brown (7.5YR 5/6) iron-manganese masses with clear boundaries in matrix and 20 percent medium distinct irregular yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries in matrix; slightly acid, pH 6.5; abrupt wavy boundary. (5 to 10 inches thick)

Bg—9 to 20 inches; grayish brown (2.5Y 5/2) silt loam; weak medium subangular blocky structure and weak fine subangular blocky structure; friable; few fine roots throughout; 15 percent medium distinct irregular strong brown (7.5YR 5/6) iron-manganese masses with clear boundaries in matrix and 20 percent medium distinct irregular yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries in matrix; slightly acid, pH 6.5; clear smooth boundary. (10 to 30 inches thick)

BCg—20 to 62 inches; light brownish gray (2.5Y 6/2) silt loam; weak fine subangular blocky structure; firm; few fine roots throughout; 10 percent medium distinct irregular strong brown (7.5YR 5/8) iron-manganese masses with clear boundaries in matrix; moderately acid, pH 6.0; gradual smooth boundary. (0 to 45 inches thick)

Cg—62 to 92 inches; 60 percent gray (2.5Y 6/1) and 40 percent light yellowish brown (2.5Y 6/4) silty clay loam; massive; firm; few very fine roots throughout; 10 percent medium distinct irregular strong brown (7.5YR 5/8) iron-manganese masses with clear boundaries in matrix; moderately acid, pH 6.0. (10 to 45 inches thick)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Redoximorphic concentrations, ochric epipedon, redoximorphic depletions with chroma of 2 or less, aquic conditions, and cambic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 0 to 12 inches

Ap horizon(s):
Hue—10YR to 5Y
Value—3 to 7 moist
Chroma—1 to 4 moist
Texture—silt loam
Redoximorphic features—in shades of brown or yellow
Rock fragments—0 to 2 percent rounded indurated fine gravel and 0 to 3 percent rounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.8
Organic matter content—0.5 to 3.0 percent

Bg and BCg horizons:
Hue—10YR to 5Y
Value—4 to 7 moist
Chroma—2 or less moist
Texture—silt loam or silty clay loam
Redoximorphic features—in shades of brown or yellow
Rock fragments—0 to 2 percent rounded indurated fine gravel and 0 to 3 percent rounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.8
Organic matter content—0.5 to 2.0 percent

Cg horizon(s):
Hue—10YR to 5Y
Value—4 to 7 moist
Chroma—2 or less moist
Texture—silt loam, silty clay loam, or loam
Redoximorphic features—in shades of brown or yellow
Rock fragments—0 to 10 percent rounded indurated fine gravel and 0 to 10 percent rounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.8
Organic matter content—0.2 to 1.0 percent

Morehead Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): MoB—Morehead silt loam, 0 to 6 percent slopes, occasionally flooded
Depth class: Very deep
Drainage class: Moderately well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Stream terrace in river valley
Landform position(s) (three-dimensional): Tread
Parent material: Fine-silty mixed alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 680 to 850 feet
Slope: 0 to 6 percent
Taxonomic classification: Fine-silty, mixed, semiactive, mesic Aquic Hapludults

Typical Pedon

Morehead silt loam, 0 to 6 percent slopes, occasionally flooded; in a pasture about 2,750 feet south of the intersection of Kentucky Highway 211 and Sulphur Road, about 600 feet on the west side of Kentucky Highway 211, and about 75 feet east of a barn; USGS Salt Lick, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 58.30 seconds N. and long. 83 degrees 36 minutes 59.10 seconds W.; UTM Zone 17, 270472 meters easting, 4216392 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 14 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; many fine roots throughout; 3 percent flat subangular strongly cemented 2- to 5-millimeter acid shale fragments; slightly acid, pH 6.5; clear smooth boundary. (6 to 15 inches thick)

Bt1—14 to 22 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; few fine roots throughout; 40 percent discontinuous clay films on vertical faces of peds; 10 percent fine irregular yellowish brown (10YR 5/6) masses of oxidized iron with clear boundaries in matrix; 4 percent flat subangular strongly cemented 2- to 5-millimeter acid shale fragments; moderately acid, pH 6.0; gradual smooth boundary.

Bt2—22 to 36 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; few fine roots throughout; 40 percent discontinuous clay films on vertical faces of peds; 10 percent medium irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries in matrix and 10 percent coarse irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries in matrix; 10 percent flat subangular strongly cemented 2- to 5-millimeter acid shale fragments; strongly acid, pH 5.5; clear smooth boundary.

Bt3—36 to 44 inches; light olive brown (2.5Y 5/4) silt loam; weak medium subangular blocky structure and weak fine subangular blocky structure; friable; few fine roots throughout; 40 percent discontinuous clay films on vertical faces of peds; 10 percent medium irregular light olive gray (5Y 6/2) iron depletions with clear boundaries in matrix, 10 percent fine irregular light olive gray (5Y 6/2) iron depletions with clear boundaries in matrix, and 10 percent medium irregular yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries in matrix; 4 percent flat subangular strongly cemented 2- to 5-millimeter acid shale fragments; very strongly acid, pH 5.0; clear smooth boundary. (Combined thickness of the Bt horizon ranges from 20 to 40 inches.)

BC—44 to 65 inches; yellowish brown (10YR 5/6) silt loam; weak medium subangular blocky structure; friable; few fine roots throughout; 40 percent discontinuous clay films on vertical faces of peds; 10 percent fine irregular gray (10YR 6/1) iron depletions with clear boundaries in matrix and 10 percent medium irregular gray (10YR 6/1) iron depletions with clear boundaries in matrix; 2 percent flat subangular strongly cemented 2- to 5-millimeter acid shale fragments; very strongly acid, pH 4.5; abrupt smooth boundary. (10 to 25 inches thick)

Cr—65 to 75 inches; weathered acid shale bedrock.

Range in Characteristics

Depth to restrictive feature: 60 to 80 inches to paralithic bedrock
Diagnostic feature(s): Redoximorphic concentrations, ochric epipedon, redoximorphic depletions with chroma of 2 or less, aquic conditions, argillic horizon, and paralithic contact
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 21 to 29 inches

Ap horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—0 to 10 percent subangular strongly cemented channers
Reaction—pH 4.5 to 6.5
Organic matter content—1.0 to 4.0 percent

Bt1 and Bt2 horizons:
Hue—7.5YR to 2.5Y
Value—5 or 6 moist
Chroma—4 to 6 moist
Texture—silt loam or silty clay loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 13 percent subangular strongly cemented channers
Reaction—pH 4.5 to 5.5
Organic matter content—0.0 to 0.5 percent

Bt3 and BC horizons:
Hue—7.5YR to 2.5Y
Value—5 or 6 moist
Chroma—4 to 6 moist
Texture—silty clay, silt loam, or silty clay loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 13 percent subangular strongly cemented channers
Reaction—pH 4.5 to 5.5
Organic matter content—0.0 to 0.5 percent

Cr horizon(s):
Bedrock—weathered, acid shale

Mullins Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: The Knobs
Map unit(s): Mu—Mullins silt loam, 0 to 2 percent slopes, ponded
Depth class: Very deep
Depth to fragipan: 26 inches
Drainage class: Poorly drained

Saturated hydraulic conductivity (Ksat): Very low
Landform(s): Depressions, stream terrace in river valley, and flat on upland
Landform position(s) (two-dimensional): Summit
Landform position(s) (three-dimensional): Tread and interfluve
Parent material: Fine-silty lacustrine deposits over fine-silty residuum weathered from shale and siltstone of the Borden Formation of the Mississippian System on uplands and fine-silty mixed alluvium of the Quaternary System on stream terraces
Elevation: 720 to 930 feet
Slope: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, semiactive, mesic Typic Fragiaquults

Typical Pedon

Mullins silt loam, 0 to 2 percent slopes, ponded; in an unimproved pasture, about 1.1 miles south of the intersection of Kentucky Highway 965 and Perry Road to a gravel road on the west side of Kentucky Highway 965, about 0.75 mile northwest on the gravel road, and about 50 feet north of the gravel road; USGS Preston, Kentucky topographic quadrangle; lat. 38 degrees 2 minutes 10.50 seconds N. and long. 83 degrees 45 minutes 53.40 seconds W.; UTM Zone 17, 257351 meters easting, 4213445 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 8 inches; grayish brown (2.5Y 5/2) silt loam; weak fine granular structure; friable; many very fine roots throughout; many very fine irregular pores; 25 percent medium faint irregular light brownish gray (2.5Y 6/2) iron depletions with clear boundaries in matrix; neutral, pH 7.0; clear smooth boundary. (5 to 10 inches thick)

Btg1—8 to 14 inches; light brownish gray (2.5Y 6/2) silt loam; weak fine granular structure; firm; common fine roots throughout; many very fine irregular pores; 35 percent continuous faint light yellowish brown (2.5Y 6/3) clay films on all faces of peds; 25 percent medium distinct irregular yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries in matrix; 2 percent flat subangular strongly cemented $^{1}/_{5}$- to 3-inch siltstone fragments; very strongly acid, pH 5.0; gradual smooth boundary.

Btg2—14 to 26 inches; light brownish gray (2.5Y 6/2) silt loam; moderate coarse prismatic structure; very firm; common fine roots throughout; many very fine irregular pores; 65 percent continuous faint light yellowish brown (2.5Y 6/3) clay films on all faces of peds; 15 percent coarse distinct irregular yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries in matrix and 15 percent medium distinct irregular yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries in matrix; very strongly acid, pH 5.0; clear smooth boundary. (Combined thickness of the Btg horizon ranges from 10 to 20 inches.)

Btgx1—26 to 52 inches; light brownish gray (2.5Y 6/2) silty clay loam; strong very coarse prismatic structure; very firm; many very fine irregular pores; 65 percent continuous faint light yellowish brown (2.5Y 6/3) clay films on vertical faces of peds; 15 percent coarse distinct irregular yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries in matrix, 20 percent medium distinct irregular yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries in matrix, and 30 percent medium distinct spherical moderately cemented black (10YR 2/1) iron-manganese nodules; very strongly acid, pH 5.0; clear smooth boundary.

Btgx2—52 to 71 inches; light gray (2.5Y 7/1) silt loam; strong coarse prismatic structure; firm; many very fine irregular pores; 65 percent continuous faint pale yellow (2.5Y 7/3) clay films on all faces of peds; 10 percent medium prominent spherical moderately cemented black (10YR 2/1) iron-manganese nodules in matrix, 15 percent coarse distinct irregular light yellowish brown (2.5Y 6/4) iron-manganese masses with clear boundaries in matrix, and 15 percent medium distinct irregular light yellowish brown (2.5Y 6/4) iron-manganese masses with clear boundaries in matrix; strongly acid, pH 5.5; clear smooth boundary. (Combined thickness of the Btx horizon ranges from 15 to 50 inches.)

Cg—71 to 82 inches; light gray (2.5Y 7/1) channery silt loam; 40 percent medium distinct spherical olive yellow (2.5Y 6/6) mottles; massive; very firm; many very fine irregular pores; 15 percent medium distinct irregular dark yellowish brown (10YR 4/4) iron-manganese masses with clear boundaries in matrix; 30 percent flat subangular strongly cemented $^{1}/_{12}$- to 6-inch shale fragments; strongly acid, pH 5.5; abrupt smooth boundary. (6 to 20 inches thick)

Cr—82 to 92 inches; weathered shale and siltstone bedrock.

Range in Characteristics

Depth to restrictive feature: 12 to 28 inches to a fragipan; 80 to 90 inches to paralithic bedrock

Diagnostic feature(s): Redoximorhpic concentrations, fragipan, ochric epipedon, aquic conditions, redoximorphic depletions with chroma of 2 or less, paralithic contact, and argillic horizon

Surface fragments: None

Seasonal high water table: January, February, March, April, May, November, and December

Depth to top of water table: Ponded to 12 inches

Ap horizon(s):

Hue—10YR to 5Y
Value—4 to 6 moist
Chroma—2 or less moist
Texture—silt loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 5 percent subangular strongly cemented channers
Reaction—pH 3.6 to 7.0
Organic matter content—1.0 to 4.0 percent

Btg horizon(s):

Hue—10YR to 5Y
Value—5 to 7 moist
Chroma—2 or less moist
Texture—silt loam or silty clay loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 5 percent subangular strongly cemented channers
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

Btgx horizon(s):

Hue—10YR to 5Y
Value—5 to 7 moist
Chroma—2 or less moist
Texture—silt loam or silty clay loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 5 percent subangular strongly cemented channers
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

Cg horizon(s):

Hue—10YR to 5Y
Value—5 to 7 moist
Chroma—2 or less moist

Texture—silty clay loam, silty clay, or channery silt loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 35 percent subangular strongly cemented channers and 0 to 5 percent subangular strongly cemented flagstones
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

Cr horizon(s):
Bedrock—weathered shale and siltstone

Muse Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: The Knobs
Map unit(s): TsF2—Trappist-Muse silt loams, 20 to 60 percent slopes, eroded
Depth class: Deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Knob on upland
Landform position(s) (two-dimensional): Backslope
Landform position(s) (three-dimensional): Side slope
Parent material: Clayey colluvium and/or residuum weathered from acid, fissile, black shale of the Ohio Shale and New Albany Shale Members of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet
Slope: 20 to 60 percent
Taxonomic classification: Fine, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Muse silt loam in an area of Trappist-Muse silt loams, 20 to 60 percent slopes, eroded; on a woodland footslope in the Daniel Boone National Forest, about 800 feet south of the intersection of Satterfield Road and Blevins Valley Road, about 100 feet east of Blevins Valley Road, about 30 feet in elevation above the Covedale representative site; USGS Olympia, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 11.50 seconds N. and long. 83 degrees 44 minutes 21.80 seconds W.; UTM Zone 17, 259640 meters easting, 4215260 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 9 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure parting to weak fine granular; very friable; many fine and few coarse roots throughout; very strongly acid, pH 5.0; clear wavy boundary. (5 to 10 inches thick)

Bt1—9 to 17 inches; yellowish red (5YR 5/6) silty clay loam; moderate coarse subangular blocky structure and moderate medium subangular blocky structure; firm; common fine and few medium roots throughout; 50 percent continuous distinct brown (7.5YR 5/4) clay films on vertical faces of peds; 5 percent flat angular strongly cemented $^{1}/_{5}$- to 3-inch acid shale fragments; very strongly acid, pH 4.5; gradual wavy boundary.

Bt2—17 to 26 inches; reddish brown (5YR 5/4) silty clay; 1 percent medium distinct irregular gray (5YR 6/1) mottles; moderate medium subangular blocky structure; firm; few fine and few medium roots throughout; 40 percent continuous distinct brown (7.5YR 5/4) clay films on vertical faces of peds; 12 percent flat angular strongly cemented $^{1}/_{5}$- to 3-inch acid shale fragments; very strongly acid, pH 4.5; gradual smooth boundary.

Bt3—26 to 41 inches; 40 percent yellowish red (5YR 5/6), 40 percent brown (7.5YR

5/4), and 20 percent dark red (10R 3/6) very channery silty clay; 5 percent medium distinct irregular light brownish gray (10YR 6/2) mottles; weak medium subangular blocky structure; very firm; few fine roots throughout; 35 percent flat angular strongly cemented 1/5- to 6-inch acid shale fragments; very strongly acid, pH 4.5; abrupt smooth boundary. (Combined thickness of the Bt horizon ranges from 30 to 60 inches.)

Cr—41 to 45 inches; weathered acid, fissile, black shale bedrock.

R—45 to 55 inches; unweathered acid, fissile, black shale bedrock.

Range in Characteristics

Depth to restrictive feature: 40 to 60 inches to paralithic bedrock; 40 to 60 inches to lithic bedrock

Diagnostic feature(s): Ochric epipedon, lithic contact, argillic horizon, and paralithic contact

Surface fragments: None

Seasonal high water table: January, February, March, and April

Depth to top of water table: 36 to 56 inches

A horizon(s):
Hue—10YR
Value—3 to 5 moist
Chroma—1 to 4 moist
Texture—silt loam
Rock fragments—0 to 35 percent subangular strongly cemented channers
Reaction—pH 4.5 to 5.5
Organic matter content—1.0 to 3.0 percent

Bt1 and Bt2 horizons:
Hue—5YR to 10YR
Value—4 or 5 moist
Chroma—4 to 8 moist
Texture—clay, silty clay, or silty clay loam
Rock fragments—0 to 35 percent subangular strongly cemented channers
Reaction—pH 4.5 to 5.5
Organic matter content—0.8 to 2.0 percent

Bt3 horizon:
Hue—5YR to 10YR
Value—4 to 6 moist
Chroma—1 to 6 moist
Lithochromic mottles—in shades of brown, gray, or red
Texture—channery silty clay, silty clay, or very channery silty clay
Rock fragments—0 to 55 percent subangular strongly cemented channers and 0 to 5 percent subangular strongly cemented flagstones
Reaction—pH 4.5 to 5.5
Organic matter content—0.5 to 1.2 percent

Cr horizon(s):
Bedrock—weathered, acid, fissile, black shale

R horizon(s):
Bedrock—unweathered, acid, fissile, black shale

Newark Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass

Map unit(s): Ne—Newark silt loam, 0 to 2 percent slopes, frequently flooded
Depth class: Very deep
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Floodplain in river valley
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 600 to 800 feet
Slope: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, active, nonacid, mesic Fluventic Endoaquepts

Typical Pedon

Newark silt loam, 0 to 2 percent slopes, frequently flooded; in a pasture, about 0.5 mile south of the intersection of Kentucky Highway 36 and Kentucky Highway 965, on the west side of Kentucky Highway 965 between the highway and Mill Creek; USGS Olympia, Kentucky topographic quadrangle; lat. 38 degrees 6 minutes 18.00 seconds N. and long. 83 degrees 44 minutes 35.30 seconds W.; UTM Zone 17, 259481 meters easting, 4221019 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; very friable; common fine and common very fine roots throughout; slightly acid, pH 6.5; gradual smooth boundary. (5 to 10 inches thick)

Bw—9 to 18 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; common very fine roots between peds; 2 percent fine prominent cylindrical yellowish brown (10YR 5/8) iron-manganese masses with sharp boundaries on surfaces along pores and 30 percent medium distinct reticulate gray (10YR 5/1) iron depletions with clear boundaries in matrix; neutral, pH 7.0; gradual smooth boundary. (6 to 12 inches thick)

Bg—18 to 37 inches; grayish brown (10YR 5/2) silt loam; weak medium subangular blocky structure; friable; common very fine roots between peds; 1 percent medium prominent spherical moderately cemented black (10YR 2/1) iron-manganese nodules with sharp boundaries in matrix and 25 percent coarse distinct reticulate yellowish brown (10YR 5/6) iron-manganese masses with sharp boundaries in matrix; 1 percent nonflat rounded indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch quartz fragments; neutral, pH 7.0; gradual smooth boundary. (6 to 30 inches thick)

Cg—37 to 60 inches; gray (10YR 5/1) silt loam; massive; firm; 25 percent coarse distinct reticulate yellowish brown (10YR 5/8) iron-manganese masses with sharp boundaries in matrix; moderately alkaline, pH 8.0; diffuse smooth boundary. (15 to 30 inches thick)

C—60 to 105 inches; 50 percent brown (10YR 5/3) and 50 percent yellowish brown (10YR 5/6) silt loam; massive; firm; 30 percent medium distinct reticulate gray (10YR 5/1) iron depletions with clear boundaries in matrix; moderately alkaline, pH 8.0. (20 to 50 inches thick)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Redoximorhpic concentrations, ochric epipedon, aquic conditions, redoximorphic depletions with chroma of 2 or less, and cambic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 12 to 15 inches

Ap horizon(s):
Hue—7.5YR to 2.5Y
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—0 to 2 percent rounded indurated fine gravel and 0 to 3 percent rounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.8
Organic matter content—1.0 to 4.0 percent

Bw and Bg horizons:
Hue—7.5YR to 2.5Y
Value—4 to 7 moist
Chroma—1 to 4 moist
Texture—silty clay loam or silt loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 2 percent rounded indurated fine gravel and 0 to 3 percent rounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.8
Organic matter content—0.0 to 0.5 percent

Cg and C horizons:
Hue—7.5YR to 2.5Y
Value—4 to 7 moist
Chroma—1 to 4 moist
Texture—silt loam or silty clay loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 7 percent rounded indurated fine gravel and 0 to 8 percent rounded indurated medium and coarse gravel
Reaction—pH 5.6 to 7.8
Organic matter content—0.0 to 0.5 percent

Nicholson Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): NhB—Nicholson silt loam, 2 to 6 percent slopes
Depth class: Very deep
Depth to fragipan: 24 inches
Drainage class: Moderately well drained
Saturated hydraulic conductivity (Ksat): Very low
Landform(s): Ridge on upland
Landform position(s) (two-dimensional): Summit
Landform position(s) (three-dimensional): Interfluve
Parent material: Thin fine-silty loess over clayey residuum weathered from limestone, siltstone, and shale of the Ordovician System and calcareous shale and dolomite of the Silurian System
Elevation: 840 to 1,070 feet
Slope: 2 to 6 percent
Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

Nicholson silt loam, 2 to 6 percent slopes; in an abandoned feed lot about 1.25 miles northeast of Sharpsburg and about 500 feet east of Kentucky Highway 11; USGS Sharpsburg, Kentucky topographic quadrangle; lat. 38 degrees 12 minutes 33.20

seconds N. and long. 83 degrees 55 minutes 2.10 seconds W.; UTM Zone 17, 244576 meters easting, 4233053 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 8 inches; brown (10YR 4/3) silt loam; moderate medium granular structure parting to moderate fine granular; very friable; common fine roots throughout; 1 percent fine prominent spherical weakly cemented iron-manganese concretions with sharp boundaries throughout; neutral, pH 7.0; clear smooth boundary. (5 to 10 inches thick)

Bt1—8 to 18 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots throughout; 20 percent discontinuous faint yellowish brown (10YR 5/4) clay films on vertical faces of peds; neutral, pH 7.0; gradual smooth boundary.

Bt2—18 to 24 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots throughout; 20 percent discontinuous faint yellowish brown (10YR 5/4) clay films on vertical faces of peds; 1 percent fine distinct irregular pale brown (10YR 6/3) iron depletions with clear boundaries in matrix, 5 percent medium distinct irregular extremely weakly cemented strong brown (7.5YR 4/6) masses of oxidized iron with clear boundaries in matrix surrounding redoximorphic depletions, 5 percent medium distinct irregular extremely weakly cemented black (10YR 2/1) manganese masses with clear boundaries between peds, and 5 percent medium distinct irregular extremely weakly cemented strong brown (7.5YR 5/8) masses of oxidized iron with clear boundaries between peds; moderately acid, pH 6.0; clear smooth boundary. (Combined thickness of the Bt horizon ranges from 10 to 20 inches.)

Btx—24 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; weak very coarse prismatic structure parting to weak medium subangular blocky; very firm; few fine roots between peds; 40 percent discontinuous distinct light brownish gray (10YR 6/2) silt coats on vertical faces of peds and 40 percent discontinuous faint dark yellowish brown (10YR 4/4) clay films on vertical faces of peds; 5 percent medium distinct irregular extremely weakly cemented strong brown (7.5YR 5/8) iron-manganese masses, 5 percent medium prominent irregular extremely weakly cemented black (10YR 2/1) iron-manganese masses, and 15 percent medium distinct irregular extremely weakly cemented yellowish brown (10YR 5/8) masses of oxidized iron with clear boundaries in matrix; moderately acid, pH 6.0; clear smooth boundary. (8 to 30 inches thick)

2Bt—34 to 48 inches; 50 percent strong brown (7.5YR 4/6) and 50 percent yellowish brown (10YR 5/6) silty clay; weak medium subangular blocky structure; very firm; 30 percent discontinuous distinct strong brown (7.5YR 5/6) clay films on vertical faces of peds; 20 percent medium distinct irregular pale brown (10YR 6/3) iron depletions with clear boundaries in matrix; moderately acid, pH 6.0; clear smooth boundary. (5 to 20 inches thick)

2C—48 to 80 inches; yellowish brown (10YR 5/8) clay; massive; very firm; 1 percent fine distinct irregular light brownish gray (10YR 6/2) iron depletions in matrix; slightly acid, pH 6.5. (0 to 40 inches thick)

Range in Characteristics

Depth to restrictive feature: 16 to 30 inches to a fragipan

Diagnostic feature(s): Redoximorhpic concentrations, fragipan, ochric epipedon, aquic conditions, redoximorphic depletions with chroma of 2 or less, lithologic discontinuity, and argillic horizon

Surface fragments: None

Seasonal high water table: January, February, March, April, May, November, and December

Depth to top of water table: 15 to 28 inches

Ap horizon(s):
Hue—7.5YR or 10YR
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—none
Reaction—pH 4.5 to 7.0
Organic matter content—2.0 to 4.0 percent

Bt horizon(s):
Hue—7.5YR or 10YR
Value—4 or 5 moist
Chroma—3 to 6 moist
Texture—silty clay loam or silt loam
Redoximorphic features—in shades of brown or gray
Rock fragments—none
Reaction—pH 4.5 to 7.0
Organic matter content—0.0 to 0.5 percent

Btx horizon(s):
Hue—7.5YR to 2.5Y
Value—3 to 5 moist
Chroma—4 to 8 moist
Texture—silty clay loam or silt loam
Redoximorphic features—in shades of brown, gray, or red
Rock fragments—none
Reaction—pH 4.5 to 6.5
Organic matter content—0.0 to 0.5 percent

2Bt horizon(s):
Hue—5YR to 2.5Y
Value—4 to 6 moist
Chroma—4 to 8 moist
Texture—silty clay loam, silt loam, or silty clay
Redoximorphic features—in shades of brown, gray, or red
Rock fragments—0 to 7 percent angular indurated channers and 0 to 1 percent angular indurated flagstones
Reaction—pH 4.5 to 6.5
Organic matter content—0.0 to 0.5 percent

2C horizon(s):
Hue—5YR to 2.5Y
Value—4 to 6 moist
Chroma—4 to 8 moist
Texture—silty clay, clay, or channery clay
Redoximorphic features—in shades of brown, gray, or red
Rock fragments—0 to 25 percent angular indurated channers and 0 to 10 percent angular indurated flagstones
Reaction—pH 5.1 to 7.8
Organic matter content—0.0 to 0.5 percent

Nolin Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): NoA—Nolin silt loam, 0 to 4 percent slopes, frequently flooded

Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Floodplain in river valley
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 600 to 800 feet
Slope: 0 to 4 percent
Taxonomic classification: Fine-silty, mixed, active, mesic Dystric Fluventic Eutrudepts

Typical Pedon

Nolin silt loam, 0 to 4 percent slopes, frequently flooded; in a hayfield about 0.4 mile southeast of Kentucky Highway 11 bridge at Sherburne, 650 feet east-northeast of Kentucky Highway 1325, about 375 feet southeast of the confluence of Licking River and Flat Creek, 100 feet west of Flat Creek; USGS Sherburne, Kentucky topographic quadrangle; lat. 38 degrees 16 minutes 42.00 seconds N. and long. 83 degrees 48 minutes 1.00 seconds W.; UTM Zone 17, 255048 meters easting, 4240412 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 12 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; many fine roots throughout; slightly acid, pH 6.5; clear wavy boundary. (6 to 12 inches thick)
Bw1—12 to 25 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure and weak medium subangular blocky structure; friable; common fine and few coarse roots throughout; 2 percent flat subangular indurated $^{1}/_{12}$- to $^{3}/_{4}$-inch siltstone fragments; neutral, pH 7.0; gradual smooth boundary.
Bw2—25 to 35 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; few fine roots throughout; 2 percent flat subangular indurated $^{1}/_{12}$- to $^{3}/_{4}$-inch siltstone fragments; slightly acid, pH 6.5; gradual smooth boundary.
Bw3—35 to 44 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure and weak medium subangular blocky structure; friable; few fine and few coarse roots throughout; 2 percent flat subangular indurated $^{1}/_{12}$- to $^{3}/_{4}$-inch siltstone fragments; neutral, pH 7.0; gradual wavy boundary.
Bw4—44 to 74 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; few fine and few coarse roots throughout; 2 percent flat subangular indurated $^{1}/_{12}$- to $^{3}/_{4}$-inch siltstone fragments; neutral, pH 7.0; clear wavy boundary. (Combined thickness of Bw horizon ranges from 20 to 80 inches.)
C—74 to 80 inches; brown (10YR 4/3) silt loam; massive; friable; few fine roots throughout; 10 percent discontinuous faint silt coats on surfaces along pores; neutral, pH 7.0. (10 to 20 inches thick)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Ochric epipedon and cambic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 72 to 96 inches

Ap horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—2 or 3 moist
Texture—silt loam

Rock fragments—0 to 2 percent subrounded indurated fine gravel and 0 to 3 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.6 to 8.4
Organic matter content—2.0 to 4.0 percent

Bw horizon(s):
Hue—7.5YR to 2.5Y
Value—4 or 5 moist
Chroma—3 to 6 moist
Texture—silt loam or silty clay loam
Rock fragments—0 to 2 percent subrounded indurated fine gravel and 0 to 3 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.6 to 8.4
Organic matter content—0.3 to 2.0 percent

C horizon(s):
Hue—7.5YR to 2.5Y
Value—4 or 5 moist
Chroma—2 to 6 moist
Texture—silty clay loam, gravelly loam, loam, or silt loam
Rock fragments—0 to 15 percent subrounded indurated fine gravel and 0 to 20 percent subrounded indurated medium and coarse gravel
Reaction—pH 5.1 to 8.4
Organic matter content—0.3 to 2.0 percent

Orrville Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): OrA—Orrville loam, 0 to 3 percent slopes, frequently flooded
Depth class: Very deep
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Floodplain in river valley
Parent material: Fine-loamy mixed alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 640 to 820 feet
Slope: 0 to 3 percent
Taxonomic classification: Fine-loamy, mixed, active, nonacid, mesic Fluventic Endoaquepts

Typical Pedon

Orrville loam, 0 to 3 percent slopes, frequently flooded; in a field of soybean stubble about 1.25 miles northeast of the intersection of U.S. Highway 60 and Kentucky Highway 211, about 200 feet east of the confluence of Cow Creek and the Licking River; USGS Colfax, Kentucky topographic quadrangle; lat. 38 degrees 8 minutes 29.70 seconds N. and long. 83 degrees 37 minutes 43.50 seconds W.; UTM Zone 17, 269627 meters easting, 4224789 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) loam; moderate medium granular structure; very friable; few fine roots throughout; 1 percent fine distinct strong brown (7.5YR 4/6) iron-manganese masses with clear boundaries in matrix; moderately alkaline, pH 8.0; abrupt smooth boundary. (6 to 10 inches thick)
Bw1—8 to 15 inches; light yellowish brown (2.5Y 6/4) loam; moderate medium

subangular blocky structure; friable; few very fine roots throughout; 1 percent fine distinct strong brown (7.5YR 4/6) iron-manganese masses with clear boundaries in matrix; neutral, pH 7.0; clear smooth boundary.

Bw2—15 to 25 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent light brownish gray (10YR 6/2) loam; moderate medium subangular blocky structure; friable; 5 percent fine distinct strong brown (7.5YR 5/8) iron-manganese masses with clear boundaries in matrix; strongly acid, pH 5.5; clear smooth boundary. (Combined thickness of the Bw horizon ranges from 5 to 20 inches.)

Bg—25 to 40 inches; light brownish gray (10YR 6/2) loam; moderate medium subangular blocky structure; friable; 15 percent fine distinct strong brown (7.5YR 5/8) iron-manganese masses with clear boundaries in matrix and 25 percent fine distinct yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries in matrix; strongly acid, pH 5.5; gradual smooth boundary. (15 to 36 inches thick)

Cg1—40 to 60 inches; light brownish gray (10YR 6/2) loam; massive; friable; 15 percent fine distinct yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries in matrix and 15 percent fine distinct strong brown (7.5YR 5/8) iron-manganese masses with clear boundaries in matrix; very strongly acid, pH 5.0; gradual smooth boundary.

Cg2—60 to 96 inches; light brownish gray (10YR 6/2) loam; massive; friable; 20 percent fine distinct yellowish brown (10YR 5/6) iron-manganese masses with clear boundaries in matrix and 20 percent fine distinct strong brown (7.5YR 5/8) iron-manganese masses with clear boundaries in matrix; very strongly acid, pH 5.0. (Combined thickness of the Cg horizon ranges from 30 to 60 inches.)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Redoximorphic concentrations, ochric epipedon, aquic conditions, and cambic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, June, November, and December
Depth to top of water table: 12 to 15 inches

Ap horizon(s):
Hue—10YR or 2.5Y
Value—4 moist
Chroma—2 moist
Texture—loam
Rock fragments—0 to 5 percent subrounded indurated fine gravel
Reaction—pH 5.1 to 7.3
Organic matter content—2.0 to 4.0 percent

Bw and Bg horizons:
Hue—10YR to 5Y
Value—4 to 6 moist
Chroma—1 to 6 moist
Texture—silt loam, silty clay loam, or loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 10 percent subrounded indurated fine gravel, 0 to 4 percent subrounded indurated medium and coarse gravel, and 0 to 1 percent subangular indurated channers
Reaction—pH 5.1 to 6.5
Organic matter content—0.5 to 1.0 percent

Cg horizon(s):
Hue—10YR to 5Y
Value—4 to 7 moist
Chroma—0 to 6 moist
Texture—loam, silt loam, clay loam, or sandy loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 15 percent subrounded indurated fine gravel, 0 to 7 percent subrounded indurated medium and coarse gravel, and 0 to 3 percent indurated channers
Reaction—pH 5.1 to 7.3
Organic matter content—0.1 to 0.3 percent

Otwood Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): OtB—Otwood silt loam, 2 to 6 percent slopes
Depth class: Very deep
Depth to fragipan: 23 inches
Drainage class: Moderately well drained
Saturated hydraulic conductivity (Ksat): Very low
Landform(s): Stream terrace in river valley
Landform position(s) (three-dimensional): Tread
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 640 to 750 feet
Slope: 2 to 6 percent
Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

Otwood silt loam, 2 to 6 percent slopes; in a hayfield about 0.25 mile west of the confluence of Naylor Creek and Slate Creek, about 300 feet north of Naylor Creek Road; USGS Colfax, Kentucky topographic quadrangle; lat. 38 degrees 10 minutes 35.50 seconds N. and long. 83 degrees 43 minutes 27.70 seconds W.; UTM Zone 17, 261361 meters easting, 4228909 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 9 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; many very fine roots throughout; slightly acid, pH 6.5; gradual smooth boundary. (5 to 12 inches thick)

AB—9 to 16 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure parting to moderate medium granular; friable; common very fine roots throughout; slightly acid, pH 6.5; clear smooth boundary. (0 to 8 inches thick)

Bt—16 to 23 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; firm; common very fine roots throughout; 40 percent discontinuous faint yellowish brown (10YR 5/6) clay films on all faces of peds; 5 percent fine prominent spherical extremely weakly cemented black (10YR 2/1) manganese masses with sharp boundaries in matrix surrounding redoximorphic concentrations, 10 percent medium distinct irregular extremely weakly cemented light yellowish brown (2.5Y 6/3) masses of reduced iron with clear boundaries in matrix, and 15 percent medium distinct irregular extremely weakly cemented strong brown (7.5YR 4/6) iron-manganese masses with sharp boundaries between peds; slightly acid, pH 6.5; abrupt smooth boundary. (8 to 24 inches thick)

Btx1—23 to 33 inches; yellowish brown (10YR 5/6) silt loam; weak coarse prismatic structure; very firm; common very fine roots between peds; 40 percent continuous distinct yellowish brown (10YR 5/6) clay films on all faces of peds; 2 percent fine prominent spherical extremely weakly cemented black (10YR 2/1) manganese masses with sharp boundaries in matrix surrounding redoximorphic concentrations, 20 percent medium distinct irregular extremely weakly cemented light gray (2.5Y 7/2) masses of reduced iron with clear boundaries throughout, and 25 percent medium distinct irregular extremely weakly cemented yellowish red (5YR 5/6) iron-manganese masses with sharp boundaries between peds; moderately acid, pH 6.0; abrupt smooth boundary.

Btx2—33 to 53 inches; yellowish brown (10YR 5/6) silt loam; strong very coarse prismatic structure; very firm; 50 percent continuous distinct light yellowish brown (2.5Y 6/3) clay films on all faces of peds; 5 percent medium distinct irregular extremely weakly cemented yellowish red (5YR 5/6) iron-manganese masses with clear boundaries between peds, 10 percent very coarse distinct irregular strongly cemented light gray (2.5Y 7/2) masses of reduced iron with clear boundaries on faces of peds, 10 percent fine prominent spherical extremely weakly cemented black (10YR 2/1) manganese masses with sharp boundaries in matrix surrounding redoximorphic concentrations, and 15 percent very coarse distinct irregular strongly cemented light gray (2.5Y 7/2) masses of reduced iron with clear boundaries in matrix; moderately acid, pH 6.0; clear smooth boundary. (Combined thickness of the Btx horizon ranges from 14 to 36 inches.)

Bt´—53 to 72 inches; dark yellowish brown (10YR 4/4) silty clay loam; strong coarse prismatic structure; firm; 10 percent very coarse prominent irregular extremely weakly cemented light gray (2.5Y 7/2) masses of reduced iron with clear boundaries in matrix, 10 percent very coarse prominent irregular extremely weakly cemented light gray (2.5Y 7/2) masses of reduced iron with clear boundaries on faces of peds, 15 percent medium distinct irregular extremely weakly cemented strong brown (7.5YR 5/6) iron-manganese masses with clear boundaries in matrix, and 30 percent fine prominent spherical extremely weakly cemented black (10YR 2/1) manganese masses with sharp boundaries in matrix surrounding redoximorphic concentrations; moderately acid, pH 6.0; clear smooth boundary. (10 to 20 inches thick)

BC—72 to 93 inches; yellowish brown (10YR 5/6) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; 10 percent fine prominent spherical extremely weakly cemented black (10YR 2/1) manganese masses with sharp boundaries in matrix surrounding redoximorphic concentrations, 15 percent very coarse prominent irregular extremely weakly cemented light gray (2.5Y 7/2) masses of reduced iron with clear boundaries in matrix, and 20 percent medium distinct irregular extremely weakly cemented strong brown (7.5YR 5/8) iron-manganese masses with clear boundaries in matrix; slightly acid, pH 6.5; clear smooth boundary. (0 to 24 inches thick)

C—93 to 99 inches; yellowish brown (10YR 5/8) silty clay loam; massive; firm; 20 percent medium distinct irregular extremely weakly cemented strong brown (7.5YR 5/8) iron-manganese masses with clear boundaries in matrix and 20 percent medium prominent irregular extremely weakly cemented light gray (2.5Y 7/2) masses of reduced iron with clear boundaries in matrix; slightly acid, pH 6.5. (4 to 20 inches thick)

Range in Characteristics

Depth to restrictive feature: 20 to 36 inches to a fragipan

Diagnostic feature(s): Fragipan, redoximorphic concentrations, ochric epipedon, aquic conditions, redoximorphic depletions with chroma of 2 or less, and argillic horizon

Surface fragments: None

Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 15 to 29 inches

Ap horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—0 to 2 percent rounded indurated fine gravel and 0 to 3 percent rounded indurated medium and coarse gravel
Reaction—pH 4.5 to 8.4
Organic matter content—0.5 to 2.0 percent

AB and Bt horizons:
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—4 to 8 moist
Texture—silty clay loam or silt loam
Redoximorphic features—in shades of brown, gray, red, or yellow
Rock fragments—0 to 2 percent rounded indurated fine gravel and 0 to 3 percent rounded indurated medium and coarse gravel
Reaction—pH 4.5 to 8.4
Organic matter content—0.0 to 0.5 percent

Btx horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—1 to 8 moist
Texture—silty clay loam or silt loam
Redoximorphic features—in shades of brown, gray, red, or yellow
Rock fragments—0 to 8 percent rounded indurated fine gravel and 0 to 7 percent rounded indurated medium and coarse gravel
Reaction—pH 4.5 to 8.4
Organic matter content—0.0 to 0.5 percent

Bt´ and BC horizons:
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—1 to 8 moist
Texture—silt loam, loam, or silty clay loam
Redoximorphic features—in shades of brown, gray, red, or yellow
Rock fragments—0 to 8 percent rounded indurated fine gravel and 0 to 7 percent rounded indurated medium and coarse gravel
Reaction—pH 5.1 to 8.4
Organic matter content—0.0 to 0.5 percent

C horizon(s):
Hue—7.5YR to 2.5Y
Value—3 to 7 moist
Chroma—1 to 8 moist
Texture—stratified fine sandy loam to silty clay loam, stratified sandy loam to loam, silty clay loam, or stratified silt loam to clay
Redoximorphic features—in shades of brown, gray, red, or yellow
Rock fragments—0 to 8 percent rounded indurated fine gravel and 0 to 7 percent rounded indurated medium and coarse gravel

Reaction—pH 5.1 to 8.4
Organic matter content—0.0 to 0.5 percent

Robertsville Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): Rb—Robertsville silt loam, 0 to 2 percent slopes, ponded
Depth class: Very deep
Depth to fragipan: 19 inches
Drainage class: Poorly drained
Saturated hydraulic conductivity (Ksat): Very low
Landform(s): Depressions, stream terrace in river valley, and flat on upland
Landform position(s) (three-dimensional): Tread
Parent material: Fine-silty material over calcareous shale and dolomite on broad flats of the Upper Crab Orchard Formation of the Silurian System on uplands and fine-silty mixed alluvium of the Quaternary System on stream terraces
Elevation: 700 to 950 feet
Slope: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, semiactive, mesic Typic Fragiaqualfs

Typical Pedon

Robertsville silt loam, 0 to 2 percent slopes, ponded; in a pasture about 0.75 mile west of the intersection of Kentucky Highway 965 and Kentucky Highway 36, about 1,250 feet southwest of the confluence of Mill Creek and Slate Creek; USGS Olympia, Kentucky topographic quadrangle; lat. 38 degrees 6 minutes 33.00 seconds N. and long. 83 degrees 44 minutes 59.60 seconds W.; UTM Zone 17, 510827 meters easting, 9300255 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 6 inches; 50 percent dark yellowish brown (10YR 4/4) and 50 percent grayish brown (10YR 5/2) silt loam; weak fine granular structure; friable; many fine roots throughout; 20 percent medium distinct irregular strong brown (7.5YR 4/6) masses of oxidized iron with clear boundaries in matrix and 20 percent fine distinct irregular strong brown (7.5YR 4/6) masses of oxidized iron with clear boundaries in matrix; slightly acid, pH 6.5; clear smooth boundary. (4 to 8 inches thick)

Btg—6 to 19 inches; grayish brown (10YR 5/2) silt loam; moderate fine subangular blocky structure; friable; many fine roots throughout; 40 percent discontinuous faint clay films on vertical faces of peds; 20 percent medium distinct irregular brownish yellow (10YR 6/6) iron depletions with clear boundaries in matrix, 20 percent medium distinct irregular strong brown (7.5YR 4/6) masses of oxidized iron with clear boundaries in matrix, and 20 percent fine distinct irregular strong brown (7.5YR 4/6) masses of oxidized iron with clear boundaries in matrix; moderately acid, pH 6.0; abrupt smooth boundary. (10 to 20 inches thick)

Btgx—19 to 42 inches; light gray (10YR 7/2) silt loam; weak very coarse prismatic structure parting to weak medium subangular blocky; very firm; common fine roots between peds; 40 percent discontinuous distinct clay films on vertical faces of peds; 20 percent medium distinct irregular yellowish brown (10YR 5/6) masses of oxidized iron with clear boundaries in matrix and 20 percent coarse distinct irregular yellowish brown (10YR 5/6) masses of oxidized iron with clear boundaries in matrix; moderately acid, pH 6.0; clear smooth boundary. (20 to 40 inches thick)

BCg—42 to 69 inches; light brownish gray (10YR 6/2) silt loam; weak medium subangular blocky structure; firm; few fine roots between peds; 5 percent medium distinct irregular iron depletions with clear boundaries between peds, 5 percent fine distinct irregular iron depletions with clear boundaries between peds, 5 percent fine distinct irregular strong brown (7.5YR 5/6) masses of oxidized iron with clear boundaries in matrix, 20 percent medium distinct irregular yellowish brown (10YR 5/6) masses of oxidized iron with clear boundaries in matrix, and 20 percent coarse distinct irregular yellowish brown (10YR 5/6) masses of oxidized iron with clear boundaries in matrix; slightly acid, pH 6.5; gradual smooth boundary. (10 to 30 inches thick)

Cg—69 to 100 inches; gray (2.5Y 5/1) silty clay loam; massive; firm; 15 percent medium distinct irregular strong brown (7.5YR 5/8) masses of oxidized iron with clear boundaries in matrix and 15 percent medium distinct irregular yellowish brown (10YR 5/8) masses of oxidized iron with clear boundaries in matrix; 2 percent nonflat subrounded indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch unspecified fragments; slightly acid, pH 6.5. (20 to 40 inches thick)

Range in Characteristics

Depth to restrictive feature: 15 to 36 inches to a fragipan
Diagnostic feature(s): Redoximorphic concentrations, fragipan, ochric epipedon, redoximorphic depletions with chroma of 2 or less, aquic conditions, and argillic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: Ponded to 12 inches

Ap horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6 moist
Chroma—1 or 2 moist
Texture—silt loam
Redoximorphic features—in shades of brown or gray
Rock fragments—0 to 2 percent subrounded indurated fine gravel and 0 to 3 percent subrounded indurated medium and coarse gravel
Reaction—pH 3.6 to 6.5
Organic matter content—1.0 to 3.0 percent

Btg horizon(s):
Hue—10YR to 5Y
Value—5 to 7 moist
Chroma—1 or 2 moist
Texture—silt loam or silty clay loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 2 percent subrounded indurated fine gravel and 0 to 3 percent subrounded indurated medium and coarse gravel
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

Btgx and BCg horizons:
Hue—10YR to 5Y
Value—5 to 7 moist
Chroma—1 or 2 moist
Texture—silty clay loam or silt loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 2 percent subrounded indurated fine gravel and 0 to 3 percent subrounded indurated medium and coarse gravel

Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

Cg horizon(s):
Hue—10YR to 5Y
Value—5 to 7 moist
Chroma—1 or 2 moist
Texture—silty clay loam, silty clay, silt loam, or sandy loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 10 percent subrounded indurated fine gravel and 0 to 10 percent subrounded indurated medium and coarse gravel
Reaction—pH 4.5 to 5.5
Organic matter content—0.0 to 0.5 percent

Rohan Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: The Knobs
Map unit(s): RoF2—Rohan-Trappist complex, 12 to 60 percent slopes, eroded
Depth class: Shallow
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Knob on upland
Landform position(s) (two-dimensional): Backslope
Landform position(s) (three-dimensional): Side slope
Parent material: Loamy-skeletal residuum weathered from acid, fissile, black shale of the Ohio Shale and New Albany Shale Members of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet
Slope: 12 to 60 percent
Taxonomic classification: Loamy-skeletal, mixed, semiactive, mesic Lithic Dystrudepts

Typical Pedon

Rohan channery silt loam in an area of Rohan-Trappist complex, 12 to 60 percent slopes, eroded; on a woodland footslope in the Daniel Boone National Forest, about 800 feet south of the intersection of Satterfield Road and Blevins Valley Road, about 150 feet east of Blevins Valley Road, about 30 feet in elevation above the Trappist series representative site; USGS Olympia, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 11.70 seconds N. and long. 83 degrees 44 minutes 19.20 seconds W.; UTM Zone 17, 259704 meters easting, 4215264 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 4 inches; brown (10YR 4/3) channery silt loam; weak fine granular structure; friable; many fine roots throughout; 15 percent flat angular strongly cemented 2- to 35-millimeter acid shale fragments; very strongly acid, pH 4.5; abrupt smooth boundary. (2 to 6 inches thick)

Bw—4 to 8 inches; strong brown (7.5YR 4/6) channery silty clay loam; weak fine subangular blocky structure; friable; few medium roots throughout; 30 percent flat angular strongly cemented $^{1}/_{12}$- to 3-inch acid shale fragments; very strongly acid, pH 4.5; clear wavy boundary. (6 to 15 inches thick)

C—8 to 10 inches; strong brown (7.5YR 4/6) very channery silty clay loam; 10 percent fine distinct irregular light brownish gray (10YR 6/2) and 10 percent medium prominent platy red (2.5YR 4/8) mottles; massive; firm; common fine roots around fragments and common medium roots around fragments; 50 percent flat angular strongly cemented 1/12- to 6-inch acid shale fragments; extremely acid, pH 4.0; clear smooth boundary. (0 to 6 inches thick)

Cr—10 to 14 inches; weathered acid, fissile, black shale bedrock.

R—14 to 24 inches; unweathered acid, fissile, black shale bedrock.

Range in Characteristics

Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 10 to 20 inches to lithic bedrock
Diagnostic feature(s): Ochric epipedon, lithic contact, argillic horizon, and paralithic contact
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

A horizon(s):
Hue—7.5YR to 2.5Y
Value—2 to 5 moist
Chroma—2 to 4 moist
Texture—channery silt loam
Rock fragments—5 to 70 percent subangular strongly cemented channers and 0 to 5 percent subangular strongly cemented flagstones
Reaction—pH 4.5 to 6.0
Organic matter content—0.5 to 3.0 percent

Bw and C horizons:
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—3 to 6 moist
Texture—extremely channery silty clay loam or very channery silty clay loam
Rock fragments—33 to 57 percent subangular strongly cemented channers and 3 to 8 percent subangular strongly cemented flagstones
Reaction—pH 3.6 to 6.0
Organic matter content—0.0 to 0.5 percent

Cr horizon(s):
Bedrock—weathered, acid, fissile, black shale

R horizon(s):
Bedrock—unweathered, acid, fissile, black shale

Sandview Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): SaB—Sandview-Lowell silt loams, 2 to 6 percent slopes
Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Ridge on upland
Landform position(s) (two-dimensional): Summit
Landform position(s) (three-dimensional): Interfluve
Parent material: Thin fine-silty loess over clayey residuum weathered from limestone of the Grant Lake Formation of the Ordovician System
Elevation: 850 to 1,030 feet
Slope: 2 to 6 percent
Taxonomic classification: Fine-silty, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Sandview silt loam in an area of Sandview-Lowell silt loams, 2 to 6 percent slopes; in a hayland/pasture field about 2 miles northeast of Bethel, about 2,500 feet southwest of Kentucky Highway 11; USGS Sherburne, Kentucky topographic quadrangle; lat. 38 degrees 15 minutes 36.00 seconds N. and long. 83 degrees 49 minutes 26.90 seconds W.; UTM Zone 17, 252902 meters easting, 4238435 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 9 inches; brown (10YR 4/3) silt loam; moderate fine granular structure; very friable; common fine and common very fine roots throughout; slightly acid, pH 6.5; abrupt smooth boundary. (5 to 10 inches thick)

Bt1—9 to 19 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; common fine and common very fine roots throughout; 15 percent discontinuous distinct yellowish brown (10YR 5/4) silt coats on vertical faces of peds and 40 percent discontinuous distinct dark yellowish brown (10YR 4/6) clay films on vertical faces of peds; slightly acid, pH 6.5; clear smooth boundary.

Bt2—19 to 30 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; few fine and few very fine roots throughout; 40 percent discontinuous distinct dark yellowish brown (10YR 4/6) clay films on vertical faces of peds; 1 percent fine prominent spherical weakly cemented black (10YR 2/1) iron-manganese nodules and 4 percent medium distinct irregular extremely weakly cemented strong brown (7.5YR 5/8) iron-manganese masses with clear boundaries between peds; slightly acid, pH 6.5; clear smooth boundary. (Combined thickness of the Bt horizon ranges from 15 to 30 inches.)

2Bt3—30 to 48 inches; yellowish brown (10YR 5/6) silty clay; moderate medium subangular blocky structure; firm; few very fine roots throughout; 40 percent discontinuous distinct dark yellowish brown (10YR 4/6) clay films on vertical faces of peds; 1 percent fine distinct irregular light yellowish brown (2.5Y 6/3) iron depletions with clear boundaries in matrix and 6 percent medium distinct irregular extremely weakly cemented strong brown (7.5YR 5/8) iron-manganese masses with clear boundaries between peds; slightly acid, pH 6.5; gradual smooth boundary. (30 to 50 inches thick)

2BC—48 to 65 inches; strong brown (7.5YR 5/6) clay; weak medium subangular blocky structure; very firm; 1 percent fine distinct irregular iron depletions with clear boundaries in matrix and 3 percent medium distinct irregular extremely weakly cemented strong brown (7.5YR 5/8) iron-manganese masses with clear boundaries between peds; neutral, pH 7.0; abrupt smooth boundary. (10 to 20 inches thick)

2R—65 to 75 inches; unweathered limestone bedrock.

Range in Characteristics

Depth to restrictive feature: 60 to 80 inches to lithic bedrock
Diagnostic feature(s): Redoximorphic concentrations, ochric epipedon, lithic contact, lithologic discontinuity, and argillic horizon
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

Ap horizon(s):
Hue—7.5YR or 10YR
Value—3 to 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—none

Reaction—pH 4.5 to 6.5
Organic matter content—1.0 to 4.0 percent

Bt horizon(s):
Hue—5YR to 10YR
Value—4 to 6 moist
Chroma—4 to 8 moist
Texture—silt loam or silty clay loam
Rock fragments—none
Reaction—pH 4.5 to 7.3
Organic matter content—0.0 to 0.5 percent

2Bt horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—3 to 8 moist
Texture—silty clay or clay
Rock fragments—0 to 6 percent angular indurated channers
Reaction—pH 5.1 to 7.8
Organic matter content—0.0 to 0.5 percent

2BC horizon(s):
Hue—7.5YR to 2.5Y
Value—3 to 6 moist
Chroma—2 to 8 moist
Texture—silty clay or clay
Rock fragments—0 to 6 percent angular indurated channers
Reaction—pH 5.1 to 7.8
Organic matter content—0.0 to 0.5 percent

R horizon(s):
Bedrock—unweathered limestone

Shelocta Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): ShB—Shelocta-Skidmore complex, 0 to 6 percent slopes, frequently flooded; SlD—Shelocta silt loam, 6 to 20 percent slopes; SpF2—Shelocta-Gilpin silt loams, 20 to 60 percent slopes, eroded
Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Hillslope on hills
Landform position(s) (two-dimensional): Backslope
Landform position(s) (three-dimensional): Side slope
Parent material: Fine-loamy colluvium derived from sandstone, shale, and siltstone over residuum of the Cowbell and Farmers Members of the Borden Formation of the Mississippian System
Elevation: 700 to 1,300 feet
Slope: 2 to 60 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludults

Typical Pedon

Shelocta silt loam in an area of Shelocta-Gilpin silt loams, 20 to 60 percent slopes, eroded; on a woodland footslope in the Daniel Boone National Forest, about 3 miles south of the intersection of Kentucky Highway 211 and Clear Creek-Leatherwood Creek Road, and about 500 feet west of Clear Creek-Leatherwood Creek Road; USGS Salt Lick, Kentucky topographic quadrangle; lat. 38 degrees 2 minutes 32.20 seconds N. and long. 83 degrees 35 minutes 7.20 seconds W.; UTM Zone 17, 273126 meters easting, 4213661 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 5 inches; brown (10YR 4/3) silt loam; moderate medium granular structure and moderate fine granular structure; very friable; common fine and common very fine roots throughout; 5 percent flat subangular indurated $^{1}/_{12}$- to 6-inch sandstone fragments and 5 percent flat subangular indurated $^{1}/_{12}$- to 6-inch siltstone fragments; moderately acid, pH 6.0; clear smooth boundary. (4 to 8 inches thick)

Bt1—5 to 17 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent yellowish brown (10YR 5/4) channery silt loam; moderate medium subangular blocky structure; friable; common fine and common medium roots throughout on rock fragments; 40 percent discontinuous distinct clay films on vertical faces of peds; 10 percent flat subangular indurated $^{1}/_{12}$- to 6-inch siltstone fragments and 10 percent flat subangular indurated $^{1}/_{12}$- to 6-inch sandstone fragments; very strongly acid, pH 5.0; gradual smooth boundary.

Bt2—17 to 25 inches; light olive brown (2.5Y 5/4) channery silt loam; 20 percent medium distinct irregular strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; friable; few fine and few coarse roots throughout; 30 percent discontinuous distinct clay films on vertical faces of peds; 12 percent flat subangular indurated $^{1}/_{12}$- to 6-inch siltstone fragments and 13 percent flat subangular indurated $^{1}/_{12}$- to 6-inch sandstone fragments; very strongly acid, pH 5.0; gradual smooth boundary. (Combined thickness of the Bt horizon ranges from 15 to 40 inches.)

BC—25 to 40 inches; 50 percent light olive brown (2.5Y 5/4) and 50 percent yellowish brown (10YR 5/4) very channery loam; 10 percent medium distinct strong brown (7.5YR 5/8), 10 percent medium distinct pale olive (5Y 6/3), and 10 percent fine distinct pale olive (5Y 6/3) mottles; weak medium subangular blocky structure; friable; 20 percent flat subangular indurated $^{1}/_{12}$- to 6-inch siltstone fragments and 20 percent flat subangular indurated $^{1}/_{12}$- to 6-inch sandstone fragments; very strongly acid, pH 4.5; gradual smooth boundary. (0 to 20 inches thick)

C—40 to 60 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent light olive brown (2.5Y 5/4) very channery loam; 10 percent fine distinct pale olive (5Y 6/3) and 10 percent medium distinct pale olive (5Y 6/3) mottles; massive; firm; 25 percent flat subangular indurated $^{1}/_{12}$- to 6-inch siltstone fragments and 30 percent flat subangular indurated $^{1}/_{12}$- to 6-inch sandstone fragments; very strongly acid, pH 4.5; clear smooth boundary. (10 to 25 inches thick)

2C—60 to 95 inches; 50 percent light olive brown (2.5Y 5/6) and 50 percent olive (5Y 5/3) channery loam; massive; firm; 7 percent flat subangular indurated $^{1}/_{12}$- to 6-inch siltstone fragments and 8 percent flat subangular indurated $^{1}/_{12}$- to 6-inch sandstone fragments; very strongly acid, pH 4.5. (0 to 40 inches thick)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Ochric epipedon and argillic horizon
Surface fragments: 0 to 1 percent subangular indurated siltstone channers and 0 to 1 percent subangular indurated sandstone channers
Depth to seasonal high water table: More than 6 feet

A horizon(s):
Hue—7.5YR to 2.5Y
Value—4 or 5 moist

Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—1 to 30 percent subangular indurated channers and 1 to 5 percent subangular indurated flagstones
Reaction—pH 4.5 to 6.0
Organic matter content—0.5 to 5.0 percent

Bt horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—4 to 8 moist
Lithochromic mottles—in shades of brown
Texture—silty clay loam, channery silt loam, or silt loam
Rock fragments—2 to 40 percent subangular indurated channers and 3 to 10 percent subangular indurated flagstones
Reaction—pH 4.5 to 5.5
Organic matter content—0.2 to 0.8 percent

BC and C horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6 moist
Chroma—2 to 6 moist
Lithochromic mottles—in shades of brown or olive
Texture—very channery loam, very channery silt loam, channery silty clay loam, or channery silt loam
Rock fragments—3 to 30 percent subangular indurated channers and 2 to 20 percent subangular indurated flagstones
Reaction—pH 4.5 to 5.5
Organic matter content—0.0 to 0.5 percent

2C horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6 moist
Chroma—2 to 6 moist
Lithochromic mottles—in shades of brown or olive
Texture—channery loam, channery silt loam, very channery silt loam, or channery silty clay loam
Rock fragments—12 to 50 percent subangular indurated channers and 3 to 20 percent subangular indurated flagstones
Reaction—pH 4.5 to 5.5
Organic matter content—0.0 to 0.5 percent

Shrouts Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): BeD2—Beasley-Shrouts silt loams, 12 to 20 percent slopes, eroded; SrD2—Shrouts-Beasley-Rock outcrop complex, 6 to 20 percent slopes, eroded; StE2—Shrouts-Beasley complex, 20 to 30 percent slopes, eroded
Depth class: Moderately deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Hill on upland
Landform position(s) (two-dimensional): Backslope
Landform position(s) (three-dimensional): Side slope

Parent material: Clayey residuum weathered from calcareous shale and/or calcareous siltstone of the Upper Crab Orchard and Lower Crab Orchard and Brassfield Formations of the Silurian System
Elevation: 620 to 1,080 feet
Slope: 6 to 30 percent
Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Shrouts silty clay loam in an area of Shrouts-Beasley-Rock outcrop complex, 6 to 20 percent slopes, eroded; in a pasture about 0.55 mile southwest of Polksville and 500 feet north of U.S. Highway 60; USGS Colfax, Kentucky topographic quadrangle; lat. 38 degrees 8 minutes 11.00 seconds N. and long. 83 degrees 39 minutes 46.00 seconds W.; UTM Zone 17, 266629 meters easting, 4224298 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate medium subangular blocky structure parting to weak fine granular; friable; many fine roots throughout; neutral, pH 7.0; abrupt smooth boundary. (3 to 8 inches thick)
Bt1—4 to 9 inches; light olive brown (2.5Y 5/6) silty clay; 10 percent fine distinct irregular gray (10YR 6/1) and 10 percent fine distinct irregular light brownish gray (10YR 6/2) mottles; moderate coarse prismatic structure parting to moderate fine angular blocky; very firm; common fine roots between peds; few fine tubular pores; 30 percent continuous olive (5Y 5/4) clay films on all faces of peds and 30 percent continuous grayish brown (10YR 5/2) clay films on all faces of peds; moderately alkaline, pH 8.0; clear smooth boundary.
Bt2—9 to 18 inches; light olive brown (2.5Y 5/4) silty clay; 25 percent medium distinct irregular gray (10YR 6/1) mottles; moderate coarse prismatic structure parting to weak medium platy; very firm; common fine roots between peds; few fine tubular pores; 30 percent continuous olive (5Y 5/4) clay films on all faces of peds; 10 percent flat subangular moderately cemented $^{1}/_{12}$- to 6-inch calcareous shale fragments; moderately alkaline, pH 8.0; clear smooth boundary. (Combined thickness of the Bt horizon ranges from 12 to 30 inches.)
C—18 to 30 inches; olive gray (5Y 5/2) channery silty clay; very firm; common fine roots between peds; 15 percent flat subangular moderately cemented $^{1}/_{12}$- to 6-inch calcareous shale fragments; strongly alkaline, pH 8.5; abrupt smooth boundary. (0 to 14 inches thick)
Cr—30 to 40 inches; weathered calcareous shale bedrock.

Range in Characteristics

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Diagnostic feature(s): Ochric epipedon, argillic horizon, and paralithic contact
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

Ap horizon(s):
Hue—10YR to 5Y
Value—5 or 6 moist
Chroma—1 to 6 moist
Texture—silty clay or silty clay loam
Rock fragments—0 to 14 percent subangular moderately cemented channers and 0 to 6 percent subangular moderately cemented flagstones
Calcium carbonate equivalent—1 to 5 percent
Reaction—pH 5.1 to 8.4
Organic matter content—0.5 to 2.0 percent

Bt horizon(s):
Hue—10YR to 5GY
Value—5 or 6 moist
Chroma—1 to 6 moist
Texture—clay or silty clay
Rock fragments—0 to 14 percent subangular moderately cemented channers and 0 to 6 percent subangular moderately cemented flagstones
Calcium carbonate equivalent—1 to 32 percent
Reaction—pH 5.1 to 8.4
Organic matter content—0.0 to 0.5 percent

C horizon(s):
Hue—2.5Y to 5GY
Value—4 to 6 moist
Chroma—1 to 6 moist
Texture—silty clay, channery silty clay, or clay
Rock fragments—1 to 25 percent subangular moderately cemented channers and 0 to 10 percent subangular moderately cemented flagstones
Calcium carbonate equivalent—1 to 38 percent
Reaction—pH 6.6 to 8.5
Organic matter content—0.0 to 0.5 percent

Cr horizon(s):
Bedrock—weathered calcareous shale

Skidmore Series

Major land resource area: Western Allegheny Plateau (MLRA 124)
State physiographic area: Eastern Coalfields
Map unit(s): ShB—Shelocta-Skidmore complex, 0 to 6 percent slopes, frequently flooded
Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Valley on floodplain
Parent material: Loamy-skeletal mixed alluvium derived from sandstone, siltstone, and shale of the Quaternary System
Elevation: 700 to 860 feet
Slope: 0 to 2 percent
Taxonomic classification: Loamy-skeletal, mixed, semiactive, mesic Dystric Fluventic Eutrudepts

Typical Pedon

Skidmore loam in an area of Shelocta-Skidmore complex, 0 to 6 percent slopes, frequently flooded; on a woodland site adjacent to an intermittent drain in the Daniel Boone National Forest, about 2 miles south of the intersection of Kentucky Highway 211 and Clear Creek-Leatherwood Creek Road to the confluence of Clear Creek and Stone Quarry Creek, and about 2,500 feet southwest of the confluence toward the head of Stone Quarry Creek; USGS Salt Lick, Kentucky topographic quadrangle; lat. 38 degrees 2 minutes 40.50 seconds N. and long. 83 degrees 35 minutes 59.20 seconds W.; UTM Zone 17, 271865 meters easting, 4213952 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 6 inches; brown (10YR 4/3) loam; weak fine granular structure; very friable; common fine and common medium roots throughout; 5 percent nonflat subrounded indurated $^{1}/_{12}$- to 3-inch sedimentary rock fragments; slightly acid, pH 6.5; gradual smooth boundary. (5 to 10 inches thick)

Bw1—6 to 13 inches; dark yellowish brown (10YR 4/4) loam; weak fine subangular blocky structure and weak medium subangular blocky structure; very friable; common fine roots throughout; 5 percent flat subangular indurated $^{1}/_{12}$- to 6-inch sedimentary rock fragments and 5 percent nonflat subrounded indurated $^{1}/_{12}$- to 3-inch sedimentary rock fragments; moderately acid, pH 6.0; clear wavy boundary.

Bw2—13 to 21 inches; light olive brown (2.5Y 5/4) very channery loam; weak fine subangular blocky structure; friable; common fine roots around fragments; 30 percent nonflat subrounded indurated $^{1}/_{12}$- to 3-inch sedimentary rock fragments and 30 percent flat subangular indurated $^{1}/_{12}$- to 6-inch sedimentary rock fragments; slightly acid, pH 6.5; gradual wavy boundary. (Combined thickness of the Bw horizon ranges from 10 to 20 inches.)

C1—21 to 48 inches; light olive brown (2.5Y 5/4) extremely channery loam; massive; friable; common fine roots around fragments; 35 percent nonflat subrounded indurated $^{1}/_{12}$- to 3-inch sedimentary rock fragments and 35 percent flat subangular indurated $^{1}/_{12}$- to 6-inch sedimentary rock fragments; slightly acid, pH 6.5; gradual wavy boundary.

C2—48 to 64 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent light olive brown (2.5Y 5/4) extremely channery loam; massive; friable; common fine roots around fragments; 1 percent fine irregular light yellowish brown (2.5Y 6/3) iron depletions with clear boundaries in matrix; 35 percent nonflat subrounded indurated $^{1}/_{12}$- to 3-inch sedimentary rock fragments and 35 percent flat subangular indurated $^{1}/_{12}$- to 6-inch sedimentary rock fragments; slightly acid, pH 6.5; abrupt smooth boundary. (Combined thickness of the C horizon ranges from 20 to 50 inches.)

Cr—64 to 74 inches; weathered shale and siltstone bedrock.

Range in Characteristics

Depth to restrictive feature: 60 to 80 inches to paralithic bedrock
Diagnostic feature(s): Ochric epipedon, cambic horizon, and paralithic contact
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 36 to 48 inches

A horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6 moist
Chroma—2 to 6 moist
Texture—gravelly silt loam, loam, or gravelly loam
Rock fragments—0 to 20 percent subrounded indurated fine gravel, 0 to 20 percent subrounded indurated medium and coarse gravel, and 0 to 10 percent subangular indurated channers
Reaction—pH 5.6 to 7.8
Organic matter content—0.5 to 2.0 percent

Bw and C horizons:
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—3 to 6 moist
Texture—gravelly loam, extremely gravelly loam, or very gravelly loam
Rock fragments—10 to 20 percent subrounded indurated fine gravel, 15 to 35 percent subrounded indurated medium and coarse gravel, and 10 to 35 percent subangular indurated channers

Reaction—pH 5.6 to 7.8
Organic matter content—0.0 to 0.5 percent

Cr horizon(s):
Bedrock—weathered shale and siltstone

Tilsit Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: The Knobs
Map unit(s): TlB—Tilsit silt loam, 0 to 6 percent slopes; TlC—Tilsit silt loam, 6 to 12 percent slopes
Depth class: Very deep
Depth to fragipan: 22 inches
Drainage class: Moderately well drained
Saturated hydraulic conductivity (Ksat): Very low
Landform(s): Knob on upland
Landform position(s) (two-dimensional): Summit and shoulder
Landform position(s) (three-dimensional): Interfluve and side slope
Parent material: Fine-silty residuum weathered from siltstone of the Cowbell and Nancy Members of the Borden Formation of the Mississippian System
Elevation: 740 to 1,000 feet
Slope: 2 to 12 percent
Taxonomic classification: Fine-silty, mixed, semiactive, mesic Typic Fragiudults

Typical Pedon

Tilsit silt loam, 0 to 6 percent slopes; in a harvested corn field about 1,250 feet north of the intersection of Kentucky Highway 36 and Kentucky Highway 211; USGS Olympia, Kentucky topographic quadrangle; lat. 38 degrees 2 minutes 16.10 seconds N. and long. 83 degrees 38 minutes 13.60 seconds W.; UTM Zone 17, 321168 meters easting, 4211969 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 7 inches; yellowish brown (10YR 5/4) silt loam; moderate fine granular structure; very friable; common fine roots throughout; neutral, pH 7.0; clear wavy boundary. (5 to 10 inches thick)

Bt1—7 to 15 inches; yellowish brown (10YR 5/6) silt loam; moderate fine subangular blocky structure and moderate medium subangular blocky structure; friable; common very fine roots throughout; 30 percent discontinuous clay films on vertical faces of peds; 5 percent flat subangular strongly cemented $^{1}/_{12}$- to 6-inch siltstone fragments; slightly acid, pH 6.5; clear wavy boundary.

Bt2—15 to 22 inches; 70 percent light olive brown (2.5Y 5/6) and 30 percent yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; firm; few very fine roots throughout; 30 percent discontinuous clay films on vertical faces of peds; 15 percent medium distinct irregular light yellowish brown (2.5Y 6/3) iron depletions; 2 percent flat subangular strongly cemented $^{1}/_{12}$- to 6-inch siltstone fragments; strongly acid, pH 5.5; clear wavy boundary. (Combined thickness of the Bt horizon ranges from 15 to 24 inches.)

Btx1—22 to 37 inches; 70 percent light olive brown (2.5Y 5/6) and 30 percent yellowish brown (10YR 5/6) silt loam; strong coarse prismatic structure; very firm; 30 percent discontinuous clay films on vertical faces of peds; 20 percent medium distinct irregular light brownish gray (2.5Y 6/2) iron depletions; 2 percent flat subangular strongly cemented $^{1}/_{12}$- to 6-inch siltstone fragments; strongly acid, pH 5.5; gradual wavy boundary.

Btx2—37 to 53 inches; 70 percent light olive brown (2.5Y 5/6) and 30 percent strong brown (7.5YR 5/8) silt loam; strong very coarse prismatic structure; very firm; 30 percent discontinuous clay films on vertical faces of peds; 25 percent medium distinct irregular light brownish gray (2.5Y 6/2) iron depletions; 2 percent flat subangular strongly cemented $^{1}/_{12}$- to 6-inch siltstone fragments; very strongly acid, pH 5.0; gradual wavy boundary. (Combined thickness of the Btx horizon ranges from 12 to 40 inches.)

C—53 to 72 inches; yellowish brown (10YR 5/8) silt loam; weak coarse subangular blocky structure; firm; 40 percent medium distinct irregular light gray (2.5Y 7/2) iron depletions; 10 percent flat subangular strongly cemented $^{1}/_{12}$- to 6-inch siltstone fragments; very strongly acid, pH 5.0; abrupt smooth boundary. (5 to 24 inches thick)

Cr—72 to 82 inches; weathered acid shale bedrock.

Range in Characteristics

Depth to restrictive feature: 18 to 28 inches to a fragipan; 60 to 80 inches to paralithic bedrock

Diagnostic feature(s): Fragipan, ochric epipedon, aquic conditions, redoximorphic depletions with chroma of 2 or less, argillic horizon, and paralithic contact

Surface fragments: None

Seasonal high water table: January, February, March, April, May, November, and December

Depth to top of water table: 15 to 25 inches

Ap horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—0 to 5 percent subangular strongly cemented channers
Reaction—pH 3.5 to 7.0
Organic matter content—1.0 to 3.0 percent

Bt horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—4 to 8 moist
Texture—silty clay loam, silt loam, or loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 5 percent subangular strongly cemented channers
Reaction—pH 3.5 to 5.5
Organic matter content—0.0 to 0.5 percent

Btx horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—2 to 8 moist
Texture—loam, silt loam, or silty clay loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—0 to 20 percent subangular strongly cemented channers
Reaction—pH 3.5 to 5.5
Organic matter content—0.0 to 0.5 percent

C horizon(s):
Hue—7.5YR to 2.5Y
Value—4 to 6 moist
Chroma—2 to 8 moist

Texture—silt loam, channery silty clay, channery silty clay loam, or channery silt loam
Redoximorphic features—in shades of brown, gray, or yellow
Rock fragments—5 to 30 percent subangular strongly cemented channers
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

Cr horizon(s):
Bedrock—weathered acid shale

Trappist Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: The Knobs
Map unit(s): CpC—Covedale-Trappist silt loams, 6 to 12 percent slopes; CpD—Covedale-Trappist silt loams, 12 to 30 percent slopes; RoF2—Rohan-Trappist complex, 12 to 60 percent slopes, eroded; TrB2—Trappist silt loam, 2 to 6 percent slopes, eroded; TrC2—Trappist silt loam, 6 to 12 percent slopes, eroded; TsF2—Trappist-Muse silt loams, 20 to 60 percent slopes, eroded
Depth class: Moderately deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Knob on upland
Landform position(s) (two-dimensional): Summit, shoulder, backslope, and footslope
Landform position(s) (three-dimensional): Interfluve, side slope, and base slope
Parent material: Clayey residuum weathered from acid, fissile, black shale of the Ohio Shale and New Albany Shale Members of the Devonian System and the Sunbury Member of the Mississippian System
Elevation: 680 to 1,020 feet
Slope: 2 to 60 percent
Taxonomic classification: Fine, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Trappist silt loam in an area of Trappist-Muse silt loams, 20 to 60 percent slopes, eroded; on a woodland footslope in the Daniel Boone National Forest, about 800 feet south of the intersection of Satterfield Road and Blevins Valley Road, about 150 feet east of Blevins Valley Road, about 30 feet in elevation above the Muse series representative profile; USGS Olympia, Kentucky topographic quadrangle; lat. 38 degrees 3 minutes 11.40 seconds N. and long. 83 degrees 44 minutes 20.00 seconds W.; UTM Zone 17, 259684 meters easting, 4215255 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

A—0 to 4 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium granular structure and moderate fine granular structure; friable; many medium and common coarse roots throughout; 3 percent flat angular very strongly cemented $^{1}/_{12}$- to 3-inch acid shale fragments; very strongly acid, pH 4.5; clear smooth boundary. (2 to 6 inches thick)

Bt1—4 to 13 inches; brown (7.5YR 5/4) silty clay loam; 1 percent fine irregular dark yellowish brown (10YR 3/6), 10 percent coarse irregular strong brown (7.5YR 5/6), and 10 percent medium irregular strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; firm; common fine and common medium roots throughout; 30 percent discontinuous faint clay films on vertical faces of peds; 5 percent flat angular very strongly cemented $^{1}/_{12}$- to 3-inch acid shale fragments; very strongly acid, pH 5.0; gradual smooth boundary.

Bt2—13 to 18 inches; strong brown (7.5YR 5/6) channery silty clay loam; 10 percent medium irregular strong brown (7.5YR 5/8) and 10 percent fine irregular strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; firm; common fine roots throughout; 60 percent discontinuous faint clay films on vertical faces of peds; 20 percent flat angular very strongly cemented $^{1}/_{12}$- to 3-inch acid shale fragments; very strongly acid, pH 4.5; gradual smooth boundary. (Combined thickness of the Bt horizon ranges from 10 to 30 inches.)

C—18 to 30 inches; strong brown (7.5YR 4/6) very channery silty clay; 5 percent medium irregular gray (10YR 6/1) and 5 percent fine irregular gray (10YR 6/1) mottles; massive; firm; few fine roots throughout; 10 percent discontinuous faint clay films on vertical faces of peds; 40 percent flat angular very strongly cemented $^{1}/_{12}$- to 6-inch acid shale fragments; very strongly acid, pH 4.5; clear smooth boundary. (0 to 15 inches thick)

Cr—30 to 35 inches; weathered acid, fissile, black shale bedrock.

R—35 to 39 inches; unweathered acid, fissile, black shale bedrock.

Range in Characteristics

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock

Diagnostic feature(s): Ochric epipedon, lithic contact, argillic horizon, and paralithic contact

Surface fragments: None

Depth to seasonal high water table: More than 6 feet

A horizon(s):

Hue—10YR to 2.5Y
Value—3 or 4 moist
Chroma—1 to 4 moist
Texture—silt loam
Rock fragments—0 to 35 percent subangular strongly cemented channers
Reaction—pH 3.6 to 5.5
Organic matter content—1.0 to 3.0 percent

Bt horizon(s):

Hue—5YR to 10YR
Value—4 to 6 moist
Chroma—4 to 8 moist
Texture—channery silty clay loam, clay, or silty clay
Rock fragments—0 to 35 percent subangular strongly cemented channers
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

C horizon(s):

Hue—5YR to 10YR
Value—4 to 6 moist
Chroma—4 to 8 moist
Texture—very channery silty clay, channery clay, or very channery clay
Rock fragments—20 to 55 percent subangular strongly cemented channers and 5 to 20 percent subangular strongly cemented flagstones
Reaction—pH 3.6 to 5.5
Organic matter content—0.0 to 0.5 percent

Cr horizon(s):

Bedrock—weathered, acid, fissile, black shale

R horizon(s):

Bedrock—unweathered, acid, fissile, black shale

Uniontown Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): UnB—Uniontown silt loam, 0 to 6 percent slopes
Depth class: Very deep
Drainage class: Moderately well drained
Saturated hydraulic conductivity (Ksat): Moderately high
Landform(s): Stream terrace in river valley
Landform position(s) (three-dimensional): Tread
Parent material: Fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System
Elevation: 640 to 750 feet
Slope: 0 to 6 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs

Typical Pedon

Uniontown silt loam, 0 to 6 percent slopes; in a pasture, about 1,300 feet north of the confluence of Jones Branch and Slate Creek, and about 750 feet on the east side of Slate Creek; USGS Owingsville, Kentucky topographic quadrangle; lat. 83 degrees 48 minutes 2.40 seconds N. and long. 38 degrees 7 minutes 42.10 seconds W.; UTM Zone 17, 510508 meters easting, 9305920 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium granular structure parting to weak fine granular; very friable; common fine and common very fine roots throughout; 1 percent nonflat subangular indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch chert fragments and 2 percent nonflat subrounded indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch quartz fragments; neutral, pH 7.0; clear smooth boundary. (6 to 12 inches thick)

Bt1—12 to 23 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; common fine and common very fine roots throughout; 40 percent discontinuous distinct strong brown (7.5YR 5/6) clay films on vertical faces of peds; moderately acid, pH 6.0; clear smooth boundary.

Bt2—23 to 46 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; 60 percent discontinuous distinct strong brown (7.5YR 5/6) clay films on vertical faces of peds; 10 percent medium distinct irregular very weakly cemented strong brown (7.5YR 5/6) iron-manganese masses between peds, 10 percent fine distinct irregular very weakly cemented strong brown (7.5YR 5/6) iron-manganese masses between peds, 10 percent coarse distinct irregular light gray (10YR 7/2) iron depletions in matrix, and 10 percent medium distinct irregular light gray (10YR 7/2) iron depletions in matrix; moderately acid, pH 6.0; gradual smooth boundary.

Bt3—46 to 81 inches; 50 percent brownish yellow (10YR 6/6) and 50 percent yellowish brown (10YR 5/6) silty clay loam; weak medium subangular blocky structure; firm; 30 percent discontinuous distinct strong brown (7.5YR 5/6) clay films on vertical faces of peds; 5 percent medium distinct irregular light gray (10YR 7/2) iron depletions with clear boundaries in matrix and 5 percent fine distinct irregular light gray (10YR 7/2) iron depletions with clear boundaries in matrix; moderately acid, pH 6.0; gradual smooth boundary. (Combined thickness of the Bt horizon ranges from 40 to 80 inches.)

BC—81 to 100 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent strong brown (7.5YR 5/6) silty clay loam; weak medium subangular blocky structure; firm; 20 percent medium distinct irregular light gray (10YR 7/2) iron depletions with clear boundaries in matrix and 20 percent fine distinct irregular light gray (10YR 7/2) iron depletions with clear boundaries in matrix; moderately acid, pH 6.0. (10 to 30 inches thick)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Redoximorhpic concentrations, ochric epipedon, redoximorphic depletions with chroma of 2 or less, aquic conditions, and argillic horizon
Surface fragments: None
Seasonal high water table: January, February, March, April, May, November, and December
Depth to top of water table: 21 to 29 inches

Ap horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—0 to 5 percent subrounded indurated fine gravel and 0 to 5 percent subangular indurated medium and coarse gravel
Reaction—pH 5.6 to 8.4
Organic matter content—1.0 to 2.5 percent

Bt1 horizon:
Hue—10YR or 2.5Y
Value—4 or 5 moist
Chroma—4 to 6 moist
Texture—silt loam or silty clay loam
Rock fragments—0 to 5 percent subrounded indurated fine gravel and 0 to 5 percent subangular indurated medium and coarse gravel
Reaction—pH 5.6 to 8.4
Organic matter content—0.5 to 0.8 percent

Bt2 and Bt3 horizons:
Hue—10YR or 2.5Y
Value—4 to 6 moist
Chroma—4 to 6 moist
Texture—silt loam or silty clay loam
Redoximorphic features—in shades of brown or gray
Rock fragments—0 to 5 percent subrounded indurated fine gravel and 0 to 5 percent subangular indurated medium and coarse gravel
Reaction—pH 5.6 to 8.4
Organic matter content—0.2 to 0.5 percent

BC horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6 moist
Chroma—4 to 6 moist
Texture—silt loam or silty clay loam
Redoximorphic features—in shades of brown or gray
Rock fragments—0 to 5 percent subrounded indurated fine gravel and 0 to 5 percent subangular indurated medium and coarse gravel
Reaction—pH 5.6 to 8.4
Organic matter content—0.0 to 0.5 percent

Vertrees Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): VeC—Vertrees silt loam, 6 to 12 percent slopes; VeD—Vertrees silt loam, 12 to 20 percent slopes
Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Hill on upland and ridge on upland
Landform position(s) (two-dimensional): Shoulder and backslope
Landform position(s) (three-dimensional): Side slope
Parent material: Clayey residuum weathered from dolomitic limestone of the Bisher Formation of the Silurian System
Elevation: 840 to 1,000 feet
Slope: 6 to 20 percent
Taxonomic classification: Fine, mixed, semiactive, mesic Typic Paleudalfs

Typical Pedon

Vertrees silt loam, 12 to 20 percent slopes; in a pasture about 2,000 feet east of the intersection of Kendall Springs Road and Elys Road, about 3,500 feet northeast through the pasture; USGS Preston, Kentucky topographic quadrangle; lat. 38 degrees 6 minutes 26.60 seconds N. and long. 83 degrees 46 minutes 0.40 seconds W.; UTM Zone 17, 257416 meters easting, 4221346 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 7 inches; brown (7.5YR 4/4) silt loam; weak fine granular structure; friable; many very fine roots throughout; moderately acid, pH 6.0; clear smooth boundary. (4 to 10 inches thick)

BA—7 to 11 inches; reddish brown (5YR 4/4) silt loam; weak medium subangular blocky structure; friable; common very fine roots throughout; moderately acid, pH 6.0; clear smooth boundary. (0 to 5 inches thick)

Bt1—11 to 28 inches; red (2.5YR 4/6) silty clay; moderate medium subangular blocky structure; firm; common very fine roots throughout; 30 percent continuous distinct reddish brown (2.5YR 4/3) clay films on vertical faces of peds; 2 percent medium distinct spherical weakly cemented iron-manganese nodules with clear boundaries in matrix; moderately acid, pH 6.0; gradual smooth boundary.

Bt2—28 to 57 inches; red (2.5YR 4/6) silty clay; moderate medium subangular blocky structure; firm; common very fine roots throughout; 40 percent continuous distinct reddish brown (2.5YR 4/4) clay films on vertical faces of peds; 5 percent medium distinct spherical weakly cemented iron-manganese nodules with clear boundaries in matrix; moderately acid, pH 6.0; gradual smooth boundary.

Bt3—57 to 82 inches; yellowish red (5YR 4/6) silty clay; moderate medium subangular blocky structure; very firm; 15 percent discontinuous distinct red (2.5YR 4/6) clay films on vertical faces of peds; strongly acid, pH 5.5; clear smooth boundary. (Combined thickness of the Bt horizon ranges from 40 to 80 inches.)

CB—82 to 98 inches; strong brown (7.5YR 4/6) clay; weak medium subangular blocky structure; very firm; common very fine roots throughout; 5 percent discontinuous distinct yellowish red (5YR 4/6) clay films on vertical faces of peds; 1 percent nonflat angular indurated 3- to 10-inch chert fragments and 4 percent nonflat angular indurated $^{1}/_{5}$- to 3-inch chert fragments; strongly acid, pH 5.5. (10 to 30 inches thick)

Range in Characteristics

Depth to restrictive feature: More than 80 inches

Diagnostic feature(s): Ochric epipedon and argillic horizon
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

Ap and BA horizons:
Hue—5YR to 10YR
Value—4 or 5 moist
Chroma—2 to 4 moist
Texture—silt loam
Rock fragments—0 to 23 percent angular indurated fine gravel, 0 to 10 percent angular indurated medium and coarse gravel, and 0 to 2 percent angular indurated cobbles
Reaction—pH 4.5 to 7.3
Organic matter content—2.0 to 4.0 percent

Bt horizon(s):
Hue—2.5YR or 5YR
Value—4 or 5 moist
Chroma—6 to 8 moist
Texture—silty clay, clay, or silty clay loam
Rock fragments—0 to 8 percent angular indurated fine gravel, 0 to 10 percent angular indurated medium and coarse gravel, and 0 to 2 percent angular indurated cobbles
Reaction—pH 4.5 to 6.0
Organic matter content—0.0 to 0.5 percent

CB horizon(s):
Hue—2.5YR or 5YR
Value—4 or 5 moist
Chroma—6 to 8 moist
Texture—clay, silty clay, or gravelly clay
Rock fragments—0 to 15 percent angular indurated fine gravel, 0 to 15 percent angular indurated medium and coarse gravel, and 0 to 5 percent angular indurated cobbles
Reaction—pH 5.1 to 7.3
Organic matter content—0.0 to 0.5 percent

Woolper Series

Major land resource area: Kentucky Bluegrass (MLRA 121)
State physiographic area: Outer Bluegrass
Map unit(s): LwC—Lowell-Woolper complex, 6 to 12 percent slopes; WoB—Woolper silty clay loam, 0 to 6 percent slopes
Depth class: Very deep
Drainage class: Well drained
Saturated hydraulic conductivity (Ksat): Moderately low
Landform(s): Stream terrace in river valley and ridge on upland
Landform position(s) (two-dimensional): Footslope
Landform position(s) (three-dimensional): Tread and base slope
Parent material: Clayey alluvium and/or colluvium derived from limestone, dolomite, and calcareous shale of the Ordovician and Silurian Systems
Elevation: 640 to 750 feet
Slope: 0 to 12 percent
Taxonomic classification: Fine, mixed, active, mesic Typic Argiudolls

Typical Pedon

Woolper silty clay loam, 0 to 6 percent slopes; in a pasture about 0.75 mile southeast of the intersection of Interstate 64 and Kendall Springs Road; USGS Preston, Kentucky topographic quadrangle; lat. 38 degrees 7 minutes 9.00 seconds N. and long. 83 degrees 45 minutes 47.10 seconds W.; UTM Zone 17, 257779 meters easting, 4222643 meters northing; NAD83: (Colors are for moist soil unless otherwise noted.)

Ap—0 to 11 inches; dark brown (10YR 3/3) silty clay loam; moderate medium granular structure and moderate fine granular structure; friable; many fine and many very fine roots throughout; 1 percent nonflat subangular indurated $^{1}/_{5}$- to 3-inch chert fragments and 1 percent nonflat rounded indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch quartz fragments; slightly acid, pH 6.5; clear wavy boundary. (6 to 12 inches thick)

Bt1—11 to 20 inches; very dark grayish brown (10YR 3/2) silty clay; moderate medium subangular blocky structure; very firm; many very fine roots throughout; 30 percent discontinuous distinct dark brown (10YR 3/3) clay films on vertical faces of peds; 2 percent nonflat rounded indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch quartz fragments and 3 percent nonflat subangular indurated $^{1}/_{5}$- to 3-inch chert fragments; neutral, pH 7.0; clear wavy boundary.

Bt2—20 to 29 inches; 50 percent yellowish brown (10YR 5/4) and 50 percent brown (10YR 5/3) silty clay; strong medium angular blocky structure, strong coarse angular blocky structure, moderate coarse subangular blocky structure, and moderate medium subangular blocky structure; very firm; common very fine roots throughout; 40 percent discontinuous distinct dark gray (10YR 4/1) clay films on vertical faces of peds; 2 percent nonflat rounded indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch quartz fragments and 3 percent nonflat subangular indurated $^{1}/_{5}$- to 3-inch chert fragments; moderately alkaline, pH 8.0; gradual wavy boundary.

Bt3—29 to 42 inches; yellowish brown (10YR 5/4) silty clay; strong medium angular blocky structure, strong coarse angular blocky structure, moderate coarse subangular blocky structure and moderate medium subangular blocky structure; very firm; common very fine roots throughout; 40 percent discontinuous distinct dark gray (10YR 4/1) clay films on vertical faces of peds; 5 percent medium distinct spherical very weakly cemented iron-manganese nodules in matrix and 5 percent medium distinct spherical iron-manganese masses in matrix; 2 percent nonflat rounded indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch quartz fragments and 3 percent nonflat subangular indurated $^{1}/_{5}$- to 3-inch chert fragments; moderately alkaline, pH 8.0; gradual wavy boundary. (Combined thickness of the Bt horizon ranges from 15 to 40 inches.)

C1—42 to 60 inches; yellowish brown (10YR 5/4) silty clay; massive; very firm; 5 percent medium distinct spherical iron-manganese masses in matrix; 2 percent nonflat rounded indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch quartz fragments and 3 percent nonflat subangular indurated $^{1}/_{5}$- to 3-inch chert fragments; moderately alkaline, pH 8.0; gradual wavy boundary.

C2—60 to 103 inches; yellowish brown (10YR 5/4) silty clay; massive; very firm; 5 percent medium distinct spherical iron-manganese masses in matrix; 2 percent nonflat rounded indurated $^{1}/_{5}$- to $^{3}/_{4}$-inch quartz fragments and 3 percent nonflat subangular indurated $^{1}/_{5}$- to 3-inch chert fragments; moderately alkaline, pH 8.0. (Combined thickness of the C horizon ranges from 20 to 70 inches.)

Range in Characteristics

Depth to restrictive feature: More than 80 inches
Diagnostic feature(s): Mollic epipedon and argillic horizon
Surface fragments: None
Depth to seasonal high water table: More than 6 feet

Ap horizon(s):
Hue—7.5YR or 10YR
Value—2 or 3 moist
Chroma—2 or 3 moist
Texture—silt loam or silty clay loam
Rock fragments—0 to 6 percent rounded indurated fine gravel, 0 to 6 percent subangular indurated medium and coarse gravel, and 0 to 3 percent subangular indurated channers and flagstones
Reaction—pH 6.1 to 7.8
Organic matter content—4.0 to 6.0 percent

Bt horizon(s):
Hue—7.5YR or 10YR
Value—3 to 5 moist
Chroma—2 to 4 moist
Texture—silty clay or silty clay loam
Rock fragments—0 to 10 percent rounded indurated fine gravel, 0 to 20 percent subangular indurated medium and coarse gravel, and 0 to 5 percent subangular indurated channers and flagstones
Reaction—pH 6.1 to 7.8
Organic matter content—0.0 to 0.5 percent

C horizon(s):
Hue—7.5YR or 10YR
Value—3 to 5 moist
Chroma—2 to 4 moist
Texture—silty clay loam, silty clay, or clay
Rock fragments—0 to 10 percent rounded indurated fine gravel, 0 to 20 percent subangular indurated medium and coarse gravel, and 0 to 5 percent subangular indurated channers and flagstones
Reaction—pH 6.1 to 7.8
Organic matter content—0.0 to 0.5 percent

Formation of the Soils

This section relates the factors and processes of soil formation to the soils in Bath County. It also describes the physiography and geology of the county.

Factors of Soil Formation

Soil is a three-dimensional natural body on the earth's surface consisting of mineral and organic matter that can support plant growth. Soil forms through the interaction of five major factors—climate, parent material, relief, plant and animal life, and time *(10)*. Climate and plant and animal life act on the parent material. Their effects on soil formation are controlled by relief and the amount of time that they have been active. Each factor modifies the effects of the other four. The relative influence of each factor differs from place to place and determines varying characteristics of the soils.

All five factors are active in the formation of soils in Bath County. Theoretically, if the influence or action of these factors were identical at different sites, the soils at these sites would be identical. In reality, one factor may dominate the formation of soil characteristics at one site, while a different factor may dominate at another site. Each factor may modify the effect of the other four.

In Bath County, climate and plant and animal life are not likely to vary greatly and their influence is relatively constant. Though there are large differences in relief, parent material has been the most influential factor in the formation of soils in the county.

Climate

Climate affects soil formation primarily through the effects of temperature and rainfall on the chemical and physical weathering of geologic material, on erosion, and on the kind and number of plants and animals on and in the soils. Temperature affects the rate of chemical and physical changes in the soils and thus the rate of soil formation. For every increase of 10 degrees C in temperature, the rate of chemical reaction doubles. Moisture is essential in soil formation. Climate significantly influences the natural vegetation and animal life. Because of its effect on physical weathering through erosion and deposition, it also influences the relief of an area and the degree of profile development *(10)*.

Changes in climate over long periods affect the soils. Soil formation is affected by the average climate condition, but extremes in the weather probably have had more influence on particular soil properties than on soil formation. The climate of Bath County is humid and temperate. The soils in the survey area formed under a temperate, moist climate that was probably similar to the present-day climate. The average annual temperature is 54 degrees F, and the average annual precipitation is 47 inches. Periods of extremely low temperatures during winter are short, and periods of high temperatures in summer are brief. Precipitation is fairly evenly distributed throughout the year.

Because the soils in the county are not dry or frozen for long periods, the processes of soil formation are active throughout the year. As water percolates downward through the soil, it leaches soluble bases from the soil and moves particles of clay from the upper horizons to the lower horizons. Because of the translocation of these materials over a period of time, many of the soils in the county are acid, have a loamy surface layer, and have accumulated clay in the subsoil. Beasley, Lowell, Sandview, and Crider soils are examples.

Parent Material

Parent material is the unconsolidated mass in which soils form. It is derived from the weathering or decomposition of bedrock. In the early stages of soil formation, a soil has properties similar to those of the parent material. As weathering takes place over a long period of time, these properties are modified and the soil develops its own characteristics. The nature of the parent material affects the rate of weathering, and it also determines the texture and mineral composition of the soil. These properties affect the permeability, shrink-swell potential, and porosity of the soil.

The soils in Bath County formed in residuum, colluvium, river and stream alluvium, high-level fluvial deposits, lacustrine-like deposits, and loess. These parent materials have weathered from the Ordovician, Silurian, Devonian, Mississippian, and Pennsylvanian geologic systems in the county or have been transported to the county from other areas by wind or water.

Many of the soils on uplands in the county formed in residuum, or materials that weathered in place. These include Cynthiana, Faywood, and Lowell soils which formed in residuum derived from limestone and shale of the Ordovician System. Eden soils formed in residuum derived from calcareous shale, siltstone, and limestone of the Ordovician System. Beasley and Shrouts soils formed in residuum derived from soft, calcareous shale and dolomite of the Silurian System. Rohan and Trappist soils formed in residuum derived from acid, black fissile shale of the Devonian System. All of these residual soils are clayey in the subsoil and substratum.

Crider, Nicholson, and Sandview soils formed in a thin mantle of loess or silty material over limestone residuum. The upper part of the solum, which formed in loess, is silty, and the lower part, which formed in residuum, is clayey.

Alticrest, Gilpin, and other soils formed in residuum of acid sandstone, shale, and siltstone of the Pennsylvanian and Mississippian Systems on hillsides. These soils are loamy in the subsoil and substratum and have a high content of rock fragments.

Brownsville, Helechawa, Shelocta, and other soils formed in acid colluvium derived from sandstone, shale, and siltstone of the Pennsylvanian and Mississippian Systems on hillsides and at the base of steep slopes. These soils are loamy in the subsoil and substratum and have a high content of rock fragments.

Lawrence, Robertsville, and other soils formed in silty, lacustrine-like alluvial deposits over calcareous shale. These soils generally are silty throughout the fragipan and subsoil and clayey in the substratum.

Allegheny and Cotaco soils formed in very old alluvium, or high-level fluvial deposits. Elk, Otwood, and Uniontown soils formed in alluvium on stream terraces. Boonewood, Chagrin, Grigsby, Holly, Lobdell, Melvin, Newark, Nolin, and Orrville soils formed in the more recent alluvium on floodplains. The alluvial soils have less clay and more silt or sand in the subsoil and substratum than the soils that formed in residuum.

Some soils formed in clayey alluvium or colluvium over clayey residuum. These include Woolper soils on footslopes and stream terraces.

Relief

Relief, or the position, shape, and slope of the landscape, affects the formation of soils through its influence on drainage, erosion, plant cover, and soil temperature. Because relief varies widely in the survey area, it accounts for many differences among the soils.

In areas of moderately steep to very steep soils with shallow soils such as

Cynthiana and Fairmount soils, a considerable amount of water is lost through surface runoff and less water is able to penetrate the surface. As a result, erosion removes soil material rapidly and deep soils generally cannot form because geologic erosion takes place almost as rapidly as soil formation. Deep and very deep soils, such as the colluvial Covedale, Muse, Shelocta, and Woolper soils, form in areas where parent material moves down the slope slowly by water and gravity and accumulates at the lower end of the slope.

Gently sloping and sloping soils commonly show most clearly the influence of all five soil-forming factors. Although excess water runs off these soils, erosion is not excessive and enough water penetrates the surface and moves through the profile to cause leaching and a pronounced accumulation of clay in the subsoil. Since the surface is relatively stable, this downward movement of clay forms an argillic horizon. These soils are commonly deep and have well drained profiles. Beasley, Lowell, Shelocta, and Vertrees soils are examples. Other steep and very steep soils are moderately deep because weathering of the underlying rock occurs at a faster rate than geologic erosion. Berks, Caneyville, Faywood, and Shrouts soils are examples.

In areas of Newark and Melvin soils and other nearly level soils, most of the water, excluding floodwater, drains through the soil profile. These soils are wet during part of the year because their landscape position does not allow the water to drain easily off the surface and may keep the water table at or near the surface. The wetness causes a depletion of the oxygen from the soil by microbial activity, reducing the iron found naturally in the soil, and results in the formation of a gray, reduced subsoil. In other nearly level and gently sloping soils, a fragipan may form under certain conditions, restricting the downward movement of water and forming a gray reduced subsoil and a perched water table above the fragipan during the wettest months of the year. Examples are Lawrence and Otwood soils. Other soils with a fragipan, such as Robertsville and Mullins, actually have ponded water on their surfaces during the wettest months of the year due to the very slow permeability of the soil.

Soil temperature and moisture and plant cover are somewhat different on cool aspects (north- to east-facing slopes) than on warm aspects (south- to west-facing slopes), but these differences are considered slight. On very steep slopes in Bath County, these affects are mainly evident in the different compositions of natural tree species.

Plant and Animal Life

The vegetation under which a soil forms influences soil properties, such as color, structure, reaction, and content of organic matter. Plants affect soil formation primarily by extracting water from the soil, adding organic matter, and acting as a major link in nutrient cycles. Gases derived from root respiration combine with water to form acids that influence the weathering of minerals. Organic matter on the surface retards soil erosion and influences soil temperature. Organic matter in the soil helps to improve soil structure, adds nutrients, and increases the available water capacity. Burrowing animals, such as earthworms, moles, and groundhogs, mix the darker surface layer with the subsoil and add organic matter. Bacteria and fungi convert decaying plant and animal remains into organic matter and thus release plant nutrients.

Most of the soils in Bath County formed under hardwood forests. They are characterized by a thin, dark surface layer and a brighter colored subsoil. Some soils that have a thick, dark surface layer, such as Crider soils, probably formed under grasses. Some soils that have a thick, dark surface layer, such as Woolper soils, may be the result of organic matter being removed from soils of surrounding upslope side slopes and then redeposited.

Human activities have considerably altered the surface layer of the soils in the county and changed the environment. These activities include clearing forests and plowing the cleared areas, moving and mixing soil layers, draining wet areas, adding fertilizer and lime, and introducing new plants. In some cultivated areas, timber harvested areas, and areas that have been overgrazed, accelerated erosion has removed most of the original surface layer and exposed the subsoil on sloping to steep soils. Cultivation has affected soil structure and compaction and lowered the content of organic matter. The development of land for urban uses has significantly influenced the soils in some areas.

Time

Time is probably the least emphasized of the five factors of soil formation. A long period of time is required for distinct soil profiles to develop. The time required for a soil to form depends on the other soil-forming factors. The length of time required depends mainly on the nature of the parent material and the relief. Less time is required for a soil to form in a warm, moist climate than in a cool, dry climate. Enough time has elapsed for the effects of the interaction of the factors of soil formation to be expressed in nearly all of the soils in Bath County, except for the soils formed in recent alluvium.

Immature soils show little evidence of profile development and have retained many of the characteristics of the original parent material. The immature soils in Bath County are in areas on floodplains where a high water table and the deposition of fresh material prevent horizon development. Chagrin, Grigsby, Holly, Lobdell, Melvin, Newark, Nolin, and Orrville soils are examples. Some immature soils are in areas on steep side slopes where runoff and geologic erosion prevent profile development. Alticrest and Berks soils are examples.

Mature soils have well developed profiles. Covedale, Crider, Lowell, Shelocta, and Vertrees soils are examples. They generally are on relatively stable surfaces and are deep or very deep over bedrock. Weathering has translocated minerals and the finer textured material into the subsoil and has resulted in the development of well drained horizons.

Processes of Horizon Differentiation

The formation of a succession of layers, or horizons, in a soil is the result of one or more of the following processes: 1) the accumulation of organic matter; 2) the leaching of carbonates and other soluble minerals; 3) the chemical weathering of primary minerals into silicate clay minerals; 4) the translocation of the silicate clays and probably some silt-sized particles from one horizon to another; and 5) the reduction, reoxidation, and translocation of iron.

Several of these processes have been active in the formation of most of the soils in Bath County. The interaction of the first four processes is reflected in the strongly expressed horizons in the well drained Crider, Sandview, and Vertrees soils. All five processes have probably been active in the formation of the moderately well drained Cotaco, Nicholson, Otwood, and Tilsit soils.

Some of the organic matter has accumulated in all of the soils in the county, forming the surface layer, or A1 horizon. Most of the soils have a moderate content of organic matter in the surface layer. If tilled, the A1 horizon becomes part of the Ap horizon.

Some of the soils in the county are acid in the upper layer, even the soils that formed in non-acid material. Carbonates and other soluble materials have been partially leached into the lower layers or out of the profile. Beasley and Crider are examples of soils in which this process occurs.

The translocation of clay minerals is an important process in many of the soils in the county. As clay minerals are removed from the A horizon, they accumulate as clay films on the faces of peds, in pores, and in root channels in the B horizon.

A fragipan has formed in the B horizon of some of the moderately well drained, somewhat poorly drained, and poorly drained soils on uplands and terraces. A fragipan is a dense, compact layer that is hard or very hard when dry, is brittle when moist, is slowly permeable or very slowly permeable, and has few to many bleached fracture planes that form polygons.

Gleying, or the reduction and transfer of iron, has occurred in all of the soils that are not characterized by good natural drainage. Gleyed soils are gray and mottled. Part of the iron may have been reoxidized and segregated, forming yellowish brown, strong brown, and other brightly colored mottles in an essentially gray matrix in the subsoil. Nodules, concretions, or concentrations of iron or manganese oxide commonly form under these conditions.

As silicate clay forms from primary minerals, some iron is commonly freed as hydrated oxides. These oxides are generally red. Even if they occur in small amounts, they give a brownish color to the soil material. They are largely responsible for the strong brown, yellowish brown, or reddish brown colors that dominate the subsoil of many soils in Bath County.

Physiography and Geology

Bath County is in parts of three physiographic regions—the Outer Bluegrass, the Knobs, and the Eastern Coalfields *(3)*. The Outer Bluegrass region covers the northwestern three-fifths of the county. It includes the minor physiographic region known as the Hills of the Bluegrass in the north along the Licking River. The Knobs region is at the southern boundary of the Outer Bluegrass region and the northern boundary with the Eastern Coalfield region and covers about one-fifth of the county. The Eastern Coalfields region is in the southeastern part of the county and includes the minor physiographic region known as the Mississippian Plateau along its northern boundary with the Knobs region and covers about one-fifth of the county.

In relating the physiographic regions to geology, the Outer Bluegrass region occurs on geologic strata of the Ordovician, Silurian, and Devonian Systems; the included minor region, Hills of the Bluegrass, occurs only on strata of the Ordovician System; and the Knobs region occurs only on strata of the Mississippian and Devonian Systems. The Eastern Coalfields region occurs on geologic strata of the Mississippian and Pennsylvanian Systems, and the included minor Mississippian Plateau Region occurs only on strata of the Mississippian System. In addition to these geologic systems, the floodplains and terraces of the county are on deposits of the Quaternary System.

Since it occurs in three physiographic regions and on six geologic systems, Bath County is very diverse in landforms and geologic material. This diversity is largely due to differential weathering and erosion of the underlying bedrock of varying composition. The diversity is expressed in the variety of soils that formed from the differential weathering or erosion, or both, of the bedrock. The major geologic strata underlying the soils in the county are of the Paleozoic Era *(50, 51, 52, 53, 54, 55, 56, 57, 61, 62)*. The upper Mississippian, Devonian, Silurian, and Ordovician sedimentary rocks were deposited in moderately deep to shallow seas 250 to 500 million years ago, while the lower Mississippian and Pennsylvanian sedimentary rocks were deposited in a deltatic environment. Some of the broad flats in the Polksville area, which is in the east-central part of the county, have a thin mantle of lacustrine-like sediments or loess deposits, or both, overlying the Crab Orchard shales of the Silurian System. Tops of ridges on uplands east of the community of Peastick in the eastern part of the county and extending northward along the Licking River have loamy, high-level fluvial deposits of the Quaternary System. The valleys consist of alluvial material of the Quaternary System. Table 23 shows the relationship of the geologic systems, formations, and members to the soils in the county.

Additional information about the relationship of soil formation to geologic parent material for this survey can be obtained from the “General Soil Map Units” section. The 11 general soil map unit delineations shown on the general soil map for Bath County very nearly trace the geologic systems, formations, and their members.

Additional geologic information for Bath County is available at the Kentucky Geologic Survey website and the U.S. Geologic Service website.

The six geologic systems identified within Bath County have been further subdivided into a number of formations, members, beds, or deposits. These materials have influenced the landscape and the soils that have formed on them. The geologic systems and their different subdivisions are discussed below from youngest to oldest, beginning with the Quaternary System in the valleys and ending with the Ordovician System along the Bath-Nicholas County line in the northwestern part of the survey area.

Quaternary System

The Quaternary System consists of alluvial deposits on floodplains and stream terraces in areas of the Licking River and various creeks throughout the county, including both the Eastern Coalfields and Outer Bluegrass physiographic regions *(50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62)*. The largest of these deposits is along the Licking River, Flat Creek, Slate Creek, and Salt Lick Creek. The soils are moderately deep to very deep with a very strongly acid to moderately alkaline, loamy or clayey subsoil. Allegheny, Cotaco, Elk, Lawrence, Otwood, Uniontown, and Woolper are the dominant soils on stream terraces. Boonewood, Chargin, Grigsby, Holly, Lobdell, Melvin, Newark, Nolin, and Orrville are the dominant soils on the floodplains.

The high-level fluvial deposits of the Quaternary System are of limited extent in the county. They mainly occur on the tops of ridges on uplands in the area east of the community of Peasticks, lying between Slate Creek and the Licking River and extending north along the Licking River. They are in the Outer Bluegrass physiographic region and are remnant deposits of ancestral stream terraces and floodplains. These high-level fluvial deposits in the Peasticks area are generally underlain by bedrock of the Upper Part of the Crab Orchard Formation of the Silurian System and by the Drakes Member of the Preachersville Formation of the Ordovician System in areas north along the Licking River. These deposits are made up of abundant quartz pebbles, less abundant limestone and chert pebbles, and less common fragments of sandstone, siltstone, chert, and quartz-pebble conglomerate in a matrix of sandy silt. As these materials weathered, they formed rolling ridgetops at elevations of about 620 to 840 feet. The soils are very deep and have a strongly acid to slightly acid, loamy subsoil. Allegheny, Cotaco, and Robertsville are the dominant soils.

Pennsylvanian System

The Pennsylvanian System is an ancient delta deposit consisting of complexly interbedded and interlensing layers of sandstones, siltstones, shales, and minor beds of coal and underclays. It underlies the highest peaks in Bath County, the highest being Tater Knob above Cave Run Lake. Elevations range from about 1,200 to 1,400 feet. In Bath County, this system is comprised of the Upper Breathitt Formation, the Corbin Sandstone Member of the Lee Formation, and the Lower Breathitt Formation. The Breathitt Formations have several beds or layers of sandstone or siltstone that closely resemble each other and can be difficult to separate. The Corbin Sandstone Member is conglomerate sandstone and easily recognized where exposed. The soils are moderately deep to very deep, have a strongly acid or very strongly acid, loamy subsoil, and have a high content of fragments. The dominant soils are Alticrest and Helechawa.

The Pennsylvanian and Upper Mississippian Systems are in the Western Allegheny

Plateau Major Land Resource Area (MLRA 124) and the Eastern Coalfields physiographic region in Kentucky.

Mississippian System

The Mississippian System is comprised of the Newman Limestone and Borden Formations and their respective members. The system forms the ridgetops and side slopes in the south-eastern part of Bath County.

The Newman Limestone Formation is on narrow and moderately wide ridgetops where it forms the contact with the younger Pennsylvanian System. Elevations range from about 1,140 to 1,200 feet. The soils are moderately deep and have a slightly acid to slightly alkaline, clayey subsoil. Caneyville soils are the dominant soils.

The Borden Formation has four identifiable members in the survey area. These members are the Renfro and Nada Shale, the Cowbell Siltstone, the Nancy Shale, and the Farmers Sandstone.

The Renfro and Nada Shale Member consists of shale, siltstone, and limestone *(52, 62)*. It weathered to form saddle areas and narrow points below the Newman Limestone Formation. Elevations range from about 1,100 to 1,140 feet. The soils are moderately deep and very deep and have a strongly acid or very strongly acid, loamy or clayey subsoil. Bledsoe and Gilpin are the dominant soils.

The Cowbell Member consists of mostly siltstone *(52, 62)*. It weathered to form peaks, narrow ridgetops, and moderately long side slopes. Elevations range from about 860 to 1,140 feet. The soils are moderately deep to very deep, have a strongly acid or very strongly acid, loamy subsoil, and have a high content of fragments. Berks, Brownsville, Gilpin, and Shelocta are the dominant soils.

The Nancy Member consists mostly of shale *(52, 54, 59, 62)*. As it weathered, it formed moderately broad to broad ridgetops and short upper side slopes. Elevations range from about 820 to 1,060 feet. The soils are very deep and have a strongly acid or very strongly acid, loamy subsoil. Johnsburg, Mullins, and Tilsit are the dominant soils.

The Farmers Member consists of sandstone and minor amounts of shale *(52, 54, 60, 62)*. As it weathered, it formed the short upper side slopes and narrow rocky ridgetops of the knobs and uplands at the contact with the older Mississippian and Devonian Systems. Elevations range from about 780 to 900 feet. The soils are moderately deep to very deep, have a strongly acid or very strongly acid, loamy subsoil, and have a high content of fragments. Berks, Brownsville, and Shelocta are the dominant soils.

Mississippian and Devonian Systems

The Mississippian and Devonian Systems form the side slopes and some knobs in the southern part of the county. The geological weathering of these two systems produces conical formations, or knobs, from which the Knobs physiographic region derives its name. The Knobs region is very narrow in the county and is included with the Bluegrass Major Land Resource Area (MLRA 121). The Mississippian and Devonian Systems consist of black, fissile shale of the Sunbury Formation and layered, green shale of the Bedford Formation. The Devonian System is composed of black, fissile shale of the New Albany and Ohio Shale Formations *(53, 54, 55, 57, 59)*. Elevations range from about 760 to 1,000 feet. The soils are shallow to very deep and have a strongly to extremely acid, loamy or clayey subsoil. Covedale, Muse, Rohan, and Trappist are the dominant soils.

In addition, the Boyle or Bisher Dolomite Formation of the Devonian System underlies the New Albany and Ohio Shale Formation and forms the contact with the lower Silurian System. The Boyle or Bisher Dolomite Formation is comprised of dolomite or dolomitic limestone *(53, 54, 55, 57, 59)*. As it weathers it forms moderately broad ridgetops and short, steep, upper side slopes with rock outcrops. Elevations range from about 830 to 1,010 feet. The soils are deep to very deep and have a slightly acid to very strongly acid, clayey or loamy subsoil. Crider, Nicholson, and Vertrees are the dominant soils. This formation includes the Preston Ore Banks and Rose Run Ore Members where the depleted and abandoned iron ore mines are located in the county.

Silurian System

The Silurian System covers the central part of the county, between Slate Creek and Mud Lick Creek. It also underlies the high-level fluvial deposits from the Peasticks community east to the Licking River. This system consists of interbedded calcareous shale and dolomitic limestone of the Upper Crab Orchard and Lower Crab Orchard and Brassfield Formations.

The Upper Crab Orchard Formation is dominated by calcareous, clay shale *(54, 55, 57, 59, 62)*. As it weathered, it formed broad, nearly level ridgetops and short side slopes. Elevations range from about 790 to 990 feet. The soils on ridgetops are moderately deep to very deep, and the soils on side slopes are moderately deep. The soils are moderately acid to moderately alkaline and have a clayey subsoil. Beasley and Shrouts are the dominant soils.

Some of the broad flats have a silty lacustrine-like mantle over the clayey, calcareous shale of the Upper Crab Orchard Formation. These soils are very deep and are silty in the upper part of the subsoil and clayey in the lower part. The subsoil becomes more alkaline as depth increases. Lawrence and Robertsville are the dominant soils on these broad flats.

The Lower Crab Orchard and Brassfield Formation consists of dolomite, dolomitic limestone, and calcareous, clay shale *(54, 55, 57, 59)*. As it weathered, it formed moderately broad and broad, rolling ridgetops and short side slopes. Elevations range from about 740 to 960 feet. The soils are deep or very deep and have a moderately acid to moderately alkaline clayey subsoil. Beasley soils are the dominant soils.

In some areas the broader ridgetops have a mantle of silty material (loess). The upper 2 feet of the soils formed in the silty material, and the lower part formed in clayey material weathered from the underlying formations. The soils are very deep and have a strongly acid to mildly alkaline, loamy over clayey subsoil. Crider and Nicholson are the dominant soils.

Ordovician System

The Ordovician System is the most extensive of the geologic systems in the county. It covers the western half of Bath County. This system consists of interbedded, dolomitic limestone and calcareous shale of the Preachersville Member of the Drakes Formation and interbedded limestone, siltstone, and shale of the Bull Fork, Grant Lake, Fairview, Garrard Siltstone, Kope and Clays Ferry, and Kope Formations *(50, 51, 54, 55, 57, 58, 59, 60, 61)*. As these formations weathered they formed narrow to broad, rolling ridgetops and short or long side slopes. Elevations range from about 650 to 1,110 feet. Generally, the soils range from shallow to very deep. Most of the soils have a moderately acid to moderately alkaline, clayey subsoil. Beasley and Shrouts soils are dominant in material weathered from the Preachersville Member of the Drakes Formation. Cynthiana, Fairmount, Faywood, Lowell, and Woolper soils formed in material weathered from interbedded limestone and shale of the Bull Fork, Grant Lake, and Fairview Formations. The parent material of the Eden soils is derived from the interbedded shale, limestone, and siltstone of the Kope and Clays Ferry and Kope Formations.

In some areas the broader ridgetops have a mantle of silty material (loess). The upper 2 feet of the soils formed in the silty material, and the lower part formed in clayey material weathered from the underlying formations. The soils are very deep and have a strongly acid to mildly alkaline, loamy over clayey subsoil. Nicholson and Sandview are the dominant soils.

The Silurian and Ordovician Systems are in the Kentucky Bluegrass Major Land Resource Area (MLRA 121) and the Outer Bluegrass physiographic region in Kentucky.

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Glossary

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.
Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.
Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.
Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.
Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.
Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.
Area reclaim. (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.
Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.
Aspect. The direction in which a slope faces.
Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 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.
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.
Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
Bottom land. The normal floodplain of a stream, subject to flooding.
Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.
Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.
Brush management. Use of mechanical, chemical, or biological methods to make

conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

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.

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.

Chert. A hard, dense or compact, dull to semivitreous, cryptocrystalline sedimentary rock, consisting of cryptocrystalline silica (microcrystalline fibrous quartz; i.e., chalcedony) with lesser amounts of microcrystalline or cryptocrystalline quartz and amorphous silica (opal). It has a tough, splintery to conchoidal fracture and may be white or variously colored gray, green, blue, pink, yellow, brown, and black. It commonly occurs as nodular or concretionary segregations in limestones and dolomites.

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 millimeters in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

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.

Colluvium. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse-grained, clastic 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 crop and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep soils, 20 to 40 inches; shallow soils, 10 to 20 inches; and very shallow soils, less than 10 inches.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

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 floodplains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

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.

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*.

Fine textured soil. Sandy clay, silty clay, or clay.

First bottom. The normal floodplain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forage. Food for browsing or grazing animals.

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.

Formation. The basic rock-stratigraphic unit in the local classification of rock (commonly a sedimentary stratum or strata but also igneous and metamorphic rocks) generally characterized by some degree of internal lithologic homogeneity of distinctive lithologic features (such as chemical composition, structures, texture, or general kind of fossils), by a prevailing (but not necessarily tabular) shape, and by mapability at the earth's surface (at scales of the order of 1:25,000) or traceability in the subsurface.

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.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

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 water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

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.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

$K_{sat.}$ See Saturated hydraulic conductivity.

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landform. Any physical, recognizable form or feature of the earth's surface, having a characteristic shape and produced by natural causes; it includes major forms, such as plain, plateau, and mountain, and minor forms, such as hill, valley, and slope.

Landscape (geology). The distinct association of landforms, especially as modified by geologic forces, that can be seen in a single view.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stone (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.

Limestone. A sedimentary rock consisting chiefly of calcium carbonate, primarily in the form of calcite. Limestones are generally formed by a combination of organic and inorganic processes and include soluble and insoluble constituents; many limestones contain fossils.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine-grained material, dominantly of silt-sized particles, deposited by wind. Thick loess is 48 inches or more thick. Thin loess is less than 48 inches thick.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

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.

Ordovician. The second earliest period of the Paleozoic era of geologic time extending from the Cambrian period (about 500 million years ago) to the beginning of the Silurian period (about 425 million years ago).

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

Paleozoic. The geologic era between the Precambrian and Mesozoic; it covers the period between 600 million years ago and 230 million years ago and was characterized by the development of the first fishes, amphibians, reptiles, and land plants.

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*.

Paralithic contact. A boundary between soil and continuous, coherent underlying material. The mineral material below the contact has a hardness of less than 3 (Mohs scale) and can be dug with difficulty with a spade.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher-lying areas of the erosion surface.

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.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Perennial stream. A creek or stream that has flowing water throughout the year.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Pliocene. The fifth and last epoch of the Tertiary period (Cenozoic era) of geologic time extending from the Miocene epoch (about 13 million years ago) to the beginning of the Pleistocene epoch of the Quaternary period (about 1.8 million years ago).

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.

Poor filter (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

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.

Quaternary. The second period of the Cenozoic era of geologic time, extending from the end of the Tertiary period (about 1.8 million years ago) to the present.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed.

These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments ranging from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Saturated hydraulic conductivity 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 micrometers per second (um/sec), 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.

Very low	less than 0.01 um/sec
Low	0.01 to 0.1
Moderately low	0.1 to 1
Moderately high	1 to 10
High	10 to 100
Very high	more than or equal to 100

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.

Second bottom. The first terrace above the normal floodplain (or first bottom) of a river.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel;

sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

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 formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling of soil when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 6 percent
Sloping	6 to 12 percent
Moderately steep	12 to 20 percent
Steep	20 to 30 percent
Very steep	30 to 70 percent

Classes for complex slopes are as follows:

Nearly level	0 to 2 percent
Undulating	2 to 6 percent
Rolling	6 to 12 percent

Hilly	12 to 20 percent
Stee	20 to 30 percent
Very steep	30 percent and higher

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stratified. Arranged in layers (strata). The term refers to geologic material. Layers in soils that result from soil formation processes are called horizons; those inherited from the parent material are called strata.

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.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Tertiary. The first period of the Cenozoic era of geologic time, following the Mesozoic era and preceding the Quarternary period (beginning approximately 63 million years ago and ending about 1.8 million years ago).

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topography. The general configuration of a land surface or any part of the earth’s surface, including its relief and the position of its natural and constructed features.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley. An elongated, relatively large, externally drained depression of the earth’s surface that is primarily developed by soil erosion.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth’s surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse-grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.—Temperature and Precipitation

(Recorded in the period 1971-2000 at Farmers, Kentucky)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temp. higher than--	2 years in 10 will have-- Minimum temp. lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snow-fall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January--	41.5	22.4	31.9	70	-10	53	3.40	1.87	4.88	7	2.8
February-	46.7	24.6	35.6	76	-4	82	3.27	1.95	4.54	6	1.4
March----	56.9	32.3	44.6	84	8	219	4.07	2.31	5.52	8	1.0
April----	67.3	40.6	53.9	88	21	428	3.91	2.45	5.31	8	0.0
May------	76.0	50.0	63.0	91	31	711	4.86	2.99	6.39	8	0.0
June-----	83.6	58.8	71.2	95	41	936	4.55	2.71	6.38	8	0.0
July-----	87.4	63.3	75.4	99	49	1,094	5.60	3.70	7.36	8	0.0
August---	86.3	61.8	74.0	98	47	1,054	3.78	2.04	5.33	6	0.0
September	80.0	54.6	67.3	95	35	815	3.23	1.60	4.86	5	0.0
October--	69.0	42.7	55.8	86	23	492	3.16	1.73	4.49	6	0.0
November-	57.1	34.8	46.0	80	15	231	3.47	1.77	5.11	7	0.1
December-	46.4	26.9	36.6	71	0	96	4.03	2.40	5.19	7	1.5
Yearly:											
Average	66.5	42.7	54.6	---	---	---	---	---	---	---	---
Extreme	105	-26	---	100	-13	---	---	---	---	---	---
Total--	---	---	---	---	---	6,210	47.33	40.96	53.54	84	6.7

* 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 (40 degrees F).

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Farmers, Kentucky)

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. 15	Apr. 27	May 10
2 years in 10 later than--	Apr. 9	Apr. 22	May 4
5 years in 10 later than--	Mar. 29	Apr. 12	Apr. 23
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 19	Oct. 7	Sept. 30
2 years in 10 earlier than--	Oct. 26	Oct. 14	Oct. 5
5 years in 10 earlier than-	Nov. 9	Oct. 27	Oct. 15

Table 3.—Growing Season

(Recorded in the period 1971-2000 at Farmers, Kentucky)

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	196	173	148
8 years in 10	206	181	157
5 years in 10	224	197	174
2 years in 10	242	213	191
1 year in 10	251	221	200

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
AgB	Allegheny-Cotaco loams, 2 to 6 percent slopes	800	0.4
AgC	Allegheny-Cotaco loams, 6 to 12 percent slopes	987	0.5
AlD2	Allegheny loam, 12 to 20 percent slopes, eroded	751	0.4
BaB	Beasley silt loam, 2 to 6 percent slopes	870	0.5
BcC2	Beasley silt loam, 6 to 12 percent slopes, eroded	3,745	2.1
BeD2	Beasley-Shrouts silt loams, 12 to 20 percent slopes, eroded	3,595	2.0
BrB	Berea silt loam, 2 to 6 percent slopes	579	0.3
BrC	Berea silt loam, 6 to 12 percent slopes	52	*
BsD	Berks channery silt loam, 6 to 20 percent slopes	427	0.2
BsF	Berks channery silt loam, 20 to 50 percent slopes	1,459	0.8
BvA	Blago silt loam, 0 to 3 percent slopes	279	0.2
BwA	Boonewood silt loam, 0 to 4 percent slopes, frequently flooded	5,084	2.8
BxF	Brownsville-Berks channery silt loams, 30 to 70 percent slopes, extremely stony	4,939	2.7
CaE	Caneyville-Bledsoe-Rock outcrop complex, 12 to 35 percent slopes	1,921	1.1
ChA	Chagrin loam, 0 to 3 percent slopes, frequently flooded	1,640	0.9
CoB	Cotaco loam, 2 to 6 percent slopes	3,378	1.9
CoC	Cotaco loam, 6 to 12 percent slopes	1,600	0.9
CpC	Covedale-Trappist silt loams, 6 to 12 percent slopes	716	0.4
CpD	Covedale-Trappist silt loams, 12 to 30 percent slopes	1,596	0.9
CrA	Crider silt loam, 0 to 2 percent slopes	420	0.2
CrB	Crider silt loam, 2 to 6 percent slopes	1,084	0.6
CyD2	Cynthiana-Faywood complex, very rocky, 6 to 20 percent slopes, eroded	6,933	3.8
CyE2	Cynthiana-Faywood complex, rocky, 20 to 40 percent slopes, eroded	22,340	12.3
DAM	Dam, large	40	*
EdD2	Eden silty clay loam, 6 to 20 percent slopes, eroded	241	0.1
EeE2	Eden-Lowell complex, 20 to 40 percent slopes, eroded	5,386	3.0
EkB	Elk silt loam, 2 to 6 percent slopes	816	0.4
EkC	Elk silt loam, 6 to 12 percent slopes	1,020	0.6
ElD2	Elk silt loam, 12 to 20 percent slopes, eroded	269	0.1
FaF2	Fairmount-Faywood complex, 20 to 60 percent slopes, eroded	2,744	1.5
FyB2	Faywood-Lowell complex, 2 to 6 percent slopes, eroded	452	0.2
FyC2	Faywood-Lowell complex, 6 to 12 percent slopes, eroded	2,329	1.3
FyD2	Faywood-Lowell complex, 12 to 20 percent slopes, eroded	9,773	5.4
GlB	Gilpin silt loam, 2 to 6 percent slopes	238	0.1
GpD2	Gilpin silt loam, 6 to 20 percent slopes, eroded	2,850	1.6
GpE2	Gilpin silt loam, 20 to 40 percent slopes, eroded	1,977	1.1
GrA	Grigsby fine sandy loam, 0 to 4 percent slopes, frequently flooded	830	0.5
HeF	Helechawa-Alticrest-Rock outcrop complex, 30 to 50 percent slopes	901	0.5
Ho	Holly loam, 0 to 2 percent slopes, frequently flooded	1,518	0.8
JoA	Johnsburg silt loam, 0 to 4 percent slopes	2,726	1.5
LaA	Lawrence silt loam, 0 to 3 percent slopes	2,765	1.5
LbA	Lobdell loam, 0 to 3 percent slopes, frequently flooded	1,376	0.8
LoB	Lowell silt loam, 2 to 6 percent slopes	3,541	1.9
LoC	Lowell silt loam, 6 to 12 percent slopes	9,553	5.3
LwC	Lowell-Woolper complex, 6 to 12 percent slopes	736	0.4
Me	Melvin silt loam, 0 to 2 percent slopes, frequently flooded	2,822	1.6
MoB	Morehead silt loam, 0 to 6 percent slopes, occasionally flooded	558	0.3
Mu	Mullins silt loam, 0 to 2 percent slopes, ponded	802	0.4
Ne	Newark silt loam, 0 to 2 percent slopes, frequently flooded	2,974	1.6
NhB	Nicholson silt loam, 2 to 6 percent slopes	1,334	0.7
NoA	Nolin silt loam, 0 to 4 percent slopes, frequently flooded	2,513	1.4
OrA	Orrville loam, 0 to 3 percent slopes, frequently flooded	1,355	0.7
OtB	Otwood silt loam, 2 to 6 percent slopes	945	0.5
Pm	Pits, mine	140	*
Pt	Pits, quarry	31	*
Rb	Robertsville silt loam, 0 to 2 percent slopes, ponded	691	0.4
RoF2	Rohan-Trappist complex, 12 to 60 percent slopes, eroded	2,303	1.3
SaB	Sandview-Lowell silt loams, 2 to 6 percent slopes	3,382	1.9
ShB	Shelocta-Skidmore complex, 0 to 6 percent slopes, frequently flooded	19	*
SlD	Shelocta silt loam, 6 to 20 percent slopes	189	0.1

See footnote at end of table.

Table 4.—Acreage and Proportionate Extent of the Soils—Continued

Map symbol	Soil name	Acres	Percent
SpF2	Shelocta-Gilpin silt loams, 20 to 60 percent slopes, eroded	13,813	7.6
SrD2	Shrouts-Beasley-Rock outcrop complex, 6 to 20 percent slopes, eroded	5,598	3.1
StE2	Shrouts-Beasley complex, 20 to 30 percent slopes, eroded	6,432	3.5
TlB	Tilsit silt loam, 0 to 6 percent slopes	576	0.3
TlC	Tilsit silt loam, 6 to 12 percent slopes	87	*
TrB2	Trappist silt loam, 2 to 6 percent slopes, eroded	378	0.2
TrC2	Trappist silt loam, 6 to 12 percent slopes, eroded	412	0.2
TsF2	Trappist-Muse silt loams, 20 to 60 percent slopes, eroded	7,111	3.9
UnB	Uniontown silt loam, 0 to 6 percent slopes	965	0.5
UrC	Urban land-Alfic Udarents complex, clayey substratum - over hard bedrock, 0 to 12 percent slopes	297	0.2
UrD	Urban land-Alfic Udarents complex, clayey substratum - over hard bedrock, 12 to 25 percent slopes	455	0.3
UsC	Urban land-Alfic Udarents complex, clayey substratum - over soft bedrock, 0 to 12 percent slopes	250	0.1
UsD	Urban land-Alfic Udarents complex, clayey substratum - over soft bedrock, 12 to 25 percent slopes	622	0.3
Ux	Urban land-Udorthents complex, smoothed, 0 to 50 percent slopes	533	0.3
VeC	Vertrees silt loam, 6 to 12 percent slopes	579	0.3
VeD	Vertrees silt loam, 12 to 20 percent slopes	1,527	0.8
W	Water	4,082	2.2
WoB	Woolper silty clay loam, 0 to 6 percent slopes	703	0.4
	Total	181,754	100.0

Less than 0.1 percent.

Table 5.—Land Capability and Non-Irrigated Yields by Map Unit, Part I

(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	Tobacco	Wheat
		Bu	Bu	Lbs	Bu
AgB:		120.00	40.00	2,800.00	40.00
Allegheny----------------	2e				
Cotaco-------------------	2e				
AgC:		110.00	35.00	2,400.00	35.00
Allegheny----------------	3e				
Cotaco-------------------	3e				
AlD2:		100.00	30.00	2,200.00	30.00
Allegheny----------------	4e				
BaB:		105.00	35.00	2,800.00	40.00
Beasley------------------	2e				
BcC2:		90.00	30.00	2,400.00	30.00
Beasley------------------	3e				
BeD2:		80.00	25.00	2,200.00	25.00
Beasley------------------	4e				
Shrouts------------------	4e				
BrB:		80.00	30.00	2,200.00	30.00
Berea--------------------	2e				
BrC:		70.00	25.00	2,000.00	25.00
Berea--------------------	3e				
BsD:		70.00	---	---	25.00
Berks--------------------	4e				
BsF:		---	---	---	---
Berks--------------------	7e				
BvA:		90.00	35.00	---	30.00
Blago--------------------	3w				
BwA:		100.00	35.00	2,700.00	35.00
Boonewood----------------	2w				
BxF:		---	---	---	---
Brownsville--------------	7e				
Berks--------------------	7e				
CaE:		---	---	---	---
Caneyville---------------	6e				
Bledsoe------------------	6e				
Rock outcrop-------------	8s				
ChA:		120.00	40.00	2,800.00	40.00
Chagrin------------------	2w				
CoB:		110.00	35.00	2,600.00	35.00
Cotaco-------------------	2e				
CoC:		105.00	30.00	2,000.00	30.00
Cotaco-------------------	3e				

Table 5.—Land Capability and Non-Irrigated Yields by Map Unit, Part I—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat
		Bu	Bu	Lbs	Bu
CpC:		80.00	30.00	2,400.00	40.00
Covedale	3e				
Trappist	3e				
CpD:		75.00	25.00	2,000.00	30.00
Covedale	4e				
Trappist	4e				
CrA:		135.00	45.00	3,300.00	50.00
Crider	1				
CrB:		135.00	45.00	3,300.00	50.00
Crider	2e				
CyD2:		---	---	---	---
Cynthiana	6s				
Faywood	4e				
CyE2:		---	---	---	---
Cynthiana	7s				
Faywood	6e				
DAM.					
Dam, large					
EdD2:		65.00	20.00	1,950.00	20.00
Eden	4e				
EeE2:		---	---	---	---
Eden	6e				
Lowell	6e				
EkB:		135.00	45.00	3,200.00	50.00
Elk	2e				
EkC:		125.00	40.00	3,000.00	45.00
Elk	3e				
ElD2:		110.00	30.00	2,500.00	35.00
Elk	4e				
FaF2:		---	---	---	---
Fairmount	7e				
Faywood	7e				
FyB2:		100.00	30.00	2,500.00	40.00
Faywood	2e				
Lowell	2e				
FyC2:		85.00	25.00	2,300.00	35.00
Faywood	3e				
Lowell	3e				
FyD2:		80.00	25.00	2,000.00	30.00
Faywood	4e				
Lowell	4e				
GlB:		95.00	30.00	2,500.00	30.00
Gilpin	2e				

Table 5.—Land Capability and Non-Irrigated Yields by Map Unit, Part I—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat
		Bu	Bu	Lbs	Bu
GpD2:		80.00	25.00	2,100.00	25.00
Gilpin	4e				
GpE2:		---	---	---	---
Gilpin	6e				
GrA:		120.00	40.00	3,000.00	40.00
Grigsby	2w				
HeF:		---	---	---	---
Helechawa	7s				
Alticrest	7s				
Rock outcrop	8s				
Ho:		75.00	30.00	---	25.00
Holly	3w				
JoA:		80.00	35.00	1,800.00	30.00
Johnsburg	3w				
LaA:		80.00	35.00	1,800.00	30.00
Lawrence	3w				
LbA:		115.00	40.00	2,600.00	40.00
Lobdell	2w				
LoB:		120.00	40.00	3,000.00	45.00
Lowell	2e				
LoC:		110.00	35.00	2,800.00	40.00
Lowell	3e				
LwC:		110.00	35.00	2,800.00	40.00
Lowell	3e				
Woolper	3e				
Me:		75.00	30.00	---	25.00
Melvin	3w				
MoB:		100.00	40.00	2,500.00	40.00
Morehead	2w				
Mu:		60.00	30.00	---	---
Mullins	5w				
Ne:		110.00	40.00	2,500.00	45.00
Newark	2w				
NhB:		130.00	40.00	3,000.00	45.00
Nicholson	2e				
NoA:		120.00	40.00	2,800.00	40.00
Nolin	2w				
OrA:		100.00	40.00	2,400.00	45.00
Orrville	2w				
OtB:		110.00	35.00	2,700.00	40.00
Otwood	2e				

Table 5.—Land Capability and Non-Irrigated Yields by Map Unit, Part I—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat
		Bu	Bu	Lbs	Bu
Pm:		---	---	---	---
Pits, mine	8s				
Pt:		---	---	---	---
Pits, quarry	8s				
Rb:		60.00	30.00	---	---
Robertsville	5w				
RoF2:		---	---	---	---
Rohan	7s				
Trappist	7e				
SaB:		135.00	45.00	3,400.00	50.00
Sandview	2e				
Lowell	2e				
ShB:		110.00	35.00	2,600.00	40.00
Shelocta	2e				
Skidmore	2w				
SlD:		80.00	---	2,000.00	35.00
Shelocta	4e				
SpF2:		---	---	---	---
Shelocta	7e				
Gilpin	7e				
SrD2:		---	---	---	---
Shrouts	6e				
Beasley	6e				
Rock outcrop	8s				
StE2:		---	---	---	---
Shrouts	6e				
Beasley	6e				
TlB:		105.00	35.00	2,500.00	40.00
Tilsit	2e				
TlC:		90.00	25.00	2,200.00	35.00
Tilsit	3e				
TrB2:		80.00	30.00	2,000.00	30.00
Trappist	2e				
TrC2:		75.00	25.00	1,800.00	25.00
Trappist	3e				
TsF2:		---	---	---	---
Trappist	7e				
Muse	7e				
UnB:		130.00	40.00	3,000.00	45.00
Uniontown	2e				
UrC.					
Urban land-Alfic Udarents					

Table 5.—Land Capability and Non-Irrigated Yields by Map Unit, Part I—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat
		Bu	Bu	Lbs	Bu
UrD. Urban land-Alfic Udarents					
UsC. Urban land-Alfic Udarents					
UsD. Urban land-Alfic Udarents					
Ux. Urban land-Udorthents					
VeC:		110.00	35.00	2,800.00	40.00
Vertrees	3e				
VeD:		90.00	30.00	2,200.00	35.00
Vertrees	4e				
W. Water					
WoB:		115.00	40.00	2,900.00	45.00
Woolper	2e				

Table 5.—Land Capability and Non-Irrigated Yields by Map Unit, Part II

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Pasture
		Tons	Tons	AUM
AgB:		4.50	3.50	7.50
Allegheny	2e			
Cotaco	2e			
AgC:		4.00	3.00	7.00
Allegheny	3e			
Cotaco	3e			
AlD2:		3.50	2.50	6.00
Allegheny	4e			
BaB:		4.50	4.00	8.00
Beasley	2e			
BcC2:		3.50	3.50	7.00
Beasley	3e			
BeD2:		3.00	3.00	5.00
Beasley	4e			
Shrouts	4e			
BrB:		---	3.00	6.50
Berea	2e			
BrC:		---	2.50	5.00
Berea	3e			
BsD:		---	2.50	5.00
Berks	4e			
BsF:		---	---	---
Berks	7e			
BvA:		---	4.00	7.50
Blago	3w			
BwA:		---	3.00	6.00
Boonewood	2w			
BxF:		---	---	---
Brownsville	7e			
Berks	7e			
CaE:		---	---	4.00
Caneyville	6e			
Bledsoe	6e			
Rock outcrop	8s			
ChA:		---	3.50	7.50
Chagrin	2w			
CoB:		---	3.00	6.50
Cotaco	2e			

Table 5.—Land Capability and Non-Irrigated Yields by Map Unit, Part II—Continued

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Pasture
		Tons	Tons	AUM
CoC:		---	2.50	5.00
Cotaco	3e			
CpC:		4.00	3.50	6.00
Covedale	3e			
Trappist	3e			
CpD:		3.50	3.00	5.00
Covedale	4e			
Trappist	4e			
CrA:		6.00	5.50	10.00
Crider	1			
CrB:		6.00	5.50	10.00
Crider	2e			
CyD2:		---	---	2.00
Cynthiana	6s			
Faywood	4e			
CyE2:		---	---	2.00
Cynthiana	7s			
Faywood	6e			
DAM.				
Dam, large				
EdD2:		3.00	2.50	5.00
Eden	4e			
EeE2:		---	---	4.00
Eden	6e			
Lowell	6e			
EkB:		5.50	5.00	9.00
Elk	2e			
EkC:		4.50	4.00	8.00
Elk	3e			
ElD2:		3.50	3.50	7.00
Elk	4e			
FaF2:		---	---	---
Fairmount	7e			
Faywood	7e			
FyB2:		4.00	3.00	6.50
Faywood	2e			
Lowell	2e			
FyC2:		3.50	3.00	6.00
Faywood	3e			
Lowell	3e			
FyD2:		3.00	2.50	5.50
Faywood	4e			
Lowell	4e			

Table 5.—Land Capability and Non-Irrigated Yields by Map Unit, Part II—Continued

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Pasture
		Tons	Tons	AUM
GlB:		3.50	3.50	6.50
Gilpin------------------	2e			
GpD2:		3.00	3.00	5.50
Gilpin------------------	4e			
GpE2:		---	---	4.00
Gilpin------------------	6e			
GrA:		4.50	4.00	9.00
Grigsby-----------------	2w			
HeF:		---	---	---
Helechawa---------------	7s			
Alticrest---------------	7s			
Rock outcrop------------	8s			
Ho:		---	3.00	6.50
Holly-------------------	3w			
JoA:		---	3.00	8.00
Johnsburg---------------	3w			
LaA:		---	3.00	8.00
Lawrence----------------	3w			
LbA:		---	3.50	7.00
Lobdell-----------------	2w			
LoB:		5.00	4.00	8.00
Lowell------------------	2e			
LoC:		4.50	3.50	7.00
Lowell------------------	3e			
LwC:		4.50	3.50	7.00
Lowell------------------	3e			
Woolper-----------------	3e			
Me:		---	3.00	6.50
Melvin------------------	3w			
MoB:		---	4.00	8.00
Morehead----------------	2w			
Mu:		---	2.00	5.50
Mullins-----------------	5w			
Ne:		---	4.50	8.50
Newark------------------	2w			
NhB:		---	4.00	8.50
Nicholson---------------	2e			
NoA:		4.50	4.00	9.00
Nolin-------------------	2w			
OrA:		---	4.50	8.50
Orrville----------------	2w			

Table 5.—Land Capability and Non-Irrigated Yields by Map Unit, Part II—Continued

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Pasture
		Tons	Tons	AUM
OtB:		---	4.00	8.00
Otwood	2e			
Pm:		---	---	---
Pits, mine	8s			
Pt:		---	---	---
Pits, quarry	8s			
Rb:		---	2.00	5.50
Robertsville	5w			
RoF2:		---	---	---
Rohan	7s			
Trappist	7e			
SaB:		6.00	5.00	9.00
Sandview	2e			
Lowell	2e			
ShB:		5.00	4.00	8.00
Shelocta	2e			
Skidmore	2w			
SlD:		3.50	3.50	6.00
Shelocta	4e			
SpF2:		---	---	---
Shelocta	7e			
Gilpin	7e			
SrD2:		---	---	3.00
Shrouts	6e			
Beasley	6e			
Rock outcrop	8s			
StE2:		---	---	2.00
Shrouts	6e			
Beasley	6e			
TlB:		---	3.50	7.00
Tilsit	2e			
TlC:		---	3.00	6.50
Tilsit	3e			
TrB2:		---	3.00	5.50
Trappist	2e			
TrC2:		---	3.00	5.00
Trappist	3e			
TsF2:		---	---	---
Trappist	7e			
Muse	7e			
UnB:		4.00	4.50	9.00
Uniontown	2e			

Table 5.—Land Capability and Non-Irrigated Yields by Map Unit, Part II—Continued

Map symbol and soil name	Land capability	Alfalfa hay	Grass-legume hay	Pasture
		Tons	Tons	AUM
UrC. Urban land-Alfic Udarents				
UrD. Urban land-Alfic Udarents				
UsC. Urban land-Alfic Udarents				
UrD. Urban land-Alfic Udarents				
Ux. Urban land-Udorthents				
VeC:		5.00	4.50	8.00
Vertrees----------------	3e			
VeD:		4.00	3.50	7.00
Vertrees----------------	4e			
W. Water				
WoB:		4.50	4.00	8.00
Woolper-----------------	2e			

Table 6.—Acreage by Capability Class and Subclass

Capability class	Capability subclass	Acreage
Unclassified	---	6,279
1	---	357
2	e	16,787
2	w	13,379
3	e	18,463
3	w	8,594
4	e	20,155
5	w	1,269
6	e	26,534
6	s	3,466
7	e	26,478
7	s	11,905
8	s	1,524

Table 7.—Prime Farmland and Other Important Farmland

(Only the soils considered prime or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland. If a soil is prime or important farmland only under certain conditions, the conditions are indicated after the soil name)

Map symbol	Map unit name	Farmland classification
AgB	Allegheny-Cotaco loams, 2 to 6 percent slopes	All areas are prime farmland
AgC	Allegheny-Cotaco loams, 6 to 12 percent slopes	Farmland of statewide importance
BaB	Beasley silt loam, 2 to 6 percent slopes	All areas are prime farmland
BcC2	Beasley silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
BrB	Berea silt loam, 2 to 6 percent slopes	All areas are prime farmland
BrC	Berea silt loam, 6 to 12 percent slopes	Farmland of statewide importance
BvA	Blago silt loam, 0 to 3 percent slopes	Prime farmland if drained
BwA	Boonewood silt loam, 0 to 4 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season
ChA	Chagrin loam, 0 to 3 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season
CoB	Cotaco loam, 2 to 6 percent slopes	All areas are prime farmland
CoC	Cotaco loam, 6 to 12 percent slopes	Farmland of statewide importance
CpC	Covedale-Trappist silt loams, 6 to 12 percent slopes	Farmland of statewide importance
CrA	Crider silt loam, 0 to 2 percent slopes	All areas are prime farmland
CrB	Crider silt loam, 2 to 6 percent slopes	All areas are prime farmland
EkB	Elk silt loam, 2 to 6 percent slopes	All areas are prime farmland
EkC	Elk silt loam, 6 to 12 percent slopes	Farmland of statewide importance
FyB2	Faywood-Lowell complex, 2 to 6 percent slopes, eroded	All areas are prime farmland
FyC2	Faywood-Lowell complex, 6 to 12 percent slopes, eroded	Farmland of statewide importance
GlB	Gilpin silt loam, 2 to 6 percent slopes	All areas are prime farmland
GrA	Grigsby fine sandy loam, 0 to 4 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season
Ho	Holly loam, 0 to 2 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
JoA	Johnsburg silt loam, 0 to 4 percent slopes	Prime farmland if drained
LaA	Lawrence silt loam, 0 to 3 percent slopes	Prime farmland if drained
LbA	Lobdell loam, 0 to 3 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season
LoB	Lowell silt loam, 2 to 6 percent slopes	All areas are prime farmland
LoC	Lowell silt loam, 6 to 12 percent slopes	Farmland of statewide importance
LwC	Lowell-Woolper complex, 6 to 12 percent slopes	Farmland of statewide importance
Me	Melvin silt loam, 0 to 2 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
MoB	Morehead silt loam, 0 to 6 percent slopes, occasionally flooded	All areas are prime farmland
Ne	Newark silt loam, 0 to 2 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
NhB	Nicholson silt loam, 2 to 6 percent slopes	All areas are prime farmland
NoA	Nolin silt loam, 0 to 4 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season
OrA	Orrville loam, 0 to 3 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
OtB	Otwood silt loam, 2 to 6 percent slopes	All areas are prime farmland
SaB	Sandview-Lowell silt loams, 2 to 6 percent slopes	All areas are prime farmland

Table 7.—Prime Farmland and Other Important Farmland—Continued

Map symbol	Map unit name	Farmland classification
TlB	Tilsit silt loam, 0 to 6 percent slopes	All areas are prime farmland
TlC	Tilsit silt loam, 6 to 12 percent slopes	Farmland of statewide importance
TrB2	Trappist silt loam, 2 to 6 percent slopes, eroded	All areas are prime farmland
TrC2	Trappist silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
UnB	Uniontown silt loam, 0 to 6 percent slopes	All areas are prime farmland
VeC	Vertrees silt loam, 6 to 12 percent slopes	Farmland of statewide importance
WoB	Woolper silty clay loam, 0 to 6 percent slopes	All areas are prime farmland

Table 8.—Forestland Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
AgB:				
Allegheny	American elm	---	---	black walnut, eastern white pine, northern red oak, shortleaf pine, white ash, white oak, yellow-poplar
	black oak	78	57	
	northern red oak	---	---	
	red maple	---	---	
	sugar maple	---	---	
	Virginia pine	72	114	
	white ash	---	---	
	yellow-poplar	93	100	
Cotaco	black oak	87	72	eastern white pine, sweetgum, white oak, yellow-poplar
	sweet birch	---	---	
	sweetgum	---	---	
	Virginia pine	81	129	
	white oak	---	---	
	yellow-poplar	95	100	
AgC:				
Allegheny	American elm	---	---	black walnut, eastern white pine, northern red oak, shortleaf pine, white ash, white oak, yellow-poplar
	black oak	78	57	
	northern red oak	---	---	
	red maple	---	---	
	sugar maple	---	---	
	Virginia pine	72	114	
	white ash	---	---	
	yellow-poplar	93	100	
Cotaco	black oak	87	72	eastern white pine, sweetgum, white oak, yellow-poplar
	sweet birch	---	---	
	sweetgum	---	---	
	Virginia pine	81	129	
	white oak	---	---	
	yellow-poplar	95	100	
AlD2:				
Allegheny	American elm	---	---	black walnut, eastern white pine, northern red oak, shortleaf pine, white ash, white oak, yellow-poplar
	black oak	78	57	
	northern red oak	---	---	
	red maple	---	---	
	sugar maple	---	---	
	Virginia pine	72	114	
	white ash	---	---	
	yellow-poplar	93	100	
BaB:				
Beasley	eastern redcedar	41	43	eastern redcedar, Virginia pine, white ash, white oak
	hickory	---	---	
	scarlet oak	---	---	
	white ash	63	---	
	white oak	61	43	
	yellow-poplar	80	72	
BcC2:				
Beasley	eastern redcedar	41	43	eastern redcedar, Virginia pine, white ash, white oak
	hickory	---	---	
	scarlet oak	---	---	
	white ash	63	---	
	white oak	61	43	
	yellow-poplar	80	72	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
BeD2:				
Beasley	eastern redcedar	41	43	eastern redcedar, Virginia pine, white ash, white oak
	hickory	---	---	
	scarlet oak	---	---	
	white ash	63	---	
	white oak	61	43	
	yellow-poplar	80	72	
Shrouts	black oak	60	43	eastern redcedar, Virginia pine, white oak
	eastern redcedar	45	57	
	scarlet oak	60	43	
	Virginia pine	60	86	
	white oak	---	---	
BrB:				
Berea	black oak	70	57	eastern white pine, shortleaf pine, sweetgum, white ash, white oak, yellow-poplar
	hickory	---	---	
	scarlet oak	---	---	
	sugar maple	---	---	
	Virginia pine	70	114	
	white oak	70	57	
	yellow-poplar	---	---	
BrC:				
Berea	black oak	70	57	eastern white pine, shortleaf pine, sweetgum, white ash, white oak, yellow-poplar
	hickory	---	---	
	scarlet oak	---	---	
	sugar maple	---	---	
	Virginia pine	70	114	
	white oak	70	57	
	yellow-poplar	---	---	
BsD:				
Berks	black oak	80	57	eastern white pine, northern red oak, Virginia pine, yellow-poplar
	hickory	---	---	
	red maple	---	---	
	scarlet oak	75	57	
	white oak	70	57	
	yellow-poplar	98	100	
BsF:				
Berks	black oak	80	57	eastern white pine, northern red oak, Virginia pine, yellow-poplar
	hickory	---	---	
	red maple	---	---	
	scarlet oak	75	57	
	white oak	70	57	
	yellow-poplar	98	100	
BvA:				
Blago	American sycamore	---	---	American sycamore, loblolly pine, sweetgum, willow oak
	black willow	---	---	
	pin oak	95	57	
	red maple	---	---	
	river birch	---	---	
	silver maple	---	---	
	sweetgum	---	---	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
BwA:				
Boonewood	American elm	---	---	eastern cottonwood, sweetgum, white ash, yellow-poplar
	American sycamore	---	---	
	common hackberry	---	---	
	sweetgum	---	---	
	white ash	---	---	
	yellow-poplar	90	86	
BxF:				
Brownsville	chestnut oak	---	---	black oak, eastern white pine, red pine, Virginia pine, white ash, yellow-poplar
	northern red oak	75	57	
	scarlet oak	58	43	
	white oak	---	---	
	yellow-poplar	85	86	
Berks	black oak	80	57	eastern white pine, northern red oak, Virginia pine, yellow-poplar
	hickory	---	---	
	red maple	---	---	
	scarlet oak	75	57	
	white oak	70	57	
	yellow-poplar	98	100	
CaE:				
Caneyville	black oak	65	43	---
	chinkapin oak	44	29	
	eastern redcedar	36	43	
	hickory	---	---	
	scarlet oak	50	29	
	sugar maple	---	---	
	white oak	60	43	
Bledsoe	black cherry	---	---	northern red oak, white ash, white oak, yellow-poplar
	black walnut	---	---	
	slippery elm	---	---	
	sugar maple	---	---	
	white ash	---	---	
	yellow-poplar	104	114	
Rock outcrop.				
ChA:				
Chagrin	northern red oak	75	57	black walnut, eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	sugar maple	---	---	
	white oak	---	---	
CoB:				
Cotaco	black oak	87	72	eastern white pine, sweetgum, white oak, yellow-poplar
	sweet birch	---	---	
	sweetgum	---	---	
	Virginia pine	81	129	
	white oak	---	---	
	yellow-poplar	95	100	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
CoC:				
Cotaco	black oak	87	72	eastern white pine, sweetgum, white oak, yellow-poplar
	sweet birch	---	---	
	sweetgum	---	---	
	Virginia pine	81	129	
	white oak	---	---	
	yellow-poplar	95	100	
CpC:				
Covedale	American beech	62	43	eastern white pine, northern red oak, shortleaf pine, white oak, yellow-poplar
	black oak	---	---	
	chestnut oak	56	43	
	hickory	---	---	
	red maple	---	---	
	white oak	59	43	
	yellow-poplar	---	---	
Trappist	black oak	---	---	---
	northern red oak	63	43	
	shortleaf pine	---	---	
	Virginia pine	---	---	
	white oak	---	---	
CpD:				
Covedale	American beech	62	43	eastern white pine, northern red oak, shortleaf pine, white oak, yellow-poplar
	black oak	---	---	
	chestnut oak	56	43	
	hickory	---	---	
	red maple	---	---	
	white oak	59	43	
	yellow-poplar	---	---	
Trappist	black oak	---	---	---
	northern red oak	63	43	
	shortleaf pine	---	---	
	Virginia pine	---	---	
	white oak	---	---	
CrA:				
Crider	black oak	84	72	black walnut, eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black walnut	80	---	
	hickory	---	---	
	northern red oak	84	72	
	sugar maple	---	---	
	white ash	87	---	
	white oak	72	57	
	yellow-poplar	97	100	
CrB:				
Crider	black oak	84	72	black walnut, eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black walnut	80	---	
	hickory	---	---	
	northern red oak	84	72	
	sugar maple	---	---	
	white ash	87	---	
	white oak	72	57	
	yellow-poplar	97	100	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
CyD2:				
Cynthiana	American elm	---	---	eastern redcedar, Virginia pine, white ash, white oak
	black cherry	---	---	
	black locust	---	---	
	black walnut	71	---	
	boxelder	---	---	
	chinkapin oak	---	---	
	eastern redcedar	42	---	
	honeylocust	---	---	
	white ash	75	43	
Faywood	chinkapin oak	---	---	eastern white pine, northern red oak, white oak
	northern red oak	70	57	
	scarlet oak	72	57	
	southern red oak	---	---	
	sugar maple	---	---	
	white oak	60	43	
CyE2:				
Cynthiana	American elm	---	---	eastern redcedar, Virginia pine, white ash, white oak
	black cherry	---	---	
	black locust	---	---	
	black walnut	71	---	
	boxelder	---	---	
	chinkapin oak	---	---	
	eastern redcedar	42	---	
	honeylocust	---	---	
	white ash	75	43	
Faywood	chinkapin oak	---	---	eastern white pine, northern red oak, white oak
	northern red oak	70	57	
	scarlet oak	72	57	
	southern red oak	---	---	
	sugar maple	---	---	
	white oak	60	43	
DAM.				
Dam, large				
EdD2:				
Eden	black oak	68	57	eastern white pine, northern red oak, white ash, white oak
	black walnut	74	---	
	eastern redcedar	42	---	
	scarlet oak	68	57	
	white ash	60	43	
	white oak	61	43	
EeE2:				
Eden	black oak	68	57	eastern white pine, northern red oak, white ash, white oak
	black walnut	74	---	
	eastern redcedar	42	---	
	scarlet oak	68	57	
	white ash	60	43	
	white oak	61	43	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
EeE2:				
Lowell	black locust	77	---	eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black oak	88	72	
	hickory	---	---	
	northern red oak	---	---	
	sugar maple	---	---	
	Virginia pine	78	114	
	white ash	78	---	
EkB:				
Elk	American sycamore	---	---	black walnut, eastern white pine, northern red oak, shortleaf pine, white oak, yellow-poplar
	black walnut	---	---	
	common hackberry	---	---	
	pin oak	96	86	
	red maple	---	---	
	white oak	---	---	
	yellow-poplar	91	100	
EkC:				
Elk	American sycamore	---	---	black walnut, eastern white pine, northern red oak, shortleaf pine, white oak, yellow-poplar
	black walnut	---	---	
	common hackberry	---	---	
	pin oak	96	86	
	red maple	---	---	
	white oak	---	---	
	yellow-poplar	91	100	
ElD2:				
Elk	American sycamore	---	---	black walnut, eastern white pine, northern red oak, shortleaf pine, white oak, yellow-poplar
	black walnut	---	---	
	common hackberry	---	---	
	pin oak	96	86	
	red maple	---	---	
	white oak	---	---	
	yellow-poplar	91	100	
FaF2:				
Fairmount	black locust	---	---	black walnut, black walnut, eastern redcedar, Virginia pine, white ash
	black walnut	---	---	
	chinkapin oak	---	---	
	eastern redcedar	41	43	
	scarlet oak	60	43	
	white ash	---	---	
Faywood	chinkapin oak	---	---	eastern white pine, northern red oak, white oak
	northern red oak	70	57	
	scarlet oak	72	57	
	southern red oak	---	---	
	sugar maple	---	---	
	white oak	60	43	
FyB2:				
Faywood	chinkapin oak	---	---	eastern white pine, northern red oak, white oak
	northern red oak	70	57	
	scarlet oak	72	57	
	southern red oak	---	---	
	sugar maple	---	---	
	white oak	60	43	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
FyB2:				
Lowell	black locust	77	---	eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black oak	88	72	
	hickory	---	---	
	northern red oak	---	---	
	sugar maple	---	---	
	Virginia pine	78	114	
	white ash	78	---	
FyC2:				
Faywood	chinkapin oak	---	---	eastern white pine, northern red oak, white oak
	northern red oak	70	57	
	scarlet oak	72	57	
	southern red oak	---	---	
	sugar maple	---	---	
	white oak	60	43	
Lowell	black locust	77	---	eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black oak	88	72	
	hickory	---	---	
	northern red oak	---	---	
	sugar maple	---	---	
	Virginia pine	78	114	
	white ash	78	---	
FyD2:				
Faywood	chinkapin oak	---	---	eastern white pine, northern red oak, white oak
	northern red oak	70	57	
	scarlet oak	72	57	
	southern red oak	---	---	
	sugar maple	---	---	
	white oak	60	43	
Lowell	black locust	77	---	eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black oak	88	72	
	hickory	---	---	
	northern red oak	---	---	
	sugar maple	---	---	
	Virginia pine	78	114	
	white ash	78	---	
GlB:				
Gilpin	black oak	80	62	black cherry, eastern white pine, white oak, yellow-poplar
	chestnut oak	80	62	
	northern red oak	80	57	
	scarlet oak	76	58	
	shortleaf pine	70	110	
	yellow-poplar	95	100	
GpD2:				
Gilpin	black oak	80	62	black cherry, eastern white pine, white oak, yellow-poplar
	chestnut oak	80	62	
	northern red oak	80	57	
	scarlet oak	76	58	
	shortleaf pine	70	110	
	yellow-poplar	95	100	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
GpE2:				
Gilpin	black oak	80	62	black cherry, eastern white pine, white oak, yellow-poplar
	chestnut oak	80	62	
	northern red oak	80	57	
	scarlet oak	76	58	
	shortleaf pine	70	110	
	yellow-poplar	95	100	
GrA:				
Grigsby	American sycamore	---	---	black walnut, eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black walnut	---	---	
	hickory	---	---	
	northern red oak	85	57	
	red maple	---	---	
	sweetgum	---	---	
	white oak	85	57	
	yellow-poplar	110	---	
HeF:				
Helechawa	chestnut oak	65	43	shortleaf pine, white oak
	scarlet oak	70	57	
	Virginia pine	65	100	
	white oak	65	43	
Alticrest	black oak	70	57	eastern white pine, loblolly pine, shortleaf pine, Virginia pine
	chestnut oak	64	43	
	eastern white pine	70	114	
	loblolly pine	70	86	
	shortleaf pine	60	86	
	Virginia pine	60	86	
Rock outcrop.				
Ho:				
Holly	black cherry	---	---	American sycamore, baldcypress, eastern cottonwood, green ash, pin oak, red maple, silver maple, swamp white oak, sweetgum
	eastern cottonwood	---	---	
	green ash	---	---	
	pin oak	90	72	
	red maple	---	---	
	swamp white oak	---	---	
JoA:				
Johnsburg	black oak	77	86	sweetgum, white oak, yellow-poplar
	hickory	---	---	
	red maple	---	---	
	sweetgum	---	---	
	white ash	---	---	
	white oak	73	57	
	yellow-poplar	94	100	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
LaA:				
Lawrence	black oak	78	57	American sycamore, eastern white pine, green ash, sweetgum, white oak, yellow-poplar
	common hackberry	---	---	
	pin oak	---	---	
	red maple	---	---	
	sweetgum	89	100	
	white oak	74	57	
	yellow-poplar	85	86	
LbA:				
Lobdell	northern red oak	75	57	black walnut, eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	sugar maple	---	---	
	white oak	---	---	
LoB:				
Lowell	black locust	77	---	eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black oak	88	72	
	hickory	---	---	
	northern red oak	---	---	
	sugar maple	---	---	
	Virginia pine	78	114	
	white ash	78	---	
LoC:				
Lowell	black locust	77	---	eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black oak	88	72	
	hickory	---	---	
	northern red oak	---	---	
	sugar maple	---	---	
	Virginia pine	78	114	
	white ash	78	---	
LwC:				
Lowell	black locust	77	---	eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black oak	88	72	
	hickory	---	---	
	northern red oak	---	---	
	sugar maple	---	---	
	Virginia pine	78	114	
	white ash	78	---	
Woolper	black oak	75	57	eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black walnut	---	---	
	chinkapin oak	71	57	
	hickory	---	---	
	white ash	---	---	
	yellow buckeye	---	---	
Me:				
Melvin	American sycamore	---	---	American sycamore, pin oak, sweetgum, willow oak
	black willow	---	---	
	common hackberry	---	---	
	hickory	---	---	
	pin oak	100	100	
	red maple	---	---	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
MoB:				
Morehead	black oak	---	---	---
	pin oak	---	---	
	pitch pine	---	---	
	red maple	---	---	
	river birch	---	---	
	shortleaf pine	84	143	
	Virginia pine	---	---	
	white ash	---	---	
	white oak	---	---	
	yellow-poplar	82	72	
Mu:				
Mullins	shortleaf pine	77	129	green ash, pin oak, shortleaf pine, sweetgum, white oak
	southern red oak	64	43	
	sweetgum	---	---	
	Virginia pine	66	100	
	white oak	66	43	
	yellow-poplar	89	86	
Ne:				
Newark	eastern cottonwood	94	114	American sycamore, eastern cottonwood, green ash, sweetgum
	green ash	---	---	
	pin oak	100	100	
	sweetgum	85	86	
NhB:				
Nicholson	black oak	78	57	eastern white pine, loblolly pine, northern red oak, sweetgum, white ash, white oak, yellow-poplar
	hickory	---	---	
	northern red oak	79	57	
	sweetgum	84	86	
	white oak	74	57	
	yellow-poplar	107	114	
NoA:				
Nolin	American sycamore	---	---	black walnut, eastern cottonwood, eastern white pine, sweetgum, yellow-poplar
	eastern cottonwood	---	---	
	sweetgum	92	114	
	yellow-poplar	107	114	
OrA:				
Orrville	black cherry	---	---	eastern white pine, green ash, northern red oak, Norway spruce, red pine, white ash, white oak, white spruce, yellow-poplar
	northern red oak	80	57	
	pin oak	85	72	
	sugar maple	80	57	
	white ash	---	---	
	white oak	---	---	
	yellow-poplar	90	86	
OtB:				
Otwood	black oak	72	57	eastern white pine, white oak, yellow-poplar
	blackgum	---	---	
	white oak	69	57	
	yellow-poplar	95	100	
Pm.				
Pits, mine				

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
Pt. Pits, quarry				
Rb: Robertsville	pin oak	96	86	American sycamore, green ash, pin oak, sweetgum, willow oak
	red maple	---	---	
	Shumard's oak	90	86	
	sweetgum	94	114	
	yellow-poplar	96	100	
RoF2: Rohan	black oak	63	43	shortleaf pine, Virginia pine
	chestnut oak	67	43	
	hickory	---	---	
	scarlet oak	56	43	
	Virginia pine	58	86	
Trappist	black oak	---	---	---
	northern red oak	63	43	
	shortleaf pine	---	---	
	Virginia pine	---	---	
	white oak	---	---	
SaB: Sandview	American elm	---	---	black walnut, eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black cherry	---	---	
	black locust	---	---	
	black walnut	---	---	
	bur oak	---	---	
	common hackberry	---	---	
	hickory	---	---	
	northern red oak	80	57	
	white ash	80	57	
	white oak	75	57	
Lowell	black locust	77	---	eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black oak	88	72	
	hickory	---	---	
	northern red oak	---	---	
	sugar maple	---	---	
	Virginia pine	78	114	
	white ash	78	---	
ShB: Shelocta	American beech	---	---	black oak, black walnut, eastern white pine, northern red oak, shortleaf pine, white ash, white oak, yellow-poplar
	black oak	79	57	
	black walnut	---	---	
	cucumbertree	---	---	
	northern red oak	---	---	
	shortleaf pine	77	129	
	white oak	77	57	
	yellow-poplar	99	100	
Skidmore	American sycamore	---	---	American sycamore, eastern white pine, white ash, yellow-poplar
	river birch	---	---	
	sweetgum	---	---	
	yellow-poplar	103	114	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
SlD:				
Shelocta	American beech	---	---	black oak, black walnut, eastern white pine, northern red oak, shortleaf pine, white ash, white oak, yellow-poplar
	black oak	79	57	
	black walnut	---	---	
	cucumbertree	---	---	
	northern red oak	---	---	
	shortleaf pine	77	129	
	white oak	77	57	
	yellow-poplar	99	100	
SpF2:				
Shelocta	American beech	---	---	black oak, black walnut, eastern white pine, northern red oak, shortleaf pine, white ash, white oak, yellow-poplar
	black oak	79	57	
	black walnut	---	---	
	cucumbertree	---	---	
	northern red oak	---	---	
	shortleaf pine	77	129	
	white oak	77	57	
	yellow-poplar	99	100	
Gilpin	black oak	80	62	black cherry, eastern white pine, white oak, yellow-poplar
	chestnut oak	80	62	
	northern red oak	80	57	
	scarlet oak	76	58	
	shortleaf pine	70	110	
	yellow-poplar	95	100	
SrD2:				
Shrouts	black oak	60	43	eastern redcedar, Virginia pine, white oak
	eastern redcedar	45	57	
	scarlet oak	60	43	
	Virginia pine	60	86	
	white oak	---	---	
Beasley	eastern redcedar	41	43	eastern redcedar, Virginia pine, white ash, white oak
	hickory	---	---	
	scarlet oak	---	---	
	white ash	63	---	
	white oak	61	43	
	yellow-poplar	80	72	
Rock outcrop.				
StE2:				
Shrouts	black oak	60	43	eastern redcedar, Virginia pine, white oak
	eastern redcedar	45	57	
	scarlet oak	60	43	
	Virginia pine	60	86	
	white oak	---	---	
Beasley	eastern redcedar	41	43	eastern redcedar, Virginia pine, white ash, white oak
	hickory	---	---	
	scarlet oak	---	---	
	white ash	63	---	
	white oak	61	43	
	yellow-poplar	80	72	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
TlB:				
Tilsit	black oak	74	57	eastern white pine, shortleaf pine, white oak, yellow-poplar
	hickory	---	---	
	red maple	---	---	
	shortleaf pine	72	114	
	southern red oak	65	43	
	Virginia pine	73	114	
	white oak	68	57	
	yellow-poplar	92	86	
TlC:				
Tilsit	black oak	74	57	eastern white pine, shortleaf pine, white oak, yellow-poplar
	hickory	---	---	
	red maple	---	---	
	shortleaf pine	72	114	
	southern red oak	65	43	
	Virginia pine	73	114	
	white oak	68	57	
	yellow-poplar	92	86	
TrB2:				
Trappist	black oak	---	---	---
	northern red oak	63	43	
	shortleaf pine	---	---	
	Virginia pine	---	---	
	white oak	---	---	
TrC2:				
Trappist	black oak	---	---	---
	northern red oak	63	43	
	shortleaf pine	---	---	
	Virginia pine	---	---	
	white oak	---	---	
TsF2:				
Trappist	black oak	---	---	---
	northern red oak	63	43	
	shortleaf pine	---	---	
	Virginia pine	---	---	
	white oak	---	---	
Muse	black oak	56	43	eastern white pine, shortleaf pine, white oak, yellow-poplar
	hickory	---	---	
	red maple	---	---	
	scarlet oak	---	---	
	shortleaf pine	79	129	
	Virginia pine	67	100	
	white oak	59	43	
	yellow-poplar	110	129	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
UnB:				
Uniontown	northern red oak	83	57	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white ash, white oak
	Shumard's oak	83	57	
	tuliptree	89	86	
UrC. Urban land-Alfic Udarents				
UrD. Urban land-Alfic Udarents				
UsC. Urban land-Alfic Udarents				
UsD. Urban land-Alfic Udarents				
Ux. Urban land-Udorthents				
VeC:				
Vertrees	American elm	---	---	eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black oak	80	57	
	chinkapin oak	---	---	
	hickory	---	---	
	sugar maple	---	---	
	white oak	80	57	
	yellow-poplar	90	86	
VeD:				
Vertrees	American elm	---	---	eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black oak	80	57	
	chinkapin oak	---	---	
	hickory	---	---	
	sugar maple	---	---	
	white oak	80	57	
	yellow-poplar	90	86	
W. Water				

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
WoB:				
Woolper	black oak	75	57	eastern white pine, northern red oak, white ash, white oak, yellow-poplar
	black walnut	---	---	
	chinkapin oak	71	57	
	hickory	---	---	
	white ash	---	---	
	yellow buckeye	---	---	

Table 9.—Forestland Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		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
AgB:							
Allegheny	60	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Landslides	0.10		
Cotaco	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
AgC:							
Allegheny	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Landslides	0.10		
Cotaco	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Wetness	0.50		
				Landslides	0.10		
AlD2:							
Allegheny	85	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
				Landslides	0.50		
BaB:							
Beasley	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Landslides	0.10		
BcC2:							
Beasley	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Landslides	0.10		
BeD2:							
Beasley	70	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
				Landslides	0.50		
Shrouts	20	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
				Landslides	0.50		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
BrB:							
Berea---------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Restrictive layer	0.50	Wetness	0.50		
		Landslides	0.10	Landslides	0.10		
BrC:							
Berea---------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
BsD:							
Berks---------------	70	Moderate		Poorly suited		Moderate	
		Restrictive layer	0.50	Slope	1.00	Low strength	0.50
		Landslides	0.50	Landslides	0.50		
BsF:							
Berks---------------	70	Severe		Poorly suited		Moderate	
		Landslides	1.00	Slope	1.00	Low strength	0.50
		Slope	1.00	Landslides	1.00		
BvA:							
Blago---------------	85	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Landslides	0.10		
BwA:							
Boonewood-----------	75	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Restrictive layer	0.50	Wetness	0.50		
		Landslides	0.10	Landslides	0.10		
BxF:							
Brownsville---------	45	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	1.00	Landslides	1.00		
		Stoniness	0.50	Rock fragments	0.50		
				Low strength	0.50		
Berks---------------	40	Severe		Poorly suited		Moderate	
		Landslides	1.00	Slope	1.00	Low strength	0.50
		Slope	1.00	Landslides	1.00		
		Stoniness	0.50	Rock fragments	0.50		
CaE:							
Caneyville----------	40	Severe		Poorly suited		Severe	
		Landslides	1.00	Landslides	1.00	Low strength	1.00
		Slope	0.50	Slope	1.00		
		Restrictive layer	0.50	Low strength	0.50		
Bledsoe-------------	35	Severe		Poorly suited		Moderate	
		Landslides	1.00	Landslides	1.00	Low strength	0.50
		Slope	0.50	Slope	1.00		
Rock outcrop--------	15	Not rated		Not rated		Not rated	

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
ChA:							
Chagrin	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Landslides	0.10	Landslides	0.10		
CoB:							
Cotaco	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
CoC:							
Cotaco	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Wetness	0.50		
				Landslides	0.10		
CpC:							
Covedale	60	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Landslides	0.10		
Trappist	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.10	Landslides	0.10		
CpD:							
Covedale	50	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
				Landslides	0.50		
Trappist	40	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.50	Low strength	0.50		
		Slope	0.50	Landslides	0.50		
CrA:							
Crider	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Landslides	0.10		
CrB:							
Crider	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Landslides	0.10		
CyD2:							
Cynthiana	50	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	1.00
		Landslides	0.50	Low strength	0.50		
		Low strength	0.50	Landslides	0.50		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
CyD2:							
Faywood-------------	30	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.50	Low strength	0.50		
		Low strength	0.50	Landslides	0.50		
CyE2:							
Cynthiana-----------	45	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Restrictive layer	1.00	Landslides	1.00		
		Slope	0.50	Low strength	0.50		
Faywood-------------	40	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	1.00		
		Restrictive layer	0.50	Low strength	0.50		
DAM:							
Dam, large----------	100	Not rated		Not rated		Not rated	
EdD2:							
Eden----------------	85	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
				Landslides	0.50		
EeE2:							
Eden----------------	60	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	1.00		
				Low strength	0.50		
Lowell--------------	20	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	1.00		
		Restrictive layer	0.50	Low strength	0.50		
EkB:							
Elk-----------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Landslides	0.10		
EkC:							
Elk-----------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Landslides	0.10		
ElD2:							
Elk-----------------	80	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
				Landslides	0.50		
FaF2:							
Fairmount-----------	45	Severe		Poorly suited		Moderate	
		Landslides	1.00	Slope	1.00	Low strength	0.50
		Slope	1.00	Landslides	1.00		
		Low strength	0.50	Low strength	0.50		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
FaF2:							
Faywood-------------	40	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	1.00	Landslides	1.00		
		Low strength	0.50	Low strength	0.50		
FyB2:							
Faywood-------------	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Restrictive layer	0.50	Landslides	0.10		
		Landslides	0.10				
Lowell--------------	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Landslides	0.10		
FyC2:							
Faywood-------------	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.10	Landslides	0.10		
Lowell--------------	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Landslides	0.10		
FyD2:							
Faywood-------------	50	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.50	Low strength	0.50		
		Slope	0.50	Landslides	0.50		
Lowell--------------	35	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Restrictive layer	0.50	Landslides	0.50		
GlB:							
Gilpin--------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Landslides	0.10		
GpD2:							
Gilpin--------------	80	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
				Landslides	0.50		
GpE2:							
Gilpin--------------	80	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	1.00		
				Low strength	0.50		
GrA:							
Grigsby-------------	85	Severe		Poorly suited		Moderate	
		Flooding	1.00	Flooding	1.00	Low strength	0.50
		Landslides	0.10	Landslides	0.10		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
HeF:							
Helechawa-----------	35	Severe		Poorly suited		Moderate	
		Landslides	1.00	Slope	1.00	Low strength	0.50
		Slope	1.00	Landslides	1.00		
Alticrest-----------	30	Severe		Poorly suited		Moderate	
		Landslides	1.00	Slope	1.00	Low strength	0.50
		Slope	1.00	Landslides	1.00		
Rock outcrop--------	25	Not rated		Not rated		Not rated	
Ho:							
Holly---------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	1.00		
		Landslides	0.10	Low strength	0.50		
				Landslides	0.10		
JoA:							
Johnsburg-----------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
LaA:							
Lawrence------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
LbA:							
Lobdell-------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
LoB:							
Lowell--------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Landslides	0.10		
LoC:							
Lowell--------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Landslides	0.10		
LwC:							
Lowell--------------	55	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Landslides	0.10		
Woolper-------------	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Landslides	0.10		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Me:							
Melvin	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	1.00		
		Landslides	0.10	Low strength	0.50		
				Landslides	0.10		
MoB:							
Morehead	85	Moderate		Moderately suited		Severe	
		Flooding	0.50	Flooding	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
Mu:							
Mullins	85	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
		Landslides	0.10	Wetness	1.00		
				Low strength	0.50		
				Landslides	0.10		
Ne:							
Newark	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
NhB:							
Nicholson	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
NoA:							
Nolin	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Landslides	0.10	Landslides	0.10		
OrA:							
Orrville	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
OtB:							
Otwood	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
Pm:							
Pits, mine	100	Not rated		Not rated		Not rated	
Pt:							
Pits, quarry	100	Not rated		Not rated		Not rated	

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
Rb:							
Robertsville--------	85	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
		Landslides	0.10	Wetness	1.00		
				Low strength	0.50		
				Landslides	0.10		
RoF2:							
Rohan---------------	55	Severe		Poorly suited		Severe	
		Landslides	1.00	Landslides	1.00	Low strength	1.00
		Slope	1.00	Slope	1.00		
				Low strength	0.50		
Trappist------------	35	Severe		Poorly suited		Severe	
		Landslides	1.00	Landslides	1.00	Low strength	1.00
		Slope	1.00	Slope	1.00		
		Low strength	0.50	Low strength	0.50		
SaB:							
Sandview------------	55	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Landslides	0.10		
Lowell--------------	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Landslides	0.10		
ShB:							
Shelocta------------	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Landslides	0.10		
Skidmore------------	35	Severe		Poorly suited		Moderate	
		Flooding	1.00	Flooding	1.00	Low strength	0.50
		Landslides	0.10	Landslides	0.10		
SlD:							
Shelocta------------	85	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
				Landslides	0.50		
SpF2:							
Shelocta------------	50	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	1.00	Landslides	1.00		
		Low strength	0.50	Low strength	0.50		
Gilpin--------------	40	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	1.00	Landslides	1.00		
		Low strength	0.50	Low strength	0.50		
SrD2:							
Shrouts-------------	55	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
				Landslides	0.50		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SrD2:							
Beasley-------------	25	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
				Landslides	0.50		
Rock outcrop--------	15	Not rated		Not rated		Not rated	
StE2:							
Shrouts-------------	70	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	1.00		
				Low strength	0.50		
Beasley-------------	20	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	1.00		
				Low strength	0.50		
TlB:							
Tilsit--------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		
TlC:							
Tilsit--------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Wetness	0.50		
				Landslides	0.10		
TrB2:							
Trappist------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Restrictive layer	0.50	Landslides	0.10		
		Landslides	0.10				
TrC2:							
Trappist------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.10	Landslides	0.10		
TsF2:							
Trappist------------	45	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	1.00	Landslides	1.00		
		Low strength	0.50	Low strength	0.50		
Muse----------------	35	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	1.00	Landslides	1.00		
		Low strength	0.50	Low strength	0.50		
UnB:							
Uniontown-----------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Wetness	0.50		
				Landslides	0.10		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
UrC:							
Urban land----------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Slope	0.50		
				Landslides	0.10		
UrD:							
Urban land----------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Restrictive layer	0.50	Landslides	0.50		
UsC:							
Urban land----------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Slope	0.50		
		Landslides	0.10	Stickiness; high plasticity index	0.50		
				Landslides	0.10		
UsD:							
Urban land----------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Stickiness/slope	0.50	Landslides	0.50		
				Stickiness; high plasticity index	0.50		
Ux:							
Urban land----------	60	Not rated		Not rated		Not rated	
Udorthents----------	40	Not rated		Not rated		Not rated	
VeC:							
Vertrees------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.10	Low strength	0.50		
				Landslides	0.10		
VeD:							
Vertrees------------	85	Moderate		Poorly suited		Severe	
		Landslides	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
				Landslides	0.50		
W:							
Water---------------	100	Not rated		Not rated		Not rated	
WoB:							
Woolper-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.10	Landslides	0.10		

Table 9.—Forestland Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		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
AgB:							
Allegheny-----------	60	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Landslides	0.10
Cotaco--------------	30	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
						Landslides	0.10
AgC:							
Allegheny-----------	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.10
Cotaco--------------	20	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
						Landslides	0.10
AlD2:							
Allegheny-----------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
BaB:							
Beasley-------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Landslides	0.10
BcC2:							
Beasley-------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.10
BeD2:							
Beasley-------------	70	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
Shrouts-------------	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
BrB:							
Berea---------------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
						Landslides	0.10

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
BrC:							
Berea	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
						Landslides	0.10
BsD:							
Berks	70	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Slope	1.00
						Landslides	0.50
BsF:							
Berks	70	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
BvA:							
Blago	85	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
						Landslides	0.10
BwA:							
Boonewood	75	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
						Wetness	0.50
						Landslides	0.10
BxF:							
Brownsville	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Rock fragments	0.50
						Low strength	0.50
Berks	40	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Rock fragments	0.50
CaE:							
Caneyville	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Landslides	1.00
						Slope	1.00
						Low strength	0.50
Bledsoe	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Landslides	1.00
						Slope	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
ChA:							
Chagrin	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
						Landslides	0.10

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
CoB:							
Cotaco	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
						Landslides	0.10
CoC:							
Cotaco	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
						Landslides	0.10
CpC:							
Covedale	60	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.10
Trappist	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.10
CpD:							
Covedale	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
Trappist	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
CrA:							
Crider	85	Slight		Slight		Moderately suited	
						Low strength	0.50
						Landslides	0.10
CrB:							
Crider	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Landslides	0.10
CyD2:							
Cynthiana	50	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
Faywood	30	Moderate		Moderate		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	1.00
						Low strength	0.50
						Landslides	0.50
CyE2:							
Cynthiana	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
CyE2:							
Faywood	40	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
DAM:							
Dam, large	100	Not rated		Not rated		Not rated	
EdD2:							
Eden	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
EeE2:							
Eden	60	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
Lowell	20	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
EkB:							
Elk	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Landslides	0.10
EkC:							
Elk	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.10
ElD2:							
Elk	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
FaF2:							
Fairmount	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
Faywood	40	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
FyB2:							
Faywood	45	Slight		Slight		Moderately suited	
						Low strength	0.50
						Landslides	0.10

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
FyB2:							
Lowell	35	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Landslides	0.10
FyC2:							
Faywood	50	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Low strength	0.50
						Landslides	0.10
Lowell	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.10
FyD2:							
Faywood	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
Lowell	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
GlB:							
Gilpin	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Landslides	0.10
GpD2:							
Gilpin	80	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
GpE2:							
Gilpin	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
GrA:							
Grigsby	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Landslides	0.10
HeF:							
Helechawa	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
Alticrest	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
Ho:							
Holly	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
						Landslides	0.10
JoA:							
Johnsburg	85	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
						Landslides	0.10
LaA:							
Lawrence	85	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
						Landslides	0.10
LbA:							
Lobdell	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
						Wetness	0.50
						Landslides	0.10
LoB:							
Lowell	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Landslides	0.10
LoC:							
Lowell	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.10
LwC:							
Lowell	55	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.10
Woolper	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.10
Me:							
Melvin	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
						Landslides	0.10
MoB:							
Morehead	85	Slight		Slight		Moderately suited	
						Flooding	0.50
						Low strength	0.50
						Wetness	0.50
						Landslides	0.10

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
Mu:							
Mullins	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
						Landslides	0.10
Ne:							
Newark	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
						Wetness	0.50
						Landslides	0.10
NhB:							
Nicholson	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
						Landslides	0.10
NoA:							
Nolin	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
						Landslides	0.10
OrA:							
Orrville	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
						Wetness	0.50
						Landslides	0.10
OtB:							
Otwood	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
						Landslides	0.10
Pm:							
Pits, mine	100	Not rated		Not rated		Not rated	
Pt:							
Pits, quarry	100	Not rated		Not rated		Not rated	
Rb:							
Robertsville	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
						Landslides	0.10
RoF2:							
Rohan	55	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Landslides	1.00
						Slope	1.00
						Low strength	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
RoF2:							
Trappist	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Landslides	1.00
						Slope	1.00
						Low strength	0.50
SaB:							
Sandview	55	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Landslides	0.10
Lowell	30	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Landslides	0.10
ShB:							
Shelocta	45	Slight		Slight		Moderately suited	
						Low strength	0.50
						Landslides	0.10
Skidmore	35	Slight		Slight		Poorly suited	
						Flooding	1.00
						Landslides	0.10
SlD:							
Shelocta	85	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Slope	1.00
						Low strength	0.50
						Landslides	0.50
SpF2:							
Shelocta	50	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
Gilpin	40	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
SrD2:							
Shrouts	55	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
SrD2:							
Beasley	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
Rock outcrop	15	Not rated		Not rated		Not rated	
StE2:							
Shrouts	70	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
StE2:							
Beasley	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
TlB:							
Tilsit	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
						Landslides	0.10
TlC:							
Tilsit	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
						Landslides	0.10
TrB2:							
Trappist	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Landslides	0.10
TrC2:							
Trappist	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.10
TsF2:							
Trappist	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
Muse	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
UnB:							
Uniontown	80	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
						Landslides	0.10
UrC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Landslides	0.10
UrD:							
Urban land	60	Not rated		Not rated		Not rated	

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
UrD:							
Alfic Udarents	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
UsC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Stickiness; high plasticity index	0.50
						Landslides	0.10
UsD:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
						Stickiness; high plasticity index	0.50
Ux:							
Urban land	60	Not rated		Not rated		Not rated	
Udorthents	40	Not rated		Not rated		Not rated	
VeC:							
Vertrees	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.10
VeD:							
Vertrees	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.50
W:							
Water	100	Not rated		Not rated		Not rated	
WoB:							
Woolper	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Landslides	0.10

Table 9.—Forestland Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
AgB:							
Allegheny	60	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Cotaco	30	Well suited		Well suited		Moderately suited	
						Low strength	0.50
AgC:							
Allegheny	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Cotaco	20	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
AlD2:							
Allegheny	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
BaB:							
Beasley	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
BcC2:							
Beasley	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		
BeD2:							
Beasley	70	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Shrouts	20	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50		
BrB:							
Berea	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
BrC:							
Berea	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
BsD:							
Berks	70	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
BsF:							
Berks	70	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50		
BvA:							
Blago	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
BwA:							
Boonewood	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50
BxF:							
Brownsville	45	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75	Rock fragments	0.50
						Low strength	0.50
Berks	40	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75	Rock fragments	0.50
CaE:							
Caneyville	40	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75	Slope	0.50
Bledsoe	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
Rock outcrop	15	Not rated		Not rated		Not rated	
ChA:							
Chagrin	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
CoB:							
Cotaco	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
CoC:							
Cotaco	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
CpC:							
Covedale	60	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		
Trappist	30	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
CpD:							
Covedale------------	50	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
Trappist------------	40	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
CrA:							
Crider--------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
CrB:							
Crider--------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
CyD2:							
Cynthiana-----------	50	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.50		
Faywood-------------	30	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
CyE2:							
Cynthiana-----------	45	Poorly suited		Unsuited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	1.00	Slope	0.50
		Rock fragments	0.50	Stickiness; high plasticity index	0.75	Low strength	0.50
				Rock fragments	0.75		
Faywood-------------	40	Moderately suited		Unsuited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	1.00	Slope	0.50
				Stickiness; high plasticity index	0.50	Low strength	0.50
DAM:							
Dam, large----------	100	Not rated		Not rated		Not rated	
EdD2:							
Eden----------------	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
EeE2:							
Eden----------------	60	Poorly suited		Unsuited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	1.00	Slope	0.50
				Stickiness; high plasticity index	0.75	Low strength	0.50
				Rock fragments	0.50		

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
EeE2:							
Lowell	20	Moderately suited		Unsuited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	1.00	Slope	0.50
				Stickiness; high plasticity index	0.50	Low strength	0.50
EkB:							
Elk	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
EkC:							
Elk	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
ElD2:							
Elk	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
FaF2:							
Fairmount	45	Moderately suited		Unsuited		Poorly suited	
		Stickiness; high plasticity index	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.75	Low strength	0.50
		Slope	0.50	Stickiness; high plasticity index	0.50		
		Rock fragments	0.50				
Faywood	40	Moderately suited		Unsuited		Poorly suited	
		Stickiness; high plasticity index	0.50	Slope	1.00	Slope	1.00
				Stickiness; high plasticity index	0.50	Low strength	0.50
		Slope	0.50				
FyB2:							
Faywood	45	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Lowell	35	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
FyC2:							
Faywood	50	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		
Lowell	35	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		
FyD2:							
Faywood	50	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Lowell	35	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50		

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
GlB:							
Gilpin	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
GpD2:							
Gilpin	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
GpE2:							
Gilpin	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
GrA:							
Grigsby	85	Well suited		Well suited		Well suited	
HeF:							
Helechawa	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
Alticrest	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	
Ho:							
Holly	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
JoA:							
Johnsburg	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
LaA:							
Lawrence	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
LbA:							
Lobdell	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
LoB:							
Lowell	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
LoC:							
Lowell	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		
LwC:							
Lowell	55	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
LwC:							
Woolper-------------	25	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		
Me:							
Melvin--------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
MoB:							
Morehead------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Mu:							
Mullins-------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Ne:							
Newark--------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
NhB:							
Nicholson-----------	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
NoA:							
Nolin---------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
OrA:							
Orrville------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
OtB:							
Otwood--------------	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Pm:							
Pits, mine----------	100	Not rated		Not rated		Not rated	
Pt:							
Pits, quarry--------	100	Not rated		Not rated		Not rated	
Rb:							
Robertsville--------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
RoF2:							
Rohan---------------	55	Unsuited		Unsuited		Poorly suited	
		Restrictive layer	1.00	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.50	Low strength	0.50
				Restrictive layer	0.50		
Trappist------------	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
SaB:							
Sandview	55	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Lowell	30	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
ShB:							
Shelocta	45	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Low strength	0.50
Skidmore	35	Well suited		Well suited		Well suited	
SlD:							
Shelocta	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
				Rock fragments	0.50		
SpF2:							
Shelocta	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
Gilpin	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
SrD2:							
Shrouts	55	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Beasley	25	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Rock outcrop	15	Not rated		Not rated		Not rated	
StE2:							
Shrouts	70	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
Beasley	20	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
TlB:							
Tilsit	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
TlC:							
Tilsit	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
TrB2:							
Trappist-----------	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
TrC2:							
Trappist-----------	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
TsF2:							
Trappist-----------	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Muse---------------	35	Moderately suited		Unsuited		Poorly suited	
		Stickiness; high plasticity index	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
UnB:							
Uniontown----------	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
UrC:							
Urban land---------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		
UrD:							
Urban land---------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50		
UsC:							
Urban land---------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50	Stickiness; high plasticity index	0.50
UsD:							
Urban land---------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
Ux:							
Urban land	60	Not rated		Not rated		Not rated	
Udorthents	40	Not rated		Not rated		Not rated	
VeC:							
Vertrees	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
VeD:							
Vertrees	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
W:							
Water	100	Not rated		Not rated		Not rated	
WoB:							
Woolper	75	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50

Table 9.—Forestland Management, Part IV

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AgB:					
Allegheny-----------	60	Well suited		Well suited	
Cotaco--------------	30	Well suited		Well suited	
AgC:					
Allegheny-----------	70	Well suited		Well suited	
Cotaco--------------	20	Well suited		Well suited	
AlD2:					
Allegheny-----------	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
BaB:					
Beasley-------------	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
BcC2:					
Beasley-------------	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
BeD2:					
Beasley-------------	70	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
Shrouts-------------	20	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
BrB:					
Berea---------------	80	Well suited		Well suited	
BrC:					
Berea---------------	80	Well suited		Well suited	
BsD:					
Berks---------------	70	Well suited		Poorly suited	
				Restrictive layer	0.50
BsF:					
Berks---------------	70	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
				Restrictive layer	0.50
BvA:					
Blago---------------	85	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
BwA:					
Boonewood	75	Well suited		Poorly suited	
				Restrictive layer	0.50
BxF:					
Brownsville	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50
Berks	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50
				Restrictive layer	0.50
CaE:					
Caneyville	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50	Restrictive layer	0.50
Bledsoe	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Rock outcrop	15	Not rated		Not rated	
ChA:					
Chagrin	85	Well suited		Well suited	
CoB:					
Cotaco	85	Well suited		Well suited	
CoC:					
Cotaco	80	Well suited		Well suited	
CpC:					
Covedale	60	Well suited		Well suited	
Trappist	30	Well suited		Unsuited	
				Restrictive layer	1.00
CpD:					
Covedale	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Trappist	40	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
				Slope	0.50
CrA:					
Crider	85	Well suited		Well suited	
CrB:					
Crider	85	Well suited		Well suited	
CyD2:					
Cynthiana	50	Poorly suited		Unsuited	
		Rock fragments	0.50	Restrictive layer	1.00
		Stickiness; high plasticity index	0.50		

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
CyD2:					
Faywood-------------	30	Poorly suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Restrictive layer	0.50
CyE2:					
Cynthiana-----------	45	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
		Rock fragments	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
Faywood-------------	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50	Restrictive layer	0.50
DAM:					
Dam, large----------	100	Not rated		Not rated	
EdD2:					
Eden----------------	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
EeE2:					
Eden----------------	60	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
Lowell--------------	20	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
EkB:					
Elk-----------------	80	Well suited		Well suited	
EkC:					
Elk-----------------	80	Well suited		Well suited	
ElD2:					
Elk-----------------	80	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
FaF2:					
Fairmount-----------	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	1.00
		Stickiness; high plasticity index	0.50		
Faywood-------------	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Stickiness; high plasticity index	0.50	Restrictive layer	0.50

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
FyB2:					
Faywood-------------	45	Poorly suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Restrictive layer	0.50
Lowell--------------	35	Well suited		Well suited	
FyC2:					
Faywood-------------	50	Poorly suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Restrictive layer	0.50
Lowell--------------	35	Well suited		Well suited	
FyD2:					
Faywood-------------	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50	Restrictive layer	0.50
Lowell--------------	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
GlB:					
Gilpin--------------	85	Well suited		Well suited	
GpD2:					
Gilpin--------------	80	Well suited		Well suited	
GpE2:					
Gilpin--------------	80	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
GrA:					
Grigsby-------------	85	Well suited		Well suited	
HeF:					
Helechawa-----------	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Alticrest-----------	30	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
				Slope	1.00
Rock outcrop--------	25	Not rated		Not rated	
Ho:					
Holly---------------	85	Well suited		Well suited	
JoA:					
Johnsburg-----------	85	Well suited		Well suited	
LaA:					
Lawrence------------	85	Well suited		Well suited	
LbA:					
Lobdell-------------	85	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
LoB:					
Lowell	85	Well suited		Well suited	
LoC:					
Lowell	85	Well suited		Well suited	
LwC:					
Lowell	55	Well suited		Well suited	
Woolper	25	Well suited		Well suited	
Me:					
Melvin	85	Well suited		Well suited	
MoB:					
Morehead	85	Well suited		Well suited	
Mu:					
Mullins	85	Well suited		Well suited	
Ne:					
Newark	85	Well suited		Well suited	
NhB:					
Nicholson	80	Well suited		Well suited	
NoA:					
Nolin	85	Well suited		Well suited	
OrA:					
Orrville	85	Well suited		Well suited	
OtB:					
Otwood	80	Well suited		Well suited	
Pm:					
Pits, mine	100	Not rated		Not rated	
Pt:					
Pits, quarry	100	Not rated		Not rated	
Rb:					
Robertsville	85	Well suited		Well suited	
RoF2:					
Rohan	55	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
		Restrictive layer	0.50	Slope	1.00
Trappist	35	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
				Slope	1.00
SaB:					
Sandview	55	Well suited		Well suited	
Lowell	30	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
ShB:					
Shelocta	45	Well suited		Well suited	
Skidmore	35	Well suited		Well suited	
SlD:					
Shelocta	85	Well suited		Well suited	
SpF2:					
Shelocta	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Gilpin	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
SrD2:					
Shrouts	55	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Beasley	25	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Rock outcrop	15	Not rated		Not rated	
StE2:					
Shrouts	70	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
Beasley	20	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
TlB:					
Tilsit	90	Well suited		Well suited	
TlC:					
Tilsit	90	Well suited		Well suited	
TrB2:					
Trappist	85	Well suited		Unsuited	
				Restrictive layer	1.00
TrC2:					
Trappist	85	Well suited		Unsuited	
				Restrictive layer	1.00
TsF2:					
Trappist	45	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
				Slope	1.00
Muse	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
UnB:					
Uniontown-----------	80	Well suited		Well suited	
UrC:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Well suited		Well suited	
UrD:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
UsC:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
UsD:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
Ux:					
Urban land----------	60	Not rated		Not rated	
Udorthents----------	40	Not rated		Not rated	
VeC:					
Vertrees------------	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
VeD:					
Vertrees------------	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
W:					
Water---------------	100	Not rated		Not rated	
WoB:					
Woolper-------------	75	Well suited		Well suited	

Table 9.—Forestland Management, Part V

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
AgB:					
Allegheny	60	Low		Low	
		Texture/rock fragments	0.10		
Cotaco	30	Low		Low	
		Texture/rock fragments	0.10		
AgC:					
Allegheny	70	Low		Low	
		Texture/rock fragments	0.10		
Cotaco	20	Low		Low	
		Texture/rock fragments	0.10		
AlD2:					
Allegheny	85	Low		Low	
		Texture/rock fragments	0.10		
BaB:					
Beasley	85	Low		Low	
		Texture/rock fragments	0.10		
BcC2:					
Beasley	85	Low		Low	
		Texture/rock fragments	0.10		
BeD2:					
Beasley	70	Low		Low	
		Texture/rock fragments	0.10		
Shrouts	20	Low		Low	
BrB:					
Berea	80	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
BrC:					
Berea	80	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
BsD:					
Berks	70	Low		Low	

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
BsF:					
Berks	70	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
BvA:					
Blago	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
BwA:					
Boonewood	75	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
				Soil reaction	0.50
BxF:					
Brownsville	45	Low		Low	
Berks	40	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
CaE:					
Caneyville	40	Low		Low	
		Texture/rock fragments	0.10		
Bledsoe	35	Low		Low	
		Texture/rock fragments	0.10		
Rock outcrop	15	Not rated		Not rated	
ChA:					
Chagrin	85	Low		Low	
		Texture/rock fragments	0.10		
CoB:					
Cotaco	85	Low		Low	
		Texture/rock fragments	0.10		
CoC:					
Cotaco	80	Low		Low	
		Texture/rock fragments	0.10		
CpC:					
Covedale	60	Low		Low	
		Texture/rock fragments	0.10		
Trappist	30	Low		Low	

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
CpD:					
Covedale------------	50	Low		Low	
		Texture/rock fragments	0.10		
Trappist------------	40	Low		Low	
CrA:					
Crider--------------	85	Low		Low	
		Texture/rock fragments	0.10		
CrB:					
Crider--------------	85	Low		Low	
		Texture/rock fragments	0.10		
CyD2:					
Cynthiana-----------	50	Low		Low	
Faywood-------------	30	Low		Low	
CyE2:					
Cynthiana-----------	45	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Faywood-------------	40	High		Low	
		Texture/slope/ surface depth/ rock fragments	1.00		
DAM:					
Dam, large----------	100	Not rated		Not rated	
EdD2:					
Eden----------------	85	High		Low	
		Texture/surface depth/rock fragments	1.00		
EeE2:					
Eden----------------	60	High		Low	
		Texture/slope/ surface depth	1.00		
Lowell--------------	20	Low		Low	
EkB:					
Elk-----------------	80	Moderate		Low	
		Texture/rock fragments	0.50		
EkC:					
Elk-----------------	80	Moderate		Low	
		Texture/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
ElD2:					
Elk	80	Moderate		Low	
		Texture/rock fragments	0.50		
FaF2:					
Fairmount	45	Low		Low	
Faywood	40	High		Low	
		Texture/slope/ surface depth/ rock fragments	1.00		
FyB2:					
Faywood	45	Low		Low	
Lowell	35	Low		Low	
		Texture/rock fragments	0.10		
FyC2:					
Faywood	50	Low		Low	
Lowell	35	Low		Low	
		Texture/rock fragments	0.10		
FyD2:					
Faywood	50	Low		Low	
Lowell	35	Low		Low	
		Texture/rock fragments	0.10		
GlB:					
Gilpin	85	Low		Low	
		Texture/rock fragments	0.10		
GpD2:					
Gilpin	80	Low		Low	
		Texture/rock fragments	0.10		
GpE2:					
Gilpin	80	Low		Low	
GrA:					
Grigsby	85	Low		Low	
		Texture/rock fragments	0.10		
HeF:					
Helechawa	35	Low		Low	
		Texture/rock fragments	0.10		
Alticrest	30	Low		Low	
Rock outcrop	25	Not rated		Not rated	

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
Ho:					
Holly	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
JoA:					
Johnsburg	85	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
LaA:					
Lawrence	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
LbA:					
Lobdell	85	Low		Low	
		Texture/rock fragments	0.10		
LoB:					
Lowell	85	Low		Low	
		Texture/rock fragments	0.10		
LoC:					
Lowell	85	Low		Low	
		Texture/rock fragments	0.10		
LwC:					
Lowell	55	Low		Low	
		Texture/rock fragments	0.10		
Woolper	25	Low		Low	
		Texture/rock fragments	0.10		
Me:					
Melvin	85	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
MoB:					
Morehead	85	Low		Low	
		Texture/rock fragments	0.10		
Mu:					
Mullins	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Ne:					
Newark	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
NhB:					
Nicholson-----------	80	Low		Low	
		Texture/rock fragments	0.10		
NoA:					
Nolin---------------	85	Low		Low	
		Texture/rock fragments	0.10		
OrA:					
Orrville------------	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
OtB:					
Otwood--------------	80	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
Pm:					
Pits, mine----------	100	Not rated		Not rated	
Pt:					
Pits, quarry--------	100	Not rated		Not rated	
Rb:					
Robertsville--------	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
RoF2:					
Rohan---------------	55	High		Low	
		Texture/slope/ surface depth/ rock fragments	1.00		
Trappist------------	35	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
SaB:					
Sandview------------	55	Low		Low	
		Texture/rock fragments	0.10		
Lowell--------------	30	Low		Low	
		Texture/rock fragments	0.10		
ShB:					
Shelocta------------	45	Low		Low	
		Texture/rock fragments	0.10		
Skidmore------------	35	Moderate		Low	
		Texture/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
SlD:					
Shelocta	85	Low		Low	
		Texture/rock fragments	0.10		
SpF2:					
Shelocta	50	Low		Low	
Gilpin	40	Low		Low	
SrD2:					
Shrouts	55	Low		Low	
Beasley	25	Low		Low	
		Texture/rock fragments	0.10		
Rock outcrop	15	Not rated		Not rated	
StE2:					
Shrouts	70	Low		Low	
Beasley	20	Low		Low	
		Texture/rock fragments	0.10		
TlB:					
Tilsit	90	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
TlC:					
Tilsit	90	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
TrB2:					
Trappist	85	Low		Low	
TrC2:					
Trappist	85	Low		Low	
TsF2:					
Trappist	45	Moderate		Low	
		Texture/slope/ surface depth/ rock fragments	0.50		
Muse	35	Low		Low	
		Texture/rock fragments	0.10		
UnB:					
Uniontown	80	Moderate		Low	
		Texture/rock fragments	0.50		
UrC:					
Urban land	60	Not rated		Not rated	
Alfic Udarents	40	Low		Low	

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Potential for damage to soil by fire: Value	Potential for seedling mortality: Rating class and limiting features	Potential for seedling mortality: Value
UrD:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Low		Low	
UsC:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Low		Low	
UsD:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Low		Low	
Ux:					
Urban land----------	60	Not rated		Not rated	
Udorthents----------	40	Not rated		Not rated	
VeC:					
Vertrees------------	85	Low		Low	
		Texture/rock fragments	0.10		
VeD:					
Vertrees------------	85	Low		Low	
		Texture/rock fragments	0.10		
W:					
Water---------------	100	Not rated		Not rated	
WoB:					
Woolper-------------	75	Low		Low	
		Texture/rock fragments	0.10		

Table 10.—Recreational Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	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
AgB:							
Allegheny	60	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Cotaco	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Slope	0.50
AgC:							
Allegheny	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Cotaco	20	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.98
AlD2:							
Allegheny	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
BaB:							
Beasley	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
						Slope	0.50
BcC2:							
Beasley	85	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.99	Slow water movement	0.99	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.99
BeD2:							
Beasley	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
Shrouts	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Depth to bedrock	0.46
BrB:							
Berea	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.99	Depth to saturated zone	1.00
		Slow water movement	0.99	Depth to saturated zone	0.94	Slow water movement	0.99
						Slope	0.50
						Depth to bedrock	0.35

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
BrC:							
Berea	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.99	Depth to saturated zone	1.00
		Slow water movement	0.99	Depth to saturated zone	0.94	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.99
						Depth to bedrock	0.35
BsD:							
Berks	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Gravel content	1.00
		Gravel content	0.02	Gravel content	0.02	Slope	1.00
						Depth to bedrock	0.71
BsF:							
Berks	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	0.02	Gravel content	0.02	Slope	1.00
						Depth to bedrock	0.71
BvA:							
Blago	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.44	Slow water movement	0.44	Slow water movement	0.44
BwA:							
Boonewood	75	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.83	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
BxF:							
Brownsville	45	Very limited		Very limited		Very limited	
		Slope	1.00	Large stones content	1.00	Large stones content	1.00
		Large stones content	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.74
Berks	40	Very limited		Very limited		Very limited	
		Slope	1.00	Large stones content	1.00	Large stones content	1.00
		Large stones content	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	0.02	Gravel content	0.02	Slope	1.00
						Depth to bedrock	0.71
CaE:							
Caneyville	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
						Depth to bedrock	0.46

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
CaE:							
Bledsoe	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.76	Large stones content	0.76	Large stones content	0.76
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Rock outcrop	15	Not rated		Not rated		Not rated	
ChA:							
Chagrin	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
CoB:							
Cotaco	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Slope	0.50
CoC:							
Cotaco	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.98
CpC:							
Covedale	60	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.21
Trappist	30	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96
						Depth to bedrock	0.46
CpD:							
Covedale	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Trappist	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Depth to bedrock	0.46
CrA:							
Crider	85	Not limited		Not limited		Not limited	
CrB:							
Crider	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
CyD2:							
Cynthiana-----------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.99	Slow water movement	0.99	Depth to bedrock	1.00
		Slope	0.84	Slope	0.84	Slow water movement	0.99
Faywood-------------	30	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.99	Slow water movement	0.99	Slope	1.00
		Slope	0.84	Slope	0.84	Slow water movement	0.99
						Depth to bedrock	0.35
CyE2:							
Cynthiana-----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
Faywood-------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
						Depth to bedrock	0.35
DAM:							
Dam, large----------	100	Not rated		Not rated		Not rated	
EdD2:							
Eden----------------	85	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Slope	0.84	Slope	0.84	Slope	1.00
						Depth to bedrock	0.29
EeE2:							
Eden----------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slow water movement	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
						Depth to bedrock	0.29
Lowell--------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
EkB:							
Elk-----------------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.50
EkC:							
Elk-----------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
ElD2:							
Elk-----------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
FaF2:							
Fairmount	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
		Large stones content	0.12	Large stones content	0.12	Large stones content	0.12
Faywood	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
						Depth to bedrock	0.35
FyB2:							
Faywood	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
						Slope	0.50
						Depth to bedrock	0.35
Lowell	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.50
FyC2:							
Faywood	50	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.99	Slow water movement	0.99	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.99
						Depth to bedrock	0.35
Lowell	35	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96
FyD2:							
Faywood	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
						Depth to bedrock	0.35
Lowell	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
GlB:							
Gilpin	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
						Depth to bedrock	0.06
GpD2:							
Gilpin	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
						Depth to bedrock	0.06

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
GpE2:							
Gilpin	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.06
GrA:							
Grigsby	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
HeF:							
Helechawa	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.56
Alticrest	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.65
Rock outcrop	25	Not rated		Not rated		Not rated	
Ho:							
Holly	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	0.99	Flooding	1.00
		Slow water movement	0.99	Flooding	0.40	Slow water movement	0.99
JoA:							
Johnsburg	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
LaA:							
Lawrence	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
LbA:							
Lobdell	85	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
LoB:							
Lowell	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.50
LoC:							
Lowell	85	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
LwC:							
Lowell	55	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96
Woolper	25	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Slope	0.04	Slope	1.00
		Slope	0.04				
Me:							
Melvin	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
MoB:							
Morehead	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.35	Depth to saturated zone	0.67
		Depth to saturated zone	0.67			Flooding	0.60
Mu:							
Mullins	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Ne:							
Newark	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
NhB:							
Nicholson	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.67	Depth to saturated zone	0.35	Depth to saturated zone	0.67
						Slope	0.50
NoA:							
Nolin	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
OrA:							
Orrville	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
OtB:							
Otwood	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.88	Depth to saturated zone	1.00
						Slope	0.50
Pm:							
Pits, mine	100	Not rated		Not rated		Not rated	
Pt:							
Pits, quarry	100	Not rated		Not rated		Not rated	

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
Rb:							
Robertsville	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
RoF2:							
Rohan	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
						Gravel content	0.72
Trappist	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Depth to bedrock	0.46
SaB:							
Sandview	55	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Lowell	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.50
ShB:							
Shelocta	45	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Skidmore	35	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
						Gravel content	0.07
SlD:							
Shelocta	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
SpF2:							
Shelocta	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Gilpin	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.06
SrD2:							
Shrouts	55	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.84	Slope	0.84	Slow water movement	0.96
						Depth to bedrock	0.46
Beasley	25	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.99	Slow water movement	0.99	Slope	1.00
		Slope	0.84	Slope	0.84	Slow water movement	0.99

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
SrD2:							
Rock outcrop	15	Not rated		Not rated		Not rated	
StE2:							
Shrouts	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Depth to bedrock	0.46
Beasley	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
TlB:							
Tilsit	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.83	Depth to saturated zone	1.00
						Slope	0.50
TlC:							
Tilsit	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.83	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
TrB2:							
Trappist	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.50
						Depth to bedrock	0.46
TrC2:							
Trappist	85	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96
						Depth to bedrock	0.46
TsF2:							
Trappist	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Depth to bedrock	0.46
Muse	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
UnB:							
Uniontown	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.56	Depth to saturated zone	0.28	Depth to saturated zone	0.56

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
UrC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Too clayey	1.00
						Slow water movement	0.96
UrD:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
UsC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Too clayey	1.00
						Slow water movement	0.21
UsD:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Ux:							
Urban land	60	Not rated		Not rated		Not rated	
Udorthents	40	Not rated		Not rated		Not rated	
VeC:							
Vertrees	85	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
						Slow water movement	0.21
		Slope	0.04	Slope	0.04		
VeD:							
Vertrees	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
W:							
Water	100	Not rated		Not rated		Not rated	
WoB:							
Woolper	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Slope	0.12

Table 10.—Recreational Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	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
AgB:							
Allegheny-----------	60	Not limited		Not limited		Not limited	
Cotaco--------------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
AgC:							
Allegheny-----------	70	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Cotaco--------------	20	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
AlD2:							
Allegheny-----------	85	Somewhat limited		Not limited		Very limited	
		Slope	0.02			Slope	1.00
BaB:							
Beasley-------------	85	Not limited		Not limited		Not limited	
BcC2:							
Beasley-------------	85	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
BeD2:							
Beasley-------------	70	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
Shrouts-------------	20	Somewhat limited		Not limited		Very limited	
		Slope	0.02			Slope	1.00
						Depth to bedrock	0.46
BrB:							
Berea---------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
						Depth to bedrock	0.35
BrC:							
Berea---------------	80	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.94
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to bedrock	0.35
						Slope	0.04

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
BsD:							
Berks	70	Not limited		Not limited		Somewhat limited	
						Droughty	0.99
						Slope	0.84
						Depth to bedrock	0.71
						Large stones content	0.03
						Gravel content	0.02
BsF:							
Berks	70	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
						Droughty	0.99
						Depth to bedrock	0.71
						Large stones content	0.03
						Gravel content	0.02
BvA:							
Blago	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BwA:							
Boonewood	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.83
						Depth to bedrock	0.29
						Droughty	0.01
BxF:							
Brownsville	45	Very limited		Very limited		Very limited	
		Large stones content	1.00	Large stones content	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Large stones content	0.32
Berks	40	Very limited		Very limited		Very limited	
		Large stones content	1.00	Large stones content	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Droughty	0.99
						Depth to bedrock	0.71
						Large stones content	0.03
						Gravel content	0.02
CaE:							
Caneyville	40	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.92			Depth to bedrock	0.46
Bledsoe	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.92	Large stones content	0.76		
		Large stones content	0.76	Too sandy	0.01		
		Too sandy	0.01				
Rock outcrop	15	Not rated		Not rated		Not rated	

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
ChA:							
Chagrin	85	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
CoB:							
Cotaco	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
CoC:							
Cotaco	80	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
CpC:							
Covedale	60	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Trappist	30	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to bedrock	0.46
						Droughty	0.13
						Slope	0.04
CpD:							
Covedale	50	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Trappist	40	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.50			Depth to bedrock	0.46
						Droughty	0.13
CrA:							
Crider	85	Not limited		Not limited		Not limited	
CrB:							
Crider	85	Not limited		Not limited		Not limited	
CyD2:							
Cynthiana	50	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	0.92
						Slope	0.84
						Large stones content	0.68
Faywood	30	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.84
						Depth to bedrock	0.35
CyE2:							
Cynthiana	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Depth to bedrock	1.00
						Droughty	0.92
						Large stones content	0.68

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
CyE2:							
Faywood	40	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	0.22	Depth to bedrock	0.35
DAM:							
Dam, large	100	Not rated		Not rated		Not rated	
EdD2:							
Eden	85	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.84
						Depth to bedrock	0.29
						Droughty	0.06
						Large stones content	0.01
EeE2:							
Eden	60	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	0.22	Depth to bedrock	0.29
						Droughty	0.06
						Large stones content	0.01
Lowell	20	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	0.22		
EkB:							
Elk	80	Not limited		Not limited		Not limited	
EkC:							
Elk	80	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
ElD2:							
Elk	80	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
FaF2:							
Fairmount	45	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Large stones content	0.12	Large stones content	0.12	Large stones content	1.00
						Droughty	0.97
Faywood	40	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	0.35
FyB2:							
Faywood	45	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.35
Lowell	35	Not limited		Not limited		Not limited	

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
FyC2:							
Faywood-------------	50	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to bedrock	0.35
						Slope	0.04
Lowell--------------	35	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
FyD2:							
Faywood-------------	50	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02			Depth to bedrock	0.35
Lowell--------------	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
GlB:							
Gilpin--------------	85	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.06
						Large stones content	0.01
GpD2:							
Gilpin--------------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.84
						Depth to bedrock	0.06
						Large stones content	0.01
GpE2:							
Gilpin--------------	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Depth to bedrock	0.06
						Large stones content	0.01
GrA:							
Grigsby-------------	85	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
		Too sandy	0.01	Too sandy	0.01		
HeF:							
Helechawa-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Alticrest-----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.65
						Droughty	0.02
						Large stones content	0.01
Rock outcrop--------	25	Not rated		Not rated		Not rated	
Ho:							
Holly---------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
JoA:							
Johnsburg	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
LaA:							
Lawrence	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
LbA:							
Lobdell	85	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
LoB:							
Lowell	85	Not limited		Not limited		Not limited	
LoC:							
Lowell	85	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
LwC:							
Lowell	55	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Woolper	25	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Me:							
Melvin	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
MoB:							
Morehead	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Flooding	0.60
						Depth to saturated zone	0.35
Mu:							
Mullins	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Ne:							
Newark	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
NhB:							
Nicholson	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to saturated zone	0.35

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
NoA:							
Nolin	85	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
OrA:							
Orrville	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
OtB:							
Otwood	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.73	Depth to saturated zone	0.73	Depth to saturated zone	0.88
Pm:							
Pits, mine	100	Not rated		Not rated		Not rated	
Pt:							
Pits, quarry	100	Not rated		Not rated		Not rated	
Rb:							
Robertsville	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
RoF2:							
Rohan	55	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.86	Droughty	1.00
						Depth to bedrock	1.00
						Slope	1.00
Trappist	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	0.86	Depth to bedrock	0.46
						Droughty	0.13
SaB:							
Sandview	55	Not limited		Not limited		Not limited	
Lowell	30	Not limited		Not limited		Not limited	
ShB:							
Shelocta	45	Not limited		Not limited		Somewhat limited	
						Large stones content	0.01
Skidmore	35	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Droughty	0.34
SlD:							
Shelocta	85	Not limited		Not limited		Somewhat limited	
						Slope	0.84
						Large stones content	0.01

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
SpF2:							
Shelocta	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Large stones content	0.01
Gilpin	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.06
						Large stones content	0.01
SrD2:							
Shrouts	55	Not limited		Not limited		Somewhat limited	
						Slope	0.84
						Depth to bedrock	0.46
Beasley	25	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.84
Rock outcrop	15	Not rated		Not rated		Not rated	
StE2:							
Shrouts	70	Very limited		Not limited		Very limited	
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.46
Beasley	20	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00				
TlB:							
Tilsit	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to saturated zone	0.83
TlC:							
Tilsit	90	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.83
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Slope	0.04
TrB2:							
Trappist	85	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.46
						Droughty	0.13
TrC2:							
Trappist	85	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to bedrock	0.46
						Droughty	0.13
						Slope	0.04
TsF2:							
Trappist	45	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	0.46
						Droughty	0.13

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
TsF2:							
Muse	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	1.00		
UnB:							
Uniontown	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.01	Depth to saturated zone	0.01	Depth to saturated zone	0.28
UrC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
UrD:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Slope	1.00
		Slope	0.24			Too clayey	1.00
UsC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
UsD:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Slope	1.00
		Slope	0.24			Too clayey	1.00
Ux:							
Urban land	60	Not rated		Not rated		Not rated	
Udorthents	40	Not rated		Not rated		Not rated	
VeC:							
Vertrees	85	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
VeD:							
Vertrees	85	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
W:							
Water	100	Not rated		Not rated		Not rated	
WoB:							
Woolper	75	Not limited		Not limited		Not limited	

Table 11.—Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for: Openland wildlife	Woodland wildlife	Wetland wildlife
AgB:										
Allegheny	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Cotaco	Good	Good	Good	Good	---	Poor	Very poor	Good	Good	Very poor
AgC:										
Allegheny	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Cotaco	Good	Good	Good	Good	---	Poor	Very poor	Good	Good	Very poor
AlD2:										
Allegheny	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BaB:										
Beasley	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BcC2:										
Beasley	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BeD2:										
Beasley	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Shrouts	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
BrB:										
Berea	Fair	Good	Good	Good	---	Poor	Very poor	Good	Good	Very poor
BrC:										
Berea	Fair	Good	Good	Good	---	Poor	Very poor	Good	Good	Very poor
BsD:										
Berks	Very poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
BsF:										
Berks	Very poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
BvA:										
Blago	Very poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
BwA:										
Boonewood	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor

Table 11.—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
BxF:										
Brownsville	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Fair	Very poor
Berks	Very poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
CaE:										
Caneyville	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Bledsoe	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Rock outcrop.										
ChA:										
Chagrin	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
CoB:										
Cotaco	Good	Good	Good	Good	---	Poor	Very poor	Good	Good	Very poor
CoC:										
Cotaco	Good	Good	Good	Good	---	Poor	Very poor	Good	Good	Very poor
CpC:										
Covedale	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Trappist	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
CpD:										
Covedale	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Trappist	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
CrA:										
Crider	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
CrB:										
Crider	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
CyD2:										
Cynthiana	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Faywood	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
CyE2:										
Cynthiana	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor

Table 11.—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
CyE2:										
Faywood	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
DAM. Dam, large										
EdD2:										
Eden	Fair	Good	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
EeE2:										
Eden	Fair	Good	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Lowell	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
EkB:										
Elk	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
EkC:										
Elk	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
ElD2:										
Elk	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
FaF2:										
Fairmount	Very poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Faywood	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
FyB2:										
Faywood	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Lowell	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
FyC2:										
Faywood	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Lowell	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
FyD2:										
Faywood	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Lowell	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor

Table 11.—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
GlB:										
Gilpin	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
GpD2:										
Gilpin	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
GpE2:										
Gilpin	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
GrA:										
Grigsby	Fair	Fair	Fair	Good	Good	Poor	Very poor	Fair	Good	Very poor
HeF:										
Helechawa	Very poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Alticrest	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Rock outcrop.										
Ho:										
Holly	Fair	Fair	Poor	Fair	Fair	Good	Good	Fair	Fair	Good
JoA:										
Johnsburg	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
LaA:										
Lawrence	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
LbA:										
Lobdell	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
LoB:										
Lowell	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
LoC:										
Lowell	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
LwC:										
Lowell	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Woolper	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Me:										
Melvin	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
MoB:										
Morehead	Fair	Good	Good	Good	---	Fair	Poor	Good	Good	Poor

Table 11.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Mu:										
Mullins	Poor	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good
Ne:										
Newark	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair
NhB:										
Nicholson	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
NoA:										
Nolin	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
OrA:										
Orrville	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
OtB:										
Otwood	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Pm.										
Pits, mine										
Pt.										
Pits, quarry										
Rb:										
Robertsville	Poor	Fair	Fair	Fair	Fair	Good	Good	Poor	Fair	Good
RoF2:										
Rohan	Very poor	Very poor	Poor	Very poor	Very poor	Very poor	Very poor	Very poor	Poor	Very poor
Trappist	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
SaB:										
Sandview	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Lowell	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
ShB:										
Shelocta	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Skidmore	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
SlD:										
Shelocta	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
SpF2:										
Shelocta	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Gilpin	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor

Table 11.—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
SrD2:										
Shrouts	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Beasley	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Rock outcrop.										
StE2:										
Shrouts	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Beasley	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
TlB:										
Tilsit	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
TlC:										
Tilsit	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
TrB2:										
Trappist	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
TrC2:										
Trappist	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
TsF2:										
Trappist	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Muse	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
UnB:										
Uniontown	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
UrC. Urban land-Alfic Udarents										
UrD. Urban land-Alfic Udarents										
UsC. Urban land-Alfic Udarents										
UsD. Urban land-Alfic Udarents										

Table 11.—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
Ux. Urban land-Udorthents										
VeC:										
Vertrees	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
VeD:										
Vertrees	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
W. Water										
WoB:										
Woolper	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor

Table 12.—Building Site Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
AgB:							
Allegheny	60	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.87		
Cotaco	30	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
AgC:							
Allegheny	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Depth to saturated zone	0.87	Slope	1.00
				Slope	0.04		
Cotaco	20	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.98
AlD2:							
Allegheny	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to saturated zone	0.87		
BaB:							
Beasley	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
BcC2:							
Beasley	85	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
BeD2:							
Beasley	70	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
Shrouts	20	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	0.46		
BrB:							
Berea	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Depth to hard bedrock	0.06
				Depth to soft bedrock	0.35		

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
BrC:							
Berea	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.04	Depth to soft bedrock	0.35	Depth to hard bedrock	0.06
				Slope	0.04		
BsD:							
Berks	70	Somewhat limited		Very limited		Very limited	
		Slope	0.84	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.71	Slope	0.84	Depth to hard bedrock	0.71
BsF:							
Berks	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.71	Depth to hard bedrock	1.00	Depth to hard bedrock	0.71
BvA:							
Blago	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
BwA:							
Boonewood	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Depth to hard bedrock	0.29
BxF:							
Brownsville	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.17	Depth to hard bedrock	0.77	Large stones content	0.17
				Large stones content	0.17		
Berks	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.71	Depth to hard bedrock	1.00	Depth to hard bedrock	0.71
CaE:							
Caneyville	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.46	Shrink-swell	0.50	Depth to hard bedrock	0.46
Bledsoe	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Rock outcrop	15	Not rated		Not rated		Not rated	

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
ChA:							
Chagrin	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.61		
CoB:							
Cotaco	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
CoC:							
Cotaco	80	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.98
CpC:							
Covedale	60	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Trappist	30	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.10	Shrink-swell	0.50	Shrink-swell	0.50
		Slope	0.04	Depth to soft bedrock	0.46	Depth to hard bedrock	0.10
				Slope	0.04		
CpD:							
Covedale	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Trappist	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.10	Shrink-swell	0.50	Depth to hard bedrock	0.10
				Depth to soft bedrock	0.46		
CrA:							
Crider	85	Not limited		Somewhat limited		Not limited	
				Shrink-swell	0.50		
CrB:							
Crider	85	Not limited		Somewhat limited		Not limited	
				Shrink-swell	0.50		
CyD2:							
Cynthiana	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.84	Slope	0.84	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
		Large stones content	0.42	Large stones content	0.42	Large stones content	0.42

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
CyD2:							
Faywood-------------	30	Somewhat limited		Very limited		Very limited	
		Slope	0.84	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	0.84	Shrink-swell	0.50
		Depth to hard bedrock	0.35	Shrink-swell	0.50	Depth to hard bedrock	0.35
CyE2:							
Cynthiana-----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
		Large stones content	0.42	Large stones content	0.42	Large stones content	0.42
Faywood-------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.35	Shrink-swell	0.50	Depth to hard bedrock	0.35
DAM:							
Dam, large----------	100	Not rated		Not rated		Not rated	
EdD2:							
Eden----------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.29		
EeE2:							
Eden----------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.29		
Lowell--------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.32		
EkB:							
Elk-----------------	80	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.43		
EkC:							
Elk-----------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Depth to saturated zone	0.43	Slope	1.00
				Slope	0.04		

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
ElD2:							
Elk	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to saturated zone	0.43		
FaF2:							
Fairmount	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
		Large stones content	0.32	Large stones content	0.32	Large stones content	0.32
Faywood	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.35	Shrink-swell	0.50	Depth to hard bedrock	0.35
FyB2:							
Faywood	45	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.35	Shrink-swell	0.50	Depth to hard bedrock	0.35
Lowell	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.32		
FyC2:							
Faywood	50	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.35	Shrink-swell	0.50	Shrink-swell	0.50
		Slope	0.04	Slope	0.04	Depth to hard bedrock	0.35
Lowell	35	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Depth to hard bedrock	0.32	Shrink-swell	0.50
				Slope	0.04		
FyD2:							
Faywood	50	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.35	Shrink-swell	0.50	Depth to hard bedrock	0.35
Lowell	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.32		

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
GlB:							
Gilpin	85	Not limited		Somewhat limited		Not limited	
				Depth to soft bedrock	0.06		
GpD2:							
Gilpin	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
				Depth to soft bedrock	0.06		
GpE2:							
Gilpin	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.06		
GrA:							
Grigsby	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.01		
HeF:							
Helechawa	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Alticrest	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
Rock outcrop	25	Not rated		Not rated		Not rated	
Ho:							
Holly	85	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
JoA:							
Johnsburg	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
LaA:							
Lawrence	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
LbA:							
Lobdell	85	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
LoB:							
Lowell	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.32		

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
LoC:							
Lowell	85	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Depth to hard bedrock	0.32	Shrink-swell	0.50
				Slope	0.04		
LwC:							
Lowell	55	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Depth to hard bedrock	0.32	Shrink-swell	0.50
				Slope	0.04		
Woolper	25	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
Me:							
Melvin	85	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
MoB:							
Morehead	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
Mu:							
Mullins	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Ne:							
Newark	85	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
NhB:							
Nicholson	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
				Shrink-swell	0.50		
NoA:							
Nolin	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
OrA:							
Orrville	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
OtB:							
Otwood	80	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
Pm:							
Pits, mine	100	Not rated		Not rated		Not rated	
Pt:							
Pits, quarry	100	Not rated		Not rated		Not rated	
Rb:							
Robertsville	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
RoF2:							
Rohan	55	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	0.50	Slope	1.00	Depth to soft bedrock	1.00
Trappist	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.10	Shrink-swell	0.50	Depth to hard bedrock	0.10
				Depth to soft bedrock	0.46		
SaB:							
Sandview	55	Not limited		Somewhat limited		Not limited	
				Shrink-swell	0.50		
Lowell	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.32		
ShB:							
Shelocta	45	Not limited		Not limited		Not limited	
ShB:							
Skidmore	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Large stones content	1.00	Large stones content	1.00	Large stones content	1.00
				Depth to saturated zone	0.82		
SlD:							
Shelocta	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
SpF2:							
Shelocta	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Gilpin	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.06		
SrD2:							
Shrouts	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.46		
Beasley	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Rock outcrop	15	Not rated		Not rated		Not rated	
StE2:							
Shrouts	70	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	0.46		
Beasley	20	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
TlB:							
Tilsit	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
TlC:							
Tilsit	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
TrB2:							
Trappist	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.10	Shrink-swell	0.50	Depth to hard bedrock	0.10
				Depth to soft bedrock	0.46		
TrC2:							
Trappist	85	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.10	Shrink-swell	0.50	Shrink-swell	0.50
		Slope	0.04	Depth to soft bedrock	0.46	Depth to hard bedrock	0.10
				Slope	0.04		

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
TsF2:							
Trappist	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.10	Shrink-swell	0.50	Depth to hard bedrock	0.10
				Depth to soft bedrock	0.46		
Muse	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to saturated zone	0.91	Shrink-swell	0.50
				Depth to hard bedrock	0.84		
				Shrink-swell	0.50		
UnB:							
Uniontown	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.56	Depth to saturated zone	1.00	Depth to saturated zone	0.56
UrC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to hard bedrock	0.93	Slope	0.50
				Shrink-swell	0.50	Shrink-swell	0.50
UrD:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	0.93	Shrink-swell	0.50
				Shrink-swell	0.50		
UsC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.50
						Shrink-swell	0.50
UsD:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	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
Ux:							
Urban land	60	Not rated		Not rated		Not rated	
Udorthents	40	Not rated		Not rated		Not rated	

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
VeC:							
Vertrees	85	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
VeD:							
Vertrees	85	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
W:							
Water	100	Not rated		Not rated		Not rated	
WoB:							
Woolper	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 12.—Building Site Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AgB:							
Allegheny	60	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.87		
				Cutbanks cave	0.10		
Cotaco	30	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
				Cutbanks cave	0.10		
AgC:							
Allegheny	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Depth to saturated zone	0.87	Slope	0.04
				Cutbanks cave	0.10		
				Slope	0.04		
Cotaco	20	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Slope	0.04	Cutbanks cave	0.10	Slope	0.04
				Slope	0.04		
AlD2:							
Allegheny	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to saturated zone	0.87		
				Cutbanks cave	0.10		
BaB:							
Beasley	85	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.50		
		Shrink-swell	0.50	Cutbanks cave	0.10		
BcC2:							
Beasley	85	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.50	Slope	0.04
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		
BeD2:							
Beasley	70	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.50		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Shrouts	20	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.72	Depth to bedrock	0.46
		Shrink-swell	0.50	Depth to soft bedrock	0.46		
				Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
BrB:							
Berea	80	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	0.94
		Depth to saturated zone	0.94	Depth to saturated zone	1.00	Depth to bedrock	0.35
		Depth to hard bedrock	0.06	Depth to soft bedrock	0.35		
				Cutbanks cave	0.10		
BrC:							
Berea	80	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	0.94
		Depth to saturated zone	0.94	Depth to saturated zone	1.00	Depth to bedrock	0.35
		Depth to hard bedrock	0.06	Depth to soft bedrock	0.35	Slope	0.04
		Slope	0.04	Cutbanks cave	0.10		
				Slope	0.04		
BsD:							
Berks	70	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.84	Depth to hard bedrock	1.00	Droughty	0.99
		Depth to hard bedrock	0.71	Slope	0.84	Slope	0.84
				Cutbanks cave	0.10	Depth to bedrock	0.71
						Large stones content	0.03
						Gravel content	0.02
BsF:							
Berks	70	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.71	Slope	1.00	Droughty	0.99
				Cutbanks cave	0.10	Depth to bedrock	0.71
						Large stones content	0.03
						Gravel content	0.02
BvA:							
Blago	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Cutbanks cave	0.10		
BwA:							
Boonewood	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to hard bedrock	1.00	Flooding	1.00
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.83
		Depth to saturated zone	0.83	Flooding	0.80	Depth to bedrock	0.29
		Depth to hard bedrock	0.29	Cutbanks cave	0.10	Droughty	0.01

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
BxF:							
Brownsville	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.17	Depth to hard bedrock	0.77	Large stones content	0.32
				Large stones content	0.17		
				Cutbanks cave	0.10		
Berks	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.71	Slope	1.00	Droughty	0.99
				Cutbanks cave	0.10	Depth to bedrock	0.71
						Large stones content	0.03
						Gravel content	0.02
CaE:							
Caneyville	40	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	0.46
		Shrink-swell	0.50	Too clayey	0.50		
		Depth to hard bedrock	0.46	Cutbanks cave	0.10		
Bledsoe	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Rock outcrop	15	Not rated		Not rated		Not rated	
ChA:							
Chagrin	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Depth to saturated zone	0.61		
				Cutbanks cave	0.10		
CoB:							
Cotaco	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
				Cutbanks cave	0.10		
CoC:							
Cotaco	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Slope	0.04	Cutbanks cave	0.10	Slope	0.04
				Slope	0.04		
CpC:							
Covedale	60	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.50	Slope	0.04
		Slope	0.04	Cutbanks cave	0.10		
				Slope	0.04		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
CpC:							
Trappist------------	30	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Depth to bedrock	0.46
		Depth to hard bedrock	0.10	Depth to soft bedrock	0.46	Droughty	0.13
		Slope	0.04	Too clayey	0.28	Slope	0.04
				Cutbanks cave	0.10		
				Slope	0.04		
CpD:							
Covedale------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.50		
				Cutbanks cave	0.10		
Trappist------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	1.00	Depth to bedrock	0.46
		Depth to hard bedrock	0.10	Depth to soft bedrock	0.46	Droughty	0.13
				Too clayey	0.28		
				Cutbanks cave	0.10		
CrA:							
Crider--------------	85	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		
CrB:							
Crider--------------	85	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		
CyD2:							
Cynthiana-----------	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Low strength	1.00	Slope	0.84	Droughty	0.92
		Slope	0.84	Large stones content	0.42	Slope	0.84
		Shrink-swell	0.50	Cutbanks cave	0.10	Large stones content	0.68
		Large stones content	0.42				
Faywood-------------	30	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	0.84
		Slope	0.84	Slope	0.84	Depth to bedrock	0.35
		Shrink-swell	0.50	Too clayey	0.50		
		Depth to hard bedrock	0.35	Cutbanks cave	0.10		
CyE2:							
Cynthiana-----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Low strength	1.00	Large stones content	0.42	Droughty	0.92
		Shrink-swell	0.50	Cutbanks cave	0.10	Large stones content	0.68
		Large stones content	0.42				

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
CyE2:							
Faywood	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	1.00			Depth to bedrock	0.35
		Shrink-swell	0.50	Slope	1.00		
		Depth to hard bedrock	0.35	Too clayey	0.50		
				Cutbanks cave	0.10		
DAM:							
Dam, large	100	Not rated		Not rated		Not rated	
EdD2:							
Eden	85	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.84	Slope	0.84
		Slope	0.84	Too clayey	0.50	Depth to bedrock	0.29
		Shrink-swell	0.50	Depth to soft bedrock	0.29	Droughty	0.06
						Large stones content	0.01
				Cutbanks cave	0.10		
EeE2:							
Eden	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.50	Depth to bedrock	0.29
		Shrink-swell	0.50	Depth to soft bedrock	0.29	Droughty	0.06
						Large stones content	0.01
				Cutbanks cave	0.10		
Lowell	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	0.50	Depth to hard bedrock	0.32		
				Cutbanks cave	0.10		
EkB:							
Elk	80	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.43		
				Cutbanks cave	0.10		
				Too clayey	0.02		
EkC:							
Elk	80	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	0.43	Slope	0.04
		Slope	0.04				
				Cutbanks cave	0.10		
				Slope	0.04		
				Too clayey	0.02		
ElD2:							
Elk	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to saturated zone	0.43		
				Cutbanks cave	0.10		
				Too clayey	0.02		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
FaF2:							
Fairmount-----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
						Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Large stones content	1.00
		Low strength	1.00	Large stones content	0.32		
		Shrink-swell	0.50			Droughty	0.97
		Large stones content	0.32				
Faywood-------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	1.00			Depth to bedrock	0.35
		Shrink-swell	0.50	Slope	1.00		
		Depth to hard bedrock	0.35	Too clayey	0.50		
				Cutbanks cave	0.10		
FyB2:							
Faywood-------------	45	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.35
		Shrink-swell	0.50				
		Depth to hard bedrock	0.35	Too clayey	0.50		
				Cutbanks cave	0.10		
Lowell--------------	35	Very limited		Very limited		Not limited	
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	0.50	Depth to hard bedrock	0.32		
				Cutbanks cave	0.10		
FyC2:							
Faywood-------------	50	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.35
		Shrink-swell	0.50			Slope	0.04
		Depth to hard bedrock	0.35	Too clayey	0.50		
				Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		
Lowell--------------	35	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Slope	0.04
		Shrink-swell	0.50	Depth to hard bedrock	0.32		
		Slope	0.04				
				Cutbanks cave	0.10		
				Slope	0.04		
FyD2:							
Faywood-------------	50	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Slope	1.00			Depth to bedrock	0.35
		Shrink-swell	0.50	Slope	1.00		
		Depth to hard bedrock	0.35	Too clayey	0.50		
				Cutbanks cave	0.10		
Lowell--------------	35	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	1.00		
		Shrink-swell	0.50	Depth to hard bedrock	0.32		
				Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
GlB:							
Gilpin	85	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Cutbanks cave	0.10	Depth to bedrock	0.06
				Depth to soft bedrock	0.06	Large stones content	0.01
GpD2:							
Gilpin	80	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.84	Slope	0.84
		Slope	0.84	Cutbanks cave	0.10	Depth to bedrock	0.06
				Depth to soft bedrock	0.06	Large stones content	0.01
GpE2:							
Gilpin	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10	Depth to bedrock	0.06
				Depth to soft bedrock	0.06	Large stones content	0.01
GrA:							
Grigsby	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Cutbanks cave	0.10		
				Depth to saturated zone	0.01		
HeF:							
Helechawa	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00		
Alticrest	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.64			Depth to bedrock	0.65
				Slope	1.00	Droughty	0.02
				Cutbanks cave	0.10	Large stones content	0.01
Rock outcrop	25	Not rated		Not rated		Not rated	
Ho:							
Holly	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
						Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.80		
				Cutbanks cave	0.10		
JoA:							
Johnsburg	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	0.78	Cutbanks cave	0.10		
LaA:							
Lawrence	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
LbA:							
Lobdell	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	0.75	Flooding	0.80	Depth to saturated zone	0.75
				Cutbanks cave	0.10		
LoB:							
Lowell	85	Very limited		Very limited		Not limited	
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	0.50	Depth to hard bedrock	0.32		
				Cutbanks cave	0.10		
LoC:							
Lowell	85	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Slope	0.04
		Shrink-swell	0.50	Depth to hard bedrock	0.32		
		Slope	0.04	Cutbanks cave	0.10		
				Slope	0.04		
LwC:							
Lowell	55	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Slope	0.04
		Shrink-swell	0.50	Depth to hard bedrock	0.32		
		Slope	0.04	Cutbanks cave	0.10		
				Slope	0.04		
Woolper	25	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.12	Slope	0.04
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Flooding	0.40	Slope	0.04		
		Slope	0.04				
Me:							
Melvin	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
MoB:							
Morehead	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Low strength	1.00	Flooding	0.60	Depth to saturated zone	0.35
		Depth to saturated zone	0.35	Cutbanks cave	0.10		
Mu:							
Mullins	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
Ne:							
Newark	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
NhB:							
Nicholson	80	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.35
		Depth to saturated zone	0.35	Too clayey	1.00		
				Cutbanks cave	0.10		
NoA:							
Nolin	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
OrA:							
Orrville	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
				Cutbanks cave	0.10		
OtB:							
Otwood	80	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.88
		Depth to saturated zone	0.88	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Pm:							
Pits, mine	100	Not rated		Not rated		Not rated	
Pt:							
Pits, quarry	100	Not rated		Not rated		Not rated	
Rb:							
Robertsville	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Cutbanks cave	0.10		
RoF2:							
Rohan	55	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Droughty	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
RoF2:							
Trappist	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	1.00	Depth to bedrock	0.46
		Depth to hard bedrock	0.10	Depth to soft bedrock	0.46	Droughty	0.13
				Too clayey	0.28		
				Cutbanks cave	0.10		
SaB:							
Sandview	55	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		
				Too clayey	0.02		
Lowell	30	Very limited		Very limited		Not limited	
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	0.50	Depth to hard bedrock	0.32		
				Cutbanks cave	0.10		
ShB:							
Shelocta	45	Not limited		Somewhat limited		Somewhat limited	
				Cutbanks cave	0.10	Large stones content	0.01
Skidmore	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
		Large stones content	1.00	Large stones content	1.00	Droughty	0.34
				Depth to saturated zone	0.82		
				Flooding	0.80		
SlD:							
Shelocta	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.84	Slope	0.84	Slope	0.84
				Cutbanks cave	0.10	Large stones content	0.01
SpF2:							
Shelocta	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Large stones content	0.01
Gilpin	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10	Depth to bedrock	0.06
				Depth to soft bedrock	0.06	Large stones content	0.01
SrD2:							
Shrouts	55	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.84	Slope	0.84
		Slope	0.84	Too clayey	0.72	Depth to bedrock	0.46
		Shrink-swell	0.50	Depth to soft bedrock	0.46		
				Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
SrD2:							
Beasley	25	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.84	Slope	0.84
		Slope	0.84	Too clayey	0.50		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Rock outcrop	15	Not rated		Not rated		Not rated	
StE2:							
Shrouts	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.72	Depth to bedrock	0.46
		Shrink-swell	0.50	Depth to soft bedrock	0.46		
				Cutbanks cave	0.10		
Beasley	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.50		
		Shrink-swell	0.50	Cutbanks cave	0.10		
TlB:							
Tilsit	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.83
		Depth to saturated zone	0.83	Cutbanks cave	0.10		
TlC:							
Tilsit	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.83
		Depth to saturated zone	0.83	Cutbanks cave	0.10	Slope	0.04
		Slope	0.04	Slope	0.04		
TrB2:							
Trappist	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Depth to bedrock	0.46
		Depth to hard bedrock	0.10	Depth to soft bedrock	0.46	Droughty	0.13
				Too clayey	0.28		
				Cutbanks cave	0.10		
TrC2:							
Trappist	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Depth to bedrock	0.46
		Depth to hard bedrock	0.10	Depth to soft bedrock	0.46	Droughty	0.13
		Slope	0.04	Too clayey	0.28	Slope	0.04
				Cutbanks cave	0.10		
				Slope	0.04		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
TsF2:							
Trappist	45	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	1.00	Depth to bedrock	0.46
		Depth to hard bedrock	0.10	Depth to soft bedrock	0.46	Droughty	0.13
				Too clayey	0.28		
				Cutbanks cave	0.10		
Muse	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to saturated zone	0.91		
		Shrink-swell	0.50	Depth to hard bedrock	0.84		
				Too clayey	0.50		
				Cutbanks cave	0.10		
UnB:							
Uniontown	80	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.28
		Depth to saturated zone	0.28	Cutbanks cave	0.10		
UrC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Low strength	1.00	Too clayey	1.00	Too clayey	1.00
		Shrink-swell	0.50	Depth to hard bedrock	0.93		
				Cutbanks cave	0.10		
UrD:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	1.00	Too clayey	1.00
		Shrink-swell	0.50	Depth to hard bedrock	0.93		
				Cutbanks cave	0.10		
UsC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Too clayey	0.50	Too clayey	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10		
UsD:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.50	Too clayey	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
Ux:							
Urban land	60	Not rated		Not rated		Not rated	
Udorthents	40	Not rated		Not rated		Not rated	
VeC:							
Vertrees	85	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.12	Slope	0.04
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		
VeD:							
Vertrees	85	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Cutbanks cave	0.10		
W:							
Water	100	Not rated		Not rated		Not rated	
WoB:							
Woolper	75	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Cutbanks cave	0.10		

Table 13.—Sanitary Facilities, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
AgB:					
Allegheny-----------	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Seepage	0.52
				Slope	0.32
Cotaco--------------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Seepage	0.52
				Slope	0.32
AgC:					
Allegheny-----------	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Slope	1.00
		Slope	0.04	Seepage	0.52
Cotaco--------------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Slope	1.00
		Slope	0.04	Seepage	0.52
AlD2:					
Allegheny-----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Seepage	0.52
BaB:					
Beasley-------------	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to soft bedrock	0.42
		Depth to bedrock	0.78	Slope	0.32
BcC2:					
Beasley-------------	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to bedrock	0.78	Depth to soft bedrock	0.42
		Slope	0.04		

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BeD2:					
Beasley	70	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Depth to soft bedrock	0.42
		Depth to bedrock	0.78		
Shrouts	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00		
BrB:					
Berea	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
				Slope	0.32
				Seepage	0.27
BrC:					
Berea	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slope	0.04		
				Slope	1.00
				Seepage	0.27
BsD:					
Berks	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00		
				Slope	1.00
		Slope	0.84	Seepage	1.00
BsF:					
Berks	70	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00		
		Seepage, bottom layer	1.00	Slope	1.00
				Seepage	1.00
BvA:					
Blago	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.52

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BwA:					
Boonewood	75	Very limited		Very limited	
		Flooding	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Seepage	0.52
BxF:					
Brownsville	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to bedrock	0.91	Depth to hard bedrock	0.77
		Large stones content	0.17	Large stones content	0.19
Berks	40	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
CaE:					
Caneyville	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00		
Bledsoe	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.52
Rock outcrop	15	Not rated		Not rated	
ChA:					
Chagrin	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.71
		Slow water movement	0.48	Seepage	0.52
CoB:					
Cotaco	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Seepage	0.52
				Slope	0.32
CoC:					
Cotaco	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Slope	1.00
		Slope	0.04	Seepage	0.52

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
CpC:					
Covedale------------	60	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.04		
Trappist------------	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.04	Slope	1.00
CpD:					
Covedale------------	50	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		
Trappist------------	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
CrA:					
Crider--------------	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.48	Seepage	0.52
CrB:					
Crider--------------	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.48	Seepage	0.52
				Slope	0.32
CyD2:					
Cynthiana-----------	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.84	Slope	1.00
		Large stones content	0.42	Large stones content	0.98
Faywood-------------	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.84		
CyE2:					
Cynthiana-----------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Large stones content	0.42	Large stones content	0.98

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
CyE2:					
Faywood	40	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Depth to bedrock	1.00		
DAM:					
Dam, large	100	Not rated		Not rated	
EdD2:					
Eden	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.84		
EeE2:					
Eden	60	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00		
Lowell	20	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	0.32
		Depth to bedrock	0.73		
EkB:					
Elk	80	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.92	Seepage	0.52
		Slow water movement	0.72	Slope	0.32
				Depth to saturated zone	0.32
EkC:					
Elk	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.92	Slope	1.00
		Slow water movement	0.72	Seepage	0.52
		Slope	0.04	Depth to saturated zone	0.32
ElD2:					
Elk	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.92	Seepage	0.52
		Slow water movement	0.72	Depth to saturated zone	0.32
FaF2:					
Fairmount	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Large stones content	0.32	Large stones content	0.53

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
FaF2:					
Faywood	40	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Depth to bedrock	1.00		
FyB2:					
Faywood	45	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	0.32
Lowell	35	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.32
		Depth to bedrock	0.73	Depth to hard bedrock	0.32
FyC2:					
Faywood	50	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.04		
Lowell	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to bedrock	0.73	Depth to hard bedrock	0.32
		Slope	0.04		
FyD2:					
Faywood	50	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00		
Lowell	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	0.32
		Depth to bedrock	0.73		
GlB:					
Gilpin	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.48	Seepage	0.52
				Slope	0.32
GpD2:					
Gilpin	80	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.84	Slope	1.00
		Slow water movement	0.48	Seepage	0.52

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
GpE2:					
Gilpin	80	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.48	Seepage	0.52
GrA:					
Grigsby	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to saturated zone	0.03		
HeF:					
Helechawa	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to bedrock	0.01		
Alticrest	30	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Rock outcrop	25	Not rated		Not rated	
Ho:					
Holly	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Seepage	0.52
JoA:					
Johnsburg	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.52
LaA:					
Lawrence	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.52
LbA:					
Lobdell	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Seepage	0.52

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
LoB:					
Lowell	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.32
		Depth to bedrock	0.73	Depth to hard bedrock	0.32
LoC:					
Lowell	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to bedrock	0.73	Depth to hard bedrock	0.32
		Slope	0.04		
LwC:					
Lowell	55	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to bedrock	0.73	Depth to hard bedrock	0.32
		Slope	0.04		
Woolper	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Flooding	0.40	Flooding	0.40
		Slope	0.04	Seepage	0.27
Me:					
Melvin	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Seepage	0.52
MoB:					
Morehead	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Seepage	0.52
		Depth to bedrock	0.09		
Mu:					
Mullins	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Seepage	0.52
Ne:					
Newark	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Seepage	0.52

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
NhB:					
Nicholson	80	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.88
		Depth to saturated zone	1.00	Seepage	0.52
				Slope	0.32
NoA:					
Nolin	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.48	Seepage	0.52
OrA:					
Orrville	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.48	Seepage	0.52
OtB:					
Otwood	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.52
				Slope	0.32
Pm:					
Pits, mine	100	Not rated		Not rated	
Pt:					
Pits, quarry	100	Not rated		Not rated	
Rb:					
Robertsville	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Seepage	0.52
					0.52
RoF2:					
Rohan	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Trappist	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
SaB:					
Sandview	55	Somewhat limited		Somewhat limited	
		Slow water movement	0.48	Seepage	0.52
		Depth to bedrock	0.09	Slope	0.32
Lowell	30	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.32
		Depth to bedrock	0.73	Depth to hard bedrock	0.32
ShB:					
Shelocta	45	Somewhat limited		Somewhat limited	
		Slow water movement	0.48	Seepage	0.52
				Slope	0.32
Skidmore	35	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Large stones content	1.00	Depth to saturated zone	0.99
		Seepage, bottom layer	1.00	Large stones content	0.70
		Depth to bedrock	0.11		
SlD:					
Shelocta	85	Somewhat limited		Very limited	
		Slope	0.84	Slope	1.00
		Slow water movement	0.48	Seepage	0.52
SpF2:					
Shelocta	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.48	Seepage	0.52
Gilpin	40	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.48	Seepage	0.52
SrD2:					
Shrouts	55	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.84		
Beasley	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.84	Depth to soft bedrock	0.42
		Depth to bedrock	0.78		
Rock outcrop	15	Not rated		Not rated	

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
StE2:					
Shrouts	70	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00		
Beasley	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Depth to soft bedrock	0.42
		Depth to bedrock	0.78		
TlB:					
Tilsit	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.52
				Slope	0.32
TlC:					
Tilsit	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	1.00
				Seepage	0.52
		Slope	0.04		
TrB2:					
Trappist	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	0.32
TrC2:					
Trappist	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.04		
				Slope	1.00
TsF2:					
Trappist	45	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00		
				Slope	1.00
Muse	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to soft bedrock	0.99
		Slope	1.00		
		Depth to bedrock	0.99	Depth to hard bedrock	0.84

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
UnB:					
Uniontown	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.72	Seepage	0.52
UrC:					
Urban land	60	Not rated		Not rated	
Alfic Udarents	40	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to hard bedrock	0.93
		Depth to bedrock	0.98	Slope	0.92
UrD:					
Urban land	60	Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	0.93
		Depth to bedrock	0.98		
UsC:					
Urban land	60	Not rated		Not rated	
Alfic Udarents	40	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to soft bedrock	0.93
		Depth to bedrock	0.98	Slope	0.92
UsD:					
Urban land	60	Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Depth to soft bedrock	0.93
		Depth to bedrock	0.98		
Ux:					
Urban land	60	Not rated		Not rated	
Udorthents	40	Not rated		Not rated	
VeC:					
Vertrees	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.04		
VeD:					
Vertrees	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
W:					
Water	100	Not rated		Not rated	
WoB:					
Woolper	75	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.08

Table 13.—Sanitary Facilities, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AgB:							
Allegheny	60	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.01
Cotaco	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
AgC:							
Allegheny	70	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	Slope	0.04	Slope	0.04
		Slope	0.04			Depth to saturated zone	0.01
Cotaco	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slope	0.04	Slope	0.04	Slope	0.04
AlD2:							
Allegheny	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.01
BaB:							
Beasley	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.42	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.42
BcC2:							
Beasley	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.42	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Depth to bedrock	0.42
						Slope	0.04
BeD2:							
Beasley	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.42	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.42
Shrouts	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00			Depth to bedrock	1.00
						Slope	1.00

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
BrB:							
Berea	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
BrC:							
Berea	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Slope	0.04	Slope	0.04
BsD:							
Berks	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.84
		Slope	0.84	Slope	0.84	Gravel content	0.70
						Seepage	0.21
BsF:							
Berks	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.70
						Seepage	0.21
BvA:							
Blago	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	0.50
BwA:							
Boonewood	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00		
BxF:							
Brownsville	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	0.77
		Seepage, bottom layer	1.00	Depth to bedrock	0.77	Seepage	0.50
		Large stones content	0.26			Large stones content	0.26
Berks	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.70
						Seepage	0.21
CaE:							
Caneyville	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00			Depth to bedrock	1.00
						Slope	1.00

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CaE:							
Bledsoe	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Rock outcrop	15	Not rated		Not rated		Not rated	
ChA:							
Chagrin	85	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
CoB:							
Cotaco	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
CoC:							
Cotaco	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slope	0.04	Slope	0.04	Slope	0.04
CpC:							
Covedale	60	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Hard to compact	1.00
		Too clayey	0.50			Too clayey	0.50
		Slope	0.04			Slope	0.04
Trappist	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Depth to bedrock	1.00
		Slope	0.04			Slope	0.04
						Gravel content	0.02
CpD:							
Covedale	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
		Depth to bedrock	1.00			Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Trappist	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
						Gravel content	0.02
CrA:							
Crider	85	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
CrB:							
Crider	85	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
CyD2:							
Cynthiana	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00	Slope	0.84	Too clayey	1.00
		Slope	0.84			Hard to compact	1.00
		Large stones content	0.42			Slope	0.84
						Large stones content	0.42
Faywood	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.84	Hard to compact	1.00
		Slope	0.84			Depth to bedrock	1.00
						Slope	0.84
CyE2:							
Cynthiana	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
		Large stones content	0.42			Hard to compact	1.00
						Large stones content	0.42
Faywood	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	1.00
DAM:							
Dam, large	100	Not rated		Not rated		Not rated	
EdD2:							
Eden	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.84	Hard to compact	1.00
		Slope	0.84			Depth to bedrock	1.00
						Slope	0.84
EeE2:							
Eden	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	1.00
Lowell	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.32	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.32
EkB:							
Elk	80	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 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
EkC:							
Elk	80	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	Slope	0.04	Slope	0.04
		Slope	0.04				
ElD2:							
Elk	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Too clayey	0.50
		Too clayey	0.50				
FaF2:							
Fairmount	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
		Large stones content	0.32			Hard to compact	1.00
						Large stones content	0.32
Faywood	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	1.00
FyB2:							
Faywood	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	1.00
Lowell	35	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.32	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.32
FyC2:							
Faywood	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Depth to bedrock	1.00
						Slope	0.04
Lowell	35	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.32	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Depth to bedrock	0.32
						Slope	0.04
FyD2:							
Faywood	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00			Depth to bedrock	1.00
						Slope	1.00

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
FyD2:							
Lowell	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.32	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.32
GlB:							
Gilpin	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
GpD2:							
Gilpin	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.84	Slope	0.84	Slope	0.84
GpE2:							
Gilpin	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
GrA:							
Grigsby	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.63
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00	Seepage	1.00		
HeF:							
Helechawa	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Seepage	0.63
		Seepage, bottom layer	1.00				
Alticrest	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.63
Rock outcrop	25	Not rated		Not rated		Not rated	
Ho:							
Holly	85	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		
JoA:							
Johnsburg	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
LaA:							
Lawrence	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
LbA:							
Lobdell	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
LoB:							
Lowell	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.32	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.32
LoC:							
Lowell	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.32	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Depth to bedrock	0.32
						Slope	0.04
LwC:							
Lowell	55	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.32	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Depth to bedrock	0.32
						Slope	0.04
Woolper	25	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
		Flooding	0.40	Slope	0.04	Slope	0.04
		Slope	0.04				
Me:							
Melvin	85	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		
MoB:							
Morehead	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.93
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Depth to bedrock	1.00				
Mu:							
Mullins	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Too clayey	0.50			Too clayey	0.50
Ne:							
Newark	85	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		

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
NhB:							
Nicholson	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.88	Hard to compact	1.00
		Too clayey	1.00			Too clayey	1.00
						Depth to saturated zone	0.93
NoA:							
Nolin	85	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
OrA:							
Orrville	85	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		
OtB:							
Otwood	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Pm:							
Pits, mine	100	Not rated		Not rated		Not rated	
Pt:							
Pits, quarry	100	Not rated		Not rated		Not rated	
Rb:							
Robertsville	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
RoF2:							
Rohan	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.49
Trappist	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
						Gravel content	0.02
SaB:							
Sandview	55	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
		Depth to bedrock	1.00			Hard to compact	1.00
Lowell	30	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.32	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.32
ShB:							
Shelocta	45	Somewhat limited		Not limited		Somewhat limited	
		Large stones content	0.01			Large stones content	0.01

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
ShB:							
Skidmore	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Large stones	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Depth to bedrock	1.00				
		Large stones	1.00				
SlD:							
Shelocta	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.84	Slope	0.84	Slope	0.84
		Large stones content	0.01			Large stones content	0.01
SpF2:							
Shelocta	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.01			Large stones content	0.01
Gilpin	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
SrD2:							
Shrouts	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.84	Hard to compact	1.00
		Slope	0.84			Depth to bedrock	1.00
						Slope	0.84
Beasley	25	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.84	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.42	Hard to compact	1.00
		Slope	0.84			Slope	0.84
						Depth to bedrock	0.42
Rock outcrop	15	Not rated		Not rated		Not rated	
StE2:							
Shrouts	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	1.00
Beasley	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.42	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.42
TlB:							
Tilsit	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00				

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TlC:							
Tilsit	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Slope	0.04	Slope	0.04
		Slope	0.04				
TrB2:							
Trappist	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Depth to bedrock	1.00
						Gravel content	0.02
TrC2:							
Trappist	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Depth to bedrock	1.00
		Slope	0.04			Slope	0.04
						Gravel content	0.02
TsF2:							
Trappist	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Depth to bedrock	1.00
						Gravel content	0.02
Muse	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.99	Hard to compact	1.00
		Too clayey	1.00			Depth to bedrock	0.99
						Depth to saturated zone	0.04
UnB:							
Uniontown	80	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.91
		Too clayey	0.50			Too clayey	0.50
UrC:							
Urban land	60	Not rated		Not limited		Not rated	
Alfic Udarents	40	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.94	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.94
UrD:							
Urban land	60	Not rated		Very limited		Not rated	
				Slope	1.00		
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.94	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.94

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
UsC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.94	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.94
UsD:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.94	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.94
Ux:							
Urban land	60	Not rated		Not rated		Not rated	
Udorthents	40	Not rated		Not rated		Not rated	
VeC:							
Vertrees	85	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
VeD:							
Vertrees	85	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
W:							
Water	100	Not rated		Not rated		Not rated	
WoB:							
Woolper	75	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00

Table 14.—Agricultural Waste Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AgB:					
Allegheny	60	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18
Cotaco	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.05	Too acid	0.21
AgC:					
Allegheny	70	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18
		Slope	0.04	Slope	0.04
Cotaco	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.05	Too acid	0.21
		Slope	0.04	Slope	0.04
AlD2:					
Allegheny	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.18	Depth to saturated zone	0.18
BaB:					
Beasley	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
				Low adsorption	1.00
BcC2:					
Beasley	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Slope	0.04	Low adsorption	1.00
				Slope	0.04
BeD2:					
Beasley	70	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Slope	1.00	Low adsorption	1.00
				Slope	1.00

Table 14.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
BeD2:					
Shrouts	20	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Slope	1.00	Slow water movement	1.00
		Droughty	0.68	Slope	1.00
		Depth to bedrock	0.46	Droughty	0.68
		Runoff	0.40	Depth to bedrock	0.46
BrB:					
Berea	80	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	0.35	Low adsorption	1.00
		Too acid	0.22	Too acid	0.77
		Droughty	0.06	Depth to bedrock	0.35
BrC:					
Berea	80	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	0.35	Low adsorption	1.00
		Too acid	0.22	Too acid	0.77
		Droughty	0.06	Depth to bedrock	0.35
BsD:					
Berks	70	Very limited		Very limited	
		Droughty	1.00	Droughty	1.00
		Slope	0.84	Low adsorption	1.00
		Depth to bedrock	0.71	Too acid	0.99
		Too acid	0.50	Slope	0.84
				Depth to bedrock	0.71
BsF:					
Berks	70	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Low adsorption	1.00
		Depth to bedrock	0.71	Slope	1.00
		Too acid	0.50	Too acid	0.99
				Depth to bedrock	0.71
BvA:					
Blago	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Runoff	0.40	Low adsorption	1.00

Table 14.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
BwA:					
Boonewood-----------	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Droughty	0.83	Low adsorption	1.00
		Depth to bedrock	0.29	Droughty	0.83
				Depth to bedrock	0.29
BxF:					
Brownsville---------	45	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Large stones content	1.00	Slope	1.00
				Too acid	0.77
		Droughty	0.40	Droughty	0.40
		Too acid	0.22		
Berks---------------	40	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Low adsorption	1.00
		Large stones content	1.00	Slope	1.00
				Too acid	0.99
		Depth to bedrock	0.71	Depth to bedrock	0.71
		Too acid	0.50		
CaE:					
Caneyville----------	40	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Slope	1.00	Low adsorption	1.00
		Depth to bedrock	0.46	Slope	1.00
		Droughty	0.32	Depth to bedrock	0.46
				Droughty	0.32
Bledsoe-------------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones content	0.76	Slow water movement	0.31
		Slow water movement	0.41		
Rock outcrop--------	15	Not rated		Not rated	
ChA:					
Chagrin-------------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
CoB:					
Cotaco--------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.05	Too acid	0.21
CoC:					
Cotaco--------------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.05	Too acid	0.21
		Slope	0.04	Slope	0.04

Table 14.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
CpC:					
Covedale	60	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Too acid	0.22	Slow water movement	1.00
		Slope	0.04	Too acid	0.77
				Slope	0.04
Trappist	30	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Droughty	0.94	Slow water movement	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.46	Droughty	0.94
		Slope	0.04	Depth to bedrock	0.46
CpD:					
Covedale	50	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Slope	1.00	Slow water movement	1.00
		Too acid	0.22	Slope	1.00
				Too acid	0.77
Trappist	40	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Slope	1.00	Slow water movement	1.00
		Droughty	0.94	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Depth to bedrock	0.46	Droughty	0.94
CrA:					
Crider	85	Somewhat limited		Somewhat limited	
		Too acid	0.22	Too acid	0.77
CrB:					
Crider	85	Somewhat limited		Somewhat limited	
		Too acid	0.22	Too acid	0.77
CyD2:					
Cynthiana	50	Very limited		Very limited	
		Slow water movement	1.00	Droughty	1.00
		Droughty	1.00	Slow water movement	1.00
		Depth to bedrock	1.00	Low adsorption	1.00
		Slope	0.84	Depth to bedrock	1.00
		Runoff	0.40	Slope	0.84
Faywood	30	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Slope	0.84	Low adsorption	1.00
		Depth to bedrock	0.35	Slope	0.84
		Droughty	0.27	Depth to bedrock	0.35
				Droughty	0.27

Table 14.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
CyE2:					
Cynthiana	45	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Droughty	1.00	Low adsorption	1.00
		Depth to bedrock	1.00	Slope	1.00
		Runoff	0.40	Depth to bedrock	1.00
Faywood	40	Very limited		Very limited	
		Slope	1.00	Slow water movement	1.00
		Slow water movement	1.00	Low adsorption	1.00
		Depth to bedrock	0.35	Slope	1.00
		Droughty	0.27	Depth to bedrock	0.35
				Droughty	0.27
DAM:					
Dam, large	100	Not rated		Not rated	
EdD2:					
Eden	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Droughty	0.89	Low adsorption	1.00
		Slope	0.84	Droughty	0.89
		Depth to bedrock	0.29	Slope	0.84
				Depth to bedrock	0.29
EeE2:					
Eden	60	Very limited		Very limited	
		Slope	1.00	Slow water movement	1.00
		Slow water movement	1.00	Low adsorption	1.00
		Droughty	0.89	Slope	1.00
		Depth to bedrock	0.29	Droughty	0.89
				Depth to bedrock	0.29
Lowell	20	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Slow water movement	1.00	Slope	1.00
				Slow water movement	1.00
EkB:					
Elk	80	Not limited		Not limited	
EkC:					
Elk	80	Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04
ElD2:					
Elk	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00

Table 14.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
FaF2:					
Fairmount	45	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Droughty	1.00	Low adsorption	1.00
		Depth to bedrock	1.00	Slope	1.00
		Cobble content	0.87	Depth to bedrock	1.00
Faywood	40	Very limited		Very limited	
		Slope	1.00	Slow water movement	1.00
		Slow water movement	1.00	Low adsorption	1.00
		Depth to bedrock	0.35	Slope	1.00
		Droughty	0.27	Depth to bedrock	0.35
				Droughty	0.27
FyB2:					
Faywood	45	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to bedrock	0.35	Low adsorption	1.00
		Droughty	0.27	Depth to bedrock	0.35
				Droughty	0.27
Lowell	35	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
				Slow water movement	1.00
FyC2:					
Faywood	50	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to bedrock	0.35	Low adsorption	1.00
		Droughty	0.27	Depth to bedrock	0.35
		Slope	0.04	Droughty	0.27
				Slope	0.04
Lowell	35	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Slope	0.04	Slow water movement	1.00
				Slope	0.04
FyD2:					
Faywood	50	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Slope	1.00	Low adsorption	1.00
		Depth to bedrock	0.35	Slope	1.00
		Droughty	0.27	Depth to bedrock	0.35
				Droughty	0.27
Lowell	35	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Slope	1.00	Slow water movement	1.00
				Slope	1.00

Table 14.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
GlB:					
Gilpin	85	Somewhat limited		Very limited	
		Droughty	0.48	Low adsorption	1.00
		Too acid	0.22	Too acid	0.77
		Depth to bedrock	0.06	Droughty	0.48
				Depth to bedrock	0.06
GpD2:					
Gilpin	80	Somewhat limited		Very limited	
		Slope	0.84	Low adsorption	1.00
		Droughty	0.49	Slope	0.84
		Too acid	0.22	Too acid	0.77
		Depth to bedrock	0.06	Droughty	0.49
				Depth to bedrock	0.06
GpE2:					
Gilpin	80	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.49	Slope	1.00
		Too acid	0.22	Too acid	0.77
		Depth to bedrock	0.06	Droughty	0.49
				Depth to bedrock	0.06
GrA:					
Grigsby	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
HeF:					
Helechawa	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.50	Slope	1.00
				Too acid	0.99
Alticrest	30	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.84	Slope	1.00
		Depth to bedrock	0.65	Too acid	0.99
		Too acid	0.50	Droughty	0.84
				Depth to bedrock	0.65
Rock outcrop	25	Not rated		Not rated	
Ho:					
Holly	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Leaching	0.70	Too acid	0.77
		Too acid	0.22		
JoA:					
Johnsburg	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Runoff	0.40		

Table 14.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
LaA:					
Lawrence	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.05	Too acid	0.21
LbA:					
Lobdell	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
LoB:					
Lowell	85	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
				Slow water movement	1.00
LoC:					
Lowell	85	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Slope	0.04	Slow water movement	1.00
				Slope	0.04
LwC:					
Lowell	55	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Slope	0.04	Slow water movement	1.00
				Slope	0.04
Woolper	25	Somewhat limited		Somewhat limited	
		Slope	0.04	Flooding	0.40
				Slope	0.04
Me:					
Melvin	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Runoff	0.40		
MoB:					
Morehead	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.60	Flooding	1.00
				Low adsorption	1.00
Mu:					
Mullins	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Low adsorption	1.00
		Runoff	0.40	Ponding	1.00

Table 14.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Ne:					
Newark	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
NhB:					
Nicholson	80	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
NoA:					
Nolin	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
OrA:					
Orrville	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
OtB:					
Otwood	80	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Dense layer	1.00		
Pm:					
Pits, mine	100	Not rated		Not rated	
Pt:					
Pits, quarry	100	Not rated		Not rated	
Rb:					
Robertsville	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Runoff	0.40		
RoF2:					
Rohan	55	Very limited		Very limited	
		Slow water movement	1.00	Droughty	1.00
		Droughty	1.00	Slow water movement	1.00
		Depth to bedrock	1.00	Low adsorption	1.00
		Slope	1.00	Depth to bedrock	1.00
		Too acid	0.78	Slope	1.00

Table 14.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
RoF2:					
Trappist------------	35	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Slope	1.00	Slow water movement	1.00
		Droughty	0.94	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Depth to bedrock	0.46	Droughty	0.94
SaB:					
Sandview------------	55	Not limited		Very limited	
				Low adsorption	1.00
Lowell--------------	30	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
				Slow water movement	1.00
ShB:					
Shelocta------------	45	Somewhat limited		Somewhat limited	
		Too acid	0.05	Too acid	0.21
Skidmore------------	35	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Droughty	0.24	Low adsorption	1.00
		Depth to saturated zone	0.09	Droughty	0.24
			0.09	Depth to saturated zone	0.09
SlD:					
Shelocta------------	85	Somewhat limited		Somewhat limited	
		Slope	0.84	Slope	0.84
		Too acid	0.05	Too acid	0.21
SpF2:					
Shelocta------------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.05	Too acid	0.21
Gilpin--------------	40	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.49	Slope	1.00
		Too acid	0.22	Too acid	0.77
		Depth to bedrock	0.06	Droughty	0.49
				Depth to bedrock	0.06
SrD2:					
Shrouts-------------	55	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Slope	0.84	Slow water movement	1.00
		Droughty	0.68	Slope	0.84
		Depth to bedrock	0.46	Droughty	0.68
		Runoff	0.40	Depth to bedrock	0.46
Beasley-------------	25	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Slope	0.84	Low adsorption	1.00
				Slope	0.84

Table 14.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
SrD2:					
Rock outcrop--------	15	Not rated		Not rated	
StE2:					
Shrouts-------------	70	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Slow water movement	1.00	Slope	1.00
		Droughty	0.68	Slow water movement	1.00
		Depth to bedrock	0.46	Droughty	0.68
		Runoff	0.40	Depth to bedrock	0.46
Beasley-------------	20	Very limited		Very limited	
		Slope	1.00	Slow water movement	1.00
		Slow water movement	1.00	Low adsorption	1.00
				Slope	1.00
TlB:					
Tilsit--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Low adsorption	1.00
TlC:					
Tilsit--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Low adsorption	1.00
				Slope	0.04
TrB2:					
Trappist------------	85	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Droughty	0.94	Slow water movement	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.46	Droughty	0.94
				Depth to bedrock	0.46
TrC2:					
Trappist------------	85	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Droughty	0.94	Slow water movement	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.46	Droughty	0.94
		Slope	0.04	Depth to bedrock	0.46

Table 14.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
TsF2:					
Trappist	45	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Slow water movement	1.00	Slope	1.00
		Droughty	0.94	Slow water movement	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.46	Droughty	0.94
Muse	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Slow water movement	1.00	Slope	1.00
		Too acid	0.50	Slow water movement	1.00
		Depth to saturated zone	0.29	Too acid	0.99
		Droughty	0.03	Depth to saturated zone	0.29
UnB:					
Uniontown	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
UrC:					
Urban land	60	Not rated		Not rated	
Alfic Udarents	40	Not rated		Very limited	
				Low adsorption	1.00
				Slow water movement	1.00
UrD:					
Urban land	60	Not rated		Not rated	
Alfic Udarents	40	Not rated		Very limited	
				Low adsorption	1.00
				Slow water movement	1.00
				Slope	1.00
UsC:					
Urban land	60	Not rated		Not rated	
Alfic Udarents	40	Not rated		Very limited	
				Low adsorption	1.00
				Slow water movement	0.31
				Too acid	0.21
				Droughty	0.01
UsD:					
Urban land	60	Not rated		Not rated	
Alfic Udarents	40	Not rated		Very limited	
				Low adsorption	1.00
				Slope	1.00
				Slow water movement	0.31
				Too acid	0.21
				Droughty	0.01

Table 14.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
Ux:					
Urban land	60	Not rated		Not rated	
Udorthents	40	Not rated		Not rated	
VeC:					
Vertrees	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.41	Slow water movement	0.31
		Too acid	0.05	Too acid	0.21
		Slope	0.04	Slope	0.04
VeD:					
Vertrees	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.41	Slow water movement	0.31
		Too acid	0.05	Too acid	0.21
W:					
Water	100	Not rated		Not rated	
WoB:					
Woolper	75	Somewhat limited		Somewhat limited	
		Slow water movement	0.41	Slow water movement	0.31

Table 14.—Agricultural Waste Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
AgB:					
Allegheny	60	Somewhat limited		Very limited	
		Depth to saturated zone	0.18	Seepage	1.00
		Too steep for surface application	0.08	Depth to saturated zone	0.18
Cotaco	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.21	Depth to saturated zone	1.00
		Too steep for surface application	0.08	Too acid	0.21
AgC:					
Allegheny	70	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.22	Too steep for surface application	0.50
		Depth to saturated zone	0.18	Depth to saturated zone	0.18
Cotaco	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to saturated zone	1.00
		Too steep for sprinkler application	0.22	Too steep for surface application	0.50
		Too acid	0.21	Too acid	0.21
AlD2:					
Allegheny	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Depth to saturated zone	0.18	Depth to saturated zone	0.18

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
BaB:					
Beasley	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Depth to bedrock	0.42
		Too steep for surface application	0.08		
BcC2:					
Beasley	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Too steep for surface application	0.50
		Too steep for surface application	1.00		
				Depth to bedrock	0.42
		Too steep for sprinkler application	0.22		
BeD2:					
Beasley	70	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Too steep for surface application	1.00
		Too steep for surface application	1.00		
				Depth to bedrock	0.42
		Too steep for sprinkler application	1.00		
Shrouts	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Too steep for surface application	1.00
		Slow water movement	1.00		
				Depth to bedrock	1.00
		Too steep for sprinkler application	1.00		
		Droughty	0.68		
		Depth to bedrock	0.46		
BrB:					
Berea	80	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
				Depth to bedrock	1.00
		Too acid	0.77	Too acid	0.77
		Depth to bedrock	0.35		
		Too steep for surface application	0.08		

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
BrC:					
Berea	80	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too acid	0.77	Too acid	0.77
		Depth to bedrock	0.35	Too steep for surface application	0.50
BsD:					
Berks	70	Very limited		Very limited	
		Droughty	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too acid	0.99	Too steep for surface application	1.00
		Too steep for sprinkler application	0.90	Too acid	0.99
		Depth to bedrock	0.71		
BsF:					
Berks	70	Very limited		Very limited	
		Droughty	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.99	Too acid	0.99
		Depth to bedrock	0.71		
BvA:					
Blago	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
BwA:					
Boonewood	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Seepage	1.00
		Droughty	0.83	Depth to saturated zone	1.00
		Depth to bedrock	0.29	Depth to bedrock	1.00

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
BxF:					
Brownsville----------	45	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.77	Cobble content	0.96
		Droughty	0.40	Too acid	0.77
				Depth to bedrock	0.77
Berks----------------	40	Very limited		Very limited	
		Droughty	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.99	Too acid	0.99
		Depth to bedrock	0.71		
CaE:					
Caneyville-----------	40	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Depth to bedrock	0.46		
		Droughty	0.32		
Bledsoe--------------	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Slow water movement	0.31		
Rock outcrop---------	15	Not rated		Not rated	
ChA:					
Chagrin--------------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
CoB:					
Cotaco---------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.21	Depth to saturated zone	1.00
		Too steep for surface application	0.08	Too acid	0.21

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
CoC:					
Cotaco	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to saturated zone	1.00
		Too steep for sprinkler application	0.22	Too steep for surface application	0.50
		Too acid	0.21	Too acid	0.21
CpC:					
Covedale	60	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too acid	0.77
		Too acid	0.77	Too steep for surface application	0.50
		Too steep for sprinkler application	0.22		
Trappist	30	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too acid	1.00
		Droughty	0.94	Too steep for surface application	0.50
		Depth to bedrock	0.46		
CpD:					
Covedale	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	0.77
		Too acid	0.77		
Trappist	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.94		

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
CrA:					
Crider	85	Somewhat limited		Very limited	
		Too acid	0.77	Seepage	1.00
				Too acid	0.77
CrB:					
Crider	85	Somewhat limited		Very limited	
		Too acid	0.77	Seepage	1.00
		Too steep for surface application	0.08	Too acid	0.77
CyD2:					
Cynthiana	50	Very limited		Very limited	
		Droughty	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Too steep for surface application	1.00	Cobble content	0.28
		Too steep for sprinkler application	0.90	Stone content	0.12
Faywood	30	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	0.90	Too steep for surface application	1.00
		Depth to bedrock	0.35		
		Droughty	0.27		
CyE2:					
Cynthiana	45	Very limited		Very limited	
		Droughty	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Cobble content	0.28
		Depth to bedrock	1.00	Stone content	0.12

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
CyE2:					
Faywood	40	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Depth to bedrock	0.35		
		Droughty	0.27		
DAM:					
Dam, large	100	Not rated		Not rated	
EdD2:					
Eden	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	0.90	Seepage	0.38
		Droughty	0.89	Stone content	0.06
		Depth to bedrock	0.29		
EeE2:					
Eden	60	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Seepage	0.38
		Droughty	0.89	Stone content	0.06
		Depth to bedrock	0.29		
Lowell	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Depth to bedrock	0.32
EkB:					
Elk	80	Somewhat limited		Very limited	
		Too steep for surface application	0.08	Seepage	1.00

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
EkC:					
Elk	80	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.22	Too steep for surface application	0.50
ElD2:					
Elk	80	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
FaF2:					
Fairmount	45	Very limited		Very limited	
		Droughty	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too steep for surface application	1.00	Seepage	0.38
		Too steep for sprinkler application	1.00	Cobble content	0.26
		Depth to bedrock	1.00	Stone content	0.01
Faywood	40	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Depth to bedrock	0.35		
		Droughty	0.27		
FyB2:					
Faywood	45	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to bedrock	0.35	Depth to bedrock	1.00
		Droughty	0.27		
		Too steep for surface application	0.08		
Lowell	35	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	0.08	Depth to bedrock	0.32

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
FyC2:					
Faywood	50	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Depth to bedrock	0.35	Too steep for surface application	0.50
		Droughty	0.27		
		Too steep for sprinkler application	0.22		
Lowell	35	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.50
		Too steep for sprinkler application	0.22	Depth to bedrock	0.32
FyD2:					
Faywood	50	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Depth to bedrock	0.35		
		Droughty	0.27		
Lowell	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.32
GlB:					
Gilpin	85	Somewhat limited		Very limited	
		Too acid	0.77	Seepage	1.00
		Droughty	0.48	Depth to bedrock	1.00
		Too steep for surface application	0.08	Too acid	0.77
		Depth to bedrock	0.06		

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
GpD2:					
Gilpin	80	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.90	Depth to bedrock	1.00
		Too acid	0.77	Too steep for surface application	1.00
		Droughty	0.49	Too acid	0.77
		Depth to bedrock	0.06		
GpE2:					
Gilpin	80	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.77	Depth to bedrock	1.00
		Droughty	0.49	Too acid	0.77
		Depth to bedrock	0.06		
GrA:					
Grigsby	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
HeF:					
Helechawa	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Too acid	0.99
Alticrest	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.99	Depth to bedrock	1.00
		Droughty	0.84	Too acid	0.99
		Depth to bedrock	0.65		
Rock outcrop	25	Not rated		Not rated	

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
Ho:					
Holly	85	Very limited		Very limited	
		Slow water movement	1.00	Flooding	1.00
				Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Too acid	0.77
		Too acid	0.77		
JoA:					
Johnsburg	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
LaA:					
Lawrence	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
				Too acid	0.21
		Too acid	0.21		
LbA:					
Lobdell	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
				Seepage	1.00
		Flooding	1.00	Depth to saturated zone	1.00
LoB:					
Lowell	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Depth to bedrock	0.32
		Too steep for surface application	0.08		
LoC:					
Lowell	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Too steep for surface application	0.50
		Too steep for surface application	1.00		
				Depth to bedrock	0.32
		Too steep for sprinkler application	0.22		
LwC:					
Lowell	55	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Too steep for surface application	0.50
		Too steep for surface application	1.00		
				Depth to bedrock	0.32
		Too steep for sprinkler application	0.22		

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
LwC:					
Woolper	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.22	Too steep for surface application	0.50
				Flooding	0.40
Me:					
Melvin	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Seepage	1.00
				Depth to saturated zone	1.00
MoB:					
Morehead	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.60	Seepage	1.00
				Depth to saturated zone	1.00
Mu:					
Mullins	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
Ne:					
Newark	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Seepage	1.00
				Depth to saturated zone	1.00
NhB:					
Nicholson	80	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too steep for surface application	0.08		
NoA:					
Nolin	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
OrA:					
Orrville	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Seepage	1.00
				Depth to saturated zone	1.00

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
OtB:					
Otwood	80	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too steep for surface application	0.08		
Pm:					
Pits, mine	100	Not rated		Not rated	
Pt:					
Pits, quarry	100	Not rated		Not rated	
Rb:					
Robertsville	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
RoF2:					
Rohan	55	Very limited		Very limited	
		Droughty	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too acid	1.00
		Too steep for sprinkler application	1.00		
Trappist	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.94		
SaB:					
Sandview	55	Somewhat limited		Very limited	
		Too steep for surface application	0.08	Seepage	1.00

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
SaB:					
Lowell	30	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Depth to bedrock	0.32
		Too steep for surface application	0.08		
ShB:					
Shelocta	45	Somewhat limited		Very limited	
		Too acid	0.21	Seepage	1.00
		Too steep for surface application	0.08	Too acid	0.21
				Stone content	0.01
				Cobble content	0.01
Skidmore	35	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Droughty	0.24	Seepage	1.00
		Depth to saturated zone	0.09	Cobble content	1.00
				Depth to saturated zone	0.09
SlD:					
Shelocta	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	0.90	Too acid	0.21
				Stone content	0.01
		Too acid	0.21	Cobble content	0.01
SpF2:					
Shelocta	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	0.21
				Stone content	0.01
		Too acid	0.21	Cobble content	0.01
Gilpin	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
				Too acid	0.77
		Too acid	0.77		
		Droughty	0.49		
		Depth to bedrock	0.06		

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
SrD2:					
Shrouts	55	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	0.90	Too steep for surface application	1.00
		Droughty	0.68		
		Depth to bedrock	0.46		
Beasley	25	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	0.90	Depth to bedrock	0.42
Rock outcrop	15	Not rated		Not rated	
StE2:					
Shrouts	70	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Droughty	0.68		
		Depth to bedrock	0.46		
Beasley	20	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.42
TlB:					
Tilsit	90	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too steep for surface application	0.08		

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
TlC:					
Tilsit	90	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.50
		Too steep for sprinkler application	0.22		
TrB2:					
Trappist	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Droughty	0.94	Too acid	1.00
		Depth to bedrock	0.46		
		Too steep for surface application	0.08		
TrC2:					
Trappist	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too acid	1.00
		Droughty	0.94	Too steep for surface application	0.50
		Depth to bedrock	0.46		
TsF2:					
Trappist	45	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.94		
Muse	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too acid	0.99
		Too acid	0.99	Depth to bedrock	0.99
		Depth to saturated zone	0.29	Depth to saturated zone	0.29

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
UnB:					
Uniontown-----------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
UrC:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to bedrock	0.94
		Too steep for surface application	0.68	Seepage	0.38
UrD:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Depth to bedrock	0.94
		Too steep for sprinkler application	1.00	Seepage	0.38
UsC:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Somewhat limited		Somewhat limited	
		Too steep for surface application	0.68	Depth to bedrock	0.94
		Slow water movement	0.31	Seepage	0.69
		Too acid	0.21	Too acid	0.21
		Droughty	0.01		
UsD:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.94
		Slow water movement	0.31	Seepage	0.69
		Too acid	0.21	Too acid	0.21
		Droughty	0.01		
Ux:					
Urban land----------	60	Not rated		Not rated	
Udorthents----------	40	Not rated		Not rated	

Table 14.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
VeC:					
Vertrees	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Slow water movement	0.31	Too steep for surface application	0.50
		Too steep for sprinkler application	0.22	Too acid	0.21
		Too acid	0.21		
VeD:					
Vertrees	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Slow water movement	0.31	Too acid	0.21
		Too acid	0.21		
W:					
Water	100	Not rated		Not rated	
WoB:					
Woolper	75	Somewhat limited		Very limited	
		Slow water movement	0.31	Seepage	1.00

Table 14.—Agricultural Waste Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
AgB:					
Allegheny	60	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.18
		Slow water movement	1.00	Too steep for surface application	0.08
Cotaco	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.21
				Too steep for surface application	0.08
AgC:					
Allegheny	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	0.50
		Slope	1.00	Depth to saturated zone	0.18
Cotaco	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.50
				Too acid	0.21
AlD2:					
Allegheny	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to saturated zone	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to saturated zone	0.18

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
BaB:					
Beasley	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Slow water movement	0.99
		Depth to bedrock	1.00	Depth to bedrock	0.42
				Too steep for surface application	0.08
BcC2:					
Beasley	85	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00		
		Slope	1.00	Slow water movement	0.99
				Too steep for sprinkler irrigation	0.50
				Depth to bedrock	0.42
BeD2:					
Beasley	70	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.99
				Depth to bedrock	0.42
Shrouts	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
				Depth to bedrock	1.00
				Slow water movement	0.96
BrB:					
Berea	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to bedrock	1.00
				Slow water movement	0.99
		Depth to bedrock	1.00		
		Too acid	0.21	Too acid	0.77
				Too steep for surface application	0.08

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
BrC:					
Berea	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slope	1.00	Slow water movement	0.99
		Too acid	0.21	Too acid	0.77
BsD:					
Berks	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.62	Too steep for sprinkler irrigation	1.00
				Too acid	0.99
BsF:					
Berks	70	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.62	Depth to bedrock	1.00
				Too acid	0.99
BvA:					
Blago	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
BwA:					
Boonewood	75	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00		
BxF:					
Brownsville	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	0.99	Too acid	0.77
		Slow water movement	0.62	Depth to bedrock	0.77

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
BxF:					
Berks	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.62	Depth to bedrock	1.00
				Too acid	0.99
CaE:					
Caneyville	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
				Slow water movement	0.99
Bledsoe	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.21
Rock outcrop	15	Not rated		Not rated	
ChA:					
Chagrin	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00		
		Slow water movement	1.00		
CoB:					
Cotaco	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.21
				Too steep for surface application	0.08

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
CoC:					
Cotaco	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.50
				Too acid	0.21
CpC:					
Covedale	60	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Slow water movement	0.96
		Depth to bedrock	1.00	Too acid	0.77
				Too steep for sprinkler irrigation	0.50
Trappist	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.21	Slow water movement	0.96
				Too steep for sprinkler irrigation	0.50
CpD:					
Covedale	50	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Depth to bedrock	1.00	Slow water movement	0.96
				Too acid	0.77
Trappist	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Too acid	0.21	Too acid	1.00
				Slow water movement	0.96

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
CrA:					
Crider	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.77
CrB:					
Crider	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.77
				Too steep for surface application	0.08
CyD2:					
Cynthiana	50	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Cobble content	0.71	Too steep for sprinkler irrigation	1.00
		Stone content	0.34		
				Slow water movement	0.99
Faywood	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slope	1.00		
				Too steep for sprinkler irrigation	1.00
				Slow water movement	0.99
CyE2:					
Cynthiana	45	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00		
		Cobble content	0.71	Too steep for sprinkler irrigation	1.00
		Stone content	0.34		
				Slow water movement	0.99
Faywood	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
				Depth to bedrock	1.00
				Slow water movement	0.99
DAM:					
Dam, large	100	Not rated		Not rated	

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
EdD2:					
Eden	85	Very limited Slow water movement Depth to bedrock Slope Stone content	 1.00 1.00 1.00 0.23	Very limited Slow water movement Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	 1.00 1.00 1.00 1.00
EeE2:					
Eden	60	Very limited Slope Slow water movement Depth to bedrock Stone content	 1.00 1.00 1.00 0.23	Very limited Slow water movement Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock	 1.00 1.00 1.00 1.00
Lowell	20	Very limited Slope Slow water movement Depth to bedrock	 1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement Depth to bedrock	 1.00 1.00 0.96 0.32
EkB:					
Elk	80	Very limited Depth to saturated zone Slow water movement	 1.00 1.00	Somewhat limited Too steep for surface application	 0.08
EkC:					
Elk	80	Very limited Depth to saturated zone Slow water movement Slope	 1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	 1.00 0.50
ElD2:					
Elk	80	Very limited Slope Depth to saturated zone Slow water movement	 1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	 1.00 1.00

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
FaF2:					
Fairmount	45	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	0.76	Slow water movement	0.99
		Stone content	0.08	Cobble content	0.87
Faywood	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
				Slow water movement	0.99
FyB2:					
Faywood	45	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Slow water movement	0.99
				Too steep for surface application	0.08
Lowell	35	Very limited		Somewhat limited	
		Slow water movement	1.00	Slow water movement	0.96
		Depth to bedrock	1.00	Depth to bedrock	0.32
				Too steep for surface application	0.08
FyC2:					
Faywood	50	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slope	1.00	Slow water movement	0.99
				Too steep for sprinkler irrigation	0.50

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
FyC2:					
Lowell	35	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00		
		Slope	1.00	Slow water movement	0.96
				Too steep for sprinkler irrigation	0.50
				Depth to bedrock	0.32
FyD2:					
Faywood	50	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
				Depth to bedrock	1.00
				Slow water movement	0.99
Lowell	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.96
				Depth to bedrock	0.32
GlB:					
Gilpin	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too acid	0.77
				Too steep for surface application	0.08
GpD2:					
Gilpin	80	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00		
				Too steep for sprinkler irrigation	1.00
				Too acid	0.77

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
GpE2:					
Gilpin	80	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
				Too acid	0.77
GrA:					
Grigsby	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00		
		Slow water movement	0.22		
HeF:					
Helechawa	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.22	Too acid	0.99
Alticrest	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	0.22	Depth to bedrock	1.00
				Too acid	0.99
Rock outcrop	25	Not rated		Not rated	
Ho:					
Holly	85	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Slow water movement	0.99
				Too acid	0.77
JoA:					
Johnsburg	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
LaA:					
Lawrence	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Too acid	0.21
LbA:					
Lobdell	85	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00		
LoB:					
Lowell	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Slow water movement	0.96
		Depth to bedrock	1.00	Depth to bedrock	0.32
				Too steep for surface application	0.08
LoC:					
Lowell	85	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Slow water movement	0.96
		Slope	1.00	Too steep for sprinkler irrigation	0.50
				Depth to bedrock	0.32
LwC:					
Lowell	55	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Slow water movement	0.96
		Slope	1.00	Too steep for sprinkler irrigation	0.50
				Depth to bedrock	0.32
Woolper	25	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.50

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
Me:					
Melvin	85	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00		
MoB:					
Morehead	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	0.60
		Depth to bedrock	1.00		
		Flooding	0.60		
Mu:					
Mullins	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
Ne:					
Newark	85	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00		
NhB:					
Nicholson	80	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Too steep for surface application	0.08
NoA:					
Nolin	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00		
OrA:					
Orrville	85	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00		

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
OtB:					
Otwood	80	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Too steep for surface application	0.08
Pm:					
Pits, mine	100	Not rated		Not rated	
Pt:					
Pits, quarry	100	Not rated		Not rated	
Rb:					
Robertsville	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
RoF2:					
Rohan	55	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00		
		Too acid	0.21	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Slow water movement	0.99
Trappist	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.21		
				Depth to bedrock	1.00
				Too acid	1.00
				Slow water movement	0.96
SaB:					
Sandview	55	Very limited		Somewhat limited	
		Slow water movement	1.00	Too steep for surface application	0.08
		Depth to bedrock	1.00		

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
SaB:					
Lowell	30	Very limited		Somewhat limited	
		Slow water movement	1.00	Slow water movement	0.96
		Depth to bedrock	1.00	Depth to bedrock	0.32
				Too steep for surface application	0.08
ShB:					
Shelocta	45	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.21
		Too acid	0.21	Too steep for surface application	0.08
		Stone content	0.09		
		Cobble content	0.04		
Skidmore	35	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.09
		Slow water movement	1.00		
		Depth to bedrock	1.00		
		Cobble content	1.00		
SlD:					
Shelocta	85	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.21	Too steep for sprinkler irrigation	1.00
		Stone content	0.09		
		Cobble content	0.04		
				Too acid	0.21
SpF2:					
Shelocta	50	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Too acid	0.21	Too steep for sprinkler irrigation	1.00
		Stone content	0.09		
		Cobble content	0.05		
				Too acid	0.21
Gilpin	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00		
		Slow water movement	1.00		
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	1.00
				Too acid	0.77

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
SrD2:					
Shrouts	55	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.96
Beasley	25	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00		
		Slope	1.00	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.99
				Depth to bedrock	0.42
Rock outcrop	15	Not rated		Not rated	
StE2:					
Shrouts	70	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
				Depth to bedrock	1.00
				Slow water movement	0.96
Beasley	20	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.99
				Depth to bedrock	0.42
TlB:					
Tilsit	90	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Too steep for surface application	0.08

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
TlC:					
Tilsit	90	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	0.50
TrB2:					
Trappist	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too acid	1.00
		Too acid	0.21	Slow water movement	0.96
				Too steep for surface application	0.08
TrC2:					
Trappist	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.21	Slow water movement	0.96
				Too steep for sprinkler irrigation	0.50
TsF2:					
Trappist	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Too acid	0.21	Too acid	1.00
				Slow water movement	0.96
Muse	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Depth to saturated zone	1.00	Too acid	0.99
		Depth to bedrock	1.00	Depth to bedrock	0.99
		Too acid	0.21	Slow water movement	0.96

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
UnB:					
Uniontown----------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
UrC:					
Urban land---------	60	Not rated		Not rated	
Alfic Udarents------	40	Very limited		Somewhat limited	
		Slow water movement	1.00	Slow water movement	0.96
		Depth to bedrock	1.00	Depth to bedrock	0.94
		Slope	0.50	Too steep for surface application	0.68
UrD:					
Urban land---------	60	Not rated		Not rated	
Alfic Udarents------	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.96
				Depth to bedrock	0.94
UsC:					
Urban land---------	60	Not rated		Not rated	
Alfic Udarents------	40	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to bedrock	0.94
		Depth to bedrock	1.00	Too steep for surface application	0.68
		Slope	0.50		
				Too acid	0.21
				Slow water movement	0.21
UsD:					
Urban land---------	60	Not rated		Not rated	
Alfic Udarents------	40	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.94
				Too acid	0.21
				Slow water movement	0.21

Table 14.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Ux:					
Urban land	60	Not rated		Not rated	
Udorthents	40	Not rated		Not rated	
VeC:					
Vertrees	85	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.50
				Too acid	0.21
				Slow water movement	0.21
VeD:					
Vertrees	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.21
				Slow water movement	0.21
W:					
Water	100	Not rated		Not rated	
WoB:					
Woolper	75	Very limited		Somewhat limited	
		Slow water movement	1.00	Slow water movement	0.21

Table 15.—Construction Materials, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
AgB:					
Allegheny	60	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Cotaco	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
AgC:					
Allegheny	70	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Cotaco	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
AlD2:					
Allegheny	85	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
BaB:					
Beasley	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BcC2:					
Beasley	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BeD2:					
Beasley	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Shrouts	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BrB:					
Berea	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
BrC:					
Berea	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
BsD:					
Berks	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BsF:					
Berks	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BvA:					
Blago	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BwA:					
Boonewood	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BxF:					
Brownsville	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Berks	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CaE:					
Caneyville	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bledsoe	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	15	Not rated		Not rated	
ChA:					
Chagrin	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CoB:					
Cotaco	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CoC:					
Cotaco	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CpC:					
Covedale	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
CpC:					
Trappist------------	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
CpD:					
Covedale------------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Trappist------------	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
CrA:					
Crider--------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CrB:					
Crider--------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CyD2:					
Cynthiana-----------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Faywood-------------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CyE2:					
Cynthiana-----------	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Faywood-------------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
DAM:					
Dam, large----------	100	Not rated		Not rated	
EdD2:					
Eden----------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
EeE2:					
Eden----------------	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lowell--------------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
EkB:					
Elk	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
EkC:					
Elk	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
ElD2:					
Elk	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
FaF2:					
Fairmount	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Faywood	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
FyB2:					
Faywood	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lowell	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
FyC2:					
Faywood	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lowell	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
FyD2:					
Faywood	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lowell	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
GlB:					
Gilpin	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
GpD2:					
Gilpin	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
GpE2:					
Gilpin	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
GrA:					
Grigsby	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.01
		Thickest layer	0.00	Thickest layer	0.01
HeF:					
Helechawa	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
Alticrest	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
Rock outcrop	25	Not rated		Not rated	
Ho:					
Holly	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
JoA:					
Johnsburg	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LaA:					
Lawrence	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LbA:					
Lobdell	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LoB:					
Lowell	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LoC:					
Lowell	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LwC:					
Lowell	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Woolper	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Me:					
Melvin	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MoB:					
Morehead	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mu:					
Mullins	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ne:					
Newark	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
NhB:					
Nicholson	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
NoA:					
Nolin	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
OrA:					
Orrville	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
OtB:					
Otwood	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Pm:					
Pits, mine	100	Not rated		Not rated	
Pt:					
Pits, quarry	100	Not rated		Not rated	
Rb:					
Robertsville	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
RoF2:					
Rohan	55	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Trappist	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
SaB:					
Sandview------------	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lowell--------------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
ShB:					
Shelocta------------	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Skidmore------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SlD:					
Shelocta------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SpF2:					
Shelocta------------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gilpin--------------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SrD2:					
Shrouts-------------	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Beasley-------------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop--------	15	Not rated		Not rated	
StE2:					
Shrouts-------------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Beasley-------------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
TlB:					
Tilsit--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
TlC:					
Tilsit--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
TrB2:					
Trappist------------	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
TrC2:					
Trappist------------	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
TsF2:					
Trappist------------	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Muse----------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
UnB:					
Uniontown-----------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
UrC:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
UrD:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
UsC:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
UsD:					
Urban land----------	60	Not rated		Not rated	
Alfic Udarents------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ux:					
Urban land----------	60	Not rated		Not rated	
Udorthents----------	40	Not rated		Not rated	
VeC:					
Vertrees------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
VeD:					
Vertrees------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
W:					
Water---------------	100	Not rated		Not rated	
WoB:					
Woolper-------------	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
AgB:							
Allegheny	60	Fair		Good		Good	
		Organic matter content low	0.50				
		Too acid	0.68				
Cotaco	30	Fair		Fair		Fair	
		Too acid	0.68	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.88				
		Water erosion	0.90				
AgC:							
Allegheny	70	Fair		Good		Fair	
		Organic matter content low	0.50			Slope	0.96
		Too acid	0.68				
Cotaco	20	Fair		Fair		Fair	
		Too acid	0.68	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.88			Slope	0.96
		Water erosion	0.90				
AlD2:							
Allegheny	85	Fair		Fair		Poor	
		Organic matter content low	0.50	Slope	0.98	Slope	0.00
		Too acid	0.68				
BaB:							
Beasley	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.58		
				Shrink-swell	0.87		
		Water erosion	0.90				
		Too acid	0.92				
BcC2:							
Beasley	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.58	Slope	0.96
				Shrink-swell	0.87		
		Water erosion	0.90				
		Too acid	0.92				
BeD2:							
Beasley	70	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.58	Slope	0.00
				Shrink-swell	0.87		
		Water erosion	0.90	Slope	0.98		
		Too acid	0.92				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
BeD2:							
Shrouts	20	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.32	Shrink-swell	0.87	Depth to bedrock	0.54
		Depth to bedrock	0.54	Slope	0.98	Rock fragments	0.88
BrB:							
Berea	80	Fair		Poor		Fair	
		Organic matter content low	0.08	Depth to bedrock	0.00	Wetness depth	0.04
		Too acid	0.50	Low strength	0.00	Depth to bedrock	0.65
		Depth to bedrock	0.65	Wetness depth	0.04		
		Droughty	0.94				
		Water erosion	0.99				
BrC:							
Berea	80	Fair		Poor		Fair	
		Organic matter content low	0.08	Depth to bedrock	0.00	Wetness depth	0.04
		Too acid	0.50	Low strength	0.00	Depth to bedrock	0.65
		Depth to bedrock	0.65	Wetness depth	0.04	Slope	0.96
		Droughty	0.94				
		Water erosion	0.99				
BsD:							
Berks	70	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Organic matter content low	0.12			Slope	0.16
		Depth to bedrock	0.29			Depth to bedrock	0.29
		Too acid	0.50			Too acid	0.88
BsF:							
Berks	70	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Organic matter content low	0.12	Slope	0.00	Rock fragments	0.00
		Depth to bedrock	0.29			Depth to bedrock	0.29
		Too acid	0.50			Too acid	0.88
BvA:							
Blago	85	Fair		Poor		Poor	
		Organic matter content low	0.18	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.32	Low strength	0.00		
		Water erosion	0.90	Shrink-swell	0.96		
BwA:							
Boonewood	75	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Wetness depth	0.09
		Droughty	0.17	Low strength	0.00	Depth to bedrock	0.71
		Depth to bedrock	0.71	Wetness depth	0.09		
		Water erosion	0.99				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
BxF:							
Brownsville	45	Fair		Poor		Poor	
		Organic matter content low	0.08	Slope	0.00	Slope	0.00
		Too acid	0.50	Cobble content	0.04	Hard to reclaim (rock fragments)	0.00
		Droughty	0.60	Depth to bedrock	0.23	Rock fragments	0.00
		Cobble content	0.74			Too acid	0.88
Berks	40	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.29			Depth to bedrock	0.29
		Too acid	0.50			Too acid	0.88
CaE:							
Caneyville	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Too clayey	0.00
		Depth to bedrock	0.54	Slope	0.08	Depth to bedrock	0.54
		Droughty	0.68	Shrink-swell	0.87		
		Water erosion	0.90				
Bledsoe	35	Fair		Poor		Poor	
		Too clayey	0.08	Low strength	0.00	Slope	0.00
		Organic matter content low	0.12	Slope	0.08	Too clayey	0.05
		Water erosion	0.99	Shrink-swell	0.90		
Rock outcrop	15	Not rated		Not rated		Not rated	
ChA:							
Chagrin	85	Fair		Good		Good	
		Organic matter content low	0.88				
CoB:							
Cotaco	85	Fair		Fair		Fair	
		Too acid	0.68	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.88				
		Water erosion	0.90				
CoC:							
Cotaco	80	Fair		Fair		Fair	
		Too acid	0.68	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.88			Slope	0.96
		Water erosion	0.90				
CpC:							
Covedale	60	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.57
		Too acid	0.68			Slope	0.96
		Water erosion	0.90				
		Too clayey	0.98				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
CpC:							
Trappist------------	30	Fair		Poor		Fair	
		Too clayey	0.02	Depth to bedrock	0.00	Too clayey	0.01
		Droughty	0.06	Shrink-swell	0.87	Too acid	0.50
		Organic matter content low	0.18			Depth to bedrock	0.54
		Too acid	0.50			Rock fragments	0.68
		Depth to bedrock	0.54			Slope	0.96
		Water erosion	0.99				
CpD:							
Covedale------------	50	Fair		Poor		Poor	
		Organic matter content low	0.12	Low strength	0.00	Slope	0.00
		Too acid	0.68	Slope	0.50	Too clayey	0.57
		Water erosion	0.90				
		Too clayey	0.98				
Trappist------------	40	Fair		Poor		Poor	
		Too clayey	0.02	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.06	Slope	0.50	Too clayey	0.01
		Organic matter content low	0.18	Shrink-swell	0.87	Too acid	0.50
		Too acid	0.50			Depth to bedrock	0.54
		Depth to bedrock	0.54			Rock fragments	0.68
		Water erosion	0.99				
CrA:							
Crider--------------	85	Fair		Poor		Good	
		Organic matter content low	0.12	Low strength	0.00		
		Too acid	0.68				
CrB:							
Crider--------------	85	Fair		Poor		Good	
		Organic matter content low	0.12	Low strength	0.00		
		Too acid	0.68				
CyD2:							
Cynthiana-----------	50	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Low strength	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Cobble content	0.72	Rock fragments	0.00
		Organic matter content low	0.12	Shrink-swell	0.87	Slope	0.16
		Stone content	0.66	Stone content	0.88		
		Cobble content	0.98				
Faywood-------------	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.16
		Depth to bedrock	0.65	Shrink-swell	0.87	Depth to bedrock	0.65
		Droughty	0.73			Rock fragments	0.96
		Too acid	0.92				
		Water erosion	0.99				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
CyE2:							
Cynthiana-----------	45	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Low strength	0.00	Too clayey	0.00
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Organic matter content low	0.12	Cobble content	0.72	Rock fragments	0.00
				Shrink-swell	0.87		
		Stone content	0.66	Stone content	0.88		
		Cobble content	0.98				
Faywood-------------	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Too clayey	0.00
				Slope	0.00	Depth to bedrock	0.65
		Depth to bedrock	0.65	Shrink-swell	0.87	Rock fragments	0.96
		Droughty	0.73				
		Too acid	0.92				
		Water erosion	0.99				
DAM:							
Dam, large----------	100	Not rated		Not rated		Not rated	
EdD2:							
Eden----------------	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Droughty	0.11	Depth to bedrock	0.00	Slope	0.16
		Organic matter content low	0.12	Shrink-swell	0.87	Depth to bedrock	0.71
				Stone content	0.94	Rock fragments	0.91
		Depth to bedrock	0.71				
		Stone content	0.77				
		Water erosion	0.90				
EeE2:							
Eden----------------	60	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Droughty	0.11	Depth to bedrock	0.00	Too clayey	0.00
		Organic matter content low	0.12	Slope	0.00	Depth to bedrock	0.71
				Shrink-swell	0.87	Rock fragments	0.91
		Depth to bedrock	0.71	Stone content	0.94		
		Stone content	0.77				
		Water erosion	0.90				
Lowell--------------	20	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.12	Slope	0.00	Too clayey	0.00
				Depth to bedrock	0.68	Hard to reclaim (rock fragments)	0.50
		Water erosion	0.99	Shrink-swell	0.87		
EkB:							
Elk-----------------	80	Fair		Poor		Good	
		Organic matter content low	0.88	Low strength	0.00		
		Too acid	0.92				
		Water erosion	0.99				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
EkC:							
Elk	80	Fair		Poor		Fair	
		Organic matter content low	0.88	Low strength	0.00	Slope	0.96
		Too acid	0.92				
		Water erosion	0.99				
ElD2:							
Elk	80	Fair		Poor		Poor	
		Organic matter content low	0.88	Low strength	0.00	Slope	0.00
		Too acid	0.92	Slope	0.98		
		Water erosion	0.99				
FaF2:							
Fairmount	45	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Low strength	0.00	Depth to bedrock	0.00
		Too clayey	0.00	Slope	0.00	Too clayey	0.00
		Stone content	0.92	Cobble content	0.74	Rock fragments	0.00
		Cobble content	0.97	Shrink-swell	0.87		
		Water erosion	0.99	Stone content	0.99		
Faywood	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Too clayey	0.00
		Depth to bedrock	0.65	Slope	0.00	Depth to bedrock	0.65
		Droughty	0.73	Shrink-swell	0.87	Rock fragments	0.96
		Too acid	0.92				
		Water erosion	0.99				
FyB2:							
Faywood	45	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Depth to bedrock	0.65
		Depth to bedrock	0.65	Shrink-swell	0.87	Rock fragments	0.96
		Droughty	0.73				
		Too acid	0.92				
		Water erosion	0.99				
Lowell	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.68	Hard to reclaim (rock fragments)	0.50
		Water erosion	0.99	Shrink-swell	0.87		
FyC2:							
Faywood	50	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Depth to bedrock	0.65
		Depth to bedrock	0.65	Shrink-swell	0.87	Rock fragments	0.96
		Droughty	0.73			Slope	0.96
		Too acid	0.92				
		Water erosion	0.99				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
FyC2:							
Lowell---------------	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.68	Hard to reclaim (rock fragments)	0.50
		Water erosion	0.99	Shrink-swell	0.87	Slope	0.96
FyD2:							
Faywood--------------	50	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Shrink-swell	0.87	Depth to bedrock	0.65
		Depth to bedrock	0.65	Slope	0.98	Rock fragments	0.96
		Droughty	0.73				
		Too acid	0.92				
		Water erosion	0.99				
Lowell---------------	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.68	Slope	0.00
				Shrink-swell	0.87	Hard to reclaim (rock fragments)	0.50
		Water erosion	0.99	Slope	0.98		
GlB:							
Gilpin---------------	85	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.89
				Low strength	0.00	Depth to bedrock	0.93
		Droughty	0.52				
		Too acid	0.68				
		Depth to bedrock	0.93				
GpD2:							
Gilpin---------------	80	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.16
				Low strength	0.00	Rock fragments	0.89
		Droughty	0.51			Depth to bedrock	0.93
		Too acid	0.68				
		Depth to bedrock	0.93				
GpE2:							
Gilpin---------------	80	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.00	Rock fragments	0.89
		Droughty	0.51	Low strength	0.00	Depth to bedrock	0.93
		Too acid	0.68				
		Depth to bedrock	0.93				
GrA:							
Grigsby--------------	85	Good		Good		Good	
HeF:							
Helechawa------------	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
						Too sandy	0.22
		Too sandy	0.22				
		Too acid	0.50				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
HeF:							
Alticrest-----------	30	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Droughty	0.16	Depth to bedrock	0.00	Depth to bedrock	0.35
		Depth to bedrock	0.35				
		Too acid	0.50				
Rock outcrop--------	25	Not rated		Not rated		Not rated	
Ho:							
Holly---------------	85	Fair		Poor		Poor	
		Too acid	0.68	Wetness depth	0.00	Wetness depth	0.00
JoA:							
Johnsburg-----------	85	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.68	Low strength	0.22		
		Water erosion	0.90				
LaA:							
Lawrence------------	85	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.32	Low strength	0.00	Too acid	0.88
		Water erosion	0.90				
LbA:							
Lobdell-------------	85	Fair		Fair		Fair	
		Organic matter content low	0.88	Wetness depth	0.14	Wetness depth	0.14
		Too acid	0.92				
LoB:							
Lowell--------------	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.68	Hard to reclaim (rock fragments)	0.50
		Water erosion	0.99	Shrink-swell	0.87		
LoC:							
Lowell--------------	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.68	Hard to reclaim (rock fragments)	0.50
		Water erosion	0.99	Shrink-swell	0.87	Slope	0.96
LwC:							
Lowell--------------	55	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.68	Hard to reclaim (rock fragments)	0.50
		Water erosion	0.99	Shrink-swell	0.87	Slope	0.96
Woolper-------------	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.89	Slope	0.96
		Water erosion	0.99				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
Me:							
Melvin	85	Fair		Poor		Poor	
		Water erosion	0.90	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.92	Low strength	0.00		
MoB:							
Morehead	85	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.38
				Wetness depth	0.38	Rock fragments	0.99
		Too acid	0.50				
		Water erosion	0.90				
Mu:							
Mullins	85	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00	Too acid	0.88
		Too acid	0.32				
		Water erosion	0.90				
Ne:							
Newark	85	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00		
		Water erosion	0.90				
NhB:							
Nicholson	80	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.38
				Wetness depth	0.38		
		Water erosion	0.90				
		Too acid	0.92				
NoA:							
Nolin	85	Fair		Poor		Good	
		Water erosion	0.90	Low strength	0.00		
OrA:							
Orrville	85	Fair		Poor		Poor	
		Organic matter content low	0.88	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.92				
		Water erosion	0.99				
OtB:							
Otwood	80	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.07
				Wetness depth	0.07		
		Water erosion	0.90	Shrink-swell	0.87		
		Too acid	0.92				
Pm:							
Pits, mine	100	Not rated		Not rated		Not rated	
Pt:							
Pits, quarry	100	Not rated		Not rated		Not rated	

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
Rb:							
Robertsville	85	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.68	Low strength	0.00		
		Water erosion	0.90				
RoF2:							
Rohan	55	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Organic matter content low	0.12			Slope	0.00
		Too acid	0.50			Too acid	0.50
Trappist	35	Fair		Poor		Poor	
		Too clayey	0.02	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.06	Slope	0.00	Too clayey	0.01
		Organic matter content low	0.18	Shrink-swell	0.87	Too acid	0.50
		Too acid	0.50			Depth to bedrock	0.54
		Depth to bedrock	0.54			Rock fragments	0.68
		Water erosion	0.99				
SaB:							
Sandview	55	Fair		Poor		Good	
		Organic matter content low	0.12	Low strength	0.00		
		Water erosion	0.99	Shrink-swell	0.99		
Lowell	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.68	Hard to reclaim (rock fragments)	0.50
		Water erosion	0.99	Shrink-swell	0.87		
ShB:							
Shelocta	45	Fair		Fair		Fair	
		Too acid	0.08	Stone content	0.99	Rock fragments	0.03
		Organic matter content low	0.12	Cobble content	0.99	Too acid	0.88
		Stone content	0.91				
Skidmore	35	Poor		Poor		Poor	
		Cobble content	0.00	Cobble content	0.00	Rock fragments	0.00
		Organic matter content low	0.12			Hard to reclaim (rock fragments)	0.00
		Droughty	0.76				
SlD:							
Shelocta	85	Fair		Fair		Fair	
		Too acid	0.08	Stone content	0.99	Rock fragments	0.03
		Organic matter content low	0.12	Cobble content	0.99	Slope	0.16
		Stone content	0.91			Too acid	0.88

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
SpF2:							
Shelocta------------	50	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Stone content	0.99	Rock fragments	0.03
				Cobble content	0.99	Too acid	0.88
		Stone content	0.91				
Gilpin--------------	40	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.00	Rock fragments	0.89
		Droughty	0.51	Low strength	0.00	Depth to bedrock	0.93
		Too acid	0.68				
		Depth to bedrock	0.93				
SrD2:							
Shrouts-------------	55	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.16
				Shrink-swell	0.87	Depth to bedrock	0.54
		Droughty	0.32			Rock fragments	0.88
		Depth to bedrock	0.54				
Beasley-------------	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.58	Slope	0.16
				Shrink-swell	0.87		
		Water erosion	0.90				
		Too acid	0.92				
Rock outcrop--------	15	Not rated		Not rated		Not rated	
StE2:							
Shrouts-------------	70	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.12	Depth to bedrock	0.00	Too clayey	0.00
				Slope	0.00	Depth to bedrock	0.54
		Droughty	0.32	Shrink-swell	0.87	Rock fragments	0.88
		Depth to bedrock	0.54				
Beasley-------------	20	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.00
				Depth to bedrock	0.58		
		Water erosion	0.90	Shrink-swell	0.87		
		Too acid	0.92				
TlB:							
Tilsit--------------	90	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.09
				Wetness depth	0.09	Too acid	0.88
		Too acid	0.32				
		Water erosion	0.90				
TlC:							
Tilsit--------------	90	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.09
				Wetness depth	0.09	Too acid	0.88
		Too acid	0.32			Slope	0.96
		Water erosion	0.90				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
TrB2:							
Trappist------------	85	Fair		Poor		Fair	
		Too clayey	0.02	Depth to bedrock	0.00	Too clayey	0.01
		Droughty	0.06	Shrink-swell	0.87	Too acid	0.50
		Organic matter content low	0.18			Depth to bedrock	0.54
						Rock fragments	0.68
		Too acid	0.50				
		Depth to bedrock	0.54				
		Water erosion	0.99				
TrC2:							
Trappist------------	85	Fair		Poor		Fair	
		Too clayey	0.02	Depth to bedrock	0.00	Too clayey	0.01
		Droughty	0.06	Shrink-swell	0.87	Too acid	0.50
		Organic matter content low	0.18			Depth to bedrock	0.54
						Rock fragments	0.68
		Too acid	0.50			Slope	0.96
		Depth to bedrock	0.54				
		Water erosion	0.99				
TsF2:							
Trappist------------	45	Fair		Poor		Poor	
		Too clayey	0.02	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.06	Slope	0.00	Too clayey	0.01
		Organic matter content low	0.18	Shrink-swell	0.87	Too acid	0.50
						Depth to bedrock	0.54
		Too acid	0.50			Rock fragments	0.68
		Depth to bedrock	0.54				
		Water erosion	0.99				
Muse----------------	35	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.00
		Droughty	0.97	Depth to bedrock	0.01	Hard to reclaim (rock fragments)	0.03
		Water erosion	0.99	Shrink-swell	0.87		
						Rock fragments	0.18
						Too acid	0.50
UnB:							
Uniontown-----------	80	Fair		Poor		Fair	
		Organic matter content low	0.24	Low strength	0.00	Wetness depth	0.44
				Wetness depth	0.44		
		Water erosion	0.68				
		Too acid	0.92				
UrC:							
Urban land----------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.07	Hard to reclaim (rock fragments)	0.50
				Shrink-swell	0.87		
UrD:							
Urban land----------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.07	Slope	0.00
				Slope	0.76	Hard to reclaim (rock fragments)	0.50
				Shrink-swell	0.87		

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
UsC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.07		
				Shrink-swell	0.87		
		Too acid	0.92				
		Droughty	0.99				
UsD:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.07	Slope	0.00
				Slope	0.76		
		Too acid	0.92	Shrink-swell	0.87		
		Droughty	0.99				
Ux:							
Urban land	60	Not rated		Not rated		Not rated	
Udorthents	40	Not rated		Not rated		Not rated	
VeC:							
Vertrees	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.89	Slope	0.96
		Too acid	0.92				
		Water erosion	0.99				
VeD:							
Vertrees	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.89	Slope	0.00
				Slope	0.98		
		Too acid	0.92				
		Water erosion	0.99				
W:							
Water	100	Not rated		Not rated		Not rated	
WoB:							
Woolper	75	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.89		
		Water erosion	0.99				

Table 16.—Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AgB:							
Allegheny	60	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Piping	1.00	Depth to saturated zone	0.44
		Slope	0.08	Depth to saturated zone	0.18	Slow refill	0.28
				Seepage	0.01	Cutbanks cave	0.10
Cotaco	30	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
		Slope	0.08	Piping	1.00	Cutbanks cave	0.10
AgC:							
Allegheny	70	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Piping	1.00	Depth to saturated zone	0.44
		Seepage	0.72	Depth to saturated zone	0.18	Slow refill	0.28
				Seepage	0.01	Cutbanks cave	0.10
Cotaco	20	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	1.00	Slow refill	0.28
		Seepage	0.72	Piping	1.00	Cutbanks cave	0.10
AlD2:							
Allegheny	85	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Piping	1.00	Depth to saturated zone	0.44
		Seepage	0.72	Depth to saturated zone	0.18	Slow refill	0.28
				Seepage	0.01	Cutbanks cave	0.10
BaB:							
Beasley	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.08	Hard to pack	0.11	Depth to water	1.00
		Seepage	0.04	Thin layer	0.11		
		Depth to bedrock	0.01				
BcC2:							
Beasley	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Hard to pack	0.15	Depth to water	1.00
		Seepage	0.04	Thin layer	0.11		
		Depth to bedrock	0.01				
BeD2:							
Beasley	70	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Hard to pack	0.15	Depth to water	1.00
		Seepage	0.04	Thin layer	0.11		
		Depth to bedrock	0.01				
Shrouts	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.11	Hard to pack	0.45		

Table 16.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
BrB:							
Berea	80	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.66	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.53	Thin layer	0.83	Slow refill	0.47
		Slope	0.08	Piping	0.67	Cutbanks cave	0.10
BrC:							
Berea	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.66	Thin layer	0.83	Slow refill	0.47
		Seepage	0.53	Piping	0.67	Cutbanks cave	0.10
BsD:							
Berks	70	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.93	Depth to water	1.00
		Seepage	1.00				
		Depth to bedrock	0.93				
BsF:							
Berks	70	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.93	Depth to water	1.00
		Seepage	1.00				
		Depth to bedrock	0.93				
BvA:							
Blago	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	0.04	Cutbanks cave	0.10
BwA:							
Boonewood	75	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.81	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.72	Piping	0.94	Slow refill	0.28
				Thin layer	0.81	Cutbanks cave	0.10
BxF:							
Brownsville	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.22	Depth to water	1.00
		Slope	1.00	Large stones content	0.17		
		Depth to bedrock	0.22				
Berks	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.93	Depth to water	1.00
		Seepage	1.00				
		Depth to bedrock	0.93				
CaE:							
Caneyville	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.86	Hard to pack	0.58		
Bledsoe	35	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.04				
Rock outcrop	15	Not rated		Not rated		Not rated	

Table 16.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
ChA:							
Chagrin	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Piping	1.00	Depth to saturated zone	0.81
						Slow refill	0.28
						Cutbanks cave	0.10
CoB:							
Cotaco	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
		Slope	0.08	Piping	1.00	Cutbanks cave	0.10
CoC:							
Cotaco	80	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	1.00	Slow refill	0.28
		Seepage	0.72	Piping	1.00	Cutbanks cave	0.10
CpC:							
Covedale	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Hard to pack	0.14	Depth to water	1.00
		Seepage	0.04				
Trappist	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.69	Piping	0.01		
CpD:							
Covedale	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Hard to pack	0.14	Depth to water	1.00
		Seepage	0.04				
Trappist	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.69	Piping	0.01		
CrA:							
Crider	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.01	Depth to water	1.00
CrB:							
Crider	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.01	Depth to water	1.00
		Slope	0.08				
CyD2:							
Cynthiana	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	1.00	Large stones content	0.42		
				Hard to pack	0.40		
Faywood	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.83	Depth to water	1.00
		Depth to bedrock	0.83	Hard to pack	0.32		
		Seepage	0.02				

Table 16.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
CyE2:							
Cynthiana	45	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	1.00	Large stones content	0.42		
				Hard to pack	0.40		
Faywood	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.83	Depth to water	1.00
		Depth to bedrock	0.83	Hard to pack	0.32		
		Seepage	0.02				
DAM:							
Dam, large	100	Not rated		Not rated		Not rated	
EdD2:							
Eden	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.81	Depth to water	1.00
		Depth to bedrock	0.08	Hard to pack	0.65		
EeE2:							
Eden	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.81	Depth to water	1.00
		Depth to bedrock	0.08	Hard to pack	0.65		
Lowell	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.08	Depth to water	1.00
		Depth to bedrock	0.08	Hard to pack	0.06		
		Seepage	0.02				
EkB:							
Elk	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Piping	0.89	Depth to saturated zone	0.92
		Slope	0.08			Slow refill	0.28
						Cutbanks cave	0.10
EkC:							
Elk	80	Very limited		Somewhat limited		Somewhat limited	
		Slope	1.00	Piping	0.89	Depth to saturated zone	0.92
		Seepage	0.72			Slow refill	0.28
						Cutbanks cave	0.10
ElD2:							
Elk	80	Very limited		Somewhat limited		Somewhat limited	
		Slope	1.00	Piping	0.88	Depth to saturated zone	0.92
		Seepage	0.72			Slow refill	0.28
						Cutbanks cave	0.10
FaF2:							
Fairmount	45	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	1.00	Large stones content	0.32		
				Hard to pack	0.18		

Table 16.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
FaF2:							
Faywood----------------	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.83	Depth to water	1.00
		Depth to bedrock	0.83	Hard to pack	0.32		
		Seepage	0.02				
FyB2:							
Faywood----------------	45	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.83	Thin layer	0.83	Depth to water	1.00
		Slope	0.08	Hard to pack	0.32		
		Seepage	0.02				
Lowell-----------------	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.08	Thin layer	0.08	Depth to water	1.00
		Depth to bedrock	0.08	Hard to pack	0.06		
		Seepage	0.02				
FyC2:							
Faywood----------------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.83	Depth to water	1.00
		Depth to bedrock	0.83	Hard to pack	0.32		
		Seepage	0.02				
Lowell-----------------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.08	Depth to water	1.00
		Depth to bedrock	0.08	Hard to pack	0.06		
		Seepage	0.02				
FyD2:							
Faywood----------------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.83	Depth to water	1.00
		Depth to bedrock	0.83	Hard to pack	0.32		
		Seepage	0.02				
Lowell-----------------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.08	Depth to water	1.00
		Depth to bedrock	0.08	Hard to pack	0.06		
		Seepage	0.02				
GlB:							
Gilpin-----------------	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.74	Depth to water	1.00
		Slope	0.08	Thin layer	0.66		
		Depth to bedrock	0.03				
GpD2:							
Gilpin-----------------	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.70	Depth to water	1.00
		Seepage	0.72	Thin layer	0.66		
		Depth to bedrock	0.03				
GpE2:							
Gilpin-----------------	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.70	Depth to water	1.00
		Seepage	0.72	Thin layer	0.66		
		Depth to bedrock	0.03				
GrA:							
Grigsby----------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.01	Depth to water	1.00

Table 16.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
HeF:							
Helechawa	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.03	Depth to water	1.00
		Slope	1.00				
Alticrest	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.91	Depth to water	1.00
		Slope	1.00	Seepage	0.04		
		Depth to bedrock	0.91				
Rock outcrop	25	Not rated		Not rated		Not rated	
Ho:							
Holly	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	1.00	Cutbanks cave	0.10
JoA:							
Johnsburg	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.85		
LaA:							
Lawrence	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.02	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.04		
LbA:							
Lobdell	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	1.00	Cutbanks cave	0.10
LoB:							
Lowell	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.08	Thin layer	0.08	Depth to water	1.00
		Depth to bedrock	0.08	Hard to pack	0.03		
		Seepage	0.02				
LoC:							
Lowell	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.08	Depth to water	1.00
		Depth to bedrock	0.08	Hard to pack	0.03		
		Seepage	0.02				
LwC:							
Lowell	55	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.08	Depth to water	1.00
		Depth to bedrock	0.08	Hard to pack	0.03		
		Seepage	0.02				
Woolper	25	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.53				

Table 16.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
Me:							
Melvin	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	0.78	Cutbanks cave	0.10
MoB:							
Morehead	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	0.99	Cutbanks cave	0.10
Mu:							
Mullins	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
				Ponding	1.00		
				Piping	0.89		
Ne:							
Newark	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	0.64	Cutbanks cave	0.10
NhB:							
Nicholson	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.08				
NoA:							
Nolin	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.92	Depth to water	1.00
OrA:							
Orrville	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	1.00	Cutbanks cave	0.10
OtB:							
Otwood	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.08	Piping	0.17		
Pm:							
Pits, mine	100	Not rated		Not rated		Not rated	
Pt:							
Pits, quarry	100	Not rated		Not rated		Not rated	
Rb:							
Robertsville	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.02	Depth to saturated zone	1.00	Depth to water	1.00
				Ponding	1.00		
				Piping	0.38		

Table 16.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
RoF2:							
Rohan	55	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	1.00				
Trappist	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.69	Piping	0.01		
SaB:							
Sandview	55	Somewhat limited		Not limited		Very limited	
		Seepage	0.72			Depth to water	1.00
		Slope	0.08				
Lowell	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.08	Thin layer	0.08	Depth to water	1.00
		Depth to bedrock	0.08	Hard to pack	0.03		
		Seepage	0.02				
ShB:							
Shelocta	45	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Piping	0.99	Depth to water	1.00
		Slope	0.08				
Skidmore	35	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Large stones content	1.00	Cutbanks cave	1.00
				Depth to saturated zone	0.09	Large stones content	1.00
						Depth to saturated zone	0.54
						Slow refill	0.28
SlD:							
Shelocta	85	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	0.72				
SpF2:							
Shelocta	50	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	0.72				
Gilpin	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.70	Depth to water	1.00
		Seepage	0.72	Thin layer	0.66		
		Depth to bedrock	0.03				
SrD2:							
Shrouts	55	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.11	Hard to pack	0.45		
Beasley	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Hard to pack	0.15	Depth to water	1.00
		Seepage	0.04	Thin layer	0.11		
		Depth to bedrock	0.01				
Rock outcrop	15	Not rated		Not rated		Not rated	

Table 16.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
StE2:							
Shrouts	70	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.11	Hard to pack	0.45		
Beasley	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Hard to pack	0.15	Depth to water	1.00
		Seepage	0.04	Thin layer	0.11		
		Depth to bedrock	0.01				
TlB:							
Tilsit	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.08				
				Piping	0.39		
TlC:							
Tilsit	90	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.72				
				Piping	0.39		
TrB2:							
Trappist	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.69	Thin layer	0.86	Depth to water	1.00
		Slope	0.08	Piping	0.01		
TrC2:							
Trappist	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.69	Piping	0.01		
TsF2:							
Trappist	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.69	Piping	0.01		
Muse	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.42	Slow refill	1.00
		Depth to bedrock	0.26	Depth to saturated zone	0.29	Depth to hard bedrock	0.84
		Seepage	0.04				
				Hard to pack	0.07	Depth to saturated zone	0.34
						Cutbanks cave	0.10
UnB:							
Uniontown	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.97		
UrC:							
Urban land	60	Not rated		Not rated		Not rated	
Alfic Udarents	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.68	Thin layer	0.34	Depth to water	1.00
		Depth to bedrock	0.33	Hard to pack	0.14		
		Seepage	0.02				

Table 16.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
UrD:							
Urban land----------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.34	Depth to water	1.00
		Depth to bedrock	0.33	Hard to pack	0.14		
		Seepage	0.02				
UsC:							
Urban land----------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.68	Thin layer	0.34	Depth to water	1.00
		Seepage	0.04	Hard to pack	0.29		
		Depth to bedrock	0.01				
UsD:							
Urban land----------	60	Not rated		Not rated		Not rated	
Alfic Udarents------	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.34	Depth to water	1.00
		Seepage	0.04	Hard to pack	0.29		
		Depth to bedrock	0.01				
Ux:							
Urban land----------	60	Not rated		Not rated		Not rated	
Udorthents----------	40	Not rated		Not rated		Not rated	
VeC:							
Vertrees------------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Hard to pack	0.62	Depth to water	1.00
		Seepage	0.04				
VeD:							
Vertrees------------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Hard to pack	0.62	Depth to water	1.00
		Seepage	0.04				
W:							
Water---------------	100	Not rated		Not rated		Not rated	
WoB:							
Woolper-------------	75	Somewhat limited		Not limited		Very limited	
		Seepage	0.04			Depth to water	1.00

Table 17.—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	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
AgB:												
Allegheny-------	0-10	Loam	CL, ML, CL-ML	A-4	0	0	90-100	80-100	70-95	55-90	15-35	NP-10
	10-63	Clay loam, gravelly loam, sandy clay loam, silty clay loam	CL, ML	A-4, A-6	0	0	85-100	75-100	65-95	50-90	15-35	NP-15
	63-90	Sandy clay loam, fine sandy loam, clay loam, gravelly sandy loam	CL, GC, ML, SM, SC	A-1, A-2, A-4, A-6	0	0	85-100	70-100	50-95	25-75	15-35	NP-15
Cotaco----------	0-11	Loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	70-100	50-100	40-90	35-70	15-30	NP-7
	11-41	Gravelly sandy clay loam, clay loam, loam	CL, GC, SC, SM	A-2, A-4, A-6	0	0	70-100	50-100	40-90	35-80	15-35	NP-15
	41-99	Gravelly sandy clay loam, clay loam, loam	CL, GC, SC, SM	A-1-b, A-2, A-4, A-6	0	0	65-100	35-100	30-90	25-80	15-35	NP-15
AgC:												
Allegheny-------	0-10	Loam	CL, ML, CL-ML	A-4	0	0	90-100	80-100	70-95	55-90	15-35	NP-10
	10-63	Clay loam, gravelly loam, sandy clay loam, silty clay loam	CL, ML	A-4, A-6	0	0	85-100	75-100	65-95	50-90	15-35	NP-15
	63-90	Sandy clay loam, fine sandy loam, clay loam, gravelly sandy loam	CL, GC, ML, SM, SC	A-1, A-2, A-4, A-6	0	0	85-100	70-100	50-95	25-75	15-35	NP-15
Cotaco----------	0-11	Loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	70-100	50-100	40-90	35-70	15-30	NP-7
	11-41	Gravelly sandy clay loam, clay loam, loam	CL, GC, SC, SM	A-2, A-4, A-6	0	0	70-100	50-100	40-90	35-80	15-35	NP-15
	41-99	Gravelly sandy clay loam, clay loam, loam	CL, GC, SC, SM	A-1-b, A-2, A-4, A-6	0	0	65-100	35-100	30-90	25-80	15-35	NP-15
AlD2:												
Allegheny-------	0-5	Loam	CL, ML, CL-ML	A-4	0	0	90-100	80-100	70-95	55-90	15-35	NP-10
	5-63	Clay loam, gravelly loam, sandy clay loam, silty clay loam	CL, ML	A-4, A-6	0	0	85-100	75-100	65-95	50-90	15-35	NP-15
	63-90	Sandy clay loam, fine sandy loam, clay loam, gravelly sandy loam	CL, GC, ML, SM, SC	A-1, A-2, A-4, A-6	0	0	85-100	70-100	50-95	25-75	15-35	NP-15

Table 17.—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	
BaB:												
Beasley---------	0-7	Silt loam	CL-ML, ML	A-4	0	0-3	90-100	88-100	80-100	75-95	25-35	4-10
	7-29	Silty clay, clay	CH, CL	A-7-6	0	0-3	90-100	88-100	85-100	75-98	45-70	20-40
	29-50	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0	0-5	86-100	70-100	65-100	60-95	35-65	15-35
	50-70	Weathered bedrock			---	---	---	---	---	---	---	---
BcC2:												
Beasley---------	0-5	Silt loam	CL-ML, ML	A-4	0	0-3	90-100	88-100	80-100	75-95	25-35	4-10
	5-29	Silty clay, clay	CH, CL	A-7-6	0	0-3	90-100	88-100	85-100	75-98	45-70	20-40
	29-50	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0	0-8	86-100	70-100	65-100	60-95	35-65	15-35
	50-70	Weathered bedrock			---	---	---	---	---	---	---	---
BeD2:												
Beasley---------	0-5	Silt loam	CL-ML, ML	A-4	0	0-3	90-100	88-100	80-100	75-95	25-35	4-10
	5-29	Silty clay, clay	CH, CL	A-7-6	0	0-3	90-100	88-100	85-100	75-98	45-70	20-40
	29-50	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0	0-8	86-100	70-100	65-100	60-95	35-65	15-35
	50-70	Weathered bedrock			---	---	---	---	---	---	---	---
Shrouts---------	0-4	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0	0-7	90-100	80-100	76-100	67-95	30-65	12-40
	4-18	Clay, silty clay	CH, CL	A-7-6	0	0-7	90-100	80-100	70-100	68-100	45-65	20-40
	18-30	Clay, silty clay, channery silty clay	CH, CL	A-7-6	---	0-15	76-100	63-100	60-100	55-100	45-70	20-40
	30-40	Weathered bedrock			---	---	---	---	---	---	---	---
BrB:												
Berea-----------	0-9	Silt loam	CL, ML	A-4	0	0	90-100	85-100	75-100	60-95	25-35	3-10
	9-21	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0-2	90-100	85-100	75-100	65-96	25-40	5-20
	21-31	Channery silty clay loam, very channery silty clay, clay	CH, CL, GC, MH	A-2, A-6, A-7-6	0	0-15	45-100	40-100	20-85	15-80	35-60	15-30
	31-36	Weathered bedrock			---	---	---	---	---	---	---	---
	36-46	Unweathered bedrock			---	---	---	---	---	---	---	---
BrC:												
Berea-----------	0-9	Silt loam	CL, ML	A-4	0	0	90-100	85-100	75-100	60-95	25-35	3-10
	9-21	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0-2	90-100	85-100	75-100	65-96	25-40	5-20
	21-31	Channery silty clay loam, very channery silty clay, clay	CH, CL, GC, MH	A-2, A-6, A-7-6	0	0-15	45-100	40-100	20-85	15-80	35-60	15-30
	31-36	Weathered bedrock			---	---	---	---	---	---	---	---
	36-46	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
BsD:												
Berks	0-4	Channery silt loam	SM, GC, GM, ML, SC	A-2, A-4	0	0-15	60-85	45-70	25-67	20-56	25-36	5-10
	4-27	Very channery silt loam, very channery loam, extremely channery silt loam	GC, GM, SC, SM	A-1, A-2-4, A-4	0	5-23	50-89	35-78	25-60	20-45	25-36	5-10
	27-37	Unweathered bedrock			---	---	---	---	---	---	---	---
BsF:												
Berks	0-4	Channery silt loam	SM, GC, GM, ML, SC	A-2, A-4	0	0-15	60-85	45-70	25-67	20-56	25-36	5-10
	4-27	Very channery silt loam, very channery loam, extremely channery silt loam	GC, GM, SC, SM	A-1, A-2-4, A-4	0	5-23	50-89	35-78	25-60	20-45	25-36	5-10
	27-37	Unweathered bedrock			---	---	---	---	---	---	---	---
BvA:												
Blago	0-20	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	93-100	85-100	80-100	75-95	25-40	5-15
	20-43	Silty clay, clay, silty clay loam	CH, CL, MH, ML	A-6, A-7-6	0	0	85-100	85-100	80-100	75-100	35-60	12-30
	43-90	Silty clay loam, silty clay, channery clay	CH, CL, MH, ML	A-6, A-7-6	0	0	74-100	60-100	55-95	50-90	30-60	12-30
	90-95	Weathered bedrock			---	---	---	---	---	---	---	---
	95-105	Unweathered bedrock			---	---	---	---	---	---	---	---
BwA:												
Boonewood	0-8	Silt loam	CL, ML	A-4, A-6	0	0-3	93-100	91-100	75-100	62-95	25-35	3-11
	8-27	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6, A-7	0	0-5	92-100	88-100	80-100	70-90	25-42	3-20
	27-32	Channery silt loam, silt loam, silty clay loam	GC, GM, CL-ML, CL	A-4, A-6	0	0-9	80-100	70-100	60-100	45-90	25-42	3-20
	32-36	Unweathered bedrock			---	---	---	---	---	---	---	---
BxF:												
Brownsville	0-7	Channery silt loam	CL-ML, GC-GM, GM, ML	A-4	0	0-15	59-92	50-92	40-70	35-60	25-35	5-10
	7-25	Very channery silt loam, extremely channery loam, very flaggy silt loam, very channery loam	SM, CL-ML, GC-GM, GM, ML	A-1, A-2-4, A-4	0	10-35	50-92	25-88	25-70	20-60	25-35	5-10
	25-46	Extremely channery silt loam, extremely channery loam, very flaggy silt loam	GM, GP-GM, SM, SP-SM	A-1-b, A-2, A-4	0	12-49	48-88	28-88	15-50	10-45	20-35	2-10
	46-56	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
BxF:												
Berks-----------	0-4	Channery silt loam	SM, GC, GM, ML, SC	A-2, A-4	0	0-15	60-85	45-70	25-67	20-56	25-36	5-10
	4-27	Very channery silt loam, very channery loam, extremely channery silt loam	GC, GM, SC, SM	A-1, A-2-4, A-4	0	5-23	50-89	35-78	25-60	20-45	25-36	5-10
	27-37	Unweathered bedrock			---	---	---	---	---	---	---	---
CaE:												
Caneyville------	0-6	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-3	85-100	80-100	62-98	51-83	20-35	2-12
	6-30	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0-5	0-10	90-100	85-100	75-100	60-100	42-75	20-45
	30-40	Unweathered bedrock			---	---	---	---	---	---	---	---
Bledsoe---------	0-13	Sandy loam, fine sandy loam	SC, CL, CL-ML	A-4, A-6	0	0-5	85-100	70-100	70-90	30-90	20-35	5-15
	13-54	Silty clay, silty clay loam, very channery silty clay loam, channery silty clay loam	CH, CL	A-6, A-7-6	0-8	0-8	65-100	60-100	55-98	50-90	35-60	15-35
	54-84	Silty clay, channery silty clay loam, channery silty clay, clay	CH, CL, GC, SC	A-6, A-7-6	0-8	0-15	60-100	55-100	50-95	40-90	35-60	15-40
Rock outcrop.												
ChA:												
Chagrin---------	0-11	Loam	CL, CL-ML, ML	A-4	0	0	76-100	50-100	45-100	40-90	20-35	2-10
	11-48	Silt loam, loam, sandy loam	ML	A-4, A-6	0	0	88-100	76-100	65-95	60-85	20-40	NP-14
	48-96	Sandy loam, loam, stratified gravelly fine sand to silt loam, silt loam	ML, SM	A-4	0	0	76-100	63-100	55-95	40-80	20-40	NP-10
CoB:												
Cotaco----------	0-11	Loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	70-100	50-100	40-90	35-70	15-30	NP-7
	11-41	Gravelly sandy clay loam, clay loam, loam	CL, GC, SC, SM	A-2, A-4, A-6	0	0	70-100	50-100	40-90	35-80	15-35	NP-15
	41-99	Gravelly sandy clay loam, clay loam, loam	CL, GC, SC, SM	A-1-b, A-2, A-4, A-6	0	0	65-100	35-100	30-90	25-80	15-35	NP-15

Table 17.—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	
CoC:												
Cotaco----------	0-11	Loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	70-100	50-100	40-90	35-70	15-30	NP-7
	11-41	Gravelly sandy clay loam, clay loam, loam	CL, GC, SC, SM	A-2, A-4, A-6	0	0	70-100	50-100	40-90	35-80	15-35	NP-15
	41-99	Gravelly sandy clay loam, clay loam, loam	CL, GC, SC, SM	A-1-b, A-2, A-4, A-6	0	0	65-100	35-100	30-90	25-80	15-35	NP-15
CpC:												
Covedale--------	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	85-100	75-100	60-100	55-95	18-32	4-12
	8-42	Silty clay loam, clay, channery silty clay	CH, CL	A-6, A-7-6	0	0	85-100	70-100	60-100	55-95	35-65	15-35
	42-72	Channery silty clay, very channery clay, clay, silty clay	CH, CL, GC, MH	A-2, A-7-6	0	0-15	60-100	35-100	30-95	25-95	40-75	20-40
	72-76	Weathered bedrock			---	---	---	---	---	---	---	---
	76-86	Unweathered bedrock			---	---	---	---	---	---	---	---
Trappist--------	0-4	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	70-100	50-100	42-100	25-95	20-35	2-14
	4-18	Silty clay, clay, channery silty clay loam	CH, CL	A-6, A-7-6	0	0	70-100	50-100	45-100	35-95	35-60	12-30
	18-30	Very channery clay, very channery silty clay, channery clay	CH, CL, GC, SC	A-2, A-6, A-7-6	0	8-30	45-75	30-65	29-65	26-60	35-60	12-30
	30-35	Weathered bedrock			---	---	---	---	---	---	---	---
	35-39	Unweathered bedrock			---	---	---	---	---	---	---	---
CpD:												
Covedale--------	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	85-100	75-100	60-100	55-95	18-32	4-12
	8-42	Silty clay loam, clay, channery silty clay	CH, CL	A-6, A-7-6	0	0	85-100	70-100	60-100	55-95	35-65	15-35
	42-72	Channery silty clay, very channery clay, clay, silty clay	CH, CL, GC, MH	A-2, A-7-6	0	0-15	60-100	35-100	30-95	25-95	40-75	20-40
	72-76	Weathered bedrock			---	---	---	---	---	---	---	---
	76-86	Unweathered bedrock			---	---	---	---	---	---	---	---
Trappist--------	0-4	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	70-100	50-100	42-100	25-95	20-35	2-14
	4-18	Silty clay, clay, channery silty clay loam	CH, CL	A-6, A-7-6	0	0	70-100	50-100	45-100	35-95	35-60	12-30
	18-30	Very channery clay, very channery silty clay, channery clay	CH, CL, GC, SC	A-2, A-6, A-7-6	0	8-30	45-75	30-65	29-65	26-60	35-60	12-30
	30-35	Weathered bedrock			---	---	---	---	---	---	---	---
	35-39	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
CrA:												
Crider----------	0-15	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	93-100	86-100	25-35	3-12
	15-34	Silt loam, silty clay loam	CL, CL-ML, ML	A-6, A-7, A-4	0	0	96-100	91-100	73-100	69-99	25-42	3-20
	34-92	Silty clay, clay, silty clay loam	CH, CL	A-6, A-7-6	0	0-9	91-100	82-100	76-100	73-100	35-65	15-40
CrB:												
Crider----------	0-15	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	93-100	86-100	25-35	3-12
	15-34	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	96-100	91-100	73-100	69-99	25-42	3-20
	34-92	Silty clay, clay, silty clay loam	CH, CL	A-6, A-7-6	0	0-9	91-100	82-100	76-100	73-100	35-65	15-40
CyD2:												
Cynthiana-------	0-3	Flaggy silty clay loam	CL, CL-ML	A-4, A-6, A-7	0-15	0-15	85-100	70-100	60-100	55-94	25-42	4-20
	3-18	Flaggy clay, flaggy silty clay, channery silty clay	CH, CL	A-7-6	0-15	5-30	70-100	65-100	60-100	55-100	45-75	20-45
	18-22	Unweathered bedrock			---	---	---	---	---	---	---	---
Faywood---------	0-3	Silty clay loam	CL-ML, ML	A-4	0-3	0-8	95-100	88-100	60-100	55-100	25-35	4-10
	3-23	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0-3	0-10	95-100	90-100	85-100	75-98	42-70	20-45
	23-31	Very channery silty clay, clay, silty clay loam, channery silty clay	CH, CL	A-7-6	0-8	0-30	90-100	80-100	70-100	55-98	42-70	20-45
	31-35	Unweathered bedrock			---	---	---	---	---	---	---	---
CyE2:												
Cynthiana-------	0-3	Flaggy silty clay loam	CL, CL-ML	A-4, A-6, A-7	0-15	0-15	85-100	70-100	60-100	55-94	25-42	4-20
	3-18	Flaggy clay, flaggy silty clay, channery silty clay	CH, CL	A-7-6	0-15	5-30	70-100	65-100	60-100	55-100	45-75	20-45
	18-22	Unweathered bedrock			---	---	---	---	---	---	---	---
Faywood---------	0-3	Silty clay loam	CL-ML, ML	A-4	0-3	0-8	95-100	88-100	60-100	55-100	25-35	4-10
	3-23	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0-3	0-10	95-100	90-100	85-100	75-98	42-70	20-45
	23-31	Very channery silty clay, clay, silty clay loam, channery silty clay	CH, CL	A-7-6	0-8	0-30	90-100	80-100	70-100	55-98	42-70	20-45
	31-35	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
DAM. Dam, large												
EdD2: Eden	0-3	Silty clay loam	CH, CL	A-6, A-7-6	0-7	0-7	90-100	82-100	75-100	70-100	35-65	12-35
	3-32	Flaggy silty clay, flaggy clay, silty clay	CH, CL	A-7-6	8-24	9-24	85-100	80-100	75-100	70-95	45-75	20-45
	32-42	Weathered bedrock			---	---	---	---	---	---	---	---
EeE2: Eden	0-3	Silty clay loam	CH, CL	A-6, A-7-6	0-7	0-7	90-100	82-100	75-100	70-100	35-65	12-35
	3-32	Flaggy silty clay, flaggy clay, silty clay	CH, CL	A-7-6	8-24	9-24	85-100	80-100	75-100	70-95	45-75	20-45
	32-42	Weathered bedrock			---	---	---	---	---	---	---	---
Lowell	0-5	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	92-100	90-100	70-100	22-32	3-10
	5-39	Silty clay, clay, silty clay loam	CH, CL, MH	A-6, A-7-6	0	0	92-100	85-100	80-100	75-100	35-65	15-32
	39-51	Channery clay, silty clay	CH, CL, MH	A-7-5	0	0-24	76-98	56-98	55-95	55-95	45-75	20-40
	51-55	Unweathered bedrock			---	---	---	---	---	---	---	---
EkB: Elk	0-9	Silt loam	CL, ML	A-4	0	0	92-100	84-100	80-100	75-100	25-35	3-10
	9-29	Silty clay loam, silt loam	CL	A-4, A-6	0	0	95-100	92-100	85-100	75-100	25-40	5-15
	29-62	Silty clay loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	92-100	85-100	75-100	25-40	5-15
	62-102	Silty clay loam, silt loam, gravelly silty clay loam, silty clay	CL, CL-ML, ML, SC-SM	A-4, A-6	0	0	70-100	50-100	45-100	40-96	25-40	5-15
EkC: Elk	0-9	Silt loam	CL, ML	A-4	0	0	92-100	84-100	80-100	75-100	25-35	3-10
	9-29	Silty clay loam, silt loam	CL	A-4, A-6	0	0	95-100	92-100	85-100	75-100	25-40	5-15
	29-62	Silty clay loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	92-100	85-100	75-100	25-40	5-15
	62-102	Silty clay loam, silt loam, gravelly silty clay loam, silty clay	CL, CL-ML, ML, SC-SM	A-4, A-6	0	0	70-100	50-100	45-100	40-96	25-40	5-15

Table 17.—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	
ElD2:												
Elk-------------	0-5	Silt loam	CL, ML	A-4	0	0	92-100	84-100	80-100	75-100	25-35	3-10
	5-29	Silty clay loam, silt loam	CL	A-4, A-6	0	0	95-100	92-100	85-100	75-100	25-40	5-15
	29-62	Silty clay loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	92-100	85-100	75-100	25-40	5-15
	62-102	Silty clay loam, silt loam, gravelly silty clay loam, silty clay	CL, CL-ML, ML, SC-SM	A-4, A-6	0	0	70-100	50-100	45-100	40-96	25-40	5-15
FaF2:												
Fairmount-------	0-5	Channery silty clay loam	CL	A-7, A-6	0-7	5-37	93-98	85-96	65-95	60-95	35-45	15-22
	5-15	Channery silty clay, flaggy silty clay loam, flaggy clay	CH, CL	A-7-6	0-7	5-30	90-98	85-96	65-95	60-95	40-70	20-40
	15-19	Unweathered bedrock			---	---	---	---	---	---	---	---
Faywood---------	0-3	Silty clay loam	CL-ML, ML	A-4	0-3	0-8	95-100	88-100	60-100	55-100	25-35	4-10
	3-23	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0-3	0-10	95-100	90-100	85-100	75-98	42-70	20-45
	23-31	Very channery silty clay, clay, silty clay loam, channery silty clay	CH, CL	A-7-6	0-8	0-30	90-100	80-100	70-100	55-98	42-70	20-45
	31-35	Unweathered bedrock			---	---	---	---	---	---	---	---
FyB2:												
Faywood---------	0-3	Silty clay loam	CL-ML, ML	A-4	0-3	0-8	95-100	88-100	60-100	55-100	25-35	4-10
	3-23	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0-3	0-10	95-100	90-100	85-100	75-98	42-70	20-45
	23-31	Very channery silty clay, clay, silty clay loam, channery silty clay	CH, CL	A-7-6	0-8	0-30	90-100	80-100	70-100	55-98	42-70	20-45
	31-35	Unweathered bedrock			---	---	---	---	---	---	---	---
Lowell----------	0-5	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	92-100	90-100	70-100	22-32	3-10
	5-39	Silty clay, clay, silty clay loam	CH, CL, MH	A-6, A-7-6	0	0	92-100	85-100	80-100	75-100	35-65	15-32
	39-51	Channery clay, silty clay	CH, CL, MH	A-7-5	0	0-30	76-98	56-98	55-95	55-95	45-75	20-40
	51-55	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
FyC2:												
Faywood---------	0-3	Silty clay loam	CL-ML, ML	A-4	0-3	0-8	95-100	88-100	60-100	55-100	25-35	4-10
	3-23	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0-3	0-10	95-100	90-100	85-100	75-98	42-70	20-45
	23-31	Very channery silty clay, clay, silty clay loam, channery silty clay	CH, CL	A-7-6	0-8	0-30	90-100	80-100	70-100	55-98	42-70	20-45
	31-35	Unweathered bedrock			---	---	---	---	---	---	---	---
Lowell----------	0-5	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	92-100	90-100	70-100	22-32	3-10
	5-39	Silty clay, clay, silty clay loam	CH, CL, MH	A-6, A-7-6	0	0	92-100	85-100	80-100	75-100	35-65	15-32
	39-51	Channery clay, silty clay	CH, CL, MH	A-7-5	0	0-30	76-98	56-98	55-95	55-95	45-75	20-40
	51-55	Unweathered bedrock			---	---	---	---	---	---	---	---
FyD2:												
Faywood---------	0-3	Silty clay loam	CL-ML, ML	A-4	0-3	0-8	95-100	88-100	60-100	55-100	25-35	4-10
	3-23	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0-3	0-10	95-100	90-100	85-100	75-98	42-70	20-45
	23-31	Very channery silty clay, clay, silty clay loam, channery silty clay	CH, CL	A-7-6	0-8	0-30	90-100	80-100	70-100	55-98	42-70	20-45
	31-35	Unweathered bedrock			---	---	---	---	---	---	---	---
Lowell----------	0-5	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	92-100	90-100	70-100	22-32	3-10
	5-39	Silty clay, clay, silty clay loam	CH, CL, MH	A-6, A-7-6	0	0	92-100	85-100	80-100	75-100	35-65	15-32
	39-51	Channery clay, silty clay	CH, CL, MH	A-7-5	0	0-30	76-98	56-98	55-95	55-95	45-75	20-40
	51-55	Unweathered bedrock			---	---	---	---	---	---	---	---
GlB:												
Gilpin----------	0-7	Silt loam	CL, CL-ML	A-4, A-6	0-5	5-7	85-98	70-98	65-98	55-95	20-40	4-15
	7-20	Loam, silt loam, channery silt loam, channery silty clay loam	CL, CL-ML	A-4, A-6	0-8	5-23	85-98	80-96	60-96	50-95	20-40	4-15
	20-36	Channery loam, channery silt loam, very channery loam, extremely channery silt loam	GC, GC-GM, CL	A-1, A-2, A-4, A-6	0-38	5-38	70-98	45-96	30-96	20-95	20-40	4-15
	36-46	Weathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
GpD2:												
Gilpin----------	0-5	Silt loam	CL, CL-ML	A-4, A-6	0-5	5-7	85-98	70-98	65-98	55-95	20-40	4-15
	5-20	Loam, silt loam, channery silt loam, channery silty clay loam	CL, CL-ML	A-4, A-6	0-8	5-23	85-98	80-96	60-96	50-95	20-40	4-15
	20-36	Channery loam, channery silt loam, very channery loam, extremely channery silt loam	GC, GC-GM, CL	A-1, A-2, A-4, A-6	0-38	5-38	70-98	45-96	30-96	20-95	20-40	4-15
	36-46	Weathered bedrock			---	---	---	---	---	---	---	---
GpE2:												
Gilpin----------	0-5	Silt loam	CL, CL-ML	A-4, A-6	0-5	5-7	85-98	70-98	65-98	55-95	20-40	4-15
	5-20	Loam, silt loam, channery silt loam, channery silty clay loam	CL, CL-ML	A-4, A-6	0-8	5-24	85-98	80-96	60-96	50-95	20-40	4-15
	20-36	Channery loam, channery silt loam, very channery loam, extremely channery silt loam	GC, GC-GM, CL	A-1, A-2, A-4, A-6	0-38	5-38	70-98	45-96	30-96	20-95	20-40	4-15
	36-46	Weathered bedrock			---	---	---	---	---	---	---	---
GrA:												
Grigsby---------	0-12	Fine sandy loam, sandy loam	SC-SM, SM	A-2, A-4	0	0	88-100	76-100	50-95	25-70	0-30	NP-6
	12-59	Fine sandy loam, sandy loam, silt loam	SC-SM, SM	A-2, A-4	0	0	88-100	76-100	50-95	30-70	0-30	NP-6
	59-96	Sandy loam, fine sandy loam, gravelly sandy loam	GC-GM, ML, SC-SM, SM	A-1, A-2, A-4	0	0	55-100	26-100	25-100	20-70	0-30	NP-6
HeF:												
Helechawa-------	0-9	Sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-3	76-100	62-100	40-90	15-45	0-20	NP-10
	9-33	Sandy loam, channery sandy loam, loam, loamy sand	SC, SC-SM, SM	A-2-4, A-4	0	0-15	76-100	62-100	40-90	10-45	0-30	NP-10
	33-70	Very channery sandy loam, channery sandy loam, very channery loam, sandy loam	SC, SC-SM, SM	A-4, A-2	0	0-50	76-100	63-98	45-90	15-50	0-20	NP-10
	70-80	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
HeF:												
Alticrest-------	0-8	Sandy loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0-7	0-8	95-100	92-100	55-80	30-65	0-20	NP-6
	8-28	Sandy loam, loam, channery sandy loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0-8	0-8	95-100	92-100	50-85	30-65	0-23	NP-6
	28-38	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop.												
Ho:												
Holly-----------	0-10	Loam	CL, ML	A-4	0	0	91-100	85-100	80-100	60-90	25-35	3-10
	10-35	Silt loam, loam, sandy loam	CL, ML, SM	A-4, A-6	0	0	88-100	76-100	70-95	45-85	20-40	NP-14
	35-80	Silt loam, loam, sandy loam	ML, SM	A-2, A-4	0	0	76-100	62-100	50-95	30-80	20-40	NP-10
JoA:												
Johnsburg-------	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	100	90-100	80-95	30-40	5-15
	9-24	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	85-98	35-50	20-30
	24-64	Loam, silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0-2	97-100	93-100	85-100	70-95	20-35	5-15
	64-82	Loam, sandy loam, silt loam	CL, CL-ML, SC-SM	A-4, A-6	0	0-8	92-100	85-100	75-100	60-95	20-30	5-15
LaA:												
Lawrence--------	0-10	Silt loam	CL	A-4	0	0	92-100	85-100	80-100	75-100	25-35	2-10
	10-18	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6, A-7	0	0	92-100	85-100	80-100	75-100	25-42	5-20
	18-62	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6, A-7	0	0	92-100	85-100	80-100	70-100	25-42	5-20
	62-88	Silty clay, silty clay loam, silt loam	CL, CL-ML, MH, ML	A-4, A-6, A-7-6	0	0	92-100	85-100	80-100	70-100	25-60	5-25
	88-98	Silty clay, stratified clay loam to silty clay loam, silt loam	CL, CL-ML, MH, ML	A-4, A-6, A-7-6	0	0	92-100	85-100	80-100	70-100	25-60	5-25
LbA:												
Lobdell---------	0-11	Loam	CL, CL-ML, ML	A-4	0	0	95-100	92-100	80-100	60-90	20-35	2-10
	11-46	Silt loam, loam, sandy loam	SM, CL, ML	A-4, A-6	0	0	88-100	76-100	60-90	45-80	20-40	NP-14
	46-96	Stratified gravelly fine sand to silt loam, silt loam, loam, sandy loam	SM, ML	A-4	0	0	88-100	76-100	60-87	45-80	20-40	NP-10

Table 17.—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	
LoB:												
Lowell----------	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	92-100	90-100	70-100	22-32	3-10
	8-39	Silty clay, clay, silty clay loam	CH, CL, MH	A-6, A-7-6	0	0	92-100	85-100	80-100	75-100	35-65	15-32
	39-51	Channery clay, silty clay	CH, CL, MH	A-7-5	0-8	0-30	76-98	56-98	55-95	55-95	45-75	20-40
	51-55	Unweathered bedrock			---	---	---	---	---	---	---	---
LoC:												
Lowell----------	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	92-100	90-100	70-100	22-32	3-10
	8-39	Silty clay, clay, silty clay loam	CH, CL, MH	A-6, A-7-6	0	0	92-100	85-100	80-100	75-100	35-65	15-32
	39-51	Channery clay, silty clay	CH, CL, MH	A-7-5	0-8	0-30	76-98	56-98	55-95	55-95	45-75	20-40
	51-55	Unweathered bedrock			---	---	---	---	---	---	---	---
LwC:												
Lowell----------	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	92-100	90-100	70-100	22-32	3-10
	8-39	Silty clay, clay, silty clay loam	CH, CL, MH	A-6, A-7-6	0	0	92-100	85-100	80-100	75-100	35-65	15-32
	39-51	Channery clay, silty clay	CH, CL, MH	A-7-5	0-8	0-30	76-98	56-98	55-95	55-95	45-75	20-40
	51-55	Unweathered bedrock			---	---	---	---	---	---	---	---
Woolper---------	0-11	Silt loam, silty clay loam	CL-ML, CL	A-6, A-4	0	0-5	91-100	81-100	70-98	60-90	25-35	6-15
	11-42	Silty clay, silty clay loam	CH, CL	A-6, A-7-6	0	0-8	70-100	56-100	50-100	45-100	35-65	15-40
	42-103	Clay, silty clay, silty clay loam	CH, CL	A-7-6	0	0-8	70-100	56-100	50-100	45-100	45-75	20-45
Me:												
Melvin----------	0-9	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	92-100	85-100	80-100	25-35	4-10
	9-62	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	92-100	85-100	80-100	25-40	5-20
	62-92	Silt loam, silty clay loam, loam	CL, CL-ML	A-4, A-6	0	0	85-100	70-100	65-100	60-100	25-40	5-20
MoB:												
Morehead--------	0-14	Silt loam	CL, ML	A-4	0	0	95-100	85-100	80-100	75-100	25-35	2-10
	14-36	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	80-100	75-100	70-100	25-40	5-20
	36-65	Silt loam, silty clay loam, silty clay	CL, CL-ML, ML	A-4, A-6	0	0	92-100	80-100	75-100	70-95	20-40	2-20
	65-75	Weathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
Mu:												
Mullins---------	0-8	Silt loam	CL, ML	A-4	0	0	95-100	95-100	85-100	75-100	25-35	2-10
	8-26	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	90-100	80-100	25-40	5-20
	26-71	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	90-100	80-100	25-40	5-20
	71-82	Silty clay loam, channery silt loam, silty clay	CL, GM, ML, SM, SC	A-4, A-6, A-7	0	0-9	70-100	60-100	55-100	45-100	20-50	2-30
	82-92	Weathered bedrock			---	---	---	---	---	---	---	---
Ne:												
Newark----------	0-9	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	92-100	85-100	80-100	2-31	2-10
	9-37	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	95-100	92-100	80-100	75-100	22-42	3-20
	37-105	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0-5	88-100	76-100	70-100	65-100	22-42	3-20
NhB:												
Nicholson-------	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	93-100	86-100	25-35	5-10
	8-24	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	87-100	83-100	25-45	5-20
	24-34	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	91-100	86-100	25-45	5-20
	34-48	Silty clay loam, silt loam, silty clay	CL, CL-ML	A-4, A-6, A-7	0	0-10	90-100	79-100	70-100	65-100	25-45	5-20
	48-80	Silty clay, clay, channery clay	CH, CL	A-6, A-7-6	0	0-15	76-100	63-100	60-100	55-100	34-70	16-40
NoA:												
Nolin-----------	0-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	85-100	80-100	25-40	5-18
	12-74	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	95-100	92-100	80-100	75-100	25-46	5-23
	74-80	Silt loam, silty clay loam, loam, gravelly loam	CL, CL-ML, GM, ML	A-4, A-6	0	0	70-100	50-100	45-100	40-100	2-29	2-15
OrA:												
Orrville--------	0-8	Loam	CL, CL-ML, ML	A-4	0	0	100	92-100	85-100	60-80	20-35	3-10
	8-40	Silt loam, loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0-2	94-100	79-100	70-95	50-90	20-40	2-16
	40-96	Loam, sandy loam, clay loam, silt loam	CL, ML, SC, SM	A-1, A-2, A-4	0	0-5	90-100	65-100	40-90	20-75	15-35	NP-10

Table 17.—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	
OtB:												
Otwood----------	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	92-100	79-100	65-94	25-35	5-15
	9-23	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	92-100	73-100	64-100	25-40	5-20
	23-53	Silty clay loam, silt loam	CL, CL-ML	A-6	0	0	90-100	76-100	70-100	50-95	25-40	5-20
	53-93	Silty clay loam, silt loam, loam	CL	A-6, A-7	0	0	90-100	76-100	70-100	40-98	35-50	20-30
	93-99	Stratified sandy loam to loam, stratified fine sandy loam to silty clay loam, stratified silt loam to clay, silty clay loam	CL, CL-ML	A-4, A-6	0	0	90-100	76-100	70-100	26-98	25-50	5-25
Pm. Pits, mine												
Pt. Pits, quarry												
Rb:												
Robertsville----	0-6	Silt loam	CL, ML	A-4	0	0	95-100	92-100	79-100	72-100	25-35	2-10
	6-19	Silt loam, silty clay loam	CL, ML	A-4, A-6, A-7	0	0	95-100	92-100	74-100	70-100	25-45	3-20
	19-69	Silty clay loam, silt loam	CL, ML	A-4, A-6, A-7	0	0	95-100	92-100	72-100	69-100	25-45	3-20
	69-100	Silty clay loam, silty clay, silt loam, sandy loam	CH, CL, CL-ML	A-4, A-6, A-7	0	0	85-100	70-100	42-100	38-100	25-60	5-35
RoF2:												
Rohan-----------	0-4	Channery silt loam	SM, GC, GC-GM, ML	A-4, A-6	0	0-8	45-100	18-92	15-80	10-65	25-40	3-15
	4-10	Extremely channery silty clay loam, very channery silty clay loam	GC, GC-GM, GM	A-2-6, A-6, A-7, A-1-b	0	5-12	38-65	21-53	20-50	15-40	25-45	3-20
	10-14	Weathered bedrock			---	---	---	---	---	---	---	---
	14-24	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
RoF2:												
Trappist--------	0-4	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	70-100	50-100	42-100	25-95	20-35	2-14
	4-18	Silty clay, clay, channery silty clay loam	CH, CL	A-6, A-7-6	0	0	70-100	50-100	45-100	35-95	35-60	12-30
	18-30	Very channery clay, very channery silty clay, channery clay	CH, CL, GC, SC	A-2, A-6, A-7-6	0	8-30	45-75	30-65	29-65	26-60	35-60	12-30
	30-35	Weathered bedrock			---	---	---	---	---	---	---	---
	35-39	Unweathered bedrock			---	---	---	---	---	---	---	---
SaB:												
Sandview--------	0-9	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	93-100	86-100	25-35	5-10
	9-30	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	70-100	53-100	25-45	5-20
	30-65	Silty clay, clay	CH, CL	A-7-6	0	0-3	93-100	88-100	70-100	64-100	45-75	20-45
	65-75	Unweathered bedrock			---	---	---	---	---	---	---	---
Lowell----------	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	92-100	90-100	70-100	22-32	3-10
	8-39	Silty clay, clay, silty clay loam	CH, CL, MH	A-6, A-7-6	0	0	92-100	85-100	80-100	75-100	35-65	15-32
	39-51	Channery clay, silty clay	CH, CL, MH	A-7-5	0-8	0-30	76-98	56-98	55-95	55-95	45-75	20-40
	51-55	Unweathered bedrock			---	---	---	---	---	---	---	---
ShB:												
Shelocta--------	0-7	Silt loam	CL-ML, ML	A-4	0	2-8	80-95	75-95	60-95	55-90	0-35	NP-10
	7-25	Silty clay loam, silt loam, channery silt loam	CL, CL-ML, GC, SC	A-4, A-6	0	5-15	55-95	50-95	45-95	40-90	25-40	4-15
	25-60	Channery silt loam, channery silty clay loam, very channery silt loam, very channery loam	CL, GC, GM, ML	A-4, A-6	3-15	3-30	55-95	50-95	45-95	40-90	20-40	3-20
	60-95	Channery silt loam, channery silty clay loam, very channery silt loam, channery loam	CL, GC, GM, ML	A-4, A-6	3-23	5-30	55-95	50-95	45-95	40-90	20-40	3-20
Skidmore--------	0-13	Gravelly silt loam, gravelly loam, loam	GM, ML, SM	A-2, A-4	0	0-15	70-100	45-100	40-77	25-60	15-30	NP-7
	13-64	Gravelly loam, extremely gravelly loam, very gravelly loam	SP-SM, GM, GP-GM, SW-SM	A-1-a, A-2	0	15-98	50-82	30-63	9-50	4-40	15-30	NP-5
	64-74	Weathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
SlD:												
Shelocta--------	0-7	Silt loam	CL-ML, ML	A-4	0	2-8	80-95	75-95	60-95	55-90	0-35	NP-10
	7-25	Silty clay loam, silt loam, channery silt loam	CL, CL-ML, GC, SC	A-4, A-6	0	5-15	55-95	50-95	45-95	40-90	25-40	4-15
	25-60	Channery silt loam, channery silty clay loam, very channery silt loam, very channery loam	CL, GC, GM, ML	A-4, A-6	3-15	3-30	55-95	50-95	45-95	40-90	20-40	3-20
	60-95	Channery silt loam, channery silty clay loam, very channery silt loam, channery loam	CL, GC, GM, ML	A-4, A-6	3-23	5-30	55-95	50-95	45-95	40-90	20-40	3-20
SpF2:												
Shelocta--------	0-5	Silt loam	CL-ML, ML	A-4	0	2-8	80-95	75-95	60-95	55-90	0-35	NP-10
	5-25	Silty clay loam, silt loam, channery silt loam	CL, CL-ML, GC, SC	A-4, A-6	0	5-15	55-95	50-95	45-95	40-90	25-40	4-15
	25-60	Channery silt loam, channery silty clay loam, very channery silt loam, very channery loam	CL, GC, GM, ML	A-4, A-6	3-15	3-30	55-95	50-95	45-95	40-90	20-40	3-20
	60-95	Channery silt loam, channery silty clay loam, very channery silt loam, channery loam	CL, GC, GM, ML	A-4, A-6	3-23	5-30	55-95	50-95	45-95	40-90	20-40	3-20
Gilpin----------	0-5	Silt loam	CL, CL-ML	A-4, A-6	0-5	5-7	85-98	70-98	65-98	55-95	20-40	4-15
	5-20	Loam, silt loam, channery silt loam, channery silty clay loam	CL, CL-ML	A-4, A-6	0-8	5-24	85-98	80-96	60-96	50-95	20-40	4-15
	20-36	Channery loam, channery silt loam, very channery loam, extremely channery silt loam	GC, GC-GM, CL	A-1, A-2, A-4, A-6	0-38	5-38	70-98	45-96	30-96	20-95	20-40	4-15
	36-46	Weathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
SrD2:												
Shrouts---------	0-4	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0	0-7	90-100	80-100	76-100	67-95	30-65	12-40
	4-18	Clay, silty clay	CH, CL	A-7-6	0	0-7	90-100	80-100	70-100	68-100	45-65	20-40
	18-30	Clay, silty clay, channery silty clay	CH, CL	A-7-6	---	0-15	76-100	63-100	60-100	55-100	45-70	20-40
	30-40	Weathered bedrock			---	---	---	---	---	---	---	---
Beasley---------	0-5	Silt loam	CL-ML, ML	A-4	0	0-3	90-100	88-100	80-100	75-95	25-35	4-10
	5-29	Silty clay, clay	CH, CL	A-7-6	0	0-3	90-100	88-100	85-100	75-98	45-70	20-40
	29-50	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0	0-5	86-100	70-100	65-100	60-95	35-65	15-35
	50-70	Weathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop.												
StE2:												
Shrouts---------	0-4	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0	0-7	90-100	80-100	76-100	67-95	30-65	12-40
	4-18	Clay, silty clay	CH, CL	A-7-6	0	0-7	90-100	80-100	70-100	68-100	45-65	20-40
	18-30	Clay, silty clay, channery silty clay	CH, CL	A-7-6	0	0-15	76-100	63-100	60-100	55-100	45-70	20-40
	30-40	Weathered bedrock			---	---	---	---	---	---	---	---
Beasley---------	0-5	Silt loam	CL-ML, ML	A-4	0	0-3	90-100	88-100	80-100	75-95	25-35	4-10
	5-29	Silty clay, clay	CH, CL	A-7-6	0	0-3	90-100	88-100	85-100	75-98	45-70	20-40
	29-50	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0	0-5	86-100	70-100	65-100	60-95	35-65	15-35
	50-70	Weathered bedrock			---	---	---	---	---	---	---	---
TlB:												
Tilsit----------	0-7	Silt loam	CL, CL-ML	A-6, A-4	0	0	92-100	85-100	80-100	75-100	20-35	4-15
	7-22	Silt loam, silty clay loam, loam	CL, CL-ML	A-4, A-6	0	0	92-100	85-100	75-100	65-100	25-40	5-20
	22-53	Silt loam, silty clay loam, loam	CL, CL-ML	A-4, A-6, A-7	0	0	70-100	45-100	40-100	35-100	25-45	5-25
	53-72	Channery silt loam, channery silty clay loam, channery silty clay, silt loam	CH, CL, CL-ML	A-4, A-6, A-7	0	0-15	70-100	45-100	40-95	35-90	25-60	5-35
	72-80	Weathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
TlC:												
Tilsit----------	0-7	Silt loam	CL, CL-ML	A-6, A-4	0	0	92-100	85-100	80-100	75-100	20-35	4-15
	7-22	Silt loam, silty clay loam, loam	CL, CL-ML	A-4, A-6	0	0	92-100	85-100	75-100	65-100	25-40	5-20
	22-53	Silt loam, silty clay loam, loam	CL, CL-ML	A-4, A-6, A-7	0	0	70-100	45-100	40-100	35-100	25-45	5-25
	53-72	Channery silt loam, channery silty clay loam, channery silty clay, silt loam	CH, CL, CL-ML	A-4, A-6, A-7	0	0-15	70-100	45-100	40-95	35-90	25-60	5-35
	72-80	Weathered bedrock			---	---	---	---	---	---	---	---
TrB2:												
Trappist--------	0-4	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	70-100	50-100	42-100	25-95	20-35	2-14
	4-18	Silty clay, clay, channery silty clay loam	CH, CL	A-6, A-7-6	0	0	70-100	50-100	45-100	35-95	35-60	12-30
	18-30	Very channery clay, very channery silty clay, channery clay	CH, CL, GC, SC	A-2, A-6, A-7-6	0	8-30	45-75	30-65	29-65	26-60	35-60	12-30
	30-35	Weathered bedrock			---	---	---	---	---	---	---	---
	35-39	Unweathered bedrock			---	---	---	---	---	---	---	---
TrC2:												
Trappist--------	0-4	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	70-100	50-100	42-100	25-95	20-35	2-14
	4-18	Silty clay, clay, channery silty clay loam	CH, CL	A-6, A-7-6	0	0	70-100	50-100	45-100	35-95	35-60	12-30
	18-30	Very channery clay, very channery silty clay, channery clay	CH, CL, GC, SC	A-2, A-6, A-7-6	0	8-30	45-75	30-65	29-65	26-60	35-60	12-30
	30-35	Weathered bedrock			---	---	---	---	---	---	---	---
	35-39	Unweathered bedrock			---	---	---	---	---	---	---	---
TsF2:												
Trappist--------	0-4	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	70-100	50-100	42-100	25-95	20-35	2-14
	4-18	Silty clay, clay, channery silty clay loam	CH, CL	A-6, A-7-6	0	0	70-100	50-100	45-100	35-95	35-60	12-30
	18-30	Very channery clay, very channery silty clay, channery clay	CH, CL, GC, SC	A-2, A-6, A-7-6	0	8-30	45-75	30-65	29-65	26-60	35-60	12-30
	30-35	Weathered bedrock			---	---	---	---	---	---	---	---
	35-39	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
TsF2:												
Muse	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	76-100	50-100	45-100	40-95	20-40	2-20
	9-26	Silty clay loam, silty clay, clay	CH, CL	A-6, A-7-6	0	0	76-100	50-100	45-100	40-100	35-65	15-35
	26-41	Silty clay, channery silty clay, very channery silty clay	CH, CL, GC, MH	A-2, A-7-6	0	0-3	50-100	31-100	30-95	25-95	40-75	20-40
	41-45	Weathered bedrock			---	---	---	---	---	---	---	---
	45-55	Unweathered bedrock			---	---	---	---	---	---	---	---
UnB:												
Uniontown	0-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	92-100	85-100	80-100	80-100	22-40	4-18
	12-23	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	92-100	85-100	80-100	75-100	33-44	15-23
	23-81	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	92-100	85-100	80-100	75-100	22-37	7-18
	81-100	Silty clay loam, silt loam	CL, CL-ML, ML	A-4	0	0	92-100	85-100	80-100	75-100	18-27	3-10
UrC:												
Urban land.												
Alfic Udarents	0-31	Silty clay, clay, silty clay loam	CH, CL, MH	A-6, A-7-6	0	0	92-100	85-100	80-100	75-100	35-65	15-32
	31-43	Channery clay, silty clay	CH, CL, MH	A-7-5	0-8	0-15	76-98	56-98	55-95	55-95	45-75	20-40
	43-47	Unweathered bedrock			---	---	---	---	---	---	---	---
UrD:												
Urban land.												
Alfic Udarents	0-31	Silty clay, clay, silty clay loam	CH, CL, MH	A-6, A-7-6	0	0	92-100	85-100	80-100	75-100	35-65	15-32
	31-43	Channery clay, silty clay	CH, CL, MH	A-7-5	0-8	0-15	76-98	56-98	55-95	55-95	45-75	20-40
	43-47	Unweathered bedrock			---	---	---	---	---	---	---	---
UsC:												
Urban land.												
Alfic Udarents	0-22	Silty clay, clay	CH, CL	A-7-6	0	0-3	90-100	88-100	85-100	75-98	45-70	20-40
	22-43	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0	0-5	86-100	70-100	65-100	60-95	35-65	15-35
	43-53	Weathered bedrock			---	---	---	---	---	---	---	---

Table 17.—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	
UsD:												
Urban land.												
Alfic Udarents--	0-22	Silty clay, clay	CH, CL	A-7-6	0	0-3	90-100	88-100	85-100	75-98	45-70	20-40
	22-43	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0	0-5	86-100	70-100	65-100	60-95	35-65	15-35
	43-53	Weathered bedrock			---	---	---	---	---	---	---	---
Ux.												
Urban land-Udorthents												
VeC:												
Vertrees--------	0-11	Silt loam	CL, ML, CL-ML	A-4	0	0-3	85-100	53-100	50-95	50-90	20-35	4-10
	11-82	Clay, silty clay, silty clay loam	CH, CL	A-7-6	0	0-3	85-100	72-100	70-99	65-95	41-70	25-45
	82-98	Clay, gravelly clay, silty clay	CH, CL, GC	A-7-6	0	0-3	76-100	56-100	50-92	45-90	41-70	25-45
VeD:												
Vertrees--------	0-11	Silt loam	CL, ML, CL-ML	A-4	0	0-3	85-100	53-100	50-95	50-90	20-35	4-10
	11-82	Clay, silty clay, silty clay loam	CH, CL	A-7-6	0	0-3	85-100	72-100	70-99	65-95	41-70	25-45
	82-98	Clay, gravelly clay, silty clay	CH, CL, GC	A-7-6	0	0-3	76-100	56-100	50-92	45-90	41-70	25-45
W.												
Water												
WoB:												
Woolper---------	0-11	Silt loam, silty clay loam	CL-ML, CL	A-6, A-4	0	0-5	91-100	81-100	70-98	60-90	25-35	6-15
	11-42	Silty clay, silty clay loam	CH, CL	A-6, A-7-6	0	0-8	70-100	56-100	50-100	45-100	35-65	15-40
	42-103	Clay, silty clay, silty clay loam	CH, CL	A-7-6	0	0-8	70-100	56-100	50-100	45-100	45-75	20-45

Table 18.—Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
AgB:														
Allegheny------------	0-10	23-52	28-50	15-27	1.20-1.40	4.23-14.00	0.12-0.22	0.0-2.9	1.0-4.0	.32	.32	4	8	0
	10-63	15-60	10-50	15-35	1.20-1.50	4.23-14.00	0.13-0.18	0.0-2.9	0.1-1.0	.28	.28			
	63-90	30-80	10-35	10-35	1.20-1.40	4.23-14.00	0.08-0.17	0.0-2.9	0.1-1.0	.28	.28			
Cotaco---------------	0-11	23-52	28-50	7-27	1.20-1.40	4.23-14.00	0.07-0.15	0.0-2.9	0.5-4.0	.43	.43	3	8	0
	11-41	23-80	20-50	10-35	1.20-1.50	4.23-14.00	0.07-0.15	0.0-2.9	0.5-1.0	.32	.32			
	41-99	23-80	20-50	10-35	1.20-1.50	1.40-14.00	0.07-0.15	0.0-2.9	0.0-0.5	.32	.32			
AgC:														
Allegheny------------	0-10	23-52	28-50	15-27	1.20-1.40	4.23-14.00	0.12-0.22	0.0-2.9	1.0-4.0	.32	.32	4	8	0
	10-63	15-60	10-50	15-35	1.20-1.50	4.23-14.00	0.13-0.18	0.0-2.9	0.1-1.0	.28	.28			
	63-90	30-80	10-35	10-35	1.20-1.40	4.23-14.00	0.08-0.17	0.0-2.9	0.1-1.0	.28	.28			
Cotaco---------------	0-11	23-52	28-50	7-27	1.20-1.40	4.23-14.00	0.07-0.15	0.0-2.9	0.5-4.0	.43	.43	3	8	0
	11-41	23-80	20-50	10-35	1.20-1.50	4.23-14.00	0.07-0.15	0.0-2.9	0.5-1.0	.32	.32			
	41-99	23-80	20-50	10-35	1.20-1.50	1.40-14.00	0.07-0.15	0.0-2.9	0.0-0.5	.32	.32			
AlD2:														
Allegheny------------	0-5	23-52	28-50	15-27	1.20-1.40	4.23-14.00	0.12-0.22	0.0-2.9	1.0-4.0	.32	.32	4	8	0
	5-63	15-60	10-50	15-35	1.20-1.50	4.23-14.00	0.13-0.18	0.0-2.9	0.1-1.0	.28	.28			
	63-90	30-80	10-35	10-35	1.20-1.40	4.23-14.00	0.08-0.17	0.0-2.9	0.1-1.0	.28	.28			
BaB:														
Beasley--------------	0-7	10-40	50-80	10-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	0.5-4.0	.43	.43	3	8	0
	7-29	2-10	30-60	40-65	1.30-1.55	1.40-4.23	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	29-50	---	30-60	35-65	1.50-1.70	0.10-1.00	0.09-0.15	3.0-5.9	0.0-0.5	.28	.28			
	50-70	---	---	---	---	---	---	---	---	---	---			
BcC2:														
Beasley--------------	0-5	10-40	50-80	10-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	0.5-4.0	.43	.43	3	8	0
	5-29	2-10	30-60	40-65	1.30-1.55	1.40-4.23	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	29-50	---	30-60	35-65	1.50-1.70	0.10-1.00	0.09-0.15	3.0-5.9	0.0-0.5	.28	.28			
	50-70	---	---	---	---	---	---	---	---	---	---			
BeD2:														
Beasley--------------	0-5	10-40	50-80	10-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	0.5-4.0	.43	.43	3	8	0
	5-29	2-10	30-60	40-65	1.30-1.55	1.40-4.23	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	29-50	---	30-60	35-65	1.50-1.70	0.10-1.00	0.09-0.15	3.0-5.9	0.0-0.5	.28	.28			
	50-70	---	---	---	---	---	---	---	---	---	---			

Table 18.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
BeD2:														
Shrouts	0-4	---	40-73	28-40	1.40-1.75	4.23-14.00	0.15-0.20	3.0-5.9	0.5-2.0	.32	.32	2	8	0
	4-18	---	35-60	40-65	1.40-1.65	0.42-1.41	0.13-0.17	3.0-5.9	0.0-0.5	.24	.28			
	18-30	---	35-60	40-65	1.40-1.80	0.10-1.00	0.08-0.14	3.0-5.9	0.0-0.5	.24	.28			
	30-40	---	---	---	---	---	---	---	---	---	---			
BrB:														
Berea	0-9	5-15	50-80	12-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	0.5-3.0	.37	.37	3	8	0
	9-21	2-25	40-80	18-35	1.25-1.45	1.40-14.00	0.16-0.22	0.0-2.9	0.0-0.3	.32	.32			
	21-31	2-10	35-70	27-60	1.30-1.50	0.10-1.00	0.08-0.15	3.0-5.9	0.0-0.3	.24	.28			
	31-36	---	---	---	---	---	---	---	---	---	---			
	36-46	---	---	---	---	---	---	---	---	---	---			
BrC:														
Berea	0-9	5-15	50-80	12-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	0.5-3.0	.37	.37	3	8	0
	9-21	2-25	40-80	18-35	1.25-1.45	1.40-14.00	0.16-0.22	0.0-2.9	0.0-0.3	.32	.32			
	21-31	2-10	35-70	27-60	1.30-1.50	0.10-1.00	0.08-0.15	3.0-5.9	0.0-0.3	.24	.28			
	31-36	---	---	---	---	---	---	---	---	---	---			
	36-46	---	---	---	---	---	---	---	---	---	---			
BsD:														
Berks	0-4	10-45	50-80	10-23	1.20-1.50	4.23-42.00	0.08-0.12	0.0-2.9	2.0-4.0	.17	.28	3	8	0
	4-27	10-49	28-79	10-26	1.20-1.60	4.23-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.17	.55			
	27-37	---	---	---	---	---	---	---	---	---	---			
BsF:														
Berks	0-4	10-45	50-80	10-23	1.20-1.50	4.23-42.00	0.08-0.12	0.0-2.9	2.0-4.0	.17	.28	3	8	0
	4-27	10-49	28-79	10-26	1.20-1.60	4.23-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.17	.55			
	27-37	---	---	---	---	---	---	---	---	---	---			
BvA:														
Blago	0-20	5-50	50-80	12-27	1.20-1.40	4.23-14.00	0.18-0.22	0.0-2.9	2.0-10	.43	.43	5	8	0
	20-43	2-20	35-70	35-60	1.25-1.50	0.42-4.23	0.14-0.18	3.0-5.9	0.5-1.2	.28	.28			
	43-90	2-15	35-70	30-60	1.40-1.65	0.01-0.10	0.10-0.15	3.0-5.9	0.2-0.5	.28	.28			
	90-95	---	---	---	---	---	---	---	---	---	---			
	95-105	---	---	---	---	---	---	---	---	---	---			
BwA:														
Boonewood	0-8	20-50	50-80	12-26	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	3.0-5.0	.37	.37	3	8	0
	8-27	5-30	40-80	12-34	1.20-1.40	4.23-14.00	0.06-0.12	0.0-2.9	0.0-0.5	.37	.37			
	27-32	2-20	50-80	12-34	1.20-1.40	4.23-14.00	0.06-0.12	0.0-2.9	0.0-0.5	.17	.37			
	32-36	---	---	---	---	---	---	---	---	---	---			
BxF:														
Brownsville	0-7	15-40	50-80	8-18	1.20-1.45	4.23-42.00	0.09-0.17	0.0-2.9	1.0-3.0	.20	.32	4	8	0
	7-25	10-52	28-80	8-18	1.30-1.60	4.23-42.00	0.07-0.14	0.0-2.9	0.3-1.0	.17	.32			
	25-46	10-52	28-80	8-18	1.30-1.60	14.00-42.00	0.03-0.12	0.0-2.9	0.0-0.3	.17	.32			
	46-56	---	---	---	---	---	---	---	---	---	---			

Table 18.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
BxF:														
Berks----------------	0-4	10-45	50-80	10-23	1.20-1.50	4.23-42.00	0.08-0.12	0.0-2.9	2.0-4.0	.17	.28	3	8	0
	4-27	10-49	28-79	10-26	1.20-1.60	4.23-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.17	.55			
	27-37	---	---	---	---	---	---	---	---	---	---			
CaE:														
Caneyville-----------	0-6	20-30	50-80	12-26	1.20-1.40	4.23-14.00	0.15-0.22	0.0-2.9	2.0-4.0	.43	.43	3	8	0
	6-30	2-10	30-60	27-60	1.35-1.60	0.10-1.00	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	30-40	---	---	---	---	---	---	---	---	---	---			
Bledsoe--------------	0-13	43-85	10-50	5-20	1.20-1.50	4.23-14.00	0.16-0.21	0.0-2.9	2.0-4.0	.37	.37	5	8	0
	13-54	5-20	40-70	35-50	1.30-1.60	1.40-4.23	0.12-0.19	3.0-5.9	0.0-0.5	.32	.32			
	54-84	5-15	35-70	30-60	1.35-1.60	0.10-1.00	0.12-0.19	3.0-5.9	0.0-0.5	.28	.28			
Rock outcrop.														
ChA:														
Chagrin--------------	0-11	23-52	28-50	10-27	1.20-1.40	4.23-14.00	0.20-0.24	0.0-2.9	2.0-4.0	.32	.32	5	8	0
	11-48	15-80	28-80	7-27	1.20-1.50	4.23-14.00	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32			
	48-96	5-90	10-80	5-27	1.20-1.40	4.23-14.00	0.08-0.20	0.0-2.9	0.3-1.0	.32	.32			
CoB:														
Cotaco---------------	0-11	23-52	28-50	7-27	1.20-1.40	4.23-14.00	0.07-0.15	0.0-2.9	0.5-4.0	.43	.43	3	8	0
	11-41	23-80	20-50	10-35	1.20-1.50	4.23-14.00	0.07-0.15	0.0-2.9	0.5-1.0	.32	.32			
	41-99	23-80	20-50	10-35	1.20-1.50	1.40-14.00	0.07-0.15	0.0-2.9	0.0-0.5	.32	.32			
CoC:														
Cotaco---------------	0-11	23-52	28-50	7-27	1.20-1.40	4.23-14.00	0.07-0.15	0.0-2.9	0.5-4.0	.43	.43	3	8	0
	11-41	23-80	20-50	10-35	1.20-1.50	4.23-14.00	0.07-0.15	0.0-2.9	0.5-1.0	.32	.32			
	41-99	23-80	20-50	10-35	1.20-1.50	1.40-14.00	0.07-0.15	0.0-2.9	0.0-0.5	.32	.32			
CpC:														
Covedale-------------	0-8	5-15	50-80	12-27	1.20-1.40	4.23-14.00	0.16-0.22	0.0-2.9	1.0-3.0	.32	.32	5	8	0
	8-42	2-15	38-73	18-42	1.20-1.60	1.40-4.23	0.10-0.16	0.0-2.9	0.0-0.5	.43	.43			
	42-72	2-15	35-60	40-60	1.40-1.65	0.42-1.41	0.08-0.14	3.0-5.9	0.0-0.2	.28	.28			
	72-76	---	---	---	---	---	---	---	---	---	---			
	76-86	---	---	---	---	---	---	---	---	---	---			
Trappist-------------	0-4	10-40	50-80	7-27	1.20-1.40	4.23-14.00	0.13-0.15	0.0-2.9	1.0-3.0	.37	.37	3	8	0
	4-18	5-20	30-80	30-60	1.40-1.65	1.40-4.23	0.08-0.18	3.0-5.9	0.0-0.5	.28	.32			
	18-30	5-30	30-60	40-60	1.40-1.60	0.42-1.41	0.05-0.12	3.0-5.9	0.0-0.5	.24	.28			
	30-35	---	---	---	---	---	---	---	---	---	---			
	35-39	---	---	---	---	---	---	---	---	---	---			

Table 18.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
CpD:														
Covedale-------------	0-8	5-15	50-80	12-27	1.20-1.40	4.23-14.00	0.16-0.22	0.0-2.9	1.0-3.0	.32	.32	5	8	0
	8-42	2-15	38-73	18-42	1.20-1.60	1.40-4.23	0.10-0.16	0.0-2.9	0.0-0.5	.43	.43			
	42-72	2-15	35-60	40-60	1.40-1.65	0.42-1.41	0.08-0.14	3.0-5.9	0.0-0.2	.28	.28			
	72-76	---	---	---	---	---	---	---	---	---	---			
	76-86	---	---	---	---	---	---	---	---	---	---			
Trappist-------------	0-4	10-40	50-80	7-27	1.20-1.40	4.23-14.00	0.13-0.15	0.0-2.9	1.0-3.0	.37	.37	3	8	0
	4-18	5-20	30-80	30-60	1.40-1.65	1.40-4.23	0.08-0.18	3.0-5.9	0.0-0.5	.28	.32			
	18-30	5-30	30-60	40-60	1.40-1.60	0.42-1.41	0.05-0.12	3.0-5.9	0.0-0.5	.24	.28			
	30-35	---	---	---	---	---	---	---	---	---	---			
	35-39	---	---	---	---	---	---	---	---	---	---			
CrA:														
Crider---------------	0-15	5-20	50-80	12-26	1.20-1.40	4.23-14.00	0.19-0.23	0.0-2.9	2.0-4.0	.32	.32	5	8	0
	15-34	5-20	40-80	12-34	1.20-1.45	4.23-14.00	0.18-0.23	0.0-2.9	0.0-0.5	.28	.28			
	34-92	2-10	30-73	27-50	1.20-1.55	4.23-14.00	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
CrB:														
Crider---------------	0-15	5-20	50-80	12-26	1.20-1.40	4.23-14.00	0.19-0.23	0.0-2.9	2.0-4.0	.32	.32	5	8	0
	15-34	5-20	40-80	12-34	1.20-1.45	4.23-14.00	0.18-0.23	0.0-2.9	0.0-0.5	.28	.28			
	34-92	2-10	30-73	27-50	1.20-1.55	4.23-14.00	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
CyD2:														
Cynthiana------------	0-3	5-15	40-73	27-40	1.20-1.40	4.23-14.00	0.15-0.20	3.0-5.9	1.0-4.0	.28	.37	2	8	0
	3-18	5-15	20-60	40-70	1.35-1.60	0.10-1.00	0.08-0.15	3.0-5.9	0.0-0.5	.28	.37			
	18-22	---	---	---	---	---	---	---	---	---	---			
Faywood--------------	0-3	5-19	40-73	27-38	1.30-1.40	4.23-14.00	0.18-0.22	0.0-2.9	1.0-2.0	.37	.37	3	8	0
	3-23	2-19	30-60	35-50	1.35-1.45	0.42-4.23	0.12-0.17	3.0-5.9	0.0-0.5	.28	.28			
	23-31	2-19	30-60	35-60	1.35-1.45	0.10-1.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	31-35	---	---	---	---	---	---	---	---	---	---			
CyE2:														
Cynthiana------------	0-3	5-15	40-73	27-40	1.20-1.40	4.23-14.00	0.15-0.20	3.0-5.9	1.0-4.0	.28	.37	2	8	0
	3-18	5-15	20-60	40-70	1.35-1.60	0.10-1.00	0.08-0.15	3.0-5.9	0.0-0.5	.28	.37			
	18-22	---	---	---	---	---	---	---	---	---	---			
Faywood--------------	0-3	5-19	40-73	27-38	1.30-1.40	4.23-14.00	0.18-0.22	0.0-2.9	1.0-2.0	.37	.37	3	8	0
	3-23	2-19	30-60	35-50	1.35-1.45	0.42-4.23	0.12-0.17	3.0-5.9	0.0-0.5	.28	.28			
	23-31	2-19	30-60	35-60	1.35-1.45	0.10-1.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	31-35	---	---	---	---	---	---	---	---	---	---			
DAM.														
Dam, large														

Table 18.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
EdD2:														
Eden------------------	0-3	5-20	40-73	27-40	1.35-1.55	0.42-4.23	0.12-0.18	3.0-5.9	0.5-3.0	.43	.43	3	8	0
	3-32	3-15	36-60	40-60	1.45-1.65	0.01-0.10	0.08-0.13	3.0-5.9	0.0-0.5	.20	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			
EeE2:														
Eden------------------	0-3	5-20	40-73	27-40	1.35-1.55	0.42-4.23	0.12-0.18	3.0-5.9	0.5-3.0	.43	.43	3	8	0
	3-32	3-15	36-60	40-60	1.45-1.65	0.01-0.10	0.08-0.13	3.0-5.9	0.0-0.5	.20	.28			
	32-42	---	---	---	---	---	---	---	---	---	---			
Lowell----------------	0-5	5-30	50-80	12-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	1.0-4.0	.37	.37	3	8	0
	5-39	3-15	30-70	35-60	1.30-1.60	0.42-4.23	0.13-0.19	3.0-5.9	0.0-0.5	.28	.28			
	39-51	3-15	25-60	40-70	1.50-1.60	0.42-1.41	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	51-55	---	---	---	---	---	---	---	---	---	---			
EkB:														
Elk-------------------	0-9	5-20	50-80	12-26	1.20-1.40	4.23-14.00	0.19-0.23	0.0-2.9	0.5-3.0	.37	.37	5	8	0
	9-29	2-15	50-80	12-34	1.20-1.40	4.23-14.00	0.19-0.23	0.0-2.9	0.5-1.0	.37	.37			
	29-62	2-15	40-80	12-38	1.20-1.50	4.23-14.00	0.18-0.22	0.0-2.9	0.5-1.0	.28	.28			
	62-102	2-15	40-80	20-50	1.20-1.50	4.23-14.00	0.14-0.20	0.0-2.9	0.0-0.5	.28	.28			
EkC:														
Elk-------------------	0-9	5-20	50-80	12-26	1.20-1.40	4.23-14.00	0.19-0.23	0.0-2.9	0.5-3.0	.37	.37	5	8	0
	9-29	2-15	50-80	12-34	1.20-1.40	4.23-14.00	0.19-0.23	0.0-2.9	0.5-1.0	.37	.37			
	29-62	2-15	40-80	12-38	1.20-1.50	4.23-14.00	0.18-0.22	0.0-2.9	0.5-1.0	.28	.28			
	62-102	2-15	40-80	20-50	1.20-1.50	4.23-14.00	0.14-0.20	0.0-2.9	0.0-0.5	.28	.28			
ElD2:														
Elk-------------------	0-5	5-20	50-80	12-26	1.20-1.40	4.23-14.00	0.19-0.23	0.0-2.9	0.5-3.0	.37	.37	5	8	0
	5-29	2-15	50-80	12-34	1.20-1.40	4.23-14.00	0.19-0.23	0.0-2.9	0.5-1.0	.37	.37			
	29-62	2-15	40-80	12-38	1.20-1.50	4.23-14.00	0.18-0.22	0.0-2.9	0.5-1.0	.28	.28			
	62-102	2-15	40-80	20-50	1.20-1.50	4.23-14.00	0.14-0.20	0.0-2.9	0.0-0.5	.28	.28			
FaF2:														
Fairmount-------------	0-5	---	40-73	27-40	1.20-1.40	0.42-4.23	0.12-0.20	3.0-5.9	3.0-7.0	.37	.43	2	8	0
	5-15	---	35-73	35-60	1.40-1.60	0.10-1.00	0.10-0.18	3.0-5.9	1.0-5.0	.28	.37			
	15-19	---	---	---	---	---	---	---	---	---	---			
Faywood---------------	0-3	5-19	40-73	27-38	1.30-1.40	4.23-14.00	0.18-0.22	0.0-2.9	1.0-2.0	.37	.37	3	8	0
	3-23	2-19	30-60	35-50	1.35-1.45	0.42-4.23	0.12-0.17	3.0-5.9	0.0-0.5	.28	.28			
	23-31	2-19	30-60	35-60	1.35-1.45	0.10-1.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	31-35	---	---	---	---	---	---	---	---	---	---			
FyB2:														
Faywood---------------	0-3	5-19	40-73	27-38	1.30-1.40	4.23-14.00	0.18-0.22	0.0-2.9	1.0-2.0	.37	.37	3	8	0
	3-23	2-19	30-60	35-50	1.35-1.45	0.42-4.23	0.12-0.17	3.0-5.9	0.0-0.5	.28	.28			
	23-31	2-19	30-60	35-60	1.35-1.45	0.10-1.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	31-35	---	---	---	---	---	---	---	---	---	---			

Table 18.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
FyB2:														
Lowell---------------	0-5	5-30	50-80	12-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	1.0-4.0	.37	.37	3	8	0
	5-39	3-15	30-70	35-60	1.30-1.60	0.42-4.23	0.13-0.19	3.0-5.9	0.0-0.5	.28	.28			
	39-51	3-15	25-60	40-70	1.50-1.60	0.42-1.41	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	51-55	---	---	---	---	---	---	---	---	---	---			
FyC2:														
Faywood--------------	0-3	5-19	40-73	27-38	1.30-1.40	4.23-14.00	0.18-0.22	0.0-2.9	1.0-2.0	.37	.37	3	8	0
	3-23	2-19	30-60	35-50	1.35-1.45	0.42-4.23	0.12-0.17	3.0-5.9	0.0-0.5	.28	.28			
	23-31	2-19	30-60	35-60	1.35-1.45	0.10-1.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	31-35	---	---	---	---	---	---	---	---	---	---			
Lowell---------------	0-5	5-30	50-80	12-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	1.0-4.0	.37	.37	3	8	0
	5-39	3-15	30-70	35-60	1.30-1.60	0.42-4.23	0.13-0.19	3.0-5.9	0.0-0.5	.28	.28			
	39-51	3-15	25-60	40-70	1.50-1.60	0.42-1.41	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	51-55	---	---	---	---	---	---	---	---	---	---			
FyD2:														
Faywood--------------	0-3	5-19	40-73	27-38	1.30-1.40	6.00-14.00	0.18-0.22	0.0-2.9	1.0-2.0	.37	.37	3	8	0
	3-23	2-19	30-60	35-50	1.35-1.45	0.42-4.23	0.12-0.17	3.0-5.9	0.0-0.5	.28	.28			
	23-31	2-19	30-60	35-60	1.35-1.45	0.10-1.00	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	31-35	---	---	---	---	---	---	---	---	---	---			
Lowell---------------	0-5	5-30	50-80	12-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	1.0-4.0	.37	.37	3	8	0
	5-39	3-15	30-70	35-60	1.30-1.60	0.42-4.23	0.13-0.19	3.0-5.9	0.0-0.5	.28	.28			
	39-51	3-15	25-60	40-70	1.50-1.60	0.42-1.41	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	51-55	---	---	---	---	---	---	---	---	---	---			
GlB:														
Gilpin---------------	0-7	2-49	50-80	12-26	1.20-1.40	4.23-14.00	0.12-0.18	0.0-2.9	2.0-4.0	.32	.32	3	8	0
	7-20	2-49	30-80	10-34	1.20-1.50	4.23-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	20-36	2-49	30-80	10-26	1.20-1.50	4.23-14.00	0.08-0.12	0.0-2.9	0.0-0.5	.24	.32			
	36-46	---	---	---	---	---	---	---	---	---	---			
GpD2:														
Gilpin---------------	0-5	2-49	50-80	12-26	1.20-1.40	4.23-14.00	0.12-0.18	0.0-2.9	2.0-4.0	.32	.32	3	8	0
	5-20	2-49	30-80	10-34	1.20-1.50	4.23-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	20-36	2-49	30-80	10-26	1.20-1.50	4.23-14.00	0.08-0.12	0.0-2.9	0.0-0.5	.24	.32			
	36-46	---	---	---	---	---	---	---	---	---	---			
GpE2:														
Gilpin---------------	0-5	2-49	50-80	12-26	1.20-1.40	4.23-14.00	0.12-0.18	0.0-2.9	2.0-4.0	.32	.32	3	8	0
	5-20	2-49	30-80	10-34	1.20-1.50	4.23-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	20-36	2-49	30-80	10-26	1.20-1.50	4.23-14.00	0.08-0.12	0.0-2.9	0.0-0.5	.24	.32			
	36-46	---	---	---	---	---	---	---	---	---	---			

Table 18.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
GrA:														
Grigsby--------------	0-12	43-85	10-50	5-15	1.20-1.50	14.00-42.00	0.08-0.14	0.0-2.9	1.0-4.0	.28	.28	5	8	0
	12-59	43-85	20-60	5-25	1.20-1.50	14.00-42.00	0.08-0.14	0.0-2.9	1.0-4.0	.28	.28			
	59-96	43-85	20-50	5-15	1.20-1.50	14.00-42.00	0.03-0.16	0.0-2.9	0.5-3.0	.20	.20			
HeF:														
Helechawa------------	0-9	---	15-50	4-15	1.10-1.40	14.00-42.00	0.10-0.18	0.0-2.9	2.0-4.0	.15	.15	4	8	0
	9-33	43-90	5-40	5-15	1.35-1.70	14.00-42.00	0.08-0.14	0.0-2.9	0.0-0.5	.15	.15			
	33-70	43-85	10-40	5-15	1.50-1.70	14.00-42.00	0.08-0.13	0.0-2.9	0.0-0.5	.15	.15			
	70-80	---	---	---	---	---	---	---	---	---	---			
Alticrest------------	0-8	43-85	10-40	8-18	1.40-1.55	14.00-42.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.20	2	8	0
	8-28	43-85	10-40	8-18	1.40-1.55	14.00-42.00	0.10-0.16	0.0-2.9	0.0-0.5	.20	.20			
	28-38	---	---	---	---	---	---	---	---	---	---			
Rock outcrop.														
Ho:														
Holly----------------	0-10	23-52	28-50	15-27	1.20-1.40	4.23-14.00	0.20-0.24	0.0-2.9	2.0-5.0	.28	.28	5	8	0
	10-35	23-80	28-70	15-27	1.20-1.50	4.23-14.00	0.17-0.21	0.0-2.9	0.5-2.0	.28	.28			
	35-80	23-80	28-70	10-27	1.20-1.45	0.10-1.00	0.10-0.20	0.0-2.9	0.5-2.0	.28	.28			
JoA:														
Johnsburg------------	0-9	5-30	50-80	12-27	1.30-1.45	4.23-14.00	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	3	8	0
	9-24	5-50	40-80	22-32	1.40-1.55	4.23-14.00	0.18-0.22	3.0-5.9	0.0-0.5	.43	.43			
	24-64	5-50	40-80	22-30	1.60-1.80	0.00-0.10	0.06-0.08	0.0-2.9	0.0-0.5	.43	.43			
	64-82	5-50	40-80	14-20	1.40-1.55	0.42-2.32	0.12-0.14	0.0-2.9	0.0-0.5	.43	.43			
LaA:														
Lawrence-------------	0-10	5-19	50-80	12-26	1.20-1.40	4.23-14.00	0.19-0.23	0.0-2.9	1.0-4.0	.43	.43	3	8	0
	10-18	2-15	50-80	12-34	1.40-1.60	4.23-14.00	0.18-0.22	0.0-2.9	0.0-0.5	.37	.37			
	18-62	2-15	50-80	12-34	1.50-1.70	0.00-0.10	0.08-0.12	0.0-2.9	0.0-0.5	.43	.43			
	62-88	2-15	40-80	12-45	1.50-1.70	0.42-4.23	0.08-0.12	0.0-2.9	0.0-0.5	.37	.37			
	88-98	2-25	40-80	12-45	1.50-1.70	0.42-4.23	0.08-0.12	0.0-2.9	0.0-0.5	.37	.37			
LbA:														
Lobdell--------------	0-11	23-52	28-50	10-27	1.20-1.40	4.23-14.00	0.20-0.24	0.0-2.9	2.0-4.0	.32	.32	5	8	0
	11-46	28-80	28-80	7-27	1.20-1.50	4.23-14.00	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32			
	46-96	23-90	10-80	5-27	1.20-1.40	1.40-14.00	0.08-0.20	0.0-2.9	0.3-1.0	.32	.32			
LoB:														
Lowell---------------	0-8	5-30	50-80	12-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	1.0-4.0	.37	.37	3	8	0
	8-39	3-15	30-70	35-60	1.30-1.60	0.42-4.23	0.13-0.19	3.0-5.9	0.0-0.5	.28	.28			
	39-51	3-15	25-60	40-70	1.50-1.60	0.42-1.41	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	51-55	---	---	---	---	---	---	---	---	---	---			

Table 18.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
LoC:														
Lowell	0-8	5-30	50-80	12-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	1.0-4.0	.37	.37	3	8	0
	8-39	3-15	30-70	35-60	1.30-1.60	0.42-4.23	0.13-0.19	3.0-5.9	0.0-0.5	.28	.28			
	39-51	3-15	25-60	40-70	1.50-1.60	0.42-1.41	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	51-55	---	---	---	---	---	---	---	---	---	---			
LwC:														
Lowell	0-8	5-30	50-80	12-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	1.0-4.0	.37	.37	3	8	0
	8-39	3-15	30-70	35-60	1.30-1.60	0.42-4.23	0.13-0.19	3.0-5.9	0.0-0.5	.28	.28			
	39-51	3-15	25-60	40-70	1.50-1.60	0.42-1.41	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	51-55	---	---	---	---	---	---	---	---	---	---			
Woolper	0-11	15-30	50-80	20-40	1.30-1.50	4.23-14.00	0.18-0.22	0.0-2.9	4.0-6.0	.37	.37	3	8	0
	11-42	5-19	40-73	27-60	1.30-1.55	1.41-14.00	0.13-0.19	3.0-5.9	0.0-0.5	.28	.28			
	42-103	5-19	30-73	27-60	1.45-1.65	0.10-1.00	0.12-0.17	3.0-5.9	0.0-0.5	.28	.28			
Me:														
Melvin	0-9	5-19	50-80	12-26	1.20-1.60	4.23-14.00	0.18-0.23	0.0-2.9	0.5-3.0	.43	.43	5	8	0
	9-62	5-19	40-80	12-34	1.30-1.60	4.23-14.00	0.18-0.23	0.0-2.9	0.5-2.0	.43	.43			
	62-92	2-50	30-80	10-34	1.40-1.70	0.10-1.00	0.16-0.23	0.0-2.9	0.2-1.0	.43	.43			
MoB:														
Morehead	0-14	5-30	50-80	12-27	1.20-1.50	4.23-14.00	0.19-0.23	0.0-2.9	1.0-4.0	.37	.37	4	8	0
	14-36	---	40-80	18-35	1.20-1.50	4.23-14.00	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43			
	36-65	---	40-80	20-45	1.20-1.50	1.40-14.00	0.15-0.22	0.0-2.9	0.0-0.5	.43	.43			
	65-75	---	---	---	---	---	---	---	---	---	---			
Mu:														
Mullins	0-8	5-40	50-80	12-27	1.20-1.40	4.23-14.00	0.19-0.23	0.0-2.9	1.0-4.0	.43	.43	3	8	0
	8-26	5-40	40-80	18-35	1.40-1.60	4.23-14.00	0.18-0.23	0.0-2.9	0.0-0.5	.43	.43			
	26-71	5-40	40-80	18-35	1.50-1.70	0.00-0.10	0.08-0.12	0.0-2.9	0.0-0.5	.43	.43			
	71-82	5-40	40-80	18-60	1.50-1.70	0.42-4.23	0.08-0.12	0.0-2.9	0.0-0.5	.37	.37			
	82-92	---	---	---	---	---	---	---	---	---	---			
Ne:														
Newark	0-9	5-19	40-80	12-26	1.20-1.40	4.23-14.00	0.15-0.23	0.0-2.9	1.0-4.0	.43	.43	5	8	0
	9-37	5-19	40-80	12-34	1.20-1.45	4.23-14.00	0.18-0.23	0.0-2.9	0.0-0.5	.43	.43			
	37-105	2-15	40-80	12-34	1.30-1.50	1.40-14.00	0.15-0.22	0.0-2.9	0.0-0.5	.43	.43			
NhB:														
Nicholson	0-8	5-19	50-80	12-26	1.20-1.40	4.23-14.00	0.19-0.23	0.0-2.9	2.0-4.0	.43	.43	3	8	0
	8-24	2-15	40-80	12-34	1.40-1.60	4.23-14.00	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43			
	24-34	2-15	40-80	12-40	1.50-1.70	0.00-0.10	0.07-0.12	0.0-2.9	0.0-0.5	.43	.43			
	34-48	2-15	40-80	12-50	1.40-1.60	0.42-4.23	0.07-0.22	0.0-2.9	0.0-0.5	.43	.43			
	48-80	2-15	30-59	40-70	1.40-1.60	0.42-4.23	0.07-0.12	3.0-5.9	0.0-0.5	.28	.28			

Table 18.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
NoA:														
Nolin----------------	0-12	5-19	50-80	12-26	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	2.0-4.0	.43	.43	5	8	0
	12-74	5-19	50-80	12-34	1.25-1.50	4.23-14.00	0.18-0.23	0.0-2.9	0.3-2.0	.43	.43			
	74-80	15-52	28-80	10-34	1.30-1.55	4.23-14.00	0.10-0.23	0.0-2.9	0.3-2.0	.43	.43			
OrA:														
Orrville-------------	0-8	23-52	28-50	12-27	1.25-1.45	4.23-14.00	0.18-0.22	0.0-2.9	2.0-4.0	.37	.37	5	8	0
	8-40	18-52	28-60	7-34	1.30-1.50	4.23-14.00	0.15-0.19	0.0-2.9	0.5-1.0	.37	.37			
	40-96	23-60	28-60	7-34	1.20-1.40	1.40-14.00	0.08-0.15	0.0-2.9	0.1-0.3	.37	.37			
OtB:														
Otwood---------------	0-9	20-49	50-80	12-26	1.25-1.40	4.23-14.00	0.22-0.24	0.0-2.9	0.5-2.0	.43	.43	3	8	0
	9-23	19-49	40-80	12-34	1.30-1.50	4.23-14.00	0.18-0.22	3.0-5.9	0.0-0.5	.43	.43			
	23-53	2-49	40-80	12-34	1.60-1.80	0.00-0.10	0.06-0.08	3.0-5.9	0.0-0.5	.43	.43			
	53-93	2-49	28-80	10-34	1.50-1.65	0.42-4.23	0.06-0.08	3.0-5.9	0.0-0.5	.43	.43			
	93-99	2-49	0-80	0-41	1.55-1.65	1.40-4.23	0.19-0.21	0.0-2.9	0.0-0.5	.37	.37			
Pm.														
Pits, mine														
Pt.														
Pits, quarry														
Rb:														
Robertsville---------	0-6	2-19	50-80	12-26	1.30-1.50	4.23-14.00	0.19-0.23	0.0-2.9	1.0-3.0	.43	.43	3	8	0
	6-19	2-19	40-80	12-34	1.40-1.60	4.23-14.00	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43			
	19-69	2-19	40-80	12-34	1.50-1.65	0.00-0.10	0.08-0.12	0.0-2.9	0.0-0.5	.43	.43			
	69-100	5-50	40-80	7-40	1.40-1.60	0.42-4.23	0.08-0.12	0.0-2.9	0.0-0.5	.37	.37			
RoF2:														
Rohan----------------	0-4	---	50-80	15-27	1.20-1.50	4.23-14.00	0.10-0.16	0.0-2.9	0.5-3.0	.28	.32	2	8	0
	4-10	5-18	40-73	15-34	1.20-1.60	0.10-1.00	0.04-0.10	0.0-2.9	0.0-0.5	.24	.28			
	10-14	---	---	---	---	---	---	---	---	---	---			
	14-24	---	---	---	---	---	---	---	---	---	---			
Trappist-------------	0-4	10-40	50-80	7-27	1.20-1.40	4.23-14.00	0.13-0.15	0.0-2.9	1.0-3.0	.37	.37	3	8	0
	4-18	5-20	30-80	30-60	1.40-1.65	1.40-4.23	0.08-0.18	3.0-5.9	0.0-0.5	.28	.32			
	18-30	5-30	30-60	40-60	1.40-1.60	0.42-1.41	0.05-0.12	3.0-5.9	0.0-0.5	.24	.28			
	30-35	---	---	---	---	---	---	---	---	---	---			
	35-39	---	---	---	---	---	---	---	---	---	---			
SaB:														
Sandview-------------	0-9	2-19	50-80	12-26	1.30-1.40	4.23-14.00	0.18-0.23	0.0-2.9	1.0-4.0	.37	.37	5	8	0
	9-30	2-19	40-80	12-34	1.30-1.45	4.23-14.00	0.18-0.23	0.0-2.9	0.0-0.5	.32	.32			
	30-65	2-19	30-60	40-60	1.35-1.60	4.23-14.00	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	65-75	---	---	---	---	---	---	---	---	---	---			

Table 18.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
SaB:														
Lowell---------------	0-8	5-30	50-80	12-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	1.0-4.0	.37	.37	3	8	0
	8-39	3-15	30-70	35-60	1.30-1.60	0.42-4.23	0.13-0.19	3.0-5.9	0.0-0.5	.28	.28			
	39-51	3-15	25-60	40-70	1.50-1.60	0.42-1.41	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	51-55	---	---	---	---	---	---	---	---	---	---			
ShB:														
Shelocta-------------	0-7	5-50	50-80	12-27	1.15-1.30	4.23-14.00	0.16-0.22	0.0-2.9	0.5-5.0	.32	.32	4	8	0
	7-25	5-20	40-80	10-34	1.30-1.55	4.23-14.00	0.10-0.20	0.0-2.9	0.2-0.8	.28	.32			
	25-60	5-52	28-80	10-34	1.30-1.55	4.23-14.00	0.08-0.16	0.0-2.9	0.0-0.5	.17	.28			
	60-95	5-52	---	10-34	1.30-1.55	4.23-14.00	0.08-0.16	0.0-2.9	0.0-0.5	.17	.28			
Skidmore-------------	0-13	15-52	28-80	7-18	1.20-1.40	14.00-42.00	0.07-0.13	0.0-2.9	0.5-2.0	.20	.20	5	8	0
	13-64	---	28-50	7-18	1.30-1.60	4.23-14.00	0.04-0.10	0.0-2.9	0.0-0.5	.17	.24			
	64-74	---	---	---	---	---	---	---	---	---	---			
SlD:														
Shelocta-------------	0-7	5-50	50-80	12-27	1.15-1.30	4.23-14.00	0.16-0.22	0.0-2.9	0.5-5.0	.32	.32	4	8	0
	7-25	5-20	40-80	10-34	1.30-1.55	4.23-14.00	0.10-0.20	0.0-2.9	0.2-0.8	.28	.32			
	25-60	5-52	28-80	10-34	1.30-1.55	4.23-14.00	0.08-0.16	0.0-2.9	0.0-0.5	.17	.28			
	60-95	5-52	28-80	10-34	1.30-1.55	4.23-14.00	0.08-0.16	0.0-2.9	0.0-0.5	.17	.28			
SpF2:														
Shelocta-------------	0-5	5-50	50-80	12-27	1.15-1.30	4.23-14.00	0.16-0.22	0.0-2.9	0.5-5.0	.32	.32	4	8	0
	5-25	5-20	40-80	10-34	1.30-1.55	4.23-14.00	0.10-0.20	0.0-2.9	0.2-0.8	.28	.32			
	25-60	5-52	28-80	10-34	1.30-1.55	4.23-14.00	0.08-0.16	0.0-2.9	0.0-0.5	.17	.28			
	60-95	5-52	28-80	10-34	1.30-1.55	4.23-14.00	0.08-0.16	0.0-2.9	0.0-0.5	.17	.28			
Gilpin---------------	0-5	2-49	50-80	12-26	1.20-1.40	4.23-14.00	0.12-0.18	0.0-2.9	2.0-4.0	.32	.32	3	8	0
	5-20	2-49	30-80	10-34	1.20-1.50	4.23-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	20-36	2-49	30-80	10-26	1.20-1.50	4.23-14.00	0.08-0.12	0.0-2.9	0.0-0.5	.24	.32			
	36-46	---	---	---	---	---	---	---	---	---	---			
SrD2:														
Shrouts--------------	0-4	---	40-73	28-40	1.40-1.75	4.23-14.00	0.15-0.20	3.0-5.9	0.5-2.0	.32	.32	2	8	0
	4-18	---	35-60	40-65	1.40-1.65	0.42-1.41	0.13-0.17	3.0-5.9	0.0-0.5	.24	.28			
	18-30	---	35-60	40-65	1.40-1.80	0.10-1.00	0.08-0.14	3.0-5.9	0.0-0.5	.24	.28			
	30-40	---	---	---	---	---	---	---	---	---	---			
Beasley--------------	0-5	10-40	50-80	10-27	1.20-1.40	4.23-14.00	0.18-0.23	0.0-2.9	0.5-4.0	.43	.43	3	8	0
	5-29	2-10	30-60	40-65	1.30-1.55	1.40-4.23	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	29-50	---	30-60	35-65	1.50-1.70	0.10-1.00	0.09-0.15	3.0-5.9	0.0-0.5	.28	.28			
	50-70	---	---	---	---	---	---	---	---	---	---			
Rock outcrop.														

Table 18.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
StE2:														
Shrouts---------------	0-4	---	40-73	28-40	1.40-1.75	4.23-14.00	0.15-0.20	3.0-5.9	0.5-2.0	.32	.32	2	8	0
	4-18	---	35-60	40-65	1.40-1.65	0.42-1.41	0.13-0.17	3.0-5.9	0.0-0.5	.24	.28			
	18-30	---	35-60	40-65	1.40-1.80	0.10-1.00	0.08-0.14	3.0-5.9	0.0-0.5	.24	.28			
	30-40	---	---	---	---	---	---	---	---	---	---			
Beasley---------------	0-5	10-40	50-80	10-27	1.20-1.40	4.23-10.00	0.18-0.23	0.0-2.9	0.5-4.0	.43	.43	3	8	0
	5-29	2-10	30-60	40-65	1.30-1.55	1.40-4.23	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	29-50	---	30-60	35-65	1.50-1.70	0.10-1.00	0.09-0.15	3.0-5.9	0.0-0.5	.28	.28			
	50-70	---	---	---	---	---	---	---	---	---	---			
TlB:														
Tilsit----------------	0-7	5-49	50-80	12-26	1.20-1.55	4.23-14.00	0.16-0.22	0.0-2.9	1.0-3.0	.43	.43	3	8	0
	7-22	5-49	30-80	7-34	1.30-1.55	4.23-14.00	0.16-0.22	0.0-2.9	0.0-0.5	.43	.43			
	22-53	5-49	30-80	7-34	1.40-1.65	0.00-0.10	0.08-0.12	0.0-2.9	0.0-0.5	.43	.43			
	53-72	2-49	40-80	12-45	1.40-1.60	0.42-4.23	0.08-0.12	0.0-2.9	0.0-0.5	.43	.43			
	72-80	---	---	---	---	---	---	---	---	---	---			
TlC:														
Tilsit----------------	0-7	5-49	50-80	12-26	1.20-1.55	4.23-14.00	0.16-0.22	0.0-2.9	1.0-3.0	.43	.43	3	8	0
	7-22	5-49	30-80	7-34	1.30-1.55	4.23-14.00	0.16-0.22	0.0-2.9	0.0-0.5	.43	.43			
	22-53	5-49	30-80	7-34	1.40-1.65	0.00-0.10	0.08-0.12	0.0-2.9	0.0-0.5	.43	.43			
	53-72	2-49	40-80	12-45	1.40-1.60	0.42-4.23	0.08-0.12	0.0-2.9	0.0-0.5	.43	.43			
	72-80	---	---	---	---	---	---	---	---	---	---			
TrB2:														
Trappist--------------	0-4	10-40	50-80	7-27	1.20-1.40	4.23-14.00	0.13-0.15	0.0-2.9	1.0-3.0	.37	.37	3	8	0
	4-18	5-20	30-80	30-60	1.40-1.65	1.40-4.23	0.08-0.18	3.0-5.9	0.0-0.5	.28	.32			
	18-30	5-30	30-60	40-60	1.40-1.60	0.42-1.41	0.05-0.12	3.0-5.9	0.0-0.5	.24	.28			
	30-35	---	---	---	---	---	---	---	---	---	---			
	35-39	---	---	---	---	---	---	---	---	---	---			
TrC2:														
Trappist--------------	0-4	10-40	50-80	7-27	1.20-1.40	4.23-14.00	0.13-0.15	0.0-2.9	1.0-3.0	.37	.37	3	8	0
	4-18	5-20	30-80	30-60	1.40-1.65	1.40-4.23	0.08-0.18	3.0-5.9	0.0-0.5	.28	.32			
	18-30	5-30	30-60	40-60	1.40-1.60	0.42-1.41	0.05-0.12	3.0-5.9	0.0-0.5	.24	.28			
	30-35	---	---	---	---	---	---	---	---	---	---			
	35-39	---	---	---	---	---	---	---	---	---	---			
TsF2:														
Trappist--------------	0-4	10-40	50-80	7-27	1.20-1.40	4.23-14.00	0.13-0.15	0.0-2.9	1.0-3.0	.37	.37	3	8	0
	4-18	5-20	30-80	30-60	1.40-1.65	1.40-4.23	0.08-0.18	3.0-5.9	0.0-0.5	.28	.32			
	18-30	5-30	30-60	40-60	1.40-1.60	0.42-1.41	0.05-0.12	3.0-5.9	0.0-0.5	.24	.28			
	30-35	---	---	---	---	---	---	---	---	---	---			
	35-39	---	---	---	---	---	---	---	---	---	---			

Table 18.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
TsF2:														
Muse-----------------	0-9	10-30	50-80	12-27	1.20-1.40	4.23-14.00	0.16-0.22	0.0-2.9	1.0-3.0	.37	.37	3	8	0
	9-26	5-20	35-73	28-60	1.20-1.65	1.40-4.23	0.10-0.16	3.0-5.9	0.8-2.0	.28	.28			
	26-41	3-15	40-60	40-60	1.40-1.65	0.42-1.41	0.08-0.14	3.0-5.9	0.5-1.2	.24	.28			
	41-45	---	---	---	---	---	---	---	---	---	---			
	45-55	---	---	---	---	---	---	---	---	---	---			
UnB:														
Uniontown------------	0-12	1-15	64-85	14-26	1.30-1.65	4.23-14.00	0.17-0.26	0.0-2.9	1.0-2.5	.49	.49	5	8	0
	12-23	1-10	58-77	22-32	1.40-1.70	4.23-14.00	0.14-0.21	3.0-5.9	0.5-0.8	.49	.49			
	23-81	1-10	64-87	12-32	1.40-1.60	4.23-14.00	0.16-0.21	0.0-2.9	0.2-0.5	.49	.49			
	81-100	1-10	64-91	8-32	1.40-1.60	1.40-14.00	0.16-0.20	0.0-2.9	0.0-0.5	.49	.49			
UrC:														
Urban land.														
Alfic Udarents-------	0-31	3-15	30-70	35-60	1.30-1.60	0.42-4.23	0.13-0.19	3.0-5.9	0.0-0.5	.28	.28	--	---	---
	31-43	3-15	25-60	40-70	1.50-1.60	0.42-1.41	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	43-47	---	---	---	---	---	---	---	---	---	---			
UrD:														
Urban land.														
Alfic Udarents-------	0-31	3-15	30-70	35-60	1.30-1.60	0.42-4.23	0.13-0.19	3.0-5.9	0.0-0.5	.28	.28	--	---	---
	31-43	3-15	25-60	40-70	1.50-1.60	0.42-1.41	0.12-0.17	3.0-5.9	0.0-0.5	.24	.28			
	43-47	---	---	---	---	---	---	---	---	---	---			
UsC:														
Urban land.														
Alfic Udarents-------	0-22	2-10	30-60	40-65	1.30-1.55	1.40-4.23	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28	--	---	---
	22-43	---	30-60	35-65	1.50-1.70	1.40-4.23	0.09-0.15	3.0-5.9	0.0-0.5	.28	.28			
	43-53	---	---	---	---	---	---	---	---	---	---			
UsD:														
Urban land.														
Alfic Udarents-------	0-22	2-10	30-60	40-65	1.30-1.55	1.40-4.23	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28	--	---	---
	22-43	---	30-60	35-65	1.50-1.70	1.40-4.23	0.09-0.15	3.0-5.9	0.0-0.5	.28	.28			
	43-53	---	---	---	---	---	---	---	---	---	---			
Ux.														
Urban land-Udorthents														

Table 18.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
VeC:														
Vertrees	0-11	---	50-80	15-27	1.20-1.40	4.23-14.00	0.18-0.22	0.0-2.9	2.0-4.0	.37	.37	4	8	0
	11-82	---	35-70	35-60	1.40-1.65	1.40-4.23	0.14-0.18	3.0-5.9	0.0-0.5	.28	.28			
	82-98	---	30-60	40-70	1.45-1.65	0.10-1.00	0.10-0.16	3.0-5.9	0.0-0.5	.28	.28			
VeD:														
Vertrees	0-11	---	50-80	15-27	1.20-1.40	4.23-14.00	0.18-0.22	0.0-2.9	2.0-4.0	.37	.37	4	8	0
	11-82	---	35-70	35-60	1.40-1.65	1.40-4.23	0.14-0.18	3.0-5.9	0.0-0.5	.28	.28			
	82-98	---	30-60	40-70	1.45-1.65	0.10-1.00	0.10-0.16	3.0-5.9	0.0-0.5	.28	.28			
W.														
Water														
WoB:														
Woolper	0-11	15-30	50-80	20-40	1.30-1.50	4.23-14.00	0.18-0.22	0.0-2.9	4.0-6.0	.37	.37	3	8	0
	11-42	5-19	40-73	27-60	1.30-1.55	1.41-4.23	0.13-0.19	3.0-5.9	0.0-0.5	.28	.28			
	42-103	5-19	30-73	27-60	1.45-1.65	0.10-1.00	0.12-0.17	3.0-5.9	0.0-0.5	.28	.28			

Table 19.—Chemical Soil Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
AgB:				
Allegheny	0-10	5.5-10.0	---	3.6-6.5
	10-63	5.2-12	---	3.6-5.5
	63-90	3.5-12	---	3.6-5.5
Cotaco	0-11	2.6-10.0	---	3.6-6.0
	11-41	3.6-12	---	3.6-5.5
	41-99	3.4-12	---	3.6-5.5
AgC:				
Allegheny	0-10	5.5-10.0	---	3.6-6.5
	10-63	5.2-12	---	3.6-5.5
	63-90	3.5-12	---	3.6-5.5
Cotaco	0-11	2.6-10.0	---	3.6-6.0
	11-41	3.6-12	---	3.6-5.5
	41-99	3.4-12	---	3.6-5.5
AlD2:				
Allegheny	0-5	5.5-10.0	---	3.6-6.5
	5-63	5.2-12	---	3.6-5.5
	63-90	3.5-12	---	3.6-5.5
BaB:				
Beasley	0-7	5.4-15	---	4.5-7.3
	7-29	20-34	---	4.5-7.3
	29-50	18-34	---	6.6-8.4
	50-70	---	---	---
BcC2:				
Beasley	0-5	5.4-15	---	4.5-7.3
	5-29	20-34	---	4.5-7.3
	29-50	18-34	---	6.6-8.4
	50-70	---	---	---
BeD2:				
Beasley	0-5	5.4-15	---	4.5-7.3
	5-29	20-34	---	4.5-7.3
	29-50	18-34	---	6.6-8.4
	50-70	---	---	---
Shrouts	0-4	15-21	---	5.1-8.4
	4-18	20-34	---	5.1-8.4
	18-30	20-34	---	6.6-8.5
	30-40	---	---	---
BrB:				
Berea	0-9	4.3-9.9	---	3.6-5.5
	9-21	6.0-12	---	3.6-5.5
	21-31	---	5.4-15	3.6-5.5
	31-36	---	---	---
	36-46	---	---	---

Table 19.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
BrC:				
Berea	0-9	4.3-9.9	---	3.6-5.5
	9-21	6.0-12	---	3.6-5.5
	21-31	---	5.4-15	3.6-5.5
	31-36	---	---	---
	36-46	---	---	---
BsD:				
Berks	0-4	---	2.3-6.4	3.6-6.5
	4-27	---	2.9-13	3.6-6.5
	27-37	---	---	---
BsF:				
Berks	0-4	---	2.3-6.4	3.6-6.5
	4-27	---	2.9-13	3.6-6.5
	27-37	---	---	---
BvA:				
Blago	0-20	6.5-15	---	3.6-7.3
	20-43	---	11-23	3.6-5.5
	43-90	---	10-25	3.6-5.5
	90-95	---	---	---
	95-105	---	---	---
BwA:				
Boonewood	0-8	6.6-14	---	6.1-8.4
	8-27	6.1-18	---	6.1-8.4
	27-32	6.1-18	---	6.1-8.4
	32-36	---	---	---
BxF:				
Brownsville	0-7	4.3-9.8	---	3.6-6.5
	7-25	---	2.1-6.0	3.6-5.5
	25-46	---	2.4-8.4	3.6-6.0
	46-56	---	---	---
Berks	0-4	---	2.3-6.4	3.6-6.5
	4-27	---	2.9-13	3.6-6.5
	27-37	---	---	---
CaE:				
Caneyville	0-6	6.5-14	---	4.5-7.3
	6-30	14-31	---	4.5-7.3
	30-40	---	---	---
Bledsoe	0-13	2.8-11	---	5.6-7.8
	13-54	18-26	---	5.6-7.8
	54-84	15-31	---	5.6-7.8
Rock outcrop.				
ChA:				
Chagrin	0-11	5.5-15	---	5.6-7.3
	11-48	3.8-14	---	5.6-7.3
	48-96	2.7-14	---	5.6-7.3
CoB:				
Cotaco	0-11	2.6-10.0	---	3.6-6.0
	11-41	3.6-12	---	3.6-5.5
	41-99	3.4-12	---	3.6-5.5

Table 19.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
CoC:				
Cotaco	0-11	2.6-10.0	---	3.6-6.0
	11-41	3.6-12	---	3.6-5.5
	41-99	3.4-12	---	3.6-5.5
CpC:				
Covedale	0-8	6.5-15	---	3.5-5.5
	8-42	9.1-22	---	3.5-5.5
	42-72	---	15-34	3.5-5.0
	72-76	---	---	---
	76-86	---	---	---
Trappist	0-4	---	1.2-5.1	3.6-5.5
	4-18	---	5.9-15	3.6-5.5
	18-30	---	8.0-15	3.6-5.5
	30-35	---	---	---
	35-39	---	---	---
CpD:				
Covedale	0-8	6.5-15	---	3.5-5.5
	8-42	9.1-22	---	3.5-5.5
	42-72	---	15-34	3.5-5.0
	72-76	---	---	---
	76-86	---	---	---
Trappist	0-4	---	1.2-5.1	3.6-5.5
	4-18	---	5.9-15	3.6-5.5
	18-30	---	8.0-15	3.6-5.5
	30-35	---	---	---
	35-39	---	---	---
CrA:				
Crider	0-15	6.5-14	---	5.1-7.3
	15-34	6.1-18	---	5.1-7.3
	34-92	14-26	---	4.5-6.5
CrB:				
Crider	0-15	6.5-14	---	5.1-7.3
	15-34	6.1-18	---	5.1-7.3
	34-92	14-26	---	4.5-6.5
CyD2:				
Cynthiana	0-3	14-22	---	6.1-7.8
	3-18	20-37	---	6.1-7.8
	18-22	---	---	---
Faywood	0-3	14-20	---	5.1-8.0
	3-23	18-26	---	5.1-7.8
	23-31	18-31	---	5.1-7.8
	31-35	---	---	---
CyE2:				
Cynthiana	0-3	14-22	---	6.1-7.8
	3-18	20-37	---	6.1-7.8
	18-22	---	---	---
Faywood	0-3	14-20	---	5.1-8.0
	3-23	18-26	---	5.1-7.8
	23-31	18-31	---	5.1-7.8
	31-35	---	---	---

Table 19.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
DAM. Dam, large				
EdD2:				
Eden	0-3	14-22	---	4.5-8.4
	3-32	20-31	---	5.1-8.4
	32-42	---	---	---
EeE2:				
Eden	0-3	14-22	---	4.5-8.4
	3-32	20-31	---	5.1-8.4
	32-42	---	---	---
Lowell	0-5	6.5-15	---	4.5-7.5
	5-39	18-31	---	4.5-7.0
	39-51	20-37	---	5.1-7.8
	51-55	---	---	---
EkB:				
Elk	0-9	6.4-14	---	4.5-6.5
	9-29	6.4-18	---	4.5-6.5
	29-62	6.4-20	---	4.5-6.5
	62-102	10-26	---	4.5-6.5
EkC:				
Elk	0-9	6.4-14	---	4.5-6.5
	9-29	6.4-18	---	4.5-6.5
	29-62	6.4-20	---	4.5-6.5
	62-102	10-26	---	4.5-6.5
ElD2:				
Elk	0-5	6.4-14	---	4.5-6.5
	5-29	6.4-18	---	4.5-6.5
	29-62	6.4-20	---	4.5-6.5
	62-102	10-26	---	4.5-6.5
FaF2:				
Fairmount	0-5	15-22	---	6.6-8.4
	5-15	19-32	---	6.6-8.4
	15-19	---	---	---
Faywood	0-3	14-20	---	5.1-8.0
	3-23	18-26	---	5.1-7.8
	23-31	18-31	---	5.1-7.8
	31-35	---	---	---
FyB2:				
Faywood	0-3	14-20	---	5.1-8.0
	3-23	18-26	---	5.1-7.8
	23-31	18-31	---	5.1-7.8
	31-35	---	---	---
Lowell	0-5	6.5-15	---	4.5-7.5
	5-39	18-31	---	4.5-7.0
	39-51	20-37	---	5.1-7.8
	51-55	---	---	---

Table 19.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
FyC2:				
Faywood	0-3	14-20	---	5.1-8.0
	3-23	18-26	---	5.1-7.8
	23-31	18-31	---	5.1-7.8
	31-35	---	---	---
Lowell	0-5	6.5-15	---	4.5-7.5
	5-39	18-31	---	4.5-7.0
	39-51	20-37	---	5.1-7.8
	51-55	---	---	---
FyD2:				
Faywood	0-3	14-20	---	5.1-8.0
	3-23	18-26	---	5.1-7.8
	23-31	18-31	---	5.1-7.8
	31-35	---	---	---
Lowell	0-5	6.5-15	---	4.5-7.5
	5-39	18-31	---	4.5-7.0
	39-51	20-37	---	5.1-7.8
	51-55	---	---	---
GlB:				
Gilpin	0-7	6.5-14	---	3.6-5.5
	7-20	5.1-18	---	3.6-5.5
	20-36	5.1-14	---	3.6-5.5
	36-46	---	---	---
GpD2:				
Gilpin	0-5	6.5-14	---	3.6-5.5
	5-20	5.1-18	---	3.6-5.5
	20-36	5.1-14	---	3.6-5.5
	36-46	---	---	---
GpE2:				
Gilpin	0-5	6.5-14	---	3.6-5.5
	5-20	5.1-18	---	3.6-5.5
	20-36	5.1-14	---	3.6-5.5
	36-46	---	---	---
GrA:				
Grigsby	0-12	2.7-8.2	---	5.6-7.3
	12-59	2.7-14	---	5.6-7.3
	59-96	2.7-8.2	---	5.1-7.3
HeF:				
Helechawa	0-9	---	0.6-2.6	3.6-6.5
	9-33	1.7-5.4	---	3.6-5.5
	33-70	1.7-5.4	---	3.6-5.5
	70-80	---	---	---
Alticrest	0-8	---	1.4-3.3	4.5-5.5
	8-28	2.7-6.4	---	4.5-5.5
	28-38	---	---	---
Rock outcrop.				

Table 19.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
Ho:				
Holly	0-10	8.2-15	---	5.1-7.3
	10-35	8.0-15	---	5.1-7.3
	35-80	5.4-15	---	5.1-7.8
JoA:				
Johnsburg	0-9	6.5-15	---	4.5-6.5
	9-24	11-17	---	3.6-6.0
	24-64	11-16	---	3.6-5.5
	64-82	---	4.3-9.5	3.6-5.0
LaA:				
Lawrence	0-10	4.4-9.6	---	4.5-6.5
	10-18	4.1-12	---	4.5-6.5
	18-62	---	2.3-8.2	4.5-5.5
	62-88	4.1-16	---	4.5-7.3
	88-98	4.1-16	---	4.5-7.3
LbA:				
Lobdell	0-11	5.5-15	---	5.6-7.3
	11-46	3.8-14	---	5.6-7.3
	46-96	2.7-14	---	5.6-7.3
LoB:				
Lowell	0-8	6.5-15	---	4.5-7.5
	8-39	18-31	---	4.5-7.0
	39-51	20-37	---	5.1-7.8
	51-55	---	---	---
LoC:				
Lowell	0-8	6.5-15	---	4.5-7.5
	8-39	18-31	---	4.5-7.0
	39-51	20-37	---	5.1-7.8
	51-55	---	---	---
LwC:				
Lowell	0-8	6.5-15	---	4.5-7.5
	8-39	18-31	---	4.5-7.0
	39-51	20-37	---	5.1-7.8
	51-55	---	---	---
Woolper	0-11	11-22	---	6.1-7.8
	11-42	14-31	---	6.1-7.8
	42-103	14-31	---	6.1-7.8
Me:				
Melvin	0-9	6.4-14	---	5.6-7.8
	9-62	6.4-18	---	5.6-7.8
	62-92	5.3-18	---	5.6-7.8
MoB:				
Morehead	0-14	4.4-10.0	---	4.5-6.5
	14-36	6.0-12	---	4.5-5.5
	36-65	---	3.9-11	4.5-5.5
	65-75	---	---	---

Table 19.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
Mu:				
Mullins	0-8	4.4-10.0	---	3.6-7.0
	8-26	---	3.5-8.4	3.6-5.5
	26-71	---	3.5-8.4	3.6-5.5
	71-82	6.0-21	---	3.6-5.5
	82-92	---	---	---
Ne:				
Newark	0-9	6.5-14	---	5.6-7.8
	9-37	6.1-18	---	5.6-7.8
	37-105	6.1-18	---	5.6-7.8
NhB:				
Nicholson	0-8	6.5-14	---	4.5-7.0
	8-24	6.1-18	---	4.5-7.0
	24-34	6.1-21	---	4.5-6.5
	34-48	6.1-26	---	4.5-6.5
	48-80	20-37	---	5.1-7.8
NoA:				
Nolin	0-12	6.5-14	---	5.6-8.4
	12-74	6.4-18	---	5.6-8.4
	74-80	5.3-18	---	5.1-8.4
OrA:				
Orrville	0-8	6.5-15	---	5.1-7.3
	8-40	3.8-18	---	5.1-6.5
	40-96	---	2.0-14	5.1-7.3
OtB:				
Otwood	0-9	6.4-14	---	4.5-8.4
	9-23	6.1-18	---	4.5-8.4
	23-53	6.1-18	---	4.5-8.4
	53-93	5.1-18	---	5.1-8.4
	93-99	0.0-22	---	5.1-8.4
Pm.				
Pits, mine				
Pt.				
Pits, quarry				
Rb:				
Robertsville	0-6	4.4-9.6	---	3.6-6.5
	6-19	4.1-12	---	3.6-5.5
	19-69	4.1-12	---	3.6-5.5
	69-100	2.4-14	---	4.5-5.5
RoF2:				
Rohan	0-4	---	2.6-5.3	4.5-6.0
	4-10	---	2.9-8.2	3.6-6.0
	10-14	---	---	---
	14-24	---	---	---
Trappist	0-4	---	1.2-5.1	3.6-5.5
	4-18	---	5.9-15	3.6-5.5
	18-30	---	8.0-15	3.6-5.5
	30-35	---	---	---
	35-39	---	---	---

Table 19.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
SaB:				
Sandview	0-9	6.5-14	---	4.5-6.5
	9-30	6.1-18	---	4.5-7.3
	30-65	20-31	---	5.1-7.8
	65-75	---	---	---
Lowell	0-8	6.5-15	---	4.5-7.5
	8-39	18-31	---	4.5-7.0
	39-51	20-37	---	5.1-7.8
	51-55	---	---	---
ShB:				
Shelocta	0-7	6.4-15	---	4.5-6.0
	7-25	---	2.8-13	4.5-5.5
	25-60	---	2.9-17	4.5-5.5
	60-95	---	2.9-17	4.5-5.5
Skidmore	0-13	2.6-6.6	---	5.6-7.8
	13-64	2.4-6.4	---	5.6-7.8
	64-74	---	---	---
SlD:				
Shelocta	0-7	6.4-15	---	4.5-6.0
	7-25	---	2.8-13	4.5-5.5
	25-60	---	2.9-17	4.5-5.5
	60-95	---	2.9-17	4.5-5.5
SpF2:				
Shelocta	0-5	6.4-15	---	4.5-6.0
	5-25	---	2.8-13	4.5-5.5
	25-60	---	2.9-17	4.5-5.5
	60-95	---	2.9-17	4.5-5.5
Gilpin	0-5	6.5-14	---	3.6-5.5
	5-20	5.1-18	---	3.6-5.5
	20-36	5.1-14	---	3.6-5.5
	36-46	---	---	---
SrD2:				
Shrouts	0-4	15-21	---	5.1-8.4
	4-18	20-34	---	5.1-8.4
	18-30	20-34	---	6.6-8.5
	30-40	---	---	---
Beasley	0-5	5.4-15	---	4.5-7.3
	5-29	20-34	---	4.5-7.3
	29-50	18-34	---	6.6-8.4
	50-70	---	---	---
Rock outcrop.				
StE2:				
Shrouts	0-4	15-21	---	5.1-8.4
	4-18	20-34	---	5.1-8.4
	18-30	20-34	---	6.6-8.5
	30-40	---	---	---

Table 19.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
StE2:				
Beasley--------------	0-5	5.4-15	---	4.5-7.3
	5-29	20-34	---	4.5-7.3
	29-50	18-34	---	6.6-8.4
	50-70	---	---	---
TlB:				
Tilsit---------------	0-7	4.4-9.6	---	3.5-7.0
	7-22	2.4-12	---	3.5-5.5
	22-53	---	1.3-8.2	3.5-5.5
	53-72	---	2.3-11	3.6-5.5
	72-80	---	---	---
TlC:				
Tilsit---------------	0-7	4.4-9.6	---	3.5-7.0
	7-22	2.4-12	---	3.5-5.5
	22-53	---	1.3-8.2	3.5-5.5
	53-72	---	2.3-11	3.6-5.5
	72-80	---	---	---
TrB2:				
Trappist-------------	0-4	---	1.2-5.1	3.6-5.5
	4-18	---	5.9-15	3.6-5.5
	18-30	---	8.0-15	3.6-5.5
	30-35	---	---	---
	35-39	---	---	---
TrC2:				
Trappist-------------	0-4	---	1.2-5.1	3.6-5.5
	4-18	---	5.9-15	3.6-5.5
	18-30	---	8.0-15	3.6-5.5
	30-35	---	---	---
	35-39	---	---	---
TsF2:				
Trappist-------------	0-4	---	1.2-5.1	3.6-5.5
	4-18	---	5.9-15	3.6-5.5
	18-30	---	8.0-15	3.6-5.5
	30-35	---	---	---
	35-39	---	---	---
Muse-----------------	0-9	---	2.0-5.1	4.5-5.5
	9-26	---	5.1-12	4.5-5.5
	26-41	---	7.6-12	4.5-5.5
	41-45	---	---	---
	45-55	---	---	---
UnB:				
Uniontown------------	0-12	12-22	---	5.6-8.4
	12-23	18-25	---	5.6-8.4
	23-81	9.8-25	---	5.6-8.4
	81-100	6.2-25	---	5.6-8.4
UrC:				
Urban land.				
Alfic Udarents-------	0-31	18-31	---	4.5-7.0
	31-43	20-37	---	5.1-7.8
	43-47	---	---	---

Table 19.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
UrD:				
Urban land.				
Alfic Udarents-------	0-31	18-31	---	4.5-7.0
	31-43	20-37	---	5.1-7.8
	43-47	---	---	---
UsC:				
Urban land.				
Alfic Udarents-------	0-22	20-34	---	4.5-7.3
	22-43	18-34	---	6.6-8.4
	43-53	---	---	---
UsD:				
Urban land.				
Alfic Udarents-------	0-22	20-34	---	4.5-7.3
	22-43	18-34	---	6.6-8.4
	43-53	---	---	---
Ux.				
Urban land-Udorthents				
VeC:				
Vertrees-------------	0-11	5.5-10.0	---	4.5-7.3
	11-82	12-21	---	4.5-6.0
	82-98	13-24	---	5.1-7.3
VeD:				
Vertrees-------------	0-11	5.5-10.0	---	4.5-7.3
	11-82	12-21	---	4.5-6.0
	82-98	13-24	---	5.1-7.3
W.				
Water				
WoB:				
Woolper--------------	0-11	11-22	---	6.1-7.8
	11-42	14-31	---	6.1-7.8
	42-103	14-31	---	6.1-7.8

Table 20.—Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
AgB:										
Allegheny	B	Low								
			January	3.3-4.2	>6.0	---	---	None	---	None
			February	3.3-4.2	>6.0	---	---	None	---	None
			March	3.3-4.2	>6.0	---	---	None	---	None
			April	3.3-4.2	>6.0	---	---	None	---	None
			May	3.3-4.2	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	3.3-4.2	>6.0	---	---	None	---	None
			December	3.3-4.2	>6.0	---	---	None	---	None
Cotaco	C	Low								
			January	1.2-2.4	>6.0	---	---	None	---	None
			February	1.2-2.4	>6.0	---	---	None	---	None
			March	1.2-2.4	>6.0	---	---	None	---	None
			April	1.2-2.4	>6.0	---	---	None	---	None
			May	1.2-2.4	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.4	>6.0	---	---	None	---	None
			December	1.2-2.4	>6.0	---	---	None	---	None
AgC:										
Allegheny	B	Medium								
			January	3.3-4.2	>6.0	---	---	None	---	None
			February	3.3-4.2	>6.0	---	---	None	---	None
			March	3.3-4.2	>6.0	---	---	None	---	None
			April	3.3-4.2	>6.0	---	---	None	---	None
			May	3.3-4.2	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	3.3-4.2	>6.0	---	---	None	---	None
			December	3.3-4.2	>6.0	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
AgC:										
Cotaco	C	Medium								
			January	1.2-2.4	>6.0	---	---	None	---	None
			February	1.2-2.4	>6.0	---	---	None	---	None
			March	1.2-2.4	>6.0	---	---	None	---	None
			April	1.2-2.4	>6.0	---	---	None	---	None
			May	1.2-2.4	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.4	>6.0	---	---	None	---	None
			December	1.2-2.4	>6.0	---	---	None	---	None
AlD2:										
Allegheny	B	High								
			January	3.3-4.2	>6.0	---	---	None	---	None
			February	3.3-4.2	>6.0	---	---	None	---	None
			March	3.3-4.2	>6.0	---	---	None	---	None
			April	3.3-4.2	>6.0	---	---	None	---	None
			May	3.3-4.2	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	3.3-4.2	>6.0	---	---	None	---	None
			December	3.3-4.2	>6.0	---	---	None	---	None
BaB:										
Beasley	C	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
BcC2:										
Beasley-------------------	C	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
BeD2:										
Beasley-------------------	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Shrouts-------------------	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
BrB:										
Berea----------------------	C	Low								
			January	1.2-2.3	1.7-3.3	---	---	None	---	None
			February	1.2-2.3	1.7-3.3	---	---	None	---	None
			March	1.2-2.3	1.7-3.3	---	---	None	---	None
			April	1.2-2.3	1.7-3.3	---	---	None	---	None
			May	1.2-2.3	1.7-3.3	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.3	1.7-3.3	---	---	None	---	None
			December	1.2-2.3	1.7-3.3	---	---	None	---	None
BrC:										
Berea----------------------	C	Medium								
			January	1.2-2.3	1.7-3.3	---	---	None	---	None
			February	1.2-2.3	1.7-3.3	---	---	None	---	None
			March	1.2-2.3	1.7-3.3	---	---	None	---	None
			April	1.2-2.3	1.7-3.3	---	---	None	---	None
			May	1.2-2.3	1.7-3.3	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.3	1.7-3.3	---	---	None	---	None
			December	1.2-2.3	1.7-3.3	---	---	None	---	None
BsD:										
Berks----------------------	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
BsF:										
Berks	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
BvA:										
Blago	D	Negligible								
			January	0.0-1.0	5.0-8.0	---	---	None	---	None
			February	0.0-1.0	5.0-8.0	---	---	None	---	None
			March	0.0-1.0	5.0-8.0	---	---	None	---	None
			April	0.0-1.0	5.0-8.0	---	---	None	---	None
			May	0.0-1.0	5.0-8.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	0.0-1.0	5.0-8.0	---	---	None	---	None
			December	0.0-1.0	5.0-8.0	---	---	None	---	None
BwA:										
Boonewood	B	Low								
			January	1.4-2.0	1.7-3.3	---	---	None	Brief	Frequent
			February	1.4-2.0	1.7-3.3	---	---	None	Brief	Frequent
			March	1.4-2.0	1.7-3.3	---	---	None	Brief	Frequent
			April	1.4-2.0	1.7-3.3	---	---	None	Brief	Frequent
			May	1.4-2.0	1.7-3.3	---	---	None	Brief	Frequent
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.4-2.0	1.7-3.3	---	---	None	Brief	Frequent
			December	1.4-2.0	1.7-3.3	---	---	None	Brief	Frequent

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
BxF:										
Brownsville----------------	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Berks----------------------	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
CaE:										
Caneyville-----------------	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
CaE:										
Bledsoe-------------------	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop.										
ChA:										
Chagrin-------------------	B	Low								
			January	4.0-6.0	>6.0	---	---	None	Brief	Frequent
			February	4.0-6.0	>6.0	---	---	None	Brief	Frequent
			March	4.0-6.0	>6.0	---	---	None	Brief	Frequent
			April	4.0-6.0	>6.0	---	---	None	Brief	Frequent
			May	4.0-6.0	>6.0	---	---	None	Brief	Frequent
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	4.0-6.0	>6.0	---	---	None	Brief	Frequent
			December	4.0-6.0	>6.0	---	---	None	Brief	Frequent
CoB:										
Cotaco--------------------	C	Very low								
			January	1.2-2.4	>6.0	---	---	None	---	None
			February	1.2-2.4	>6.0	---	---	None	---	None
			March	1.2-2.4	>6.0	---	---	None	---	None
			April	1.2-2.4	>6.0	---	---	None	---	None
			May	1.2-2.4	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.4	>6.0	---	---	None	---	None
			December	1.2-2.4	>6.0	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
CoC:										
Cotaco--------------------	C	Medium								
			January	1.2-2.4	>6.0	---	---	None	---	None
			February	1.2-2.4	>6.0	---	---	None	---	None
			March	1.2-2.4	>6.0	---	---	None	---	None
			April	1.2-2.4	>6.0	---	---	None	---	None
			May	1.2-2.4	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.4	>6.0	---	---	None	---	None
			December	1.2-2.4	>6.0	---	---	None	---	None
CpC:										
Covedale------------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Trappist------------------	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
CpD:										
Covedale------------------	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Trappist------------------	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
CrA:										
Crider--------------------	B	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
CrB:										
Crider	B	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
CyD2:										
Cynthiana	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Faywood	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
CyE2:										
Cynthiana------------------	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Faywood--------------------	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
DAM.										
Dam, large										
EdD2:										
Eden-----------------------	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
EeE2:										
Eden----------------------	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Lowell--------------------	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
EkB:										
Elk-----------------------	B	Low								
			January	3.0-5.0	>6.0	---	---	None	---	None
			February	3.0-5.0	>6.0	---	---	None	---	None
			March	3.0-5.0	>6.0	---	---	None	---	None
			April	3.0-5.0	>6.0	---	---	None	---	None
			May	3.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	3.0-5.0	>6.0	---	---	None	---	None
			December	3.0-5.0	>6.0	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
EkC:										
Elk------------------------	B	Medium								
			January	3.0-5.0	>6.0	---	---	None	---	None
			February	3.0-5.0	>6.0	---	---	None	---	None
			March	3.0-5.0	>6.0	---	---	None	---	None
			April	3.0-5.0	>6.0	---	---	None	---	None
			May	3.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	3.0-5.0	>6.0	---	---	None	---	None
			December	3.0-5.0	>6.0	---	---	None	---	None
ElD2:										
Elk------------------------	B	High								
			January	3.0-5.0	>6.0	---	---	None	---	None
			February	3.0-5.0	>6.0	---	---	None	---	None
			March	3.0-5.0	>6.0	---	---	None	---	None
			April	3.0-5.0	>6.0	---	---	None	---	None
			May	3.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	3.0-5.0	>6.0	---	---	None	---	None
			December	3.0-5.0	>6.0	---	---	None	---	None
FaF2:										
Fairmount------------------	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
FaF2:										
Faywood-------------------	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
FyB2:										
Faywood-------------------	C	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Lowell--------------------	C	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
FyC2:										
Faywood------------------	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Lowell-------------------	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
FyD2:										
Faywood------------------	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
FyD2:										
Lowell-------------------	C	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
GlB:										
Gilpin-------------------	C	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
GpD2:										
Gilpin-------------------	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
GpE2:										
Gilpin--------------------	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
GrA:										
Grigsby-------------------	B	Very low								
			January	3.3-6.0	>6.0	---	---	None	Brief	Frequent
			February	3.3-6.0	>6.0	---	---	None	Brief	Frequent
			March	3.3-6.0	>6.0	---	---	None	Brief	Frequent
			April	3.3-6.0	>6.0	---	---	None	Brief	Frequent
			May	3.3-6.0	>6.0	---	---	None	Brief	Frequent
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	3.3-6.0	>6.0	---	---	None	Brief	Frequent
			December	3.3-6.0	>6.0	---	---	None	Brief	Frequent
HeF:										
Helechawa-----------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
HeF:										
Alticrest	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop.										
Ho:										
Holly	B/D	Very low								
			January	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			February	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			March	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			April	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			May	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			December	0.0-1.0	>6.0	---	---	None	Brief	Frequent
JoA:										
Johnsburg	D	Very low								
			January	1.0-1.2	2.0-3.3	---	---	None	---	None
			February	1.0-1.2	2.0-3.3	---	---	None	---	None
			March	1.0-1.2	2.0-3.3	---	---	None	---	None
			April	1.0-1.2	2.0-3.3	---	---	None	---	None
			May	1.0-1.2	2.0-3.3	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.0-1.2	2.0-3.3	---	---	None	---	None
			December	1.0-1.2	2.0-3.3	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
LaA:										
Lawrence	C	Very low								
			January	1.0-1.2	1.5-2.7	---	---	None	---	None
			February	1.0-1.2	1.5-2.7	---	---	None	---	None
			March	1.0-1.2	1.5-2.7	---	---	None	---	None
			April	1.0-1.2	1.5-2.7	---	---	None	---	None
			May	1.0-1.2	1.5-2.7	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.0-1.2	1.5-2.7	---	---	None	---	None
			December	1.0-1.2	1.5-2.7	---	---	None	---	None
LbA:										
Lobdell	B	Very low								
			January	1.3-1.7	>6.0	---	---	None	Brief	Frequent
			February	1.3-1.7	>6.0	---	---	None	Brief	Frequent
			March	1.3-1.7	>6.0	---	---	None	Brief	Frequent
			April	1.3-1.7	>6.0	---	---	None	Brief	Frequent
			May	1.3-1.7	>6.0	---	---	None	Brief	Frequent
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.3-1.7	>6.0	---	---	None	Brief	Frequent
			December	1.3-1.7	>6.0	---	---	None	Brief	Frequent
LoB:										
Lowell	C	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
LoC:										
Lowell	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
LwC:										
Lowell	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Woolper	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	Rare
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Me:										
Melvin	D	Very low								
			January	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			February	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			March	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			April	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			May	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			December	0.0-1.0	>6.0	---	---	None	Brief	Frequent
MoB:										
Morehead	C	Low								
			January	1.7-2.4	5.0-6.7	---	---	None	Brief	Occasional
			February	1.7-2.4	5.0-6.7	---	---	None	Brief	Occasional
			March	1.7-2.4	5.0-6.7	---	---	None	Brief	Occasional
			April	1.7-2.4	5.0-6.7	---	---	None	Brief	Occasional
			May	1.7-2.4	5.0-6.7	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.7-2.4	5.0-6.7	---	---	None	---	None
			December	1.7-2.4	5.0-6.7	---	---	None	Brief	Occasional
Mu:										
Mullins	D	Negligible								
			January	0.0-1.0	1.0-2.3	0.0-1.0	Brief	Frequent	---	None
			February	0.0-1.0	1.0-2.3	0.0-1.0	Brief	Frequent	---	None
			March	0.0-1.0	1.0-2.3	0.0-1.0	Brief	Frequent	---	None
			April	0.0-1.0	1.0-2.3	0.0-1.0	Brief	Frequent	---	None
			May	0.0-1.0	1.0-2.3	0.0-1.0	Brief	Frequent	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	0.0-1.0	1.0-2.3	0.0-1.0	Brief	Frequent	---	None
			December	0.0-1.0	1.0-2.3	0.0-1.0	Brief	Frequent	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Ne:										
Newark-------------------	C	Very low								
			January	1.0-1.2	>6.0	---	---	None	Brief	Frequent
			February	1.0-1.2	>6.0	---	---	None	Brief	Frequent
			March	1.0-1.2	>6.0	---	---	None	Brief	Frequent
			April	1.0-1.2	>6.0	---	---	None	Brief	Frequent
			May	1.0-1.2	>6.0	---	---	None	Brief	Frequent
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.0-1.2	>6.0	---	---	None	Brief	Frequent
			December	1.0-1.2	>6.0	---	---	None	Brief	Frequent
NhB:										
Nicholson----------------	C	Low								
			January	1.2-2.3	1.3-2.5	---	---	None	---	None
			February	1.2-2.3	1.3-2.5	---	---	None	---	None
			March	1.2-2.3	1.3-2.5	---	---	None	---	None
			April	1.2-2.3	1.3-2.5	---	---	None	---	None
			May	1.2-2.3	1.3-2.5	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.3	1.3-2.5	---	---	None	---	None
			December	1.2-2.3	1.3-2.5	---	---	None	---	None
NoA:										
Nolin--------------------	B	Very low								
			January	6.0-8.0	>6.0	---	---	None	Brief	Frequent
			February	6.0-8.0	>6.0	---	---	None	Brief	Frequent
			March	6.0-8.0	>6.0	---	---	None	Brief	Frequent
			April	6.0-8.0	>6.0	---	---	None	Brief	Frequent
			May	6.0-8.0	>6.0	---	---	None	Brief	Frequent
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	6.0-8.0	>6.0	---	---	None	Brief	Frequent
			December	6.0-8.0	>6.0	---	---	None	Brief	Frequent

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
OrA:										
Orrville------------------	C	Very low								
			January	1.0-1.2	>6.0	---	---	None	Brief	Frequent
			February	1.0-1.2	>6.0	---	---	None	Brief	Frequent
			March	1.0-1.2	>6.0	---	---	None	Brief	Frequent
			April	1.0-1.2	>6.0	---	---	None	Brief	Frequent
			May	1.0-1.2	>6.0	---	---	None	Brief	Frequent
			June	1.0-1.2	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.0-1.2	>6.0	---	---	None	Brief	Frequent
			December	1.0-1.2	>6.0	---	---	None	Brief	Frequent
OtB:										
Otwood--------------------	C	Low								
			January	1.2-2.4	1.7-3.0	---	---	None	---	None
			February	1.2-2.4	1.7-3.0	---	---	None	---	None
			March	1.2-2.4	1.7-3.0	---	---	None	---	None
			April	1.2-2.4	1.7-3.0	---	---	None	---	None
			May	1.2-2.4	1.7-3.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.4	1.7-3.0	---	---	None	---	None
			December	1.2-2.4	1.7-3.0	---	---	None	---	None
Pm.										
Pits, mine										
Pt.										
Pits, quarry										

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Rb:										
Robertsville	D	Negligible								
			January	0.0-1.0	1.2-3.0	0.0-1.0	Brief	Frequent	---	None
			February	0.0-1.0	1.2-3.0	0.0-1.0	Brief	Frequent	---	None
			March	0.0-1.0	1.2-3.0	0.0-1.0	Brief	Frequent	---	None
			April	0.0-1.0	1.2-3.0	0.0-1.0	Brief	Frequent	---	None
			May	0.0-1.0	1.2-3.0	0.0-1.0	Brief	Frequent	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	0.0-1.0	1.2-3.0	0.0-1.0	Brief	Frequent	---	None
			December	0.0-1.0	1.2-3.0	0.0-1.0	Brief	Frequent	---	None
RoF2:										
Rohan	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Trappist	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
SaB:										
Sandview------------------	B	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Lowell--------------------	C	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
ShB:										
Shelocta------------------	B	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
ShB:										
Skidmore	B	Very low								
			January	3.0-4.0	5.0-8.0	---	---	None	Brief	Frequent
			February	3.0-4.0	5.0-8.0	---	---	None	Brief	Frequent
			March	3.0-4.0	5.0-8.0	---	---	None	Brief	Frequent
			April	3.0-4.0	5.0-8.0	---	---	None	Brief	Frequent
			May	3.0-4.0	5.0-8.0	---	---	None	Brief	Frequent
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	3.0-4.0	5.0-8.0	---	---	None	Brief	Frequent
			December	3.0-4.0	5.0-8.0	---	---	None	Brief	Frequent
SlD:										
Shelocta	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
SpF2:										
Shelocta	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
SpF2:										
Gilpin	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
SrD2:										
Shrouts	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Beasley	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop.										

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
StE2:										
Shrouts-------------------	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Beasley-------------------	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
TlB:										
Tilsit--------------------	C	Low								
			January	1.2-2.1	1.5-2.3	---	---	None	---	None
			February	1.2-2.1	1.5-2.3	---	---	None	---	None
			March	1.2-2.1	1.5-2.3	---	---	None	---	None
			April	1.2-2.1	1.5-2.3	---	---	None	---	None
			May	1.2-2.1	1.5-2.3	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.1	1.5-2.3	---	---	None	---	None
			December	1.2-2.1	1.5-2.3	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
TlC:										
Tilsit--------------------	C	Medium								
			January	1.2-2.1	1.5-2.3	---	---	None	---	None
			February	1.2-2.1	1.5-2.3	---	---	None	---	None
			March	1.2-2.1	1.5-2.3	---	---	None	---	None
			April	1.2-2.1	1.5-2.3	---	---	None	---	None
			May	1.2-2.1	1.5-2.3	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.2-2.1	1.5-2.3	---	---	None	---	None
			December	1.2-2.1	1.5-2.3	---	---	None	---	None
TrB2:										
Trappist------------------	C	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
TrC2:										
Trappist------------------	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
TsF2:										
Trappist------------------	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Muse----------------------	C	Very high								
			January	3.0-4.7	3.3-5.0	---	---	None	---	None
			February	3.0-4.7	3.3-5.0	---	---	None	---	None
			March	3.0-4.7	3.3-5.0	---	---	None	---	None
			April	3.0-4.7	3.3-5.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
UnB:										
Uniontown-----------------	B	Low								
			January	1.7-2.4	>6.0	---	---	None	---	None
			February	1.7-2.4	>6.0	---	---	None	---	None
			March	1.7-2.4	>6.0	---	---	None	---	None
			April	1.7-2.4	>6.0	---	---	None	---	None
			May	1.7-2.4	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	1.7-2.4	>6.0	---	---	None	---	None
			December	1.7-2.4	>6.0	---	---	None	---	None
UrC.										
Urban land-Alfic Udarents										

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
UrD. Urban land-Alfic Udarents										
UsC. Urban land-Alfic Udarents										
UsD. Urban land-Alfic Udarents										
Ux. Urban land-Udorthents										
VeC:										
Vertrees------------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
VeD:										
Vertrees------------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
W. Water										

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
WoB:										
Woolper-------------------	C	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 21.—Soil Features

(See text for definitions of terms used in this table. Sbsence 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	Hardness		Uncoated steel	Concrete
		In				
AgB:						
Allegheny	---	---	---	None	Low	High
Cotaco	---	---	---	None	Moderate	High
AgC:						
Allegheny	---	---	---	None	Low	High
Cotaco	---	---	---	None	Moderate	High
AlD2:						
Allegheny	---	---	---	None	Low	High
BaB:						
Beasley	Paralithic bedrock	40-60	Moderately cemented	None	Moderate	Moderate
BcC2:						
Beasley	Paralithic bedrock	40-60	Moderately cemented	None	Moderate	Moderate
BeD2:						
Beasley	Paralithic bedrock	40-60	Moderately cemented	None	Moderate	Moderate
Shrouts	Paralithic bedrock	20-40	Moderately cemented	None	High	Low
BrB:						
Berea	Paralithic bedrock	20-40	Strongly cemented	None	Moderate	High
	Lithic bedrock	20-40	Very strongly cemented			
BrC:						
Berea	Paralithic bedrock	20-40	Strongly cemented	None	Moderate	High
	Lithic bedrock	20-40	Very strongly cemented			
BsD:						
Berks	Lithic bedrock	20-40	Indurated	None	Low	High
BsF:						
Berks	Lithic bedrock	20-40	Indurated	None	Low	High
BvA:						
Blago	Lithic bedrock	60-96	Very strongly cemented	None	High	High
	Paralithic bedrock	60-96	Strongly cemented			
BwA:						
Boonewood	Lithic bedrock	20-40	Indurated	None	Low	Low

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
BxF:						
Brownsville	Lithic bedrock	40-60	Strongly cemented	None	Low	High
Berks	Lithic bedrock	20-40	Indurated	None	Low	High
CaE:						
Caneyville	Lithic bedrock	20-40	Indurated	None	High	Moderate
Bledsoe	---	---	---	None	Moderate	Moderate
Rock outcrop.						
ChA:						
Chagrin	---	---	---	None	Low	Moderate
CoB:						
Cotaco	---	---	---	None	Moderate	High
CoC:						
Cotaco	---	---	---	None	Moderate	High
CpC:						
Covedale	Paralithic bedrock	60-80	Strongly cemented	None	High	High
	Lithic bedrock	60-80	Very strongly cemented			
Trappist	Paralithic bedrock	20-40	Strongly cemented	None	High	High
	Lithic bedrock	20-40	Very strongly cemented			
CpD:						
Covedale	Paralithic bedrock	60-80	Strongly cemented	None	High	High
	Lithic bedrock	60-80	Very strongly cemented			
Trappist	Paralithic bedrock	20-40	Strongly cemented	None	High	High
	Lithic bedrock	20-40	Very strongly cemented			
CrA:						
Crider	---	---	---	None	Moderate	Moderate
CrB:						
Crider	---	---	---	None	Moderate	Moderate
CyD2:						
Cynthiana	Lithic bedrock	10-20	Indurated	None	Moderate	Low
Faywood	Lithic bedrock	20-40	Indurated	None	High	Moderate
CyE2:						
Cynthiana	Lithic bedrock	10-20	Indurated	None	Moderate	Low
Faywood	Lithic bedrock	20-40	Indurated	None	High	Moderate

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In				
DAM. Dam, large						
EdD2: Eden	Paralithic bedrock	20-40	Strongly cemented	None	Moderate	Low
EeE2: Eden	Paralithic bedrock	20-40	Strongly cemented	None	Moderate	Low
Lowell	Lithic bedrock	40-60	Indurated	None	High	Moderate
EkB: Elk	---	---	---	None	Moderate	Moderate
EkC: Elk	---	---	---	None	Moderate	Moderate
ElD2: Elk	---	---	---	None	Moderate	Moderate
FaF2: Fairmount	Lithic bedrock	10-20	Indurated	None	Moderate	Low
Faywood	Lithic bedrock	20-40	Indurated	None	High	Moderate
FyB2: Faywood	Lithic bedrock	20-40	Indurated	None	High	Moderate
Lowell	Lithic bedrock	40-60	Indurated	None	High	Moderate
FyC2: Faywood	Lithic bedrock	20-40	Indurated	None	High	Moderate
Lowell	Lithic bedrock	40-60	Indurated	None	High	Moderate
FyD2: Faywood	Lithic bedrock	20-40	Indurated	None	High	Moderate
Lowell	Lithic bedrock	40-60	Indurated	None	High	Moderate
GlB: Gilpin	Paralithic bedrock	20-40	Strongly cemented	None	Low	High
GpD2: Gilpin	Paralithic bedrock	20-40	Strongly cemented	None	Low	High
GpE2: Gilpin	Paralithic bedrock	20-40	Strongly cemented	None	Low	High
GrA: Grigsby	---	---	---	None	Low	Low
HeF: Helechawa	Lithic bedrock	60-80	Very strongly cemented	None	Low	High

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
HeF:						
Alticrest	Lithic bedrock	20-40	Very strongly cemented	None	Low	High
Rock outcrop.						
Ho:						
Holly	---	---	---	None	High	Moderate
JoA:						
Johnsburg	Fragipan	24-40	Noncemented	None	High	High
LaA:						
Lawrence	Fragipan	18-32	Noncemented	None	High	High
LbA:						
Lobdell	---	---	---	None	Low	Moderate
LoB:						
Lowell	Lithic bedrock	40-60	Indurated	None	High	Moderate
LoC:						
Lowell	Lithic bedrock	40-60	Indurated	None	High	Moderate
LwC:						
Lowell	Lithic bedrock	40-60	Indurated	None	High	Moderate
Woolper	---	---	---	None	Moderate	Low
Me:						
Melvin	---	---	---	None	High	Low
MoB:						
Morehead	Paralithic bedrock	60-80	Strongly cemented	None	Moderate	High
Mu:						
Mullins	Fragipan	12-28	Noncemented	None	High	High
	Paralithic bedrock	80-90	Strongly cemented			
Ne:						
Newark	---	---	---	None	High	Low
NhB:						
Nicholson	Fragipan	16-30	Noncemented	None	High	Moderate
NoA:						
Nolin	---	---	---	None	Low	Moderate
OrA:						
Orrville	---	---	---	None	High	Moderate
OtB:						
Otwood	Fragipan	20-36	Noncemented	None	Moderate	High
Pm.						
Pits, mine						

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
Pt. Pits, quarry						
Rb:						
Robertsville	Fragipan	15-36	Noncemented	None	High	High
RoF2:						
Rohan	Paralithic bedrock	10-20	Strongly cemented	None	High	High
	Lithic bedrock	10-20	Very strongly cemented			
Trappist	Paralithic bedrock	20-40	Strongly cemented	None	High	High
	Lithic bedrock	20-40	Very strongly cemented			
SaB:						
Sandview	Lithic bedrock	60-80	Indurated	None	Moderate	Moderate
Lowell	Lithic bedrock	40-60	Indurated	None	High	Moderate
ShB:						
Shelocta	---	---	---	None	Low	High
Skidmore	Paralithic bedrock	60-80	Strongly cemented	None	Low	Moderate
SlD:						
Shelocta	---	---	---	None	Low	High
SpF2:						
Shelocta	---	---	---	None	Low	High
Gilpin	Paralithic bedrock	20-40	Strongly cemented	None	Low	High
SrD2:						
Shrouts	Paralithic bedrock	20-40	Moderately cemented	None	High	Low
Beasley	Paralithic bedrock	40-60	Moderately cemented	None	Moderate	Moderate
Rock outcrop.						
StE2:						
Shrouts	Paralithic bedrock	20-40	Moderately cemented	None	High	Low
Beasley	Paralithic bedrock	40-60	Moderately cemented	None	Moderate	Moderate
TlB:						
Tilsit	Fragipan	18-28	Noncemented	None	High	High
	Paralithic bedrock	60-80	Strongly cemented			

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In				
TlC:						
Tilsit	Fragipan	18-28	Noncemented	None	High	High
	Paralithic bedrock	60-80	Strongly cemented			
TrB2:						
Trappist	Paralithic bedrock	20-40	Strongly cemented	None	High	High
	Lithic bedrock	20-40	Very strongly cemented			
TrC2:						
Trappist	Paralithic bedrock	20-40	Strongly cemented	None	High	High
	Lithic bedrock	20-40	Very strongly cemented			
TsF2:						
Trappist	Paralithic bedrock	20-40	Strongly cemented	None	High	High
	Lithic bedrock	20-40	Very strongly cemented			
Muse	Paralithic bedrock	40-60	Strongly cemented	None	High	High
	Lithic bedrock	40-60	Very strongly cemented			
UnB:						
Uniontown	---	---	---	None	Low	Moderate
UrC:						
Urban land.						
Alfic Udarents	Lithic bedrock	40-46	Indurated	None	---	---
UrD:						
Urban land.						
Alfic Udarents	Lithic bedrock	40-46	Indurated	None	---	---
UsC:						
Urban land.						
Alfic Udarents	Paralithic bedrock	40-46	Strongly cemented	None	---	---
UsD:						
Urban land.						
Alfic Udarents	Paralithic bedrock	40-46	Strongly cemented	None	---	---
Ux.						
Urban land-Udorthents						
VeC:						
Vertrees	---	---	---	None	Moderate	Moderate

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
VeD:						
Vertrees	---	---	---	None	Moderate	Moderate
W.						
Water						
WoB:						
Woolper	---	---	---	None	Moderate	Low

Table 22.—Taxonomic Classification of the Soils

Soil name	Family or higher taxonomic class
Alfic Udarents	Alfic Udarents
Allegheny	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Alticrest	Coarse-loamy, siliceous, semiactive, mesic Typic Dystrochrepts
Beasley	Fine, mixed, active, mesic Typic Hapludalfs
Berea	Fine-silty, mixed, semiactive, mesic Aquic Hapludults
Berks	Loamy-skeletal, mixed, active, mesic Typic Dystrudepts
Blago	Fine, mixed, active, mesic Typic Umbraquults
Bledsoe	Fine, mixed, active, mesic Typic Hapludalfs
Boonewood	Fine-silty, mixed, active, mesic Fluvaquentic Eutrudepts
Brownsville	Loamy-skeletal, mixed, active, mesic Typic Dystrudepts
Caneyville	Fine, mixed, active, mesic Typic Hapludalfs
Chagrin	Fine-loamy, mixed, active, mesic Dystric Fluventic Eutrudepts
Cotaco	Fine-loamy, mixed, semiactive, mesic Aquic Hapludults
Covedale	Fine-silty, mixed, active, mesic Typic Paleudults
Crider	Fine-silty, mixed, active, mesic Typic Paleudalfs
Cynthiana	Clayey, mixed, active, mesic Lithic Hapludalfs
Eden	Fine, mixed, active, mesic Typic Hapludalfs
Elk	Fine-silty, mixed, active, mesic Ultic Hapludalfs
Fairmount	Clayey, mixed, active, mesic Lithic Hapludolls
Faywood	Fine, mixed, active, mesic Typic Hapludalfs
Gilpin	Fine-loamy, mixed, active, mesic Typic Hapludults
Grigsby	Coarse-loamy, mixed, active, mesic Dystric Fluventic Eutrudepts
Helechawa	Coarse-loamy, siliceous, semiactive, mesic Typic Dystrochrepts
Holly	Fine-loamy, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts
Johnsburg	Fine-silty, mixed, active, mesic Aquic Fragiudults
Lawrence	Fine-silty, mixed, semiactive, mesic Aquic Fragiudalfs
Lobdell	Fine-loamy, mixed, active, mesic Fluvaquentic Eutrudepts
Lowell	Fine, mixed, active, mesic Typic Hapludalfs
Melvin	Fine-silty, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts
Morehead	Fine-silty, mixed, semiactive, mesic Aquic Hapludults
Mullins	Fine-silty, mixed, semiactive, mesic Typic Fragiaquults
Muse	Fine, mixed, semiactive, mesic Typic Hapludults
Newark	Fine-silty, mixed, active, nonacid, mesic Fluventic Endoaquepts
Nicholson	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
Nolin	Fine-silty, mixed, active, mesic Dystric Fluventic Eutrudepts
Orrville	Fine-loamy, mixed, active, nonacid, mesic Fluventic Endoaquepts
Otwood	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
Robertsville	Fine-silty, mixed, semiactive, mesic Typic Fragiaqualfs
Rohan	Loamy-skeletal, mixed, semiactive, mesic Lithic Dystrudepts
Sandview	Fine-silty, mixed, active, mesic Typic Hapludalfs
Shelocta	Fine-loamy, mixed, active, mesic Typic Hapludults
Shrouts	Fine, mixed, active, mesic Typic Hapludalfs
Skidmore	Loamy-skeletal, mixed, semiactive, mesic Dystric Fluventic Eutrudepts
Tilsit	Fine-silty, mixed, semiactive, mesic Typic Fragiudults
Trappist	Fine, mixed, semiactive, mesic Typic Hapludults
Udorthents	Udorthents
Uniontown	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Vertrees	Fine, mixed, semiactive, mesic Typic Paleudalfs
Woolper	Fine, mixed, active, mesic Typic Argiudolls

Table 23.—Geology and Associated Soils

System	Formation	Member	Decription of material	Major associated soils
Quaternary	local or near local alluvium	---	acid alluvium - sand, silt, clay, gravel	Allegeheny, Blago, Cotaco, Johnsburg, Morehead, Mullins, Skidmore
			non-acid alluvium - sand, silt, clay, gravel	Boonewood, Chagrin, Elk, Grigsby, Holly, Lawrence, Lobell, Melvin, Newark, Nolin, Orrville, Otwood, Robertsville, Skidmore, Uniontown, Woolper
	non-local deposits	---	high-level fluvial deposits - sand, silt, clay, gravel	Allegeheny, Cotaco, Robertsville
Pennsylvanian	Breathitt Lee Breathitt	Upper Corbin sandstone Lower Tongue	shale, siltstone, sandstone sandstone shale, siltstone, coal, clay beds	Alticrest, Helechawa, Bledsoe
Mississippian	Newman	---	limestone	Caneyville
	Borden	Renfro and Nada	shale, siltstone, limestone	Bledsoe, Gilpin
		Cowbell	siltstone 80%	Berks, Brownsville, Gilpin, Shelocta
		Nancy	shale 90%	Johnsburg, Mullins, Tilsit
		Farmers	sandstone 50%, shale	Berks, Brownsville, Shelocta
Mississippian and Devonian	Sunbury and Bedford	---	black fissile shale, green acid shale	Berea, Blago, Covedale, Muse, Rohan, Trappist

Table 23.—Geology and Associated Soils—Continued

System	Formation	Member	Decription of material	Major associated soils
Devonian	New Albany Shale Ohio Shale	--- ---	black fissile acid shale black fissile acid shale	Covedale, Muse, Rohan, Trappist
	Boyle or Bisher Dolomite	---	dolomite and dolomitic limestone	Bledsoe, Caneyville, Crider, Nicholson, Vertrees
		Preston Ore Banks Rose Run Ore		Iron ore extraction sites (map unit Pm)
Silurian	Upper Crab Orchard	---	calcareous clay shale	Beasley, Nicholson, Shrouts
			Broad Flats	Lawrence, Robertsville
	Lower Crab Orchard and Brassfield	---	dolomite, dolomitic limestone, clay shale	Beasley, Nicholson, Shrouts
Ordovician	Drakes	Preachersville	thin bedded shale and dolomite	Beasley
	Bull Fork	Upper and Sunset	interbedded shale and limestone 60%	Cynthiana, Faywood, Lowell, Nicholson, Sandview
	Grant Lake	Upper Tate Lower	limestone 80% limestone limestone 70%, mudstone	Cynthiana, Faywood, Lowell, Nicholson, Sandview
	Fairview	---	limestone 60%, mudstone, siltstone	Fairmount, Faywood, Woolper
	Garrard siltstone Kope and Clays Ferry	--- ---	siltstone 80%, limestone, mudstone mudstone, limestone, siltstone	Eden

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