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Station; Douglas County
Soil and Water
Conservation District; and
Douglas County
Commission

Soil Survey of Douglas County, Missouri



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How To Use This Soil Survey

General Soil Map

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

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

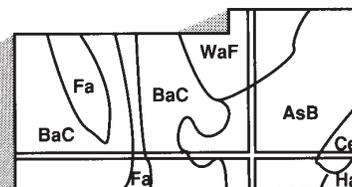
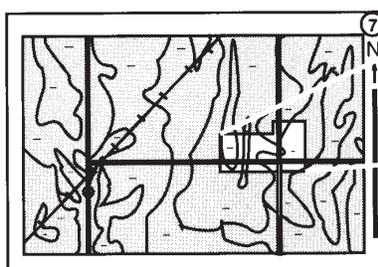
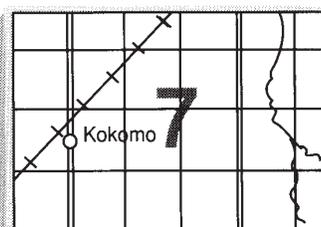
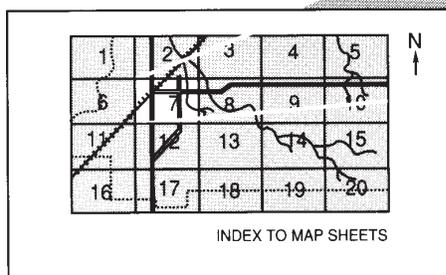
Detailed Soil Maps

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

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

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

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



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

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 2001. Soil names and descriptions were approved in 2002. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2002. This survey was made cooperatively by the Natural Resources Conservation Service and the United States Department of Agriculture, Forest Service; Missouri Department of Natural Resources; Missouri Department of Conservation; the Missouri Agricultural Experiment Station; the Douglas County Soil and Water Conservation District; and the Douglas County Commission. The survey is part of the technical assistance furnished to the Douglas County Soil and Water Conservation District. Financial assistance was made available by the Missouri Department of Natural Resources.

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.

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Cover: Historic water-powered mill, erected in 1895, was used for grinding flour and meal. This mill is located at the community of Topaz in eastern Douglas County.

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

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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, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Roger A. Hansen
State Conservationist
Natural Resources Conservation Service

Soil Survey of Douglas County, Missouri

By Dorris F. Festervand and John D. Preston

Fieldwork by Dorris F. Festervand and Ken Benham, Natural Resources Conservation Service, and Gary S. Sturdevant, Gene Campbell, and Bill Shields, Missouri Department of Natural Resources

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the United States Department of Agriculture, Forest Service; the Missouri Department of Natural Resources; the Missouri Department of Conservation; the Missouri Agricultural Experiment Station; the Douglas County Soil and Water Conservation District; and the Douglas County Commission

DOUGLAS COUNTY is located in the south-central portion of Missouri (fig. 1). It has an area of 521,216 acres, or about 814 square miles. It is bordered on the north by Webster, Wright, and Texas Counties; on the west by Christian County; on the east by Howell County; and on the south by Ozark and Taney Counties. Ava, the county seat, is in the west-central part of the county. According to the 2000 census, the population of Douglas County was 13,084 and the population of the city of Ava was 3,021. Other communities include Dogwood, Drury, Gentryville, Merritt, Mt. Zion, Rome, Smallett, Squires, Sweden, Vanzant, and Vera Cruz.

Beef cattle and dairy cattle are the dominant livestock species in the county. Cool-season grasses, shallow-rooted legumes, and deep-rooted legumes, such as fescue, red clover, and alfalfa, are the main forage species grown for pasture and hay. A large portion of the county is in timber, both mature and regenerating. The remaining areas are used for pasture and hay production. The cleared areas occupy a portion of the gently and moderately sloping uplands and a major part of the bottom lands.

The county is dominantly rural. The local economy is based on retail business, livestock farming, service facilities, and tourism. Several small towns have business districts that are supported by the surrounding rural areas. The United States Department of Agriculture, Forest Service, manages 41,185 acres in the county. These areas are extensively used for hunting, camping, and hiking.



Figure 1.—Location of Douglas County in Missouri.

General Nature of the County

This section gives general information about the county. It describes climate, history and development, and relief and drainage.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at West Plains in the period

1961 to 1990. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.

In winter, the average temperature is 38.2 degrees F and the average daily minimum temperature is 23.3 degrees. The lowest temperature on record, which occurred at West Plains on February 2, 1951, was -21 degrees. In summer, the average temperature is 75.4 degrees and the average daily maximum temperature is 87.5 degrees. The highest temperature, which occurred at West Plains on July 12, 1980, was 107 degrees.

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

The average annual total precipitation is about 45.05 inches. Of this total, about 27 inches, or 60 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 5.35 inches at West Plains on April 3, 1957. Thunderstorms occur on about 52 days each year, and most occur between May and August.

The average seasonal snowfall is 13 inches. The greatest snow depth at any one time during the period of record was 16 inches recorded on February 8, 1980. On an average, 13 days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 15 inches recorded on March 9, 1984.

The average relative humidity in midafternoon is about 60 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 50 percent in winter. The prevailing wind is from the south for most of the year. It is from the northwest during February and March. Average windspeed is highest, between 11 and 12 miles per hour, from November to April.

History and Development

Douglas County was organized by a legislative act on October 19, 1857, and was named in honor of Stephen A. Douglas. In 1864, its area was increased by adding portions of Taney and Webster Counties. On January 11, 1872, its boundaries were again redefined.

The first post office in what is now Douglas County was established on May 4, 1848, and was named Redbud. The name was changed to Vera Cruz in July 1857. Three commissioners, appointed by the

legislature, then selected Vera Cruz as the first county seat.

The first log courthouse was burned during the Civil War and another was built a few yards to the south. The second log cabin courthouse served the county until a more than two-to-one vote by citizens in 1869 moved the county seat to Arno, at the western edge of the county. Then, about a year later, the citizens compromised and moved the county seat to a point about one mile south of Militia Springs. This county seat was named Ava. The courthouse was burned on the night of April 27, 1886. A \$100.00 reward was offered for the person, or persons, starting the fire.

Relief and Drainage

Douglas County's surface features consist of a wide variety of landscapes. The county is on the Springfield and Salem Plateaus, subprovinces of the Ozark Plateau. The Springfield Plateau occupies the extreme northwestern portion of the county with the remainder being part of the Salem Plateau. Elevations range from 1,686 feet above sea level on Dogwood Hill in the northwestern part of the county to 680 feet above sea level, where Bryant Creek and the North Fork of the White River flow into Ozark County in the southeastern portion of the county.

Douglas County has broad ridges running from north to south across the county. Douglas County has been deeply dissected by several major rivers and their tributaries. The western portion of the county drains into Beaver Creek, the central portion into Bryant Creek, and the eastern portion into the North Fork of the White River. These rivers are flanked by very steep hillsides that have narrow gravelly flood plains. All watersheds in Douglas County eventually flow in a southern direction.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other

living organisms and has not been changed by other biological activity.

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

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

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

same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

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

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

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

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

General Soil Map Units

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. These broad areas are called associations. Each association 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 association can occur in another but in a different pattern.

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

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

1. Mano-Ocie Association

Composition

Extent of the association in the survey area: 18 percent

Extent of the components in the association (fig. 2):

Mano and similar soils—40 percent

Ocie and similar soils—35 percent

Soils of minor extent—25 percent

Soils of Minor Extent

- Gatewood, Gressy, Moko, Rock outcrop, Viraton, and Wasola

Landscape

Mano—ridgetops, shoulder slopes, and backslopes

Ocie—ridgetops, shoulder slopes, and backslopes

Parent Material

Mano—slope alluvium and the underlying residuum

Ocie—slope alluvium and the underlying residuum

Slope Range

Mano—1 to 35 percent

Ocie—1 to 35 percent

2. Ocie-Gatewood-Mano Association

Composition

Extent of the association in the survey area: 25 percent

Extent of the components in the association (fig. 2):

Ocie and similar soils—45 percent

Gatewood and similar soils—23 percent

Mano and similar soils—22 percent

Soils of minor extent—10 percent

Soils of Minor Extent

- Cedargap, Moko, Pomme, Poynor, and Secesh

Landscape

Ocie—backslopes

Gatewood—backslopes

Mano—backslopes

Parent Material

Ocie—slope alluvium and the underlying residuum

Gatewood—slope alluvium and the underlying residuum

Mano—slope alluvium and the underlying residuum

Slope Range

Ocie—15 to 35 percent

Gatewood—15 to 35 percent

Mano—15 to 35 percent

3. Clarksville Association

Composition

Extent of the association in the survey area: 2 percent

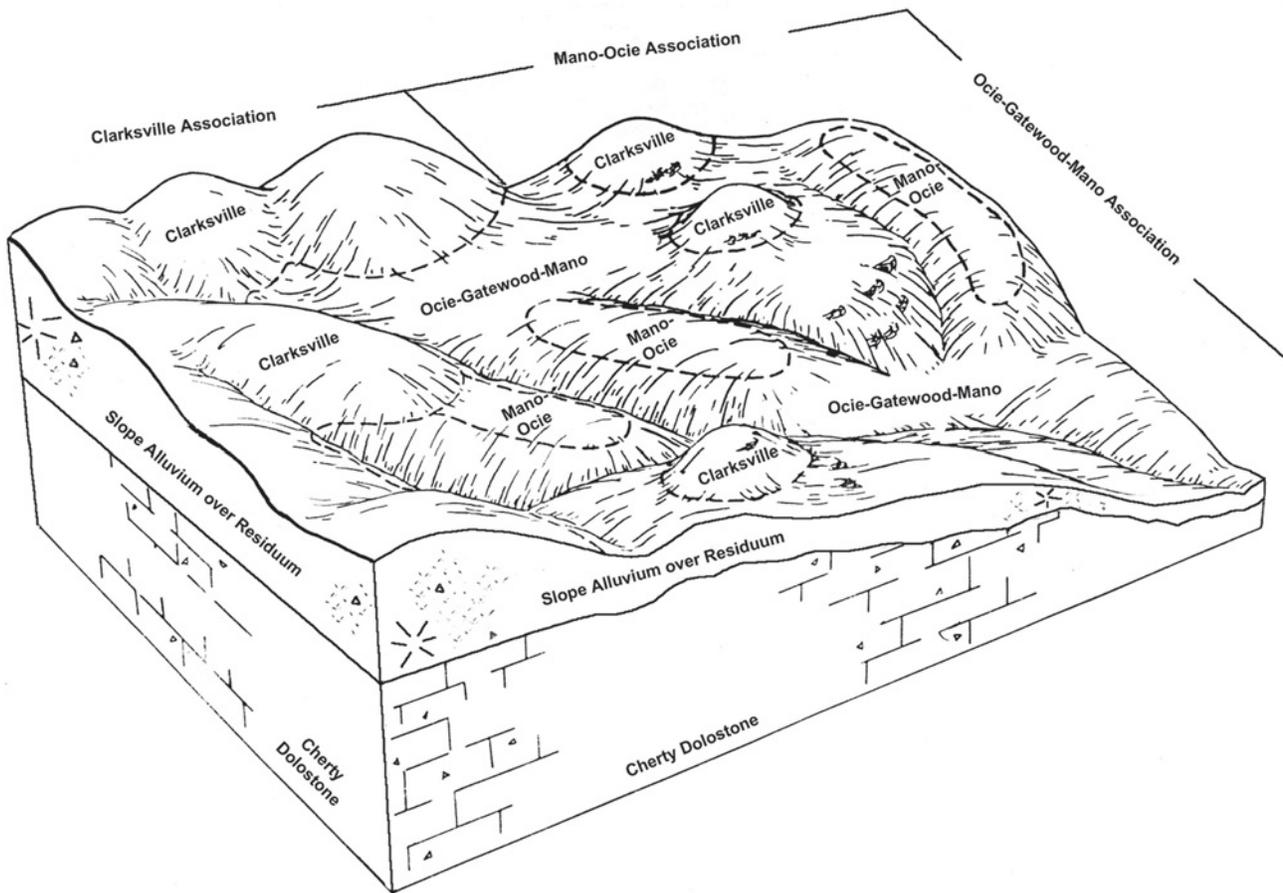


Figure 2.—Typical pattern of soils and parent material in the Mano-Ocie, Ocie-Gatewood-Mano, and Clarksville associations.

Extent of the components in the association (fig. 2):

Clarksville and similar soils—80 percent

Soils of minor extent—20 percent

Soils of Minor Extent

- Gatewood, Mano, Noark, Ocie, Rock outcrop, Scholten, Tick, and Tonti

Landscape

Clarksville—ridgetops, shoulder slopes, backslopes, and knobs

Parent Material

Clarksville—slope alluvium and residuum

Slope Range

Clarksville—3 to 50 percent

4. Poynor-Scholten Association

Composition

Extent of the association in the survey area: 24 percent

Extent of the components in the association (fig. 3):

Poynor and similar soils—70 percent

Scholten and similar soils—15 percent

Soils of minor extent—15 percent

Soils of Minor Extent

- Branson, Mano, Ocie, Tonti, Splitlimb, and Winnipeg

Landscape

Poynor—ridgetops and shoulder slopes

Scholten—ridgetops and shoulder slopes

Parent Material

Poynor—slope alluvium or loess and the underlying residuum

Scholten—slope alluvium or loess and the underlying residuum

Slope Range

Poynor—1 to 15 percent

Scholten—3 to 15 percent

Soils of minor extent—10 percent

Soils of Minor Extent

- Gatewood, Moko, Pomme, Relfe, Sandbur, Scholten, and Topazmill

Landscape

Coulstone—backslopes, shoulder slopes, and ridgetops

Bender—backslopes, shoulder slopes, and ridgetops

Poynor—backslopes, shoulder slopes, and ridgetops

Parent Material

Coulstone—slope alluvium and residuum from acid sandstone

Bender—residuum from sandstone

Poynor—slope alluvium and the underlying residuum

Slope Range

Coulstone—15 to 60 percent

Bender—15 to 60 percent

Poynor—15 to 60 percent

5. Coulstone-Bender-Poynor Association

Composition

Extent of the association in the survey area: 22 percent

Extent of the components in the association (fig. 4):

Coulstone and similar soils—45 percent

Bender and similar soils—25 percent

Poynor and similar soils—20 percent

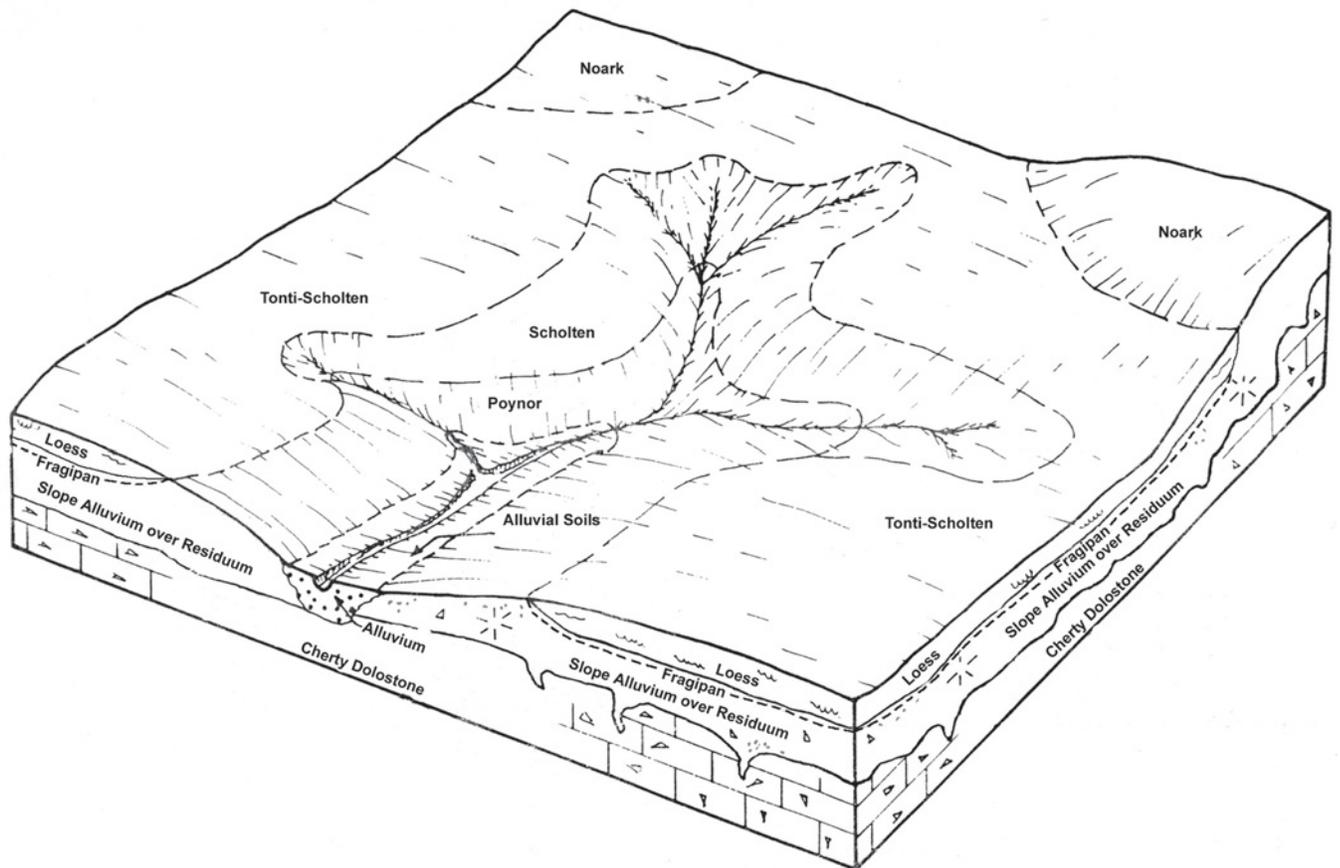


Figure 3.—Typical pattern of soils and parent material in the Poynor-Scholten and Tonti-Scholten-Noark associations.

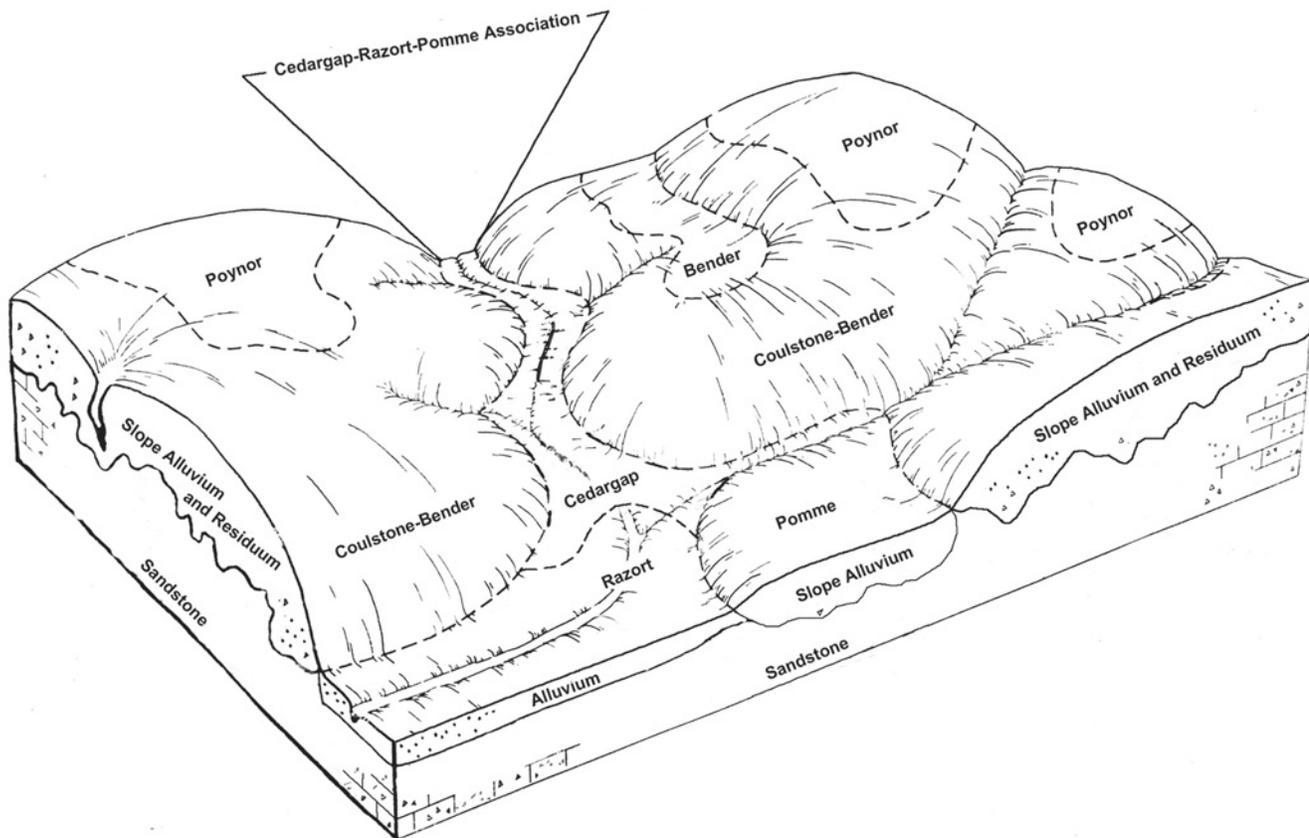


Figure 4.—Typical pattern of soils and parent material in the Coulstone-Bender-Poynor and Cedargap-Razort-Pomme associations.

6. Cedargap-Razort-Pomme Association

Composition

Extent of the association in the survey area: 9 percent

Extent of the components in the association (fig. 4):

Cedargap and similar soils—42 percent

Razort and similar soils—25 percent

Pomme and similar soils—23 percent

Soils of minor extent—10 percent

Soils of Minor Extent

- Coulstone, Relfe, Sandbur, Topazmill, and Zanoni

Landscape

Cedargap—flood plains of small streams

Razort—stream terraces of small streams

Pomme—footslopes of major streams

Parent Material

Cedargap—gravelly stream alluvium

Razort—loamy stream alluvium

Pomme—slope alluvium

Slope Range

Cedargap—0 to 15 percent

Razort—0 to 15 percent

Pomme—0 to 15 percent

7. Tonti-Scholten-Noark Association

Composition

Extent of the association in the survey area: 1 percent

Extent of the components in the association (fig. 3):

Tonti and similar soils—38 percent

Scholten and similar soils—30 percent

Noark and similar soils—20 percent

Soils of minor extent—12 percent

Soils of Minor Extent

- Branson, Clarksville, Lowassie, Poynor, and Splitlimb

Landscape

Tonti—ridgetops and shoulder slopes

Scholten—ridgetops, shoulder slopes, and
backslopes

Noark—ridgetops, shoulder slopes, and
backslopes

Parent Material

Tonti—loess, slope alluvium, and the underlying
residuum

Scholten—Loess, slope alluvium, and the underlying
residuum

Noark—slope alluvium and clayey residuum

Slope Range

Tonti—1 to 8 percent

Scholten—1 to 8 percent

Noark—1 to 8 percent

Detailed Soil Map Units

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

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Tonti silt loam, 3 to 8 percent slopes, is a phase of the Tonti 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. Branson-Splitlimb complex, 1 to 3 percent slopes, is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. The map unit Borrow areas 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.

70022—Tonti silt loam, 3 to 8 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Tonti

Percent of the map unit: 85 percent

Position on the landform: Summits

Parent material: Silty loess over gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: High

Depth to restrictive feature: 16 to 28 inches to a fragipan

Component Hydrologic Properties

Flooding: None

Current depth to water table: 14 to 26 inches

Drainage class: Moderately well drained

Typical Profile

Ap—0 to 8 inches; silt loam

Bt—8 to 20 inches; gravelly silty clay loam

2Btx—20 to 34 inches; extremely gravelly silt loam

3Bt—34 to 80 inches; very gravelly clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

Minor Components

Poynor and similar soils

Estimated percent of the map unit: 0 to 10 percent

Scholten and similar soils

Estimated percent of the map unit: 0 to 10 percent

Fanchon and similar soils

Estimated percent of the map unit: 0 to 10 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 5 percent

70025—Branson-Splitlimb complex, 1 to 3 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Branson

Percent of the map unit: 50 percent

Position on the landform: Summits

Parent material: Loess over silty slope alluvium

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Low

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 8 inches; silt loam

Bt1—8 to 26 inches; silt loam

2Bt2—26 to 40 inches; silty clay loam

2Bt3—40 to 80 inches; silty clay loam

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

Splitlimb

Percent of the map unit: 35 percent

Position on the landform: Summits

Parent material: Loess over silty slope alluvium

Slope shape: Concave

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Negligible

Component Hydrologic Properties

Flooding: None

Current depth to water table: 12 to 30 inches

Drainage class: Somewhat poorly drained

Typical Profile

Ap—0 to 10 inches; silt loam

Bt1—10 to 20 inches; silt loam

Bt2—20 to 29 inches; silt loam

2Bt3—29 to 80 inches; silty clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Fanchon and similar soils

Estimated percent of the map unit: 0 to 10 percent

Tonti and similar soils

Estimated percent of the map unit: 0 to 5 percent

Poynor and similar soils

Estimated percent of the map unit: 0 to 5 percent

Pomme and similar soils

Estimated percent of the map unit: 0 to 5 percent

Lowassie and similar soils

Estimated percent of the map unit: 0 to 5 percent

Very gravelly subsoil

Estimated percent of the map unit: 0 to 5 percent

70026—Tonti silt loam, 1 to 3 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Tonti

Percent of the map unit: 85 percent

Position on the landform: Summits

Parent material: Loess over gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Depth to restrictive feature: 13 to 25 inches to a fragipan

Component Hydrologic Properties

Flooding: None

Current depth to water table: 11 to 23 inches

Drainage class: Moderately well drained

Typical Profile

Ap—0 to 8 inches; silt loam

Bt—8 to 20 inches; gravelly silty clay loam

2Btx—20 to 34 inches; very gravelly silt loam

3Bt—34 to 80 inches; very gravelly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Scholten and similar soils

Estimated percent of the map unit: 0 to 10 percent

Fanchon and similar soils

Estimated percent of the map unit: 0 to 10 percent

Poynor and similar soils

Estimated percent of the map unit: 0 to 5 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 5 percent

73000—Pomme silt loam, 3 to 8 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Pomme

Percent of the map unit: 85 percent

Position on the landform: Footslopes

Parent material: Loamy slope alluvium

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 7 inches; silt loam

Bt1—7 to 19 inches; silty clay loam

2Bt2—19 to 57 inches; very gravelly silty clay loam

3Bt3—57 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional

information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Poynor and similar soils

Estimated percent of the map unit: 0 to 5 percent

Winnipeg and similar soils

Estimated percent of the map unit: 0 to 10 percent

Viraton and similar soils

Estimated percent of the map unit: 0 to 5 percent

Eroded areas

Estimated percent of the map unit: 0 to 5 percent

Hartville and similar soils

Estimated percent of the map unit: 0 to 5 percent

Wasola and similar soils

Estimated percent of the map unit: 0 to 5 percent

73013—Lowassie silt loam, 0 to 3 percent slopes, frequently ponded

Map Unit Setting

Landform: Sinkholes

Component Description

Lowassie

Percent of the map unit: 90 percent

Parent material: Silty loess, silty and clayey slope alluvium

Slope shape: Concave

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Negligible

Component Hydrologic Properties

Flooding: None

Current depth to water table: At the surface

Drainage class: Poorly drained

Typical Profile

Ap—0 to 10 inches; silt loam

BE—10 to 18 inches; silt loam

Btg1—18 to 36 inches; silty clay

2Btg2—36 to 80 inches; silt loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Fanchon and similar soils

Estimated percent of the map unit: 0 to 10 percent

Splitlimb and similar soils

Estimated percent of the map unit: 0 to 10 percent

Tonti and similar soils

Estimated percent of the map unit: 0 to 10 percent

73017—Bendavis-Poynor complex, 15 to 50 percent slopes, rocky, very stony

Map Unit Setting

Landform: Hills

Component Description

Bendavis

Percent of the map unit: 70 percent

Position on the landform: Backslopes

Parent material: Gravelly slope alluvium

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)

Surface runoff class: Very high

Percent of surface covered by rock fragments: 3 to 10 percent (subangular stones)

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: 18 to 36 inches

Drainage class: Moderately well drained

Typical Profile

A—0 to 3 inches; very gravelly silt loam

E—3 to 14 inches; very gravelly silt loam

Bt—14 to 34 inches; very gravelly silt loam

2R—34 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional

information is provided in the tables described under the heading "Soil Properties."

Poynor

Percent of the map unit: 20 percent

Position on the landform: Backslopes

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: High

Percent of surface covered by rock fragments: 0 to 3 percent (subangular stones)

Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

A—0 to 4 inches; very gravelly silt loam

E—4 to 10 inches; very gravelly silt loam

Bt1—10 to 28 inches; very gravelly silt loam

2Bt2—28 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

Minor Components

Rock outcrop

Estimated percent of the map unit: 0 to 10 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 10 percent

Scholten and similar soils

Estimated percent of the map unit: 0 to 10 percent

Surface stones and boulders

Estimated percent of the map unit: 0 to 5 percent

73019—Poynor very gravelly silt loam, 1 to 8 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Poynor

Percent of the map unit: 90 percent

Position on the landform: Summits

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

A—0 to 4 inches; very gravelly silt loam

E—4 to 10 inches; very gravelly silt loam

Bt1—10 to 28 inches; very gravelly silty clay loam

2Bt2—28 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

Minor Components

Scholten and similar soils

Estimated percent of the map unit: 0 to 10 percent

Fanchon and similar soils

Estimated percent of the map unit: 0 to 10 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 5 percent

Tonti and similar soils

Estimated percent of the map unit: 0 to 5 percent

73021—Poynor extremely gravelly silt loam, 15 to 35 percent slopes, stony

Map Unit Setting

Landform: Hills

Component Description

Poynor

Percent of the map unit: 90 percent
Position on the landform: Backslopes
Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: High
Percent of surface covered by rock fragments: 0 to 1 percent (subangular stones)
Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None
Current depth to water table: More than 6 feet
Drainage class: Well drained

Typical Profile

A—0 to 4 inches; very gravelly silt loam
 E—4 to 10 inches; very gravelly silt loam
 Bt1—10 to 28 inches; very gravelly silty clay loam
 2Bt2—28 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Gatewood and similar soils

Estimated percent of the map unit: 0 to 5 percent

Ocie and similar soils

Estimated percent of the map unit: 0 to 5 percent

Bendavis and similar soils

Estimated percent of the map unit: 0 to 5 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 10 percent

73023—Mano-Ocie complex, 1 to 8 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Mano

Percent of the map unit: 65 percent
Position on the landform: Summits
Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: Medium
Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None
Current depth to water table: 24 to 36 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 3 inches; gravelly silt loam
 E—3 to 13 inches; very gravelly silt loam
 Bt1—13 to 33 inches; very gravelly silt loam
 2Bt2—33 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Ocie

Percent of the map unit: 25 percent
Position on the landform: Summits
Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Deep (40 to 60 inches)
Surface runoff class: Medium
Depth to restrictive feature: 15 to 40 inches to strongly contrasting textural stratification; 40 to 60 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None
Current depth to water table: 24 to 36 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 5 inches; very gravelly silt loam
 E—5 to 11 inches; very gravelly silt loam

Bt1—11 to 24 inches; very gravelly silty clay loam
 2Bt2—24 to 56 inches; clay
 3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Gatewood and similar soils

Estimated percent of the map unit: 0 to 5 percent

Bendavis and similar soils

Estimated percent of the map unit: 0 to 5 percent

Viraton and similar soils

Estimated percent of the map unit: 0 to 5 percent

Scholten and similar soils

Estimated percent of the map unit: 0 to 10 percent

Gressy and similar soils

Estimated percent of the map unit: 0 to 5 percent

73024—Mano-Ocie complex, 8 to 15 percent slopes, stony

Map Unit Setting

Landform: Hills

Component Description

Mano

Percent of the map unit: 55 percent
Position on the landform: Shoulders
Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: Medium
Percent of surface covered by rock fragments: 0 to 3 percent (subangular stones)
Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None
Current depth to water table: 24 to 36 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 3 inches; very gravelly silt loam
 E—3 to 13 inches; very gravelly silt loam
 Bt1—13 to 33 inches; very gravelly silt loam
 2Bt2—33 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Ocie

Percent of the map unit: 35 percent
Position on the landform: Shoulders
Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Deep (40 to 60 inches)
Surface runoff class: Medium
Percent of surface covered by rock fragments: 0 to 3 percent (subangular stones)
Depth to restrictive feature: 15 to 40 inches to strongly contrasting textural stratification; 40 to 60 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None
Current depth to water table: 24 to 36 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 5 inches; very gravelly silt loam
 E—5 to 11 inches; very gravelly silt loam
 Bt1—11 to 24 inches; very gravelly silt loam
 2Bt2—24 to 56 inches; gravelly clay
 3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Bendavis and similar soils

Estimated percent of the map unit: 0 to 5 percent

Gatewood and similar soils

Estimated percent of the map unit: 0 to 10 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 10 percent

Gressy and similar soils

Estimated percent of the map unit: 0 to 10 percent

73032—Gatewood very gravelly silt loam, 3 to 15 percent slopes, stony**Map Unit Setting**

Landform: Hills

Component Description**Gatewood**

Percent of the map unit: 85 percent

Position on the landform: Shoulders

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)

Surface runoff class: High

Percent of surface covered by rock fragments: 0 to 3 percent (subangular stones)

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: 18 to 36 inches

Drainage class: Moderately well drained

Typical Profile

A—0 to 2 inches; very gravelly silt loam

E—2 to 5 inches; very gravelly silt loam

2Bt—5 to 36 inches; clay

3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components**Moko and similar soils**

Estimated percent of the map unit: 0 to 5 percent

Bendavis and similar soils

Estimated percent of the map unit: 0 to 10 percent

Ocie and similar soils

Estimated percent of the map unit: 0 to 15 percent

Rock outcrop

Estimated percent of the map unit: 0 to 5 percent

73033—Gatewood extremely gravelly silt loam, 15 to 35 percent slopes, very rocky, very stony**Map Unit Setting**

Landform: Hills

Component Description**Gatewood**

Percent of the map unit: 80 percent

Position on the landform: Backslopes

Parent material: Gravelly slope alluvium derived from chert over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)

Surface runoff class: Very high

Percent of surface covered by rock fragments: 3 to 10 percent (stones)

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: 18 to 36 inches

Drainage class: Moderately well drained

Typical Profile

A—0 to 2 inches; extremely gravelly silt loam

E—2 to 5 inches; gravelly silt loam

2Bt—5 to 36 inches; clay

3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components**Rock outcrop**

Estimated percent of the map unit: 0 to 10 percent

Ocie and similar soils

Estimated percent of the map unit: 0 to 10 percent

Moko and similar soils

Estimated percent of the map unit: 0 to 5 percent

Bendavis and similar soils

Estimated percent of the map unit: 0 to 10 percent

73051—Winnipeg silt loam, 2 to 5 percent slopes***Map Unit Setting***

Landform: Hills

Component Description**Winnipeg**

Percent of the map unit: 85 percent

Position on the landform: Foothslopes

Parent material: Loess and the underlying silty slope alluvium

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 6 inches; silt loam

Bt1—6 to 16 inches; silt loam

2Bt2—16 to 44 inches; silty clay loam

3Bt3—44 to 80 inches; gravelly silty clay loam

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

Minor Components**Pomme and similar soils**

Estimated percent of the map unit: 0 to 10 percent

Splitlimb and similar soils

Estimated percent of the map unit: 0 to 5 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 5 percent

Poynor and similar soils

Estimated percent of the map unit: 0 to 5 percent

Viraton and similar soils

Estimated percent of the map unit: 0 to 5 percent

73059—Pomme silt loam, 1 to 3 percent slopes***Map Unit Setting***

Landform: Hills

Component Description**Pomme**

Percent of the map unit: 85 percent

Position on the landform: Foothslopes

Parent material: Silty loess over gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Concave

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Low

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 7 inches; silt loam

Bt1—7 to 19 inches; silty clay loam

2Bt2—19 to 57 inches; very gravelly silty clay loam

3Bt3—57 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

Minor Components**Eroded areas**

Estimated percent of the map unit: 0 to 5 percent

Hartville and similar soils

Estimated percent of the map unit: 0 to 5 percent

Poynor and similar soils

Estimated percent of the map unit: 0 to 5 percent

Viraton and similar soils

Estimated percent of the map unit: 0 to 5 percent

Winnipeg and similar soils

Estimated percent of the map unit: 0 to 5 percent

73063—Bendavis-Poynor complex, 1 to 8 percent slopes***Map Unit Setting***

Landform: Hills

Component Description**Bendavis**

Percent of the map unit: 60 percent

Position on the landform: Summits

Parent material: Gravelly slope alluvium

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)

Surface runoff class: Medium

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: 18 to 36 inches

Drainage class: Moderately well drained

Typical Profile

Ap—0 to 8 inches; gravelly silt loam

E—8 to 10 inches; very gravelly silt loam

Bt—10 to 31 inches; very gravelly silt loam

2R—31 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Poynor

Percent of the map unit: 30 percent

Position on the landform: Summits

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 4 inches; very gravelly silt loam

E—4 to 10 inches; very gravelly silt loam

Bt1—10 to 28 inches; very gravelly silty clay loam

2Bt2—28 to 80 inches; gravelly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components**Clarksville and similar soils**

Estimated percent of the map unit: 0 to 10 percent

Scholten and similar soils

Estimated percent of the map unit: 0 to 10 percent

Tonti and similar soils

Estimated percent of the map unit: 0 to 5 percent

Fanchon and similar soils

Estimated percent of the map unit: 0 to 5 percent

73068—Tick very gravelly silt loam, 3 to 15 percent slopes, stony***Map Unit Setting***

Landform: Hills

Component Description**Tick**

Percent of the map unit: 85 percent

Position on the landform: Summits

Parent material: Silty slope alluvium over clayey residuum derived from mudstone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Percent of surface covered by rock fragments: 0 to 3 percent (stones)

Depth to restrictive feature: 22 to 66 inches to dense material

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material

A—1 to 5 inches; very gravelly silt loam

E—5 to 10 inches; very gravelly silt loam

Bt1—10 to 18 inches; silty clay loam

Bt2—18 to 42 inches; clay

2Cd—42 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Clarksville and similar soils

Estimated percent of the map unit: 0 to 10 percent

Poynor and similar soils

Estimated percent of the map unit: 0 to 10 percent

Scholten and similar soils

Estimated percent of the map unit: 0 to 5 percent

Mano and similar soils

Estimated percent of the map unit: 0 to 5 percent

73069—Tick extremely gravelly silt loam, 15 to 50 percent slopes, very stony

Map Unit Setting

Landform: Hills

Component Description

Tick

Percent of the map unit: 85 percent

Position on the landform: Backslopes

Parent material: Silty slope alluvium over clayey residuum derived from mudstone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: High

Percent of surface covered by rock fragments: 3 to 10 percent (stones)

Depth to restrictive feature: 22 to 66 inches to dense material

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material

A—1 to 5 inches; extremely gravelly silt loam

E—5 to 10 inches; very gravelly silt loam

Bt1—10 to 18 inches; silty clay loam

Bt2—18 to 42 inches; clay

2Cd—42 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Poynor and similar soils

Estimated percent of the map unit: 0 to 10 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 10 percent

Scholten and similar soils

Estimated percent of the map unit: 0 to 10 percent

Ocie and similar soils

Estimated percent of the map unit: 0 to 5 percent

73073—Scholten-Poynor complex, 8 to 15 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Scholten

Percent of the map unit: 50 percent

Position on the landform: Shoulders
Parent material: Gravelly slope alluvium over clayey
 residuum derived from dolostone
Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: High
Depth to restrictive feature: 13 to 31 inches to a fragipan

Component Hydrologic Properties

Flooding: None
Current depth to water table: 12 to 29 inches
Drainage class: Moderately well drained

Typical Profile

Ap—0 to 7 inches; very gravelly silt loam
 Bt—7 to 21 inches; very gravelly silt loam
 2Btx—21 to 34 inches; extremely gravelly silt loam
 3Bt—34 to 80 inches; gravelly clay

Detailed profile descriptions are given in the
 “Classification of the Soils” section. Additional
 information is provided in the tables described under
 the heading “Soil Properties.”

Poynor

Percent of the map unit: 35 percent
Position on the landform: Shoulders
Parent material: Gravelly slope alluvium over clayey
 residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: High
Depth to restrictive feature: 15 to 39 inches to strongly
 contrasting textural stratification

Component Hydrologic Properties

Flooding: None
Current depth to water table: More than 6 feet
Drainage class: Well drained

Typical Profile

Ap—0 to 4 inches; very gravelly silt loam
 E—4 to 10 inches; very gravelly silt loam
 Bt1—10 to 28 inches; very gravelly silty clay loam
 2Bt2—28 to 80 inches; clay

Detailed profile descriptions are given in the
 “Classification of the Soils” section. Additional
 information is provided in the tables described under
 the heading “Soil Properties.”

Minor Components

Tonti and similar soils

Estimated percent of the map unit: 2 to 10 percent

Clarksville and similar soils

Estimated percent of the map unit: 2 to 10 percent

Fanchon and similar soils

Estimated percent of the map unit: 0 to 10 percent

Bendavis and similar soils

Estimated percent of the map unit: 0 to 10 percent

73076—Mano-Ocie complex, 15 to 35 percent slopes, stony

Map Unit Setting

Landform: Hills

Component Description

Mano

Percent of the map unit: 50 percent
Position on the landform: Backslopes
Parent material: Gravelly slope alluvium over clayey
 residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60
 inches)
Surface runoff class: Very high
Percent of surface covered by rock fragments: 0 to 3
 percent (stones)
Depth to restrictive feature: 15 to 39 inches to strongly
 contrasting textural stratification

Component Hydrologic Properties

Flooding: None
Current depth to water table: 24 to 36 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 3 inches; very gravelly silt loam
 E—3 to 13 inches; very gravelly silt loam
 Bt1—13 to 33 inches; very gravelly silt loam
 2Bt2—33 to 80 inches; clay

Detailed profile descriptions are given in the
 “Classification of the Soils” section. Additional
 information is provided in the tables described under
 the heading “Soil Properties.”

Ocie

Percent of the map unit: 35 percent
Position on the landform: Backslopes
Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Deep (40 to 60 inches)
Surface runoff class: Very high
Percent of surface covered by rock fragments: 0 to 3 percent (stones)
Depth to restrictive feature: 15 to 40 inches to strongly contrasting textural stratification; 40 to 60 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None
Current depth to water table: 24 to 36 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 5 inches; very gravelly silt loam
 E—5 to 11 inches; very gravelly silt loam
 Bt1—11 to 24 inches; very gravelly silt loam
 2Bt2—24 to 56 inches; gravelly clay
 3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components**Gatewood and similar soils**

Estimated percent of the map unit: 0 to 10 percent

Bendavis and similar soils

Estimated percent of the map unit: 0 to 5 percent

Gressy and similar soils

Estimated percent of the map unit: 0 to 5 percent

Areas with a bouldery surface

Estimated percent of the map unit: 0 to 5 percent

73121—Scholten-Tonti complex, 3 to 8 percent slopes**Map Unit Setting**

Landform: Hills

Component Description**Scholten**

Percent of the map unit: 55 percent
Position on the landform: Summits
Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: High
Depth to restrictive feature: 13 to 31 inches to a fragipan

Component Hydrologic Properties

Flooding: None
Current depth to water table: 12 to 29 inches
Drainage class: Moderately well drained

Typical Profile

Ap—0 to 7 inches; very gravelly silt loam
 Bt—7 to 21 inches; very gravelly silt loam
 2Btx—21 to 34 inches; extremely gravelly silt loam
 3Bt—34 to 80 inches; gravelly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Tonti

Percent of the map unit: 30 percent
Position on the landform: Summits
Parent material: Silty loess over gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Concave

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: High
Depth to restrictive feature: 16 to 28 inches to a fragipan

Component Hydrologic Properties

Flooding: None
Current depth to water table: 14 to 26 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 8 inches; silt loam

Bt—8 to 20 inches; gravelly silty clay loam
 2Btx—20 to 34 inches; extremely gravelly silt loam
 3Bt—34 to 80 inches; very gravelly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Poynor and similar soils

Estimated percent of the map unit: 0 to 10 percent

Fanchon and similar soils

Estimated percent of the map unit: 0 to 5 percent

Bendavis and similar soils

Estimated percent of the map unit: 0 to 5 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 5 percent

73176—Bendavis-Poynor complex, 8 to 15 percent slopes, stony

Map Unit Setting

Landform: Hills

Component Description

Bendavis

Percent of the map unit: 55 percent
Position on the landform: Backslopes and shoulders
Parent material: Gravelly slope alluvium
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)
Surface runoff class: High
Percent of surface covered by rock fragments: 0.01 to 3 percent (subrounded stones)
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None
Current depth to water table: 18 to 36 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 5 inches; very gravelly silt loam

E—5 to 9 inches; very gravelly silt loam
 Bt—9 to 25 inches; very gravelly silt loam
 2R—25 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Poynor

Percent of the map unit: 30 percent
Position on the landform: Backslopes and shoulders
Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: Medium
Percent of surface covered by rock fragments: 0.01 to 3 percent (subrounded stones)
Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None
Current depth to water table: More than 6 feet
Drainage class: Well drained

Typical Profile

A—0 to 5 inches; very gravelly silt loam
 E—5 to 11 inches; very gravelly silt loam
 Bt1—11 to 17 inches; very gravelly silt loam
 2Bt2—17 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Scholten and similar soils

Estimated percent of the map unit: 0 to 10 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 10 percent

Tonti and similar soils

Estimated percent of the map unit: 0 to 5 percent

Fanchon and similar soils

Estimated percent of the map unit: 0 to 5 percent

73198—Gressy-Viraton complex, 3 to 8 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Gressy

Percent of the map unit: 50 percent

Position on the landform: Summits

Parent material: Silty loess over gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 7 inches; silt loam

Bt1—7 to 31 inches; silt loam

2Bt2—31 to 49 inches; gravelly clay loam

3Bt3—49 to 80 inches; gravelly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Viraton

Percent of the map unit: 40 percent

Position on the landform: Summits

Parent material: Loess, loamy over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: High

Depth to restrictive feature: 16 to 28 inches to a fragipan

Component Hydrologic Properties

Flooding: None

Current depth to water table: 14 to 30 inches

Drainage class: Moderately well drained

Typical Profile

Ap—0 to 3 inches; silt loam

E—3 to 7 inches; silt loam

Bt—7 to 23 inches; gravelly silty clay loam

2Btx—23 to 48 inches; extremely gravelly silt loam

3Bt—48 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Scholten and similar soils

Estimated percent of the map unit: 0 to 5 percent

Wasola and similar soils

Estimated percent of the map unit: 0 to 5 percent

Splitlimb and similar soils

Estimated percent of the map unit: 0 to 5 percent

Macedonia and similar soils

Estimated percent of the map unit: 0 to 5 percent

73199—Moko-Rock outcrop complex, 3 to 15 percent slopes, very flaggy

Map Unit Setting

Landform: Hills

Component Description

Moko

Percent of the map unit: 70 percent

Position on the landform: Backslopes and shoulders

Parent material: Gravelly residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very shallow and shallow (6 to 20 inches)

Surface runoff class: Very high

Percent of surface covered by rock fragments: 3 to 10 percent (flagstones)

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Somewhat excessively drained

Typical Profile

A1—0 to 7 inches; extremely flaggy loam
 A2—7 to 12 inches; extremely flaggy silt loam
 2R—12 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Rock outcrop

Percent of the map unit: 20 percent

Minor Components

Gatewood and similar soils

Estimated percent of the map unit: 0 to 25 percent

73220—Poynor extremely gravelly silt loam, 8 to 15 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Poynor

Percent of the map unit: 80 percent
Position on the landform: Shoulders
Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: Medium
Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None
Current depth to water table: More than 6 feet
Drainage class: Well drained

Typical Profile

Ap—0 to 4 inches; very gravelly silt loam
 E—4 to 10 inches; very gravelly silt loam
 Bt1—10 to 28 inches; very gravelly silty clay loam
 2Bt2—28 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional

information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Scholten and similar soils

Estimated percent of the map unit: 0 to 15 percent

Bendavis and similar soils

Estimated percent of the map unit: 0 to 15 percent

Fanchon and similar soils

Estimated percent of the map unit: 0 to 5 percent

73222—Splitlimb silt loam, 0 to 3 percent slopes, frequently ponded

Map Unit Setting

Landform: Sinkholes

Component Description

Splitlimb

Percent of the map unit: 85 percent
Parent material: Silty loess over silty slope alluvium
Slope shape: Concave

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: Negligible

Component Hydrologic Properties

Flooding: None
Current depth to water table: 0 to 21 inches
Drainage class: Somewhat poorly drained

Typical Profile

Ap—0 to 10 inches; silt loam
 Bt1—10 to 20 inches; silt loam
 Bt2—20 to 29 inches; silt loam
 2Bt3—29 to 80 inches; silty clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Lowassie and similar soils

Estimated percent of the map unit: 0 to 10 percent

Pomme and similar soils

Estimated percent of the map unit: 0 to 20 percent

**73223—Coulstone-Bender complex,
15 to 50 percent slopes, very stony****Map Unit Setting**

Landform: Hills

Component Description**Coulstone**

Percent of the map unit: 55 percent

Position on the landform: Backslopes

Parent material: Gravelly slope alluvium and residuum derived from sandstone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Percent of surface covered by rock fragments: 3 to 10 percent (subrounded stones)

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Somewhat excessively drained

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material

A—1 to 4 inches; very gravelly sandy loam

AE—4 to 11 inches; gravelly sandy loam

Bt1—11 to 31 inches; very gravelly sandy loam

2Bt2—31 to 39 inches; extremely gravelly loam

3Bt3—39 to 80 inches; very cobbly sandy clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Bender

Percent of the map unit: 35 percent

Position on the landform: Backslopes

Parent material: Gravelly residuum derived from sandstone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)

Surface runoff class: High

Percent of surface covered by rock fragments: 3 to 10 percent (subangular stones)

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Somewhat excessively drained

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material

A—1 to 5 inches; extremely cobbly sandy loam

Bt1—5 to 21 inches; extremely cobbly sandy loam

Bt2—21 to 31 inches; extremely stony sandy loam

2R—31 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components**Bendavis and similar soils**

Estimated percent of the map unit: 0 to 10 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 10 percent

Rock outcrop (fig. 5)

Estimated percent of the map unit: 0 to 5 percent

Vertical bluffs

Estimated percent of the map unit: 0 to 5 percent

**73224—Moko-Rock outcrop complex,
15 to 35 percent slopes, extremely
flaggy****Map Unit Setting**

Landform: Hills

Component Description**Moko**

Percent of the map unit: 45 percent

Position on the landform: Backslopes

Parent material: Gravelly residuum derived from dolostone

Slope shape: Convex



Figure 5.—Sandstone rock outcrop is a minor component of the Coulstone-Bender complex, 15 to 50 percent slopes, very stony.

Component Properties and Qualities

Depth to bedrock: Very shallow and shallow (4 to 20 inches)

Surface runoff class: Very high

Percent of surface covered by rock fragments: 5 to 15 percent (subangular stones)

Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Somewhat excessively drained

Typical profile

A1—0 to 7 inches; extremely flaggy loam

A2—7 to 12 inches; extremely flaggy silt loam

2R—12 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional

information is provided in the tables described under the heading “Soil Properties.”

Rock outcrop

Percent of the map unit: 40 percent

Minor Components

Gatewood and similar soils

Estimated percent of the map unit: 0 to 25 percent

73225—Ocie-Gatewood complex, 3 to 8 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Ocie

Percent of the map unit: 50 percent

Position on the landform: Summits

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Deep (40 to 60 inches)

Surface runoff class: High

Depth to restrictive feature: 15 to 40 inches to strongly contrasting textural stratification; 40 to 60 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: 24 to 36 inches

Drainage class: Moderately well drained

Typical Profile

A—0 to 5 inches; very gravelly silt loam

E—5 to 11 inches; very gravelly silt loam

Bt1—11 to 24 inches; very gravelly silt loam

2Bt2—24 to 56 inches; gravelly clay

3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Gatewood

Percent of the map unit: 35 percent

Position on the landform: Summits

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)
Surface runoff class: High
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None
Current depth to water table: 18 to 36 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 2 inches; very gravelly silt loam
 E—2 to 5 inches; very gravelly silt loam
 2Bt—5 to 36 inches; clay
 3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Mano and similar soils

Estimated percent of the map unit: 0 to 10 percent

Moko and similar soils

Estimated percent of the map unit: 0 to 10 percent

Gressy and similar soils

Estimated percent of the map unit: 0 to 5 percent

Viraton and similar soils

Estimated percent of the map unit: 0 to 5 percent

73226—Ocie-Gatewood complex, 3 to 15 percent slopes, stony

Map Unit Setting

Landform: Hills

Component Description

Ocie

Percent of the map unit: 50 percent
Position on the landform: Backslopes

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Deep (40 to 60 inches)
Surface runoff class: High
Depth to restrictive feature: 40 to 60 inches to bedrock (lithic); 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None
Current depth to water table: 24 to 36 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 5 inches; very gravelly silt loam
 E—5 to 11 inches; very gravelly silt loam
 Bt1—11 to 24 inches; very gravelly silt loam
 2Bt2—24 to 56 inches; gravelly clay
 3R—56 to 80 inches; underived bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Gatewood

Percent of the map unit: 40 percent
Position on the landform: Backslopes
Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)
Surface runoff class: Very high
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None
Current depth to water table: 18 to 36 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 2 inches; very gravelly silt loam
 E—2 to 5 inches; very gravelly silt loam
 2Bt—5 to 36 inches; clay
 3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Moko and similar soils

Estimated percent of the map unit: 0 to 5 percent

Mano and similar soils

Estimated percent of the map unit: 0 to 15 percent

Rock outcrop

Estimated percent of the map unit: 0 to 2 percent

73227—Ocie-Gatewood complex, 15 to 35 percent slopes, very stony

Map Unit Setting

Landform: Hills

Component Description

Ocie

Percent of the map unit: 50 percent

Position on the landform: Backslopes

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Deep (40 to 60 inches)

Surface runoff class: Very high

Percent of surface covered by rock fragments: 3 to 10 percent (stones)

Depth to restrictive feature: 40 to 60 inches to bedrock (lithic); 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None

Current depth to water table: 24 to 36 inches

Drainage class: Moderately well drained

Typical Profile

A—0 to 5 inches; very gravelly silt loam

E—5 to 11 inches; very gravelly silt loam

Bt1—11 to 24 inches; very gravelly silt loam

2Bt2—24 to 56 inches; gravelly clay

3R—56 to 80 inches; unweathered bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Gatewood

Percent of the map unit: 35 percent

Position on the landform: Backslopes

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)

Surface runoff class: Very high

Percent of surface covered by rock fragments: 3 to 10 percent (stones)

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: 18 to 36 inches

Drainage class: Moderately well drained

Typical Profile

A—0 to 2 inches; very gravelly silt loam

E—2 to 5 inches; very gravelly silt loam

2Bt—5 to 36 inches; clay

3R—36 to 80 inches; unweathered bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Steeper slopes and bluffs

Estimated percent of the map unit: 0 to 10 percent

Mano and similar soils

Estimated percent of the map unit: 0 to 15 percent

Moko and similar soils

Estimated percent of the map unit: 0 to 5 percent

Rock outcrop

Estimated percent of the map unit: 0 to 5 percent

73228—Gatewood-Moko complex, 3 to 15 percent slopes, very rocky, very flaggy

Map Unit Setting

Landform: Hills

Component Description

Gatewood

Percent of the map unit: 55 percent

Position on the landform: Shoulders

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)

Surface runoff class: High

Percent of surface covered by rock fragments: 3 to 10 percent (subangular stones)

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: 18 to 36 inches

Drainage class: Moderately well drained

Typical Profile

A—0 to 2 inches; very gravelly silt loam

E—2 to 5 inches; very gravelly silt loam

2Bt—5 to 36 inches; clay

3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Moko

Percent of the map unit: 30 percent

Position on the landform: Shoulders

Parent material: Gravelly residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very shallow and shallow (4 to 20 inches)

Surface runoff class: High

Percent of surface covered by rock fragments: 3 to 10 percent (subangular stones)

Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Somewhat excessively drained

Typical Profile

A1—0 to 7 inches; very gravelly silt loam

A2—7 to 12 inches; extremely flaggy silt loam

2R—12 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Ocie and similar soils

Estimated percent of the map unit: 0 to 15 percent

Mano and similar soils

Estimated percent of the map unit: 0 to 5 percent

Rock outcrop

Estimated percent of the map unit: 0 to 5 percent

73229—Gatewood-Moko complex, 15 to 35 percent slopes, very rocky, very flaggy

Map Unit Setting

Landform: Hills

Component Description

Gatewood

Percent of the map unit: 50 percent

Position on the landform: Backslopes

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)

Surface runoff class: Very high

Percent of surface covered by rock fragments: 3 to 10 percent (subangular stones)

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: 18 to 36 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 2 inches; extremely gravelly silt loam
 E—2 to 5 inches; very gravelly silt loam
 2Bt—5 to 36 inches; clay
 3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Moko

Percent of the map unit: 35 percent
Position on the landform: Backslopes
Parent material: Gravelly residuum derived from dolostone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very shallow and shallow (4 to 20 inches)
Surface runoff class: Very high
Percent of surface covered by rock fragments: 3 to 10 percent (subangular stones)
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None
Current depth to water table: More than 6 feet
Drainage class: Somewhat excessively drained

Typical Profile

A1—0 to 7 inches; very gravelly silt loam
 A2—7 to 12 inches; extremely flaggy silt loam
 2R—12 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Ocie and similar soils

Estimated percent of the map unit: 0 to 25 percent

Rock outcrop

Estimated percent of the map unit: 0 to 5 percent

73230—Coulstone-Bender-Gatewood complex, 15 to 60 percent slopes, rocky, very stony

Map Unit Setting

Landform: Hills

Component Description

Coulstone

Percent of the map unit: 40 percent
Position on the landform: Backslopes
Parent material: Gravelly residuum derived from sandstone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: Medium
Percent of surface covered by rock fragments: 3 to 10 percent (stones)

Component Hydrologic Properties

Flooding: None
Current depth to water table: More than 6 feet
Drainage class: Somewhat excessively drained

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material
 A—1 to 6 inches; extremely cobbly sandy loam
 Bt1—6 to 29 inches; extremely gravelly sandy loam
 2Bt2—29 to 42 inches; extremely stony sandy loam
 3Bt3—42 to 80 inches; extremely stony clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Bender

Percent of the map unit: 25 percent
Position on the landform: Backslopes
Parent material: Gravelly slope alluvium derived from sandstone
Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)
Surface runoff class: High

Percent of surface covered by rock fragments: 3 to 10 percent (stones)

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Somewhat excessively drained

Typical Profile

Oe—0 to 1 inch; moderately decomposed plant material

A—1 to 5 inches; extremely cobbly sandy loam

Bt1—5 to 21 inches; extremely cobbly sandy loam

Bt2—21 to 31 inches; extremely stony sandy loam

2R—31 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Gatewood

Percent of the map unit: 20 percent

Position on the landform: Backslopes

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)

Surface runoff class: Very high

Percent of surface covered by rock fragments: 3 to 10 percent (stones)

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: 18 to 36 inches

Drainage class: Moderately well drained

Typical profile

A—0 to 2 inches; extremely gravelly silt loam

E—2 to 5 inches; very gravelly silt loam

2Bt—5 to 36 inches; clay

3R—36 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Mano and similar soils

Estimated percent of the map unit: 0 to 5 percent

Rock outcrop

Estimated percent of the map unit: 0 to 5 percent

Bendavis and similar soils

Estimated percent of the map unit: 0 to 5 percent

Moko and similar soils

Estimated percent of the map unit: 0 to 5 percent

Poynor and similar soils

Estimated percent of the map unit: 0 to 5 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 5 percent

Vertical bluffs

Estimated percent of the map unit: 0 to 5 percent

73231—Wasola silt loam, 1 to 8 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Wasola

Percent of the map unit: 85 percent

Position on the landform: Footslopes

Parent material: Loamy slope alluvium

Slope shape: Concave

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Very high

Component Hydrologic Properties

Flooding: None

Current depth to water table: 18 to 30 inches

Drainage class: Somewhat poorly drained

Typical Profile

Ap—0 to 7 inches; silt loam

Bt—7 to 22 inches; silt loam

2Btx—22 to 30 inches; very gravelly silty clay loam

3Bt—30 to 80 inches; very gravelly silty clay loam

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

Minor Components

Pomme and similar soils

Estimated percent of the map unit: 0 to 10 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 5 percent

Poynor and similar soils

Estimated percent of the map unit: 0 to 10 percent

Winnipeg and similar soils

Estimated percent of the map unit: 0 to 5 percent

73236—Scholten-Poynor complex, 3 to 8 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Scholten

Percent of the map unit: 55 percent

Position on the landform: Summits

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Very high

Depth to restrictive feature: 13 to 31 inches to a fragipan

Component Hydrologic Properties

Flooding: None

Current depth to water table: 12 to 26 inches

Drainage class: Moderately well drained

Typical Profile

Ap—0 to 7 inches; very gravelly silt loam

Bt—7 to 21 inches; very gravelly silt loam

2Btx—21 to 34 inches; extremely gravelly silt loam

3Bt—34 to 80 inches; gravelly clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional

information is provided in the tables described under the heading "Soil Properties."

Poynor

Percent of the map unit: 30 percent

Position on the landform: Summits

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 4 inches; very gravelly silt loam

E—4 to 10 inches; very gravelly silt loam

Bt1—10 to 28 inches; very gravelly silt loam

2Bt2—28 to 80 inches; gravelly clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

Minor Components

Bendavis and similar soils

Estimated percent of the map unit: 0 to 5 percent

Tonti and similar soils

Estimated percent of the map unit: 0 to 5 percent

Macedonia and similar soils

Estimated percent of the map unit: 0 to 5 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 5 percent

73237—Clarksville very gravelly silt loam, 3 to 15 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Clarksville

Percent of the map unit: 85 percent

Position on the landform: Summits

Parent material: Gravelly slope alluvium over gravelly residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Somewhat excessively drained

Typical Profile

A—0 to 3 inches; very gravelly silt loam

E—3 to 14 inches; very gravelly silt loam

Bt1—14 to 45 inches; extremely cobbly loam

2Bt2—45 to 80 inches; extremely cobbly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Poynor and similar soils

Estimated percent of the map unit: 0 to 20 percent

Bendavis and similar soils

Estimated percent of the map unit: 0 to 10 percent

Rock outcrop

Estimated percent of the map unit: 0 to 5 percent

73242—Fanchon-Tonti complex, 3 to 8 percent slopes

Map Unit Setting

Landform: Ridges

Component Description

Fanchon

Percent of the map unit: 55 percent

Position on the landform: Summits

Parent material: Loess over gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 5 inches; silt loam

AB—5 to 10 inches; silt loam

Bt1—10 to 28 inches; silt loam

2Bt2—28 to 47 inches; gravelly clay loam

3Bt3—47 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Tonti

Percent of the map unit: 30 percent

Position on the landform: Summits

Parent material: Loess over gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: High

Depth to restrictive feature: 16 to 28 inches to a fragipan

Component Hydrologic Properties

Flooding: None

Current depth to water table: 14 to 26 inches

Drainage class: Moderately well drained

Typical Profile

Ap—0 to 6 inches; silt loam

Bt—6 to 22 inches; silty clay loam

2Btx—22 to 35 inches; very gravelly silt loam

3Bt—35 to 80 inches; cobbly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Macedonia and similar soils

Estimated percent of the map unit: 0 to 10 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 10 percent

Scholten and similar soils

Estimated percent of the map unit: 0 to 10 percent

Poynor and similar soils

Estimated percent of the map unit: 0 to 10 percent

73243—Topazmill loam, 3 to 8 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Topazmill

Percent of the map unit: 85 percent

Position on the landform: Footslopes

Parent material: Loamy slope alluvium derived from sandstone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 9 inches; loam

Bt1—9 to 31 inches; loam

2Bt2—31 to 80 inches; clay loam

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

Minor Components

Pomme and similar soils

Estimated percent of the map unit: 1 to 15 percent

Zanoni and similar soils

Estimated percent of the map unit: 1 to 15 percent

Eroded areas

Estimated percent of the map unit: 0 to 15 percent

Poynor and similar soils

Estimated percent of the map unit: 0 to 5 percent

73300—Macedonia gravelly silt loam, 3 to 8 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Macedonia

Percent of the map unit: 85 percent

Position on the landform: Summits

Parent material: Slope alluvium over clayey residuum

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 4 inches; gravelly silt loam

Bt1—4 to 9 inches; silt loam

2Bt2—9 to 18 inches; clay

2Bt3—18 to 80 inches; clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

Minor Components

Poynor and similar soils

Estimated percent of the map unit: 0 to 10 percent

Fanchon and similar soils

Estimated percent of the map unit: 0 to 10 percent

Scholten and similar soils

Estimated percent of the map unit: 0 to 10 percent

Tonti and similar soils

Estimated percent of the map unit: 0 to 5 percent

73311—Scholten-Bendavis-Poynor complex, 8 to 15 percent slopes**Map Unit Setting**

Landform: Hills

Component Description**Scholten**

Percent of the map unit: 35 percent

Position on the landform: Backslopes and shoulders

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: High

Depth to restrictive feature: 13 to 31 inches to a fragipan

Component Hydrologic Properties

Flooding: None

Current depth to water table: 12 to 26 inches

Drainage class: Moderately well drained

Typical Profile

Ap—0 to 7 inches; very gravelly silt loam

Bt—7 to 21 inches; very gravelly silt loam

2Btx—21 to 34 inches; extremely gravelly silt loam

3Bt—34 to 80 inches; gravelly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Bendavis

Percent of the map unit: 30 percent

Position on the landform: Backslopes and shoulders

Parent material: Gravelly slope alluvium

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)

Surface runoff class: High

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: 18 to 36 inches

Drainage class: Moderately well drained

Typical Profile

A—0 to 5 inches; very gravelly silt loam

E—5 to 9 inches; very gravelly silt loam

Bt—9 to 25 inches; very gravelly silt loam

2R—25 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Poynor

Percent of the map unit: 25 percent

Position on the landform: Backslopes and shoulders

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 4 inches; very gravelly silt loam

E—4 to 10 inches; very gravelly silt loam

Bt1—10 to 28 inches; very gravelly silty clay loam

2Bt2—28 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components**Tonti and similar soils**

Estimated percent of the map unit: 0 to 10 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 15 percent

73325—Clarksville extremely gravelly silt loam, 15 to 50 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Clarksville

Percent of the map unit: 85 percent

Position on the landform: Backslopes

Parent material: Gravelly colluvium over gravelly residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: High

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Oi—0 to 1 inch; moderately decomposed plant material

A—1 to 5 inches; extremely gravelly silt loam

BE—5 to 11 inches; very gravelly silt loam

Bt1—11 to 42 inches; extremely gravelly silt loam

2Bt2—42 to 80 inches; very gravelly clay

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

Minor Components

Poynor and similar soils

Estimated percent of the map unit: 0 to 10 percent

Rock outcrop

Estimated percent of the map unit: 0 to 10 percent

Bendavis and similar soils

Estimated percent of the map unit: 0 to 5 percent

Scholten and similar soils

Estimated percent of the map unit: 0 to 10 percent

Surface stones and boulders

Estimated percent of the map unit: 0 to 5 percent

73326—Topazmill-Coulstone complex, 3 to 15 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Topazmill

Percent of the map unit: 60 percent

Position on the landform: Footslopes

Parent material: Loamy slope alluvium derived from sandstone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 7 inches; loam

Bt1—7 to 24 inches; loam

2Bt2—24 to 80 inches; clay loam

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional information is provided in the tables described under the heading "Soil Properties."

Coulstone

Percent of the map unit: 25 percent

Position on the landform: Backslopes

Parent material: Gravelly slope alluvium and residuum derived from sandstone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Somewhat excessively drained

Typical Profile

Ap—0 to 6 inches; extremely cobbly sandy loam

Bt1—6 to 29 inches; extremely cobbly sandy loam

2Bt2—29 to 42 inches; extremely stony sandy loam

3Bt3—42 to 80 inches; extremely stony clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Pomme and similar soils

Estimated percent of the map unit: 1 to 15 percent

Zanoni and similar soils

Estimated percent of the map unit: 1 to 15 percent

Eroded areas

Estimated percent of the map unit: 0 to 25 percent

73327—Topazmill-Coulstone complex, 15 to 35 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Topazmill

Percent of the map unit: 60 percent

Position on the landform: Footslopes

Parent material: Loamy slope alluvium derived from sandstone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: High

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 7 inches; loam

Bt1—7 to 24 inches; loam

2Bt2—24 to 80 inches; clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Coulstone

Percent of the map unit: 25 percent

Position on the landform: Backslopes

Parent material: Gravelly slope alluvium and residuum derived from sandstone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: High

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Somewhat excessively drained

Typical Profile

Ap—0 to 6 inches; extremely cobbly sandy loam

Bt1—6 to 29 inches; extremely gravelly sandy loam

2Bt2—29 to 42 inches; extremely stony sandy loam

3Bt3—42 to 80 inches; extremely stony clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Pomme and similar soils

Estimated percent of the map unit: 1 to 15 percent

Zanoni and similar soils

Estimated percent of the map unit: 1 to 10 percent

Eroded areas

Estimated percent of the map unit: 0 to 25 percent

73328—Scholten-Noark complex, 3 to 8 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Scholten

Percent of the map unit: 55 percent

Position on the landform: Summits

Parent material: Gravelly slope alluvium over clayey residuum derived from limestone

Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Very high

Depth to restrictive feature: 18 to 31 inches to a fragipan

Component Hydrologic Properties

Flooding: None

Current depth to water table: 16 to 26 inches

Drainage class: Moderately well drained

Typical Profile

Ap—0 to 7 inches; very gravelly silt loam

Bt—7 to 21 inches; very gravelly silt loam

2Btx—21 to 34 inches; extremely gravelly silt loam

3Bt—34 to 80 inches; gravelly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Noark

Percent of the map unit: 30 percent

Parent material: Gravelly colluvium over gravelly residuum derived from limestone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

A—0 to 3 inches; very gravelly silt loam

E—3 to 8 inches; very gravelly silt loam

BE—8 to 16 inches; very gravelly silt loam

2Bt—16 to 60 inches; very gravelly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Poynor and similar soils

Estimated percent of the map unit: 0 to 10 percent

Tonti and similar soils

Estimated percent of the map unit: 0 to 5 percent

Bendavis and similar soils

Estimated percent of the map unit: 0 to 5 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 5 percent

Fanchon and similar soils

Estimated percent of the map unit: 0 to 5 percent

73329—Mano-Ocie complex, karst, 3 to 35 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Mano

Percent of the map unit: 55 percent

Position on the landform: Sinkholes

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: High

Depth to restrictive feature: 15 to 39 inches to strongly contrasting textural stratification

Component Hydrologic Properties

Flooding: None

Current depth to water table: 24 to 36 inches

Drainage class: Moderately well drained

Typical Profile

A—0 to 3 inches; very gravelly silt loam

E—3 to 13 inches; very gravelly silt loam

Bt1—13 to 33 inches; very gravelly silt loam

2Bt2—33 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Ocie

Percent of the map unit: 35 percent

Position on the landform: Sinkholes

Parent material: Gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Deep (40 to 60 inches)

Surface runoff class: High

Depth to restrictive feature: 15 to 40 inches to strongly contrasting textural stratification; 40 to 60 inches to bedrock (lithic)

Component Hydrologic Properties

Flooding: None

Current depth to water table: 24 to 36 inches

Drainage class: Moderately well drained

Typical Profile

A—0 to 5 inches; very gravelly silt loam

E—5 to 11 inches; very gravelly silt loam

Bt1—11 to 24 inches; very gravelly silt loam

2Bt2—24 to 56 inches; gravelly clay

3R—56 to 80 inches; bedrock

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Bendavis and similar soils

Estimated percent of the map unit: 0 to 5 percent

Gatewood and similar soils

Estimated percent of the map unit: 0 to 5 percent

Gressy and similar soils

Estimated percent of the map unit: 0 to 5 percent

Splitlimb and similar soils

Estimated percent of the map unit: 0 to 5 percent

Lowassie and similar soils

Estimated percent of the map unit: 0 to 5 percent

73331—Pomme silt loam, 8 to 15 percent slopes

Map Unit Setting

Landform: Strath terraces

Component Description

Pomme

Percent of the map unit: 85 percent

Parent material: Silty loess over gravelly slope alluvium over clayey residuum derived from dolostone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 7 inches; silt loam

Bt1—7 to 19 inches; silty clay loam

2Bt2—19 to 57 inches; very gravelly silty clay loam

3Bt3—57 to 80 inches; clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Eroded areas

Estimated percent of the map unit: 0 to 10 percent

Hartville and similar soils

Estimated percent of the map unit: 0 to 5 percent

Poynor and similar soils

Estimated percent of the map unit: 0 to 5 percent

Viraton and similar soils

Estimated percent of the map unit: 0 to 5 percent

Winnipeg and similar soils

Estimated percent of the map unit: 0 to 5 percent

73332—Topazmill loam, 8 to 15 percent slopes

Map Unit Setting

Landform: Hills

Component Description

Topazmill

Percent of the map unit: 85 percent

Position on the landform: Footslopes

Parent material: Loamy slope alluvium derived from sandstone

Slope shape: Convex

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 7 inches; loam

Bt1—7 to 24 inches; loam

2Bt2—24 to 80 inches; clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Pomme and similar soils

Estimated percent of the map unit: 1 to 15 percent

Zanoni and similar soils

Estimated percent of the map unit: 1 to 10 percent

Eroded areas

Estimated percent of the map unit: 0 to 25 percent

Poynor and similar soils

Estimated percent of the map unit: 0 to 5 percent

74627—Hartville silt loam, 1 to 3 percent slopes, rarely flooded

Map Unit Setting

Landform: Stream terraces

Component Description

Hartville

Percent of the map unit: 90 percent

Parent material: Silty alluvium over silty and clayey alluvium

Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Very high

Component Hydrologic Properties

Flooding: Rare

Current depth to water table: 12 to 30 inches

Drainage class: Somewhat poorly drained

Typical Profile

Ap—0 to 7 inches; silt loam

E—7 to 11 inches; silt loam

Bt1—11 to 40 inches; silty clay

2Bt2—40 to 80 inches; silty clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Bearthicket and similar soils

Estimated percent of the map unit: 0 to 5 percent

Wasola similar soils

Estimated percent of the map unit: 0 to 5 percent

Pomme and similar soils

Estimated percent of the map unit: 0 to 5 percent

74657—Pomme silt loam, bench, 1 to 8 percent slopes

Map Unit Setting

Landform: Strath terraces

Component Description

Pomme

Percent of the map unit: 85 percent

Parent material: Silty loess over gravelly slope alluvium derived from chert over clayey residuum derived from dolostone

Slope shape: Concave

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Medium

Component Hydrologic Properties

Flooding: None

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 7 inches; silt loam

Bt1—7 to 19 inches; silty clay loam

2Bt2—19 to 57 inches; very gravelly silty clay loam

3Bt3—57 to 86 inches; extremely gravelly clay

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Poynor and similar soils

Estimated percent of the map unit: 0 to 10 percent

Clarksville and similar soils

Estimated percent of the map unit: 0 to 10 percent

Viraton and similar soils

Estimated percent of the map unit: 0 to 15 percent

74682—Zanoni fine sandy loam, 1 to 3 percent slopes, occasionally flooded

Map Unit Setting

Landform: Stream terraces (fig. 6)

Component Description

Zanoni

Percent of the map unit: 85 percent

Parent material: Loamy alluvium

Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Low

Component Hydrologic Properties

Flooding: Occasional

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 7 inches; fine sandy loam

Bt1—7 to 36 inches; fine sandy loam

Bt2—36 to 50 inches; sandy loam

Bt3—50 to 80 inches; stratified extremely gravelly loamy sand to gravelly loam

Detailed profile descriptions are given in the "Classification of the Soils" section. Additional



Figure 6.—A large spring in an area of Zanoni fine sandy loam, 1 to 3 percent slopes, occasionally flooded.

information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Sandbur and similar soils

Estimated percent of the map unit: 0 to 10 percent

Razort and similar soils

Estimated percent of the map unit: 0 to 5 percent

Pomme and similar soils

Estimated percent of the map unit: 0 to 5 percent

Relfe and similar soils

Estimated percent of the map unit: 0 to 5 percent

Topazmill and similar soils

Estimated percent of the map unit: 0 to 5 percent

Racket and similar soils

Estimated percent of the map unit: 0 to 5 percent

74683—Cedargap-Razort complex, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

Landform: Flood plains

Component Description

Cedargap

Percent of the map unit: 55 percent

Parent material: Alluvium

Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Very low

Component Hydrologic Properties

Flooding: Frequent

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 14 inches; gravelly loam

A1—14 to 24 inches; extremely gravelly sandy loam

A2—24 to 49 inches; extremely gravelly sandy loam

C—49 to 80 inches; extremely gravelly sandy clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Razort

Percent of the map unit: 30 percent

Parent material: Loamy alluvium

Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Low

Component Hydrologic Properties

Flooding: Rare

Current depth to water table: More than 6 feet

Drainage class: Well drained

Typical Profile

Ap—0 to 7 inches; silt loam

Bt1—7 to 34 inches; silt loam

2Bt2—34 to 80 inches; gravelly loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Sandbur and similar soils

Estimated percent of the map unit: 0 to 5 percent

Relfe and similar soils

Estimated percent of the map unit: 0 to 5 percent

Sandier and gravellier surfaces

Estimated percent of the map unit: 0 to 5 percent

Racket and similar soils

Estimated percent of the map unit: 0 to 5 percent

75381—Bearthicket silt loam, 0 to 3 percent slopes, rarely flooded

Map Unit Setting

Landform: Stream terraces

Component Description

Bearthicket

Percent of the map unit: 90 percent

Parent material: Silty alluvium

Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: Low

Component Hydrologic Properties

Flooding: Rare
Current depth to water table: More than 6 feet
Drainage class: Well drained

Typical Profile

Ap—0 to 10 inches; silt loam
Bt1—10 to 48 inches; silt loam
Bt2—48 to 80 inches; silt loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Razort and similar soils

Estimated percent of the map unit: 0 to 5 percent

Winnipeg and similar soils

Estimated percent of the map unit: 0 to 5 percent

Cedargap and similar soils

Estimated percent of the map unit: 0 to 5 percent

Pomme and similar soils

Estimated percent of the map unit: 0 to 5 percent

Wetter areas

Estimated percent of the map unit: 0 to 5 percent

Zanoni and similar soils

Estimated percent of the map unit: 0 to 5 percent

75382—Cedargap gravelly loam, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

Landform: Flood plains

Component Description

Cedargap

Percent of the map unit: 85 percent
Parent material: Gravelly alluvium
Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: Low

Component Hydrologic Properties

Flooding: Frequent
Current depth to water table: 48 to 72 inches
Drainage class: Well drained

Typical Profile

Ap—0 to 8 inches; gravelly loam
Bw—8 to 46 inches; very gravelly loam
2C—46 to 80 inches; very gravelly clay loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Racket and similar soils

Estimated percent of the map unit: 0 to 5 percent

Sandbur and similar soils

Estimated percent of the map unit: 0 to 5 percent

Areas with lighter surfaces

Estimated percent of the map unit: 0 to 5 percent

Wetter areas with more clay in the subsoil

Estimated percent of the map unit: 0 to 5 percent

75390—Razort silt loam, 0 to 3 percent slopes, rarely flooded

Map Unit Setting

Landform: Stream terraces

Component Description

Razort

Percent of the map unit: 85 percent
Parent material: Loamy alluvium (fig. 7)
Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Surface runoff class: Low

Component Hydrologic Properties

Flooding: Rare



Figure 7.—Razort silt loam, 0 to 3 percent slopes, rarely flooded, is suited to growing grasses and legumes for hay production.

Current depth to water table: More than 6 feet
Drainage class: Well drained

Typical Profile

Ap—0 to 7 inches; silt loam
 Bt1—7 to 34 inches; silt loam
 2Bt2—34 to 80 inches; gravelly loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Racket and similar soils

Estimated percent of the map unit: 0 to 5 percent

Zanoni and similar soils

Estimated percent of the map unit: 0 to 5 percent

Topazmill and similar soils

Estimated percent of the map unit: 0 to 5 percent

Cedargap and similar soils

Estimated percent of the map unit: 0 to 5 percent

Bearthicket and similar soils

Estimated percent of the map unit: 0 to 5 percent

75406—Racket loam, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

Landform: Flood plains

Component Description

Racket

Percent of the map unit: 90 percent

Parent material: Loamy alluvium

Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Negligible

Component Hydrologic Properties

Flooding: Frequent

Current depth to water table: 48 to 72 inches

Drainage class: Well drained

Typical Profile

Ap—0 to 10 inches; loam

A1—10 to 30 inches; loam

A2—30 to 45 inches; loam

2C—45 to 80 inches; stratified extremely gravelly loamy sand to gravelly sandy loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Bearthicket and similar soils

Estimated percent of the map unit: 0 to 5 percent

Relfe and similar soils

Estimated percent of the map unit: 0 to 5 percent

Sandbur and similar soils

Estimated percent of the map unit: 0 to 5 percent

Topazmill and similar soils

Estimated percent of the map unit: 0 to 5 percent

Cedargap and similar soils

Estimated percent of the map unit: 0 to 5 percent

75417—Relfe-Sandbur complex, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

Landform: Flood plains (fig. 8)



Figure 8.—North Fork River, which flows through eastern Douglas County, provides recreational opportunities, such as canoeing and fishing. Relfe-Sandbur complex, 0 to 3 percent slopes, frequently flooded, is adjacent to and includes the river channel.

Component Description

Relfe

Percent of the map unit: 50 percent

Parent material: Sandy and gravelly alluvium

Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Negligible

Component Hydrologic Properties

Flooding: Frequent

Current depth to water table: More than 6 feet

Drainage class: Excessively drained

Typical Profile

Ap—0 to 6 inches; very gravelly sandy loam

C—6 to 80 inches; stratified extremely cobbly coarse sand to very gravelly loamy sand

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Sandbur

Percent of the map unit: 35 percent

Parent material: Loamy alluvium

Slope shape: Linear

Component Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)

Surface runoff class: Negligible

Component Hydrologic Properties

Flooding: Frequent

Current depth to water table: More than 6 feet

Drainage class: Somewhat excessively drained

Typical Profile

Ap—0 to 8 inches; fine sandy loam

C—8 to 80 inches; stratified fine sand to loamy fine sand to fine sandy loam to loam to silt loam

Detailed profile descriptions are given in the “Classification of the Soils” section. Additional information is provided in the tables described under the heading “Soil Properties.”

Minor Components

Racket and similar soils

Estimated percent of the map unit: 0 to 5 percent

Razort and similar soils

Estimated percent of the map unit: 0 to 5 percent

Cedargap and similar soils

Estimated percent of the map unit: 0 to 5 percent

Sand and gravel bars

Estimated percent of the map unit: 0 to 5 percent

99001—Water

Component Description

- This map unit consists of naturally occurring basins of surface water, such as perennial rivers and ponds, that are larger than 5 acres.

99002—Borrow areas

Component Description

- This map unit consists of areas from which soil and underlying material have been removed, generally for construction purposes.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis for 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 waste management; for water management; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment. The survey can help planners to maintain or create a land use pattern that is in harmony with nature.

Contractors can use this survey to locate sources of roadfill, sand and gravel, 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 land 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 or not limited by all of the soil features that affect a specified use. Terms for the limitation classes are *not limited*, *slightly limited*, *moderately limited*, *limited*, and *very limited*. In certain tables the soils are rated as *improbable*, *possible*, or *probable* sources of specific materials used for construction purposes.

Numerical Ratings

Numerical ratings in the tables indicate the severity of individual limitations. They also indicate the overall degree to which a soil is limited or not limited for a specific use. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited	0.00
Slightly limited	0.01 to 0.30
Moderately limited	0.31 to 0.60
Limited	0.61 to 0.99
Very limited	1.00

The numerical ratings used to express the severity of individual limitations 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.

In tables that use limitation class terms, such as *very limited* or *limited*, the limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each map unit component. The overall limitation rating for the component is based on the most severe limitation.

Crops and Pasture

Greg Watkins, soil conservationist, Natural Resources Conservation Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not

commonly grown in the survey area, are identified. Prime farmland is described, 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.

In 1997, approximately 134,500 acres in Douglas County was used for crops or pasture. Of that acreage, 43,000 acres was used for hay and 5,000 acres was planted to row crops or small grain. About 60,000 acres was pastured woodland.

Most of the areas in the county that have been cleared of trees are used for pasture or hay. Again, very few areas are used for row crops or small grains. Most of the soils are not suited to intensely grown cultivated crops, mainly because of the slope, the depth to bedrock, a high content of rock fragments, surface stones in some areas, or a combination of these limitations. The soils that are suited to cultivated crops are on the narrow bottom lands and terraces, and in a few gently sloping and moderately sloping areas on uplands.

The deep bottom land and terrace soils of Cedargap, Razort, Sandbur, and Pomme are well suited to cultivated crops such as grain sorghum and small grains. Scholten and Tonti soils are poorly suited to cultivated crops because of a restricted rooting depth due to a fragipan or other properties that reduce the available water capacity.

The hazard of erosion is the main management concern if cultivated crops are grown on the upland soils such as Ocie, Coulstone, Alred, Mano, and Poynor. Farming on the contour, terracing, establishing grassed waterways, and leaving crop residue on the surface throughout the fall and winter help to protect these soils from erosion.

Fertility is low in most of the soils in the county. All of the soils require additions of plant food for maximum production. Nearly all of the soils, particularly the ones on uplands, are naturally acidic in the upper part of the root zone. Applications of ground limestone or ground dolostone are needed to raise the pH and calcium and magnesium levels, and thus achieve good plant growth. On all soils, applications of lime and fertilizer should be based on the results of soil tests, on the needs of the crop, and on the expected level of yields.

Soil tilth is an important factor affecting seedbed preparation, the germination of seeds, and the infiltration of water into the soil. Soils that have good tilth are granular and porous. Many of the soils in the county have a surface layer of silt loam that is low or moderately low in content of organic matter. Frequent tillage tends to weaken or destroy the soil structure. A crust forms on the surface during periods of intensive rainfall. The crust reduces the rate of water infiltration and increases the runoff rate. Returning crop residue to the soil and adding green manure or barnyard manure improve the soil structure, reduce the risk of crusting, and increase the rate of water infiltration.

The pasture and hay crops that are suited to the soils and climate in the county include several kinds of legumes, cool-season grasses, and warm-season grasses. Alfalfa and red clover are the most common legumes grown for hay. Razort and Racket soils are very deep, well drained soils that have a high available water capacity and are high in content of calcium and magnesium. When these soils are adequately limed, they are well suited to alfalfa hay. Cedargap, Pomme, and Sandbur soils are suited alfalfa for hay. Scholten and Tonti soils that have a fragipan are better suited to clover for hay or pasture. Soils in which the depth to bedrock is limited, such as Moko, Bender, and Bendavis, are more suited to native warm-season grass species for hay or pasture, if any production is expected from them. If lime and fertilizer are applied, most of the soils that are suited to pasture and hay can be used for red clover or several other legumes.

Many of the soils in the county are suited to tall fescue, orchardgrass, and some other cool-season grasses. These grasses grow best in spring, in early summer, and in the fall. Where additional midsummer pasture or hay is needed, warm-season grasses can be grown. Very deep, well drained soils that have a high available water capacity, such as Racket and Razort soils, are well suited to warm-season grasses such as Caucasian bluestem, big bluestem, Indiangrass, and switchgrass. Soils that have a low or moderate available water capacity are suited to warm-season grasses. Examples are Ocie, Coulstone, Clarksville, Tick, and Gressy soils. Warm-season grasses grow best in late spring, in summer, and in early fall.

A small acreage in the county is used for home orchards or gardens. The orchards and gardens produce little cash income but are important to individual families. Many families can and freeze home grown fruits and vegetables for future use.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 23,583 acres in the survey area, or nearly 4.5 percent of the total acreage, meets the soil requirements for prime farmland.

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 below. 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."

Some soils that have a seasonal high water table and all soils that are frequently flooded during the growing season qualify as prime farmland only in areas where these limitations have been overcome by drainage measures or flood control. The need for these measures is indicated after the map unit name below. Onsite evaluation is needed to determine whether or not these limitations have been overcome by corrective measures.

The soils identified as prime farmland in Douglas County are:

- 70022 Tonti silt loam, 3 to 8 percent slopes
- 70025 Branson-Splitlimb complex, 1 to 3 percent slopes
- 70026 Tonti silt loam, 1 to 3 percent slopes
- 73051 Winnipeg silt loam, 2 to 5 percent slopes
- 73059 Pomme silt loam, 1 to 3 percent slopes
- 73198 Gressy-Viraton complex, 3 to 8 percent slopes
- 73222 Splitlimb silt loam, 0 to 3 percent slopes, frequently ponded
- 73231 Wasola silt loam, 1 to 8 percent slopes
- 73242 Fanchon-Tonti complex, 3 to 8 percent slopes
- 73243 Topazmill loam, 3 to 8 percent slopes
- 73300 Macedonia gravelly silt loam, 3 to 8 percent slopes
- 74627 Hartville silt loam, 1 to 3 percent slopes, rarely flooded
- 74657 Pomme silt loam, bench, 1 to 8 percent slopes
- 74682 Zanoni fine sandy loam, 1 to 3 percent slopes, occasionally flooded
- 75381 Bearthicket silt loam, 0 to 3 percent slopes, rarely flooded
- 75390 Razor silt loam, 0 to 3 percent slopes, rarely flooded
- 75406 Racket loam, 0 to 3 percent slopes, frequently flooded (Prime farmland if protected from flooding or not frequently flooded during the growing season)

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

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

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower

choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

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

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

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

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

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

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

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

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

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

The capability classification of map units in this survey area is given in table 5.

Pasture and Hayland Suitability Groups

The soils in Douglas County are assigned to a pasture and hayland group according to their suitability for pasture management.

Many different pasture and hayland suitability groups are in the survey area. Over time, the combination of plants best suited to a particular soil and climate has or will become dominant. Plant communities are not static but vary slightly from year to year and from place to place.

The relationship between soils and vegetation was ascertained during this survey. Thus, pasture and hayland suitability groups generally can be determined directly from the soil map. Soil properties that affect moisture supply and plant nutrients have the greatest influence on the productivity of each plant species. Soil reaction, salt content, and a seasonal high water table also are important. The “Field Office Technical Guide,” which is available at local offices of the Natural Resources Conservation Service, can provide specific information about pasture and hayland suitability groups.

Table 6 shows, for each soil, the assigned pasture and hayland suitability group. Specific concerns and recommendations affecting pasture and hayland management for each group are described in the following paragraphs.

Group WCB—Wet Clayey Bottom. Wetness and flooding are the main management concerns. The soils in this group are poorly suited to hay. The hazard of flooding should be considered when a grazing system is designed. Maintaining stands of desirable species is difficult in depressional areas. A drainage system can improve the growth of deep-rooted species.

Group WCU—Wet Clayey Upland. Wetness is the main management concern. Maintaining stands of desirable species is difficult in depressional areas. A drainage system can improve the growth of deep-rooted species.

Group LyO—Loamy Overflow. Flooding is the main management concern. The hazard of flooding should be considered when a grazing system is designed.

Group LyU—Loamy Upland. No serious concerns affect pasture and hayland management. Erosion is a hazard in newly seeded areas. Timely seedbed preparation is needed to ensure a good ground cover.

Group CyU—Clayey Upland. Pasture and hay crops are effective in controlling erosion. Erosion during seedbed preparation is the main concern. Timely tillage and a quickly established ground cover reduce the hazard of erosion. The forage species that are tolerant of wetness grow best. The production of deep-rooted legumes is limited because of wetness and a restricted rooting depth.

Group GrU—Gravelly Upland. The soils in this group generally are not suited to cultivated crops. Droughtiness and erosion are the main management concerns. Seedbeds should be prepared on the

contour. Timely seedbed preparation helps to ensure rapid plant growth and a protective ground cover.

Group MDU—Moderately Deep Upland. Shallow-rooted species that are tolerant of droughtiness should be selected for planting. Erosion is a serious hazard in newly seeded areas. Timely tillage and a quickly established ground cover reduce the hazard of erosion.

Group LyP—Loamy Pan. A few small areas of this group are used for cultivated crops, and some areas are wooded. A dense layer in the subsoil can restrict the rooting depth and result in insufficient soil moisture in dry years. Erosion during seedbed preparation is a hazard. Seedbeds should be prepared on the contour. Timely tillage and a quickly established ground cover reduce the hazard of erosion.

Group GrO—Gravelly Overflow. Most areas of this group have been cleared of trees and are used for pasture and hay. Proper stocking rates, pasture rotation, timely deferment of grazing, and restricted use during periods of flooding help to keep the pasture in good condition.

Group GrP—Gravelly Pan. If the soils in this group are used for improved pasture, chert on the surface hinders tillage. Because of seasonal droughtiness, timely planting is needed to ensure an adequate stand. Erosion is a hazard in newly seeded areas. Timely seedbed preparation helps to ensure a protective ground cover.

Group ShU—Shallow Upland. Most areas of this group are used for native pasture and are best suited to shallow-rooted species. In some areas tillage is nearly impossible. Broadcast seeding may be necessary. The slope and rock outcrop can hinder mowing in places.

Group SyO—Sandy Overflow. The soils in this group tend to be droughty because they are excessively drained, but they are also subject to flooding. Plants should be selected accordingly. A seedbed can be easily prepared. The flooding and the droughtiness should be considered when a grazing system is designed. Because the soils are subject to flooding and droughtiness at different times, a flexible grazing system is needed.

Group GNS—Generally Not Suited. The soils in this group generally are not suited to pasture and hay. The suitability for forage species and the use of equipment are limited by the slope, a high content of rock fragments, or both.

Forest Productivity and Management

The tables described in this section can help forest owners or managers plan the use of soils for wood

crops (fig. 9). They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management.

Forest Productivity

In table 7, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in 50 years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or through the Agency's Website (USDA-NRCS, National forestry manual).

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

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

Forest Management

In tables 8a and 8b, interpretive ratings are given for various aspects of forest management. 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 specified aspect of forest management. *Not limited* indicates that the soil has features that are very favorable for the specified aspect of management. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified aspect of management. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified aspect of management. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limited* indicates that the soil has one or

more features that are significant limitations for the specified aspect of management. The limitations can be overcome, but overcoming them generally requires special design, special planning, soil reclamation, specialized equipment, or other procedures that may result in additional expense. Fair performance and moderate or high maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified aspect of management. The limitations generally cannot be overcome without major soil reclamation, special design, specialized equipment, or other expensive procedures. Poor performance, unsafe conditions, or high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited	0.00
Slightly limited	0.01 to 0.30
Moderately limited	0.31 to 0.60
Limited	0.61 to 0.99
Very limited	1.00

The numerical ratings used to express the severity of individual limitations 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.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation class for the component is based on the most severe limitation.

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management factors. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or through the Agency's Website (USDA-NRCS, National forestry manual).

In table 8a, ratings in the column *hand 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. Ratings indicate the expected difficulty of hand planting, which includes the proper placement of root systems of tree seedlings to a depth of up to 12 inches, using standard hand planting tools. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the



Figure 9.—This area of Mano-Ocie complex, 1 to 8 percent slopes, is well suited to the production of timber. The area is also used for pasture.

surface, depth to a water table, and ponding. Ratings indicate the expected difficulty in using a mechanical planter, which includes proper placement of root systems of tree seedlings to a depth of up to 12 inches. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, depth to a water table, and ponding. Ratings indicate the suitability for operating harvesting equipment for off-road transport or harvest of logs and/or wood products by ground-based wheeled or tracked equipment.

Ratings in the column *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 part of the soil from the surface to a depth of about 12 inches is considered in the ratings. Ratings indicate the suitability of using surface-altering soil tillage equipment to prepare the site for planting or seeding.

Ratings in the column *roads (natural surface)* are based on slope, rock fragments on the surface,

plasticity index, content of sand, surface texture, 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 on which trucks transport logs and other wood products from the site.

In table 8b, ratings in the column *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.

Ratings in the column *off-road or off-trail erosion* are based on slope and on the 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.

Ratings in the column *soil rutting* are based on depth to a water table, rock fragments on or below the surface, surface texture, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. Ratings indicate limitations affecting the hazard or risk of ruts in the uppermost layers of the soil. Soil displacement and puddling (soil deformation

and compaction) may occur simultaneously with the formation of ruts.

Ratings in the column *log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, depth to a water table, ponding, flooding, and the hazard of soil slippage. Ratings indicate the suitability of the soil at the forest site to serve as a log landing and to allow the efficient and effective use of equipment for the temporary storage and handling of logs.

Ratings in the column *seedling survival* 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. Ratings indicate the impact of soil, physiographic, and climatic conditions on the survivability of newly established tree seedlings.

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low- and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 9 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

Recreation

Douglas County provides many recreational opportunities. Of the 521,216 acres in the soil survey area, over 40,000 acres is public land. The United States Department of Agriculture, Forest Service, administers the bulk of that land. The rest is divided between the Missouri Department of Natural Resources and the Missouri Conservation Commission. These public land areas provide many opportunities for hunting, fishing, hiking, trail riding, and primitive camping (fig. 10).

There are several public and private access points to Bryant Creek and the North Fork of the White River for swimming, fishing, canoeing, or rafting. Most of the public access areas have picnic tables and locations available for small cooking fires.

Privately-owned ponds and lakes are common across Douglas County and, with landowner permission, can provide excellent fishing.

Other recreational opportunities are provided by communities of the county. They provide parks and a wide variety of organized sports.

The soils of the survey area are rated in table 10 according to limitations that affect their suitability for recreational uses. Soils are rated for camp areas, picnic areas, playgrounds, and paths and trails.

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 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 recreational 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. *Moderately 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. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high 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 numerical ratings are shown

as decimal fractions ranging from 0.00 to 1.00.

Limitation classes are assigned as follows:

Not limited	0.00
Slightly limited	0.01 to 0.30
Moderately limited	0.31 to 0.60
Limited	0.61 to 0.99
Very limited	1.00

The numerical ratings used to express the severity of individual limitations 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.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

The information in table 10 can be supplemented by other information in this survey, for example,



Figure 10.—Noblett Lake provides recreational opportunities, such as fishing and boating. Enthusiasts may also hike, sightsee, camp, and hunt in the immediate area. The lake is on private land administered by the United States Department of Agriculture, Forest Service.

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 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, 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, 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, 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 cutting and filling. The ratings are based on the soil properties that affect trafficability

and erodibility. These properties are stoniness, a water table, ponding, flooding, slope, and texture of the surface layer. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to frequent flooding during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In tables 11a and 11b, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. *Not limited* indicates that the soil has features that are very favorable for the specified use. Habitat is easily established, improved, or maintained. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Habitat can be established, improved, or maintained. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. Habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. Habitat is difficult to create, improve, or maintain in most places. Management is difficult and must be very intensive. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. Habitat is usually impractical or impossible to create, improve, or maintain. Management would be very difficult, and unsatisfactory results can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The numerical ratings are

shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited	0.00
Slightly limited	0.01 to 0.30
Moderately limited	0.31 to 0.60
Limited	0.61 to 0.99
Very limited	1.00

The numerical ratings used to express the severity of individual limitations 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.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation class for the component is based on the most severe limitation.

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. Selection should be made from a list of locally adapted species.

Domestic 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. Selection should be made from a list of locally adapted species.

Upland 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. Selection should be made from a list of locally adapted species.

Upland shrubs and vines are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs and vines are depth of the root zone, available water capacity, salinity, and soil moisture. Selection should be made from a list of locally adapted species.

Upland deciduous 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 are depth of the root zone, available water capacity, and wetness. Selection should be made from a list of locally adapted species.

Upland mixed deciduous-conifer trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, browse, seeds, and foliage. Soil properties and features that affect the growth of these trees are depth of the root zone, available water capacity, and wetness. Selection should be made from a list of locally adapted species.

Riparian herbaceous plants are annual and perennial native or naturally established grasses and forbs that grow on moist or wet sites. Soil properties and features affecting riparian herbaceous plants are surface texture, wetness, flooding, ponding, and surface stones. Selection should be made from a list of locally adapted species.

Riparian shrubs, vines, and trees are bushy woody plants and trees that grow on moist or wet sites. Soil properties and features affecting these plants are surface texture, wetness, flooding, ponding, and surface stones. Selection should be made from a list of locally adapted species.

Freshwater wetland plants are grasses, forbs, and shrubs that are adapted to wet soil conditions. The soils suitable for this habitat generally occur adjacent to springs, seeps, depressions, areas of bottom land, marshes, or backwater areas on flood plains. Most areas are ponded for some period of time during the year. Soil properties and features affecting these plants are surface texture, wetness, ponding, and soil reaction. Selection should be made from a list of locally adapted species.

Irrigated freshwater wetland plants are grasses, forbs, and shrubs that are adapted to wet soil conditions. The soils suitable for this habitat generally occur in areas of cropland, in previously cropped areas, and in marginal areas associated with cropland and wetlands. These areas may be ponded for some period of time during the year. They are generally suitable for restoring wetland features temporarily or permanently. Soil properties and features affecting these plants are surface texture, permeability, wetness, ponding, and soil reaction. Selection should be made from a list of locally adapted species.

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, water management, and waste

management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; evaluate sites for agricultural waste management; 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 shows the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, 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. *Moderately 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. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high 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 numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00.

Limitation classes are assigned as follows:

Not limited	0.00
Slightly limited	0.01 to 0.30
Moderately limited	0.31 to 0.60
Limited	0.61 to 0.99
Very limited	1.00

The numerical ratings used to express the severity of individual limitations 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.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

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 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 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 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, 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, 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, a water table, and ponding.

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; 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, a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

The soils of the survey area are rated in table 13 according to limitations that affect their suitability for sanitary facilities. Soils are rated for septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill.

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 sanitary facilities. *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. *Moderately 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. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high 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 numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00.

Limitation classes are assigned as follows:

Not limited	0.00
Slightly limited	0.01 to 0.30
Moderately limited	0.31 to 0.60
Limited	0.61 to 0.99
Very limited	1.00

The numerical ratings used to express the severity of individual limitations 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.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

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, 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 be contaminated. Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, hillside seepage, and contamination of ground water, can affect public health.

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, 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, 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, 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, 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, a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

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

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

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as

the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials and Excavating

The soils of the survey area are rated in table 14 as a source of roadfill, sand, gravel, or topsoil. Normal compaction, minor processing, and other standard construction practices are assumed. The soils are also rated according to limitations that affect their suitability for shallow excavations. The ratings in the table are both verbal and numerical.

For sand and gravel, the soils are rated as a *probable, possible, or improbable* source. A rating of *probable* indicates that the source material is likely to be in or below the soil. A rating of *possible* indicates that the source material may be in or below the soil and that further investigation is warranted. A rating of *improbable* indicates that the source material is unlikely to be in or below the soil. The numerical ratings in these columns indicate the degree of probability. A numerical rating of 1.00 indicates that the soil is an improbable source. A numerical rating of less than 1.00 indicates the degree to which the soil is a possible or probable source of sand or gravel.

Other rating class terms used in this table indicate the extent to which the soils are limited by soil features that affect their use as a source for roadfill or topsoil or their suitability for shallow excavations. *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. *Moderately 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. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high 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 numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00.

Limitation classes are assigned as follows:

Not limited	0.00
Slightly limited	0.01 to 0.30
Moderately limited	0.31 to 0.60
Limited	0.61 to 0.99
Very limited	1.00

The numerical ratings used to express the severity of individual limitations 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.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, 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).

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of the thickness. The assumption is that the sand or gravel

layer below the depth of observation exceeds the minimum thickness.

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, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, 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.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, 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.

Water Management

Table 15 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, drainage, irrigation, terraces and diversions, and grassed waterways.

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 the specified use. *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. *Moderately 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. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high 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 numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00.

Limitation classes are assigned as follows:

Not limited	0.00
Slightly limited	0.01 to 0.30
Moderately limited	0.31 to 0.60
Limited	0.61 to 0.99
Very limited	1.00

The numerical ratings used to express the severity of individual limitations 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.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

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. Slope can affect the storage capacity of the reservoir area.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, permeability, depth to a water table, ponding, slope, and flooding. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or a cemented pan, large stones, slope, and the likelihood that cutbanks will cave. The productivity of the soil after drainage is adversely affected by extreme

acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. The availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to a water table, ponding, flooding, available water capacity, intake rate, permeability, erodibility, and slope. The construction of a system is affected by large stones and depth to bedrock. The performance of a system is affected by the depth of the root zone, reaction, and the amount of salts, sodium, sulfur, lime, or gypsum.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, a water table, ponding, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, erodibility, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, a water table, slope, and depth to bedrock affect the construction of grassed waterways. Erodibility, soil moisture regime, available water capacity, restricted rooting depth, restricted permeability, and toxic substances, such as salts and sodium, affect the growth and maintenance of the grass after construction.

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 16 shows 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 mg/l. 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 mg/l. 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 through irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (slow rate treatment of wastewater and rapid infiltration of wastewater).

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 the specified use. *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. *Moderately 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. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but overcoming them generally requires special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate or high 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 numerical ratings are shown

as decimal fractions ranging from 0.00 to 1.00.

Limitation classes are assigned as follows:

Not limited	0.00
Slightly limited	0.01 to 0.30
Moderately limited	0.31 to 0.60
Limited	0.61 to 0.99
Very limited	1.00

The numerical ratings used to express the severity of individual limitations 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.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each component. The overall limitation rating for the component is based on the most severe limitation.

Land application of manure and food-processing waste not only disposes of waste material but also improves 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, 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 of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste.

Land application of municipal sewage sludge not only disposes of waste material but also improves 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, 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 of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also improves 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, 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, 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.

Treatment of wastewater by slow rate process 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 percolates 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, 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.

Treatment of wastewater by rapid infiltration process 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, eventually reaching 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. 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.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 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 (fig. 11). "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

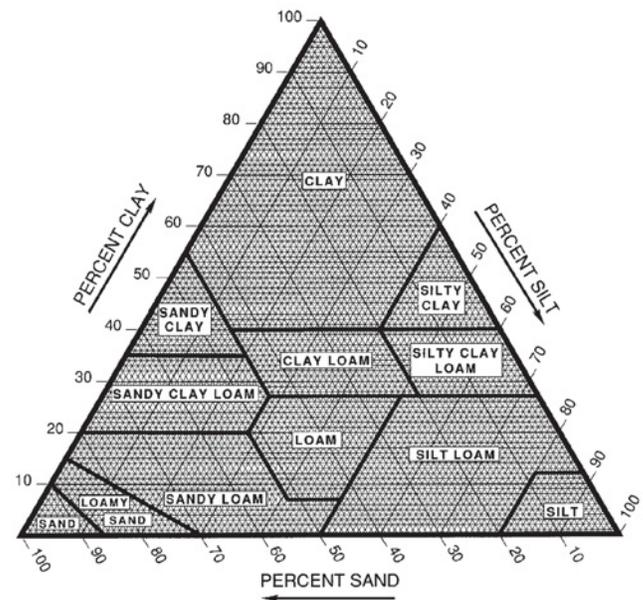


Figure 11.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

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 oven-dry 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 the table, the estimated sand content of each soil layer is given as a percentage, by weight, of

the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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

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

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $1/3$ - or $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (K_{sat}) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by

plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $1/3$ - or $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

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

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 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 the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several 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.

Descriptions of these groups are available in the "National Soil Survey Handbook" (USDA, 2003).

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.

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.

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

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

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

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

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific

than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

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 and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation

or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. 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. An example is Ultic Hapludalfs.

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

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 1998). 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.

Bearthicket Series

The Bearthicket series consists of very deep, well drained soils that formed in silty alluvium. These soils are on flood plains and low stream terraces. Permeability is moderate. Slopes range from 0 to 3 percent.

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

Typical Pedon

Bearthicket silt loam, 0 to 3 percent slopes, rarely flooded, 1,625 feet south and 2,225 feet east of the northwest corner of sec. 30, T. 26 N., R. 11 W.; USGS Nichols Knob topographic quadrangle; UTM Zone 15, Easting 571900 meters, Northing 4084740 meters.

- Ap—0 to 8 inches; brown (10YR 4/3) silt loam, yellowish brown (10YR 5/4) dry; moderate fine granular structure; friable; many fine and medium roots; many fine irregular pores; strongly acid (pH 5.5); abrupt smooth boundary.
- AB—8 to 14 inches; 60 percent brown (10YR 4/3) and 40 percent dark yellowish brown (10YR 4/4) silt loam; moderate fine subangular blocky structure; friable; few very fine and fine roots; many fine tubular pores; moderately acid (pH 6.0); clear smooth boundary.
- Bt1—14 to 21 inches; brown (7.5YR 4/4) silt loam; moderate fine and medium subangular blocky structure; friable; few very fine and fine roots; common fine tubular pores; common distinct dark brown (7.5YR 3/3) clay films on faces of peds; moderately acid (pH 5.9); clear smooth boundary.
- Bt2—21 to 33 inches; strong brown (7.5YR 4/6) silt loam; moderate fine and medium subangular blocky structure; friable; few very fine and fine roots; many fine tubular pores; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; strongly acid (pH 5.2); clear smooth boundary.
- Bt3—33 to 45 inches; brown (7.5YR 4/4) silt loam; moderate fine and medium subangular blocky structure; friable; common fine tubular pores; common faint dark yellowish brown (10YR 4/6) clay films on faces of peds; common black (N 2/0) iron-manganese concretions; strongly acid (pH 5.4); clear smooth boundary.
- Bt4—45 to 60 inches; 50 percent brown (10YR 5/6) and 50 percent dark yellowish brown (10YR 4/4) silt loam; moderate very fine and fine subangular blocky structure; friable; common very fine tubular pores; many distinct dark yellowish brown (10YR 3/6) clay films on faces of peds; strongly acid (pH 5.4); clear smooth boundary.
- Bt5—60 to 80 inches; yellowish brown (10YR 5/4) loam; weak fine and medium subangular blocky structure; friable; common very fine tubular pores; many distinct dark yellowish brown (10YR 3/6) clay films on faces of peds; common distinct pale brown (10YR 6/3) silt coats on faces of peds; 2 percent chert gravel; strongly acid (pH 5.4).

Range in Characteristics

Ap, A, and AB horizons:

Content of rock fragments—0 to 5 percent gravel

Bt horizon (upper part):

Content of rock fragments—0 to 5 percent gravel
Texture of the fine-earth fraction—silt loam or silty clay loam

Bt horizon (lower part):

Content of rock fragments—0 to 30 percent gravel
Texture of the fine-earth fraction—silt loam, loam, clay loam, or loam

Bendavis Series

The Bendavis series consists of moderately deep, moderately well drained soils that formed in gravelly slope alluvium over chert, orthoquartzose, or sandstone bedrock. These soils are on uplands. Permeability is moderate. Slopes range from 1 to 50 percent.

Taxonomic classification: Loamy-skeletal, siliceous, active, mesic Typic Hapludults

Typical Pedon

Bendavis gravelly silt loam, in an area of Bendavis-Poynor complex, 1 to 8 percent slopes; 2,400 feet east and 2,400 feet south of the northwest corner of sec. 36, T. 29 N., R. 12 W.; USGS Cabool NW topographic quadrangle; UTM Zone 15, Easting 570647 meters, Northing 4111996 meters; in Texas County, Missouri.

- Ap—0 to 9 inches; dark brown (10YR 3/3) gravelly silt loam, pale brown (10YR 6/3) dry; strong coarse granular structure parting to moderate medium granular; very friable; many fine roots; many fine irregular pores; 20 percent chert gravel; neutral (pH 6.8); clear smooth boundary.
- BA—9 to 14 inches; dark brown (10YR 3/3) and dark yellowish brown (10YR 4/6) silt loam; weak fine subangular blocky structure parting to moderate medium granular; very friable; many fine roots; many fine irregular pores; 10 percent chert gravel; slightly acid (pH 6.4); clear smooth boundary.
- Bt1—14 to 20 inches; dark yellowish brown (10YR 4/6) gravelly silt loam; moderate fine subangular blocky structure; friable; many fine roots; common fine tubular pores; common faint clay films on faces of peds; 15 percent chert gravel; moderately acid (pH 6.0); clear wavy boundary.

Bt2—20 to 27 inches; dark yellowish brown (10YR 4/4) very gravelly silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; common fine tubular pores; common faint clay films on faces of peds; 40 percent chert gravel; moderately acid (pH 6.0); clear wavy boundary.

Bt3—27 to 34 inches; brown (7.5YR 4/4) and pale brown (10YR 6/3) very gravelly silty clay loam; moderate fine subangular blocky structure; firm; few fine roots; common fine tubular pores; common faint clay films on faces of peds; 50 percent chert gravel; many fine iron-manganese concretions; moderately acid (pH 5.8); abrupt wavy boundary.

2R—34 inches; chert.

Range in Characteristics

Depth to bedrock: 20 to 40 inches

A horizon:

Content of rock fragments—10 to 70 percent gravel; 0 to 40 percent cobbles

BA horizon:

Content of rock fragments—10 to 70 percent gravel; 0 to 40 percent cobbles

Bt horizon:

Content of rock fragments—25 to 85 percent gravel; 0 to 35 percent cobbles

Texture of the fine-earth fraction—silt loam, loam, silty clay loam, or clay loam

Bender Series

The Bender series consists of moderately deep, somewhat excessively drained soils that formed in residuum from sandstone. These soils are on uplands. Permeability is moderately rapid. Slopes range from 15 to 60 percent.

Taxonomic classification: Loamy-skeletal, siliceous, active, mesic Typic Hapludults

Typical Pedon

Bender extremely cobbly sandy loam, in an area of Coulstone-Bender complex, 15 to 50 percent slopes, very stony; 300 feet south and 350 feet west of the northeast corner of sec. 16, T. 27 N., R. 11 W.; USGS Cabool SW topographic quadrangle; UTM Zone 15, Easting 576070 meters, Northing 4098020 meters; in Texas County, Missouri.

Oi—0 to 1 inch; partially decomposed oak leaf litter.

A—1 to 4 inches; dark grayish brown (10YR 4/2) extremely cobbly sandy loam, light gray (10YR 7/2) dry; weak very fine subangular blocky

structure parting to moderate fine granular; friable; common fine and medium roots; many fine irregular pores; 30 percent chert cobbles and 45 percent chert gravel; very strongly acid (pH 5.0); abrupt smooth boundary.

BA—4 to 10 inches; 60 percent yellowish brown (10YR 5/6) and 40 percent dark grayish brown (10YR 5/2) very gravelly loam; moderate very fine and fine subangular blocky structure; friable; common fine and medium roots; common fine tubular pores; 40 percent chert gravel; strongly acid (pH 5.1); clear smooth boundary.

Bt1—10 to 16 inches; mixed, yellowish brown (10YR 5/6) very gravelly loam; moderate fine and medium subangular blocky structure; friable; few fine and medium roots; common fine tubular pores; few distinct yellowish brown (10YR 5/4) clay films on faces of peds; 40 percent chert gravel; strongly acid (pH 5.1); abrupt smooth boundary.

Bt2—16 to 24 inches; yellowish brown (10YR 5/6) extremely channery loam; weak fine subangular blocky structure; friable; few fine and medium roots; common fine tubular pores; many prominent red (2.5YR 4/8) clay films on faces of peds; common distinct pale brown (10YR 6/3) skeletons on faces of peds; 30 percent chert gravel and 50 percent sandstone channers; strongly acid (pH 5.1); abrupt smooth boundary.

2R—24 inches; sandstone bedrock.

Range in Characteristics

Depth to bedrock: 20 to 40 inches

A horizon:

Content of rock fragments—20 to 80 percent gravel; 0 to 35 percent cobbles

BA horizon:

Content of rock fragments—20 to 80 percent gravel; 0 to 35 percent cobbles

Texture of the fine-earth fraction—sandy loam, fine sandy loam, or loam

Bt horizon:

Content of rock fragments—35 to 80 percent gravel; 0 to 50 percent cobbles or channers

Texture of the fine-earth fraction—sandy loam, loam, sandy clay loam, or clay loam

Branson Series

The Branson series consists of very deep, well drained soils that formed in loess and the underlying slope alluvium. These soils are on upland ridges.

Permeability is moderate. Slopes range from 1 to 3 percent.

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

Typical Pedon

Branson silt loam, in an area of Branson-Splitlimb complex, 1 to 3 percent slopes; 2,280 feet north and 1,300 feet east of the southwest corner of sec. 6, T. 32 N., R. 8 W.; USGS Maples topographic quadrangle; UTM Zone 15, Easting 599765 meters, Northing 4152006 meters; in Texas County, Missouri.

Ap—0 to 10 inches; brown (10YR 4/3) silt loam, yellowish brown (10YR 5/4) dry; moderate fine subangular blocky structure parting to weak fine granular; friable; common very fine roots; many fine tubular pores; few fine black concretions of iron and manganese oxides; neutral (pH 6.8); clear smooth boundary.

Bt1—10 to 17 inches; mixed, dark brown (7.5YR 4/4) and strong brown (7.5YR 4/6) silt loam; common distinct dark yellowish brown (10YR 4/4) mottles; moderate fine subangular blocky structure; friable; few very fine roots; common fine tubular pores; few distinct clay films on faces of peds; common fine black concretions of iron and manganese oxides; moderately acid (pH 5.6); clear smooth boundary.

Bt2—17 to 30 inches; strong brown (7.5YR 4/6) silty clay loam; moderate fine and medium subangular blocky structure; friable; few very fine roots; many fine tubular and vesicular pores; few distinct clay films on faces of peds; many fine black concretions of iron and manganese oxides; few fine black stains of iron and manganese oxides on faces of peds; moderately acid (pH 5.6); clear smooth boundary.

2Bt3—30 to 47 inches; yellowish red (5YR 4/6), dark red (2.5YR 3/6), and reddish yellow (7.5YR 7/6) silty clay loam; moderate medium subangular blocky structure parting to weak fine subangular blocky; friable; common fine vesicular pores; many prominent clay films on faces of peds; many fine black concretions of iron and manganese oxides; few fine black stains of iron and manganese oxides on faces of peds; very strongly acid (pH 5.0); clear smooth boundary.

3Bt4—47 to 80 inches; dark red (2.5YR 3/6) and yellowish red (5YR 4/6) silty clay loam; common medium prominent light brownish gray (10YR 6/2) iron depletions on faces of peds; moderate medium subangular blocky structure; friable; few fine vesicular pores; many prominent clay films on

faces of peds; 5 percent gravel; many fine black concretions of iron and manganese oxides; few fine black stains of iron and manganese oxides on faces of peds; very strongly acid (pH 5.0).

Range in Characteristics

Ap or A horizon:

Content of rock fragments—0 to 5 percent gravel

Bt horizon:

Content of rock fragments—0 to 5 percent gravel

Texture of the fine-earth fraction—silt loam or silty clay loam

2Bt and 3Bt horizons:

Content of rock fragments—0 to 15 percent gravel

Texture of the fine-earth fraction—silty clay loam or silty clay

Cedargap Series

The Cedargap series consists of very deep, well drained soils that formed in stream alluvium. These soils are on flood plains. Permeability is moderate. Slopes range from 0 to 3 percent.

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Cumulic Hapludolls

Typical Pedon

Cedargap gravelly loam, 0 to 3 percent slopes, frequently flooded; 210 feet north and 2,050 feet east of the southwest corner of sec. 21, T. 29 N., R. 10 W.; USGS Cabool NE topographic quadrangle; UTM Zone 15, Easting 584728 meters, Northing 4114251 meters; in Texas County, Missouri.

A1—0 to 10 inches; very dark grayish brown (10YR 3/2) gravelly loam, grayish brown (10YR 5/2) dry; moderate medium subangular blocky structure; friable; many fine roots; many fine tubular pores; 15 percent gravel; neutral (pH 6.8); abrupt wavy boundary.

A2—10 to 15 inches; very dark gray (10YR 3/1) gravelly silt loam, dark grayish brown (10YR 4/2) dry; moderate medium subangular blocky structure; friable; many fine roots; many fine tubular pores; 15 percent gravel; moderately acid (pH 6.0); abrupt wavy boundary.

A3—15 to 22 inches; black (10YR 2/1) gravelly silt loam, very dark gray (10YR 3/1) dry; moderate medium subangular blocky structure; very friable; many fine roots; many fine tubular pores; 15 percent gravel; slightly acid (pH 6.2); abrupt wavy boundary.

2C1—22 to 30 inches; very dark brown (10YR 2/2) extremely gravelly loam, very dark grayish brown (10YR 3/2) dry; massive; very friable; many fine roots; many fine irregular pores; 60 percent gravel; slightly acid (pH 6.4); abrupt wavy boundary.

2C2—30 to 39 inches; very dark grayish brown (10YR 3/2) extremely gravelly loam, dark brown (10YR 4/3) dry; massive; very friable; many fine roots; many fine and medium irregular pores; 70 percent gravel; neutral (pH 6.8); abrupt wavy boundary.

2C3—39 to 80 inches; dark brown (10YR 3/3) and very dark grayish brown (10YR 3/2) extremely gravelly clay loam; massive; firm; few fine roots; many fine irregular pores; many fine black concretions of iron and manganese oxides; 70 percent gravel; neutral (pH 7.0).

Range in Characteristics

Ap horizon:

Content of rock fragments—15 to 35 percent gravel

A or AC horizon:

Content of rock fragments—15 to 70 percent gravel or cobbles

Texture of the fine-earth fraction—silt loam, loam, or silty clay loam

C or 2C horizon:

Content of rock fragments—45 to 80 percent gravel or cobbles (may be fewer below a depth of 40 inches)

Texture of the fine-earth fraction—loam or clay loam

Clarksville Series

The Clarksville series consists of very deep, somewhat excessively drained soils that formed in colluvium and residuum. These soils are on the uplands. Permeability is moderate. Slopes range from 3 to 50 percent.

Taxonomic classification: Loamy-skeletal, siliceous, semiactive, mesic Typic Paleudults

Typical Pedon

Clarksville extremely gravelly silt loam, 15 to 50 percent slopes; 700 feet south and 1,300 feet east of the northwest corner of sec. 10, T. 27 N., R. 18 W.; USGS Bruner topographic quadrangle; UTM Zone 15, Easting 509030 meters, Northing 4100640 meters.

A—0 to 5 inches; brown (10YR 4/3) extremely gravelly silt loam, pale brown (10YR 6/3) dry; moderate fine

granular structure; friable; many fine to coarse roots; many very fine irregular pores; 45 percent chert gravel and 20 percent chert cobbles; strongly acid (pH 5.1); clear smooth boundary.

E—5 to 12 inches; pale brown (10YR 6/3) very gravelly silt loam; weak fine granular structure; friable; many fine to coarse roots; many fine irregular pores; 45 percent chert gravel and 10 percent chert cobbles; very strongly acid (pH 5.0); clear smooth boundary.

Bt1—12 to 20 inches; yellowish brown (10YR 6/4) extremely gravelly silt loam; weak fine subangular blocky structure; friable; common very fine to coarse roots; many fine tubular pores; common distinct strong brown (7.5YR 5/6) clay films on faces of peds; 55 percent chert gravel and 15 percent chert cobbles; very strongly acid (pH 4.9); clear smooth boundary.

Bt2—20 to 26 inches; strong brown (7.5YR 5/6) extremely gravelly silt loam; weak fine subangular blocky structure; firm; common very fine and fine roots; many fine tubular pores; common distinct yellowish red (5YR 5/6) clay films on faces of peds; 60 percent chert gravel and 10 percent chert cobbles; very strongly acid (pH 4.9); clear smooth boundary.

Bt3—26 to 41 inches; strong brown (7.5YR 5/6) extremely cobbly silt loam; weak fine angular blocky structure; firm; few fine and very fine roots; many fine tubular pores; few prominent yellowish red (5YR 5/6) clay films on faces of peds; 40 percent chert gravel, 20 percent chert cobbles, and 10 percent chert stones; very strongly acid (pH 4.9); abrupt wavy boundary.

2Bt4—41 to 53 inches; yellowish red (5YR 5/6) very gravelly silty clay; weak fine subangular blocky structure; firm; few very fine roots; few fine tubular pores; many distinct red (2.5YR 4/6) clay films on faces of peds; 35 percent chert gravel and 10 percent chert cobbles; very strongly acid (pH 4.8); gradual smooth boundary.

2Bt5—53 to 72 inches; red (2.5YR 4/6) and yellowish red (5YR 5/6) extremely cobbly clay; moderate fine subangular blocky structure; firm; few fine roots; few fine tubular pores; many distinct dark reddish brown (2.5YR 3/3) clay films on faces of peds; 40 percent chert gravel and 20 percent chert cobbles; very strongly acid (pH 4.8); clear smooth boundary.

2Bt6—72 to 80 inches; red (2.5YR 4/6) and brown (7.5YR 5/4) very gravelly clay; moderate fine subangular blocky structure; firm; few fine tubular pores; many distinct dark reddish brown (2.5YR 3/3) clay films on faces of peds; 40 percent chert gravel; very strongly acid (pH 4.8).

Range in Characteristics

A horizon:

Content of rock fragments—35 to 80 percent gravel and cobbles

E horizon:

Content of rock fragments—25 to 65 percent gravel and cobbles

Texture of the fine-earth fraction—silt loam or loam

Bt horizon:

Content of rock fragments—25 to 75 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—silt loam, silty clay loam, or clay loam

2Bt horizon:

Content of rock fragments—5 to 80 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—clay or silty clay

Coulstone Series

The Coulstone series consists of very deep, somewhat excessively drained soils that formed in gravelly slope alluvium and residuum from acid sandstone. These soils are on the uplands. Permeability is moderately rapid. Slopes range from 3 to 60 percent.

Taxonomic classification: Loamy-skeletal, siliceous, semiactive, mesic Typic Paleudults

Typical Pedon

Coulstone very gravelly fine sandy loam, in an area of Coulstone-Bender complex, 15 to 50 percent slopes, very stony; 700 feet north and 2,000 feet east of the southwest corner of sec. 31, T. 25 N., R. 13 W.; USGS Rockbridge topographic quadrangle; UTM Zone 15, Easting 552320 meters, Northing 4072720 meters.

Oe—0 to 1 inch; partially decomposed organic matter.

A—1 to 3 inches; dark grayish brown (10YR 4/2) very gravelly fine sandy loam; weak very fine and fine granular structure; friable; many fine to coarse roots; many very fine irregular pores; 35 percent chert gravel; very strongly acid (pH 4.8); abrupt smooth boundary.

E—3 to 12 inches; pale brown (10YR 6/3) fine sandy loam; weak fine subangular blocky structure; friable; many fine to coarse roots; many very fine irregular pores; 7 percent chert gravel; very strongly acid (pH 4.8); clear smooth boundary.

BE—12 to 19 inches; strong brown (7.5YR 5/6) fine sandy loam; moderate fine subangular blocky

structure; friable; common fine and few coarse roots; many very fine irregular pores; few faint brown (10YR 5/3) silt coats on faces of peds; 10 percent chert gravel; very strongly acid (pH 4.8); clear smooth boundary.

Bt1—19 to 27 inches; 75 percent strong brown (7.5YR 5/6) and 25 percent yellowish brown (10YR 5/4) very gravelly loam; moderate fine subangular blocky structure; friable; common fine to coarse roots; many fine tubular pores; common distinct strong brown (7.5YR 5/6) clay films on faces of peds; 30 percent chert gravel and 10 percent chert cobbles; very strongly acid (pH 4.9); clear wavy boundary.

Bt2—27 to 40 inches; 80 percent strong brown (7.5YR 5/6) and 20 percent light yellowish brown (10YR 6/4) very cobbly loam; moderate fine subangular blocky structure; firm; common very fine to coarse roots; many fine tubular pores; common prominent reddish brown (5YR 4/4) clay films on faces of peds; 20 percent chert gravel and 25 percent chert cobbles; very strongly acid (pH 5.0); clear wavy boundary.

Bt3—40 to 52 inches; 70 percent strong brown (7.5YR 5/6) and 30 percent light yellowish brown (10YR 6/4) very cobbly loam; moderate fine subangular blocky structure; firm; common fine and medium roots; many fine tubular pores; common prominent grayish brown (10YR 5/2) clay films on faces of peds; 35 percent chert gravel and 20 percent chert cobbles; very strongly acid (pH 4.9); clear smooth boundary.

Bt4—52 to 65 inches; 55 percent strong brown (7.5YR 5/6) and 45 percent light yellowish brown (10YR 6/4) very cobbly loam; moderate fine subangular blocky structure; firm; common fine and medium roots; many fine tubular pores; common distinct strong brown (7.5YR 5/6) clay films on faces of peds; 30 percent chert gravel and 20 percent chert cobbles; very strongly acid (pH 4.9); clear wavy boundary.

2Bt5—65 to 76 inches; 65 percent strong brown (7.5YR 5/6) and 35 percent light yellowish brown (10YR 6/4) very gravelly clay loam; moderate fine subangular blocky structure; firm; common fine and medium roots; many fine tubular pores; common distinct strong brown (7.5YR 5/6) clay films on faces of peds; 35 percent chert gravel and 15 percent chert cobbles; strongly acid (pH 5.1); gradual wavy boundary.

2Bt6—76 to 80 inches; 75 percent yellowish red (5YR 4/6) and 25 percent light yellowish brown (10YR 6/4) cobbly clay; moderate fine subangular blocky structure; firm; few fine roots; many fine tubular

pores; common distinct yellowish red (5YR 5/6) clay films on faces of peds; 15 percent chert gravel and 10 percent chert cobbles; very strongly acid (pH 5.0).

Range in Characteristics

A horizon:

Content of rock fragments—35 to 60 percent gravel or cobbles

E and BE horizons:

Content of rock fragments—0 to 65 percent gravel or cobbles

Texture of the fine-earth fraction—loam, sandy loam, or fine sandy loam

Bt horizon:

Content of rock fragments—25 to 75 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—clay loam, loam, or sandy loam

2Bt horizon:

Content of rock fragments—25 to 75 percent gravel or cobbles

Texture of the fine-earth fraction—clay loam or clay

Fanchon Series

The Fanchon series consists of very deep, well drained, moderately permeable soils that formed in silty loess and the underlying slope alluvium and residuum. These soils are on moderately sloping ridgetops on uplands. Permeability is moderate. Slopes range from 3 to 8 percent.

Taxonomic classification: Fine-loamy, siliceous, semiactive, mesic Typic Paleudults

Typical Pedon

Fanchon silt loam, in an area of Fanchon-Tonti complex, 3 to 8 percent slopes; 1,200 feet south and 1,200 feet west of the northeast corner of sec. 8, T. 22 N., R. 9 W.; USGS Moody topographic quadrangle; UTM Zone 15, Easting 593360 meters, Northing 4049850 meters; in Howell County, Missouri.

Oi—0 to 1 inch; partially decomposed organic matter.

A—1 to 5 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; very friable; many very fine and fine and few medium and coarse roots throughout; many fine irregular and tubular pores; 2 percent subangular mixed gravel; strongly acid (pH 5.1); abrupt smooth boundary.

AB—5 to 10 inches; 60 percent dark yellowish brown

(10YR 4/4) and 40 percent yellowish brown (10YR 5/4) silt loam; weak fine subangular blocky structure; friable; common fine and few medium and coarse roots throughout; common fine tubular pores; few distinct brown (10YR 4/3) organic coats on faces of peds; 2 percent subangular mixed gravel; strongly acid (pH 5.1); clear smooth boundary.

Bt1—10 to 16 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure parting to moderate fine subangular blocky; firm; common fine and few medium and coarse roots throughout; common fine tubular pores; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few distinct brown (10YR 4/3) organic coats in root channels and in pores; 5 percent subangular mixed gravel; strongly acid (pH 5.1); clear smooth boundary.

Bt2—16 to 21 inches; brown (7.5YR 5/4) silt loam; moderate medium angular blocky structure parting to moderate fine angular blocky; firm; few medium roots throughout; few fine and medium tubular pores; few distinct yellowish red (5YR 4/6) clay films on faces of peds and few distinct brown (7.5YR 5/4) clay films throughout; 5 percent subangular mixed gravel and 2 percent subangular sandstone stones; very strongly acid (pH 5.0); clear smooth boundary.

2Bt3—21 to 28 inches; strong brown (7.5YR 5/6) very gravelly loam; moderate fine angular blocky structure; firm; few fine roots throughout; common very fine and fine tubular pores; few distinct strong brown (7.5YR 5/6) clay films on faces of peds; few distinct brown (10YR 5/3) silt coats between sand grains; 40 percent subangular mixed gravel and 5 percent angular sandstone flagstones; strongly acid (pH 5.1); clear wavy boundary.

2Bt4—28 to 39 inches; 60 percent red (2.5YR 4/8) and 40 percent brown (7.5YR 5/4) gravelly clay loam; moderate fine subangular blocky structure; firm; common very fine and fine irregular and tubular pores; few distinct red (2.5YR 4/6) and common distinct brown (7.5YR 4/4) clay films on faces of peds; common distinct pale brown (10YR 6/3) silt coats between sand grains; 25 percent subangular chert gravel; strongly acid (pH 5.2); clear wavy boundary.

2Bt5—39 to 47 inches; red (10R 4/8) very gravelly clay loam; weak fine subangular blocky structure; firm; many very fine and fine irregular and tubular pores; common distinct brown (7.5YR 5/2) clay films on face of peds; common prominent brown (10YR 5/4) silt coats between sand grains; 50 percent

subangular chert gravel; pockets of decomposing tripoli are present; strongly acid (pH 5.1); clear wavy boundary.

3Bt6—47 to 80 inches; 80 percent red (10R 4/8) and 20 percent yellowish red (5YR 5/6) clay; moderate very fine angular and subangular blocky structure; very firm; few fine irregular and tubular pores; common prominent reddish brown (2.5YR 4/4) clay films on face of peds and few prominent brown (7.5YR 4/3) clay films in root channels and pores; few distinct yellowish brown (10YR 5/4) silt coats in root channels and in pores; 5 percent subangular mixed gravel; very strongly acid (pH 5.0).

Range in Characteristics

A or Ap horizon:

Content of rock fragments—0 to 25 percent gravel

AB horizon:

Content of rock fragments—0 to 20 percent gravel
Texture of the fine-earth fraction—silt loam or loam

Bt horizon:

Content of rock fragments—0 to 35 percent gravel;
0 to 5 percent stones or cobbles
Texture of the fine-earth fraction—silt loam, loam,
silty clay loam, or clay loam

2Bt horizon:

Content of rock fragments—0 to 50 percent gravel;
0 to 20 percent stones, flagstones, or cobbles
Texture of the fine-earth fraction—silt loam, loam,
silty clay loam, or clay loam

3Bt horizon:

Content of rock fragments—0 to 60 percent gravel;
0 to 20 percent stones, flagstones, or cobbles
Texture of the fine-earth fraction—clay or silty clay

Gatewood Series

The Gatewood series consists of moderately deep, moderately well drained soils that formed in gravelly slope alluvium and the underlying clayey residuum from cherty dolostone. These soils are on uplands. Permeability is slow. Slopes range from 3 to 60 percent.

Taxonomic classification: Very fine, mixed, active, mesic Oxyaquic Hapludalfs

Typical Pedon

Gatewood very gravelly silt loam, in an area of Ocie-Gatewood complex, 15 to 35 percent slopes, very stony; 800 feet north and 2,100 feet east of the southwest corner of sec. 18, T. 27 N., R. 15 W.; USGS

Cedar Gap topographic quadrangle; UTM Zone 15, Easting 533350 meters, Northing 4097490 meters.

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) very gravelly silt loam; moderate fine granular structure; friable; many fine to coarse roots; many fine irregular pores; 45 percent subangular chert gravel and 10 percent chert cobbles; moderately acid (pH 5.8); abrupt smooth boundary.

2Bt1—5 to 10 inches; yellowish red (5YR 4/6) clay; strong fine subangular blocky structure; firm; common fine and medium roots; few fine tubular pores; common distinct brown (10YR 5/3) clay films on faces of peds; 5 percent chert gravel; strongly acid (pH 5.5); clear smooth boundary.

2Bt2—10 to 15 inches; 60 percent strong brown (7.5Y 5/6) and 40 percent yellowish red (5YR 4/6) clay; moderate fine subangular blocky structure; firm; few fine roots; common fine tubular pores; common distinct light olive brown (2.5Y 5/4) clay films on faces of peds; 5 percent chert gravel; slightly acid (pH 6.3); clear smooth boundary.

2Bt3—15 to 23 inches; 60 percent brown (7.5YR 5/4) and 40 percent yellowish red (5YR 4/6) clay; moderate fine subangular blocky structure; firm; few fine roots; few fine tubular pores; many prominent brown (10YR 5/3) clay films on faces of peds, common black (N 2/0) iron-manganese concretions; moderately acid (pH 5.7); clear smooth boundary.

2Bt4—23 to 30 inches; yellowish brown (10YR 5/6) clay; moderate fine subangular blocky structure; firm; few fine roots; few fine tubular pores; many distinct brown (10YR 5/3) clay films on faces of peds, common black (N 2/0) iron-manganese concretions; slightly acid (pH 6.1); gradual smooth boundary.

2Bt5—30 to 38 inches; yellowish brown (10YR 5/6) clay; weak fine subangular blocky structure; firm; few fine roots; few fine tubular pores; many distinct pale brown (10YR 6/3) clay films on faces of peds; common black (N 2/0) iron-manganese masses; neutral (pH 7.3); abrupt smooth boundary.

R—38 inches; unweathered dolostone.

Range in Characteristics

Depth to bedrock: 20 to 40 inches

A horizon:

Content of rock fragments—35 to 70 percent gravel; 0 to 20 percent cobbles

Subsurface horizon (if it occurs):

Content of rock fragments—35 to 70 percent gravel; 0 to 20 percent cobbles

Texture of the fine-earth fraction—silt loam or loam

2Bt horizon:

Content of rock fragments—5 to 25 percent, gravel, cobbles, stones, or flagstones

Texture of the fine-earth fraction—clay or silty clay

Gressy Series

The Gressy series consists of very deep, well drained soils that formed in silty loess and the underlying gravelly slope alluvium and clayey residuum. These soils are on gently to moderately sloping ridgetops on uplands. Permeability is moderate. Slopes range from 3 to 8 percent.

Taxonomic classification: Fine-loamy, siliceous, semiactive, mesic Typic Paleudalfs

Typical Pedon

Gressy silt loam, in an area of Gressy-Viraton complex, 3 to 8 percent slopes; 2,100 feet north and 1,200 feet east of the southwest corner of sec. 23, T. 26 N., R. 9 W.; USGS Caulfield topographic quadrangle; UTM Zone 15, Easting 586160 meters, Northing 4041380 meters; in Howell County, Missouri.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; friable; many very fine and fine and few medium and coarse roots; many fine to coarse irregular pores; 1 percent mixed gravel; neutral (pH 6.7); clear smooth boundary.

Bt1—7 to 13 inches; brown (7.5YR 4/4) silt loam; moderate medium subangular blocky structure parting to weak fine subangular blocky; friable; common very fine roots; common fine and medium tubular pores; common distinct brown (7.5YR 4/4) clay films on faces of peds; neutral (pH 6.9); clear smooth boundary.

Bt2—13 to 20 inches; strong brown (7.5YR 4/6) silt loam; weak fine subangular blocky structure; friable; common very fine roots; common fine and medium tubular pores; common distinct brown (7.5YR 4/4) clay films on faces of peds; few fine rounded black (N 2/0) soft iron-manganese concretions; 1 percent mixed gravel; neutral (pH 6.9); clear smooth boundary.

Bt3—20 to 31 inches; strong brown (7.5YR 4/6) silt loam; moderate fine subangular blocky structure; firm; few very fine and fine roots; common very fine and fine tubular pores; common prominent reddish brown (5YR 4/4) clay films on faces of peds; few distinct light yellowish brown (10YR 6/4) silt coats on faces of peds; few fine rounded black (N 2/0)

soft iron-manganese concretions; 10 percent mixed gravel; neutral (pH 6.8); clear wavy boundary.

2Bt4—31 to 49 inches; yellowish red (2.5YR 4/8) very gravelly clay loam; weak very coarse prismatic structure; firm; few very fine roots; few prominent reddish brown (5YR 4/4) clay films on faces of peds; few prominent red (2.5YR 4/6) iron stains on faces of peds; 45 percent mixed gravel; moderately acid (pH 5.9); gradual irregular boundary.

3Bt5—49 to 80 inches; red (2.5YR 4/8) gravelly clay; weak medium angular blocky structure parting to moderate fine angular blocky; firm; few very fine vesicular pores; common distinct red (2.5YR 4/6) and few brown (7.5YR 4/4) clay films on faces of peds; 25 percent mixed gravel; strongly acid (pH 5.4).

Range in Characteristics

A or Ap horizon:

Content of rock fragments—0 to 35 percent gravel

Subsurface horizon (if it occurs):

Content of rock fragments—0 to 35 percent gravel
Texture of the fine-earth fraction—silt loam or loam

Bt horizon:

Content of rock fragments—0 to 35 percent gravel
Texture of the fine-earth fraction—silt loam, loam, or silty clay loam

2Bt horizon:

Content of rock fragments—0 to 50 percent gravel;
0 to 25 percent cobbles
Texture of the fine-earth fraction—loam, silty clay loam, or clay loam

3Bt horizon:

Content of rock fragments—0 to 35 percent gravel;
0 to 20 percent cobbles
Texture of the fine-earth fraction—silty clay or clay

Hartville Series

The Hartville series consists of very deep, somewhat poorly drained soils that formed in alluvium. These soils are on stream terraces. Permeability is slow. Slopes range from 1 to 3 percent.

Taxonomic classification: Fine, mixed, active, mesic Aquic Hapludalfs

Typical Pedon

Hartville loam, 1 to 3 percent slopes, rarely flooded; 2,568 feet south and 660 feet west of the northeast

corner of sec. 2, T. 29 N., R. 15 W.; USGS Hartville topographic quadrangle; UTM Zone 15, Easting 541203 meters, Northing 4120916 meters; in Wright County, Missouri.

- Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak very fine granular structure; very friable; few fine strongly cemented iron-manganese concretions; very strongly acid; abrupt smooth boundary.
- E—7 to 11 inches; yellowish brown (10YR 5/4) silt loam; moderate very fine granular structure; very friable; few fine strongly cemented iron-manganese concretions; very strongly acid; abrupt smooth boundary.
- BE—11 to 14 inches; yellowish brown (10YR 5/4) silt loam; moderate very fine subangular blocky structure; friable; few fine moderately cemented iron-manganese concretions; very strongly acid; clear wavy boundary.
- Bt1—14 to 20 inches; brown (7.5YR 5/4) and yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; few faint clay films on faces of peds; few fine moderately cemented iron-manganese concretions; very strongly acid; clear smooth boundary.
- Bt2—20 to 41 inches; strong brown (7.5YR 5/6) and yellowish brown (10YR 5/4) silty clay; weak fine subangular blocky structure; firm; common distinct clay films on faces of peds; common prominent gray (10YR 5/1) iron depletions in ped interiors; few fine moderately cemented iron-manganese concretions; strongly acid; clear smooth boundary.
- Bt3—41 to 51 inches; dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/4) clay; weak fine angular and subangular blocky structure; very firm; common distinct clay films on faces of peds; common prominent gray (10YR 5/1) iron depletions in ped interiors; few fine moderately cemented iron-manganese concretions; strongly acid; clear smooth boundary.
- Bt4—51 to 66 inches; mottled gray (10YR 6/1), yellowish brown (10YR 5/4), and pale brown (10YR 6/3) clay; weak fine angular blocky structure; very firm; common distinct clay films on faces of peds; few fine black moderately cemented iron-manganese concretions; strongly acid; clear smooth boundary.
- 2BC—66 to 78 inches; mottled yellowish brown (10YR 5/8) and light gray (10YR 7/1) very gravelly clay; weak very fine angular blocky structure, light gray material is massive; very firm; many coarse black masses of iron and manganese accumulation; 60 percent subrounded chert gravel; neutral.

Range in Characteristics

A or Ap horizon:

Content of rock fragments—0 to 10 percent gravel

E or BE horizon:

Content of rock fragments—0 to 10 percent gravel
Texture of the fine-earth fraction—silt loam or silty clay loam

Bt horizon:

Content of rock fragments—0 to 15 percent gravel
Texture of the fine-earth fraction—silty clay loam, silty clay, clay loam, or clay

2Bt and BC horizons:

Content of rock fragments—0 to 60 percent gravel or cobbles
Texture of the fine-earth fraction—silty clay loam, silty clay, or clay

Lowassie Series

The Lowassie series consists of very deep, poorly drained soils that formed in loess and the underlying slope alluvium. These soils are on concave uplands and within sinkholes. Permeability is slow. Slopes range from 0 to 3 percent.

Taxonomic classification: Fine, smectitic, mesic Vertic Epiaquults

Typical Pedon

Lowassie silt loam, 0 to 3 percent slopes, frequently ponded; 300 feet west and 900 feet south of the northeast corner of sec. 5, T. 30 N., R. 8 W.; USGS Raymondville topographic quadrangle; UTM Zone 15, Easting 604134 meters, Northing 4132539 meters; in Texas County, Missouri.

Ap—0 to 10 inches; brown (10YR 4/3) silt loam, light gray (10YR 7/2) dry; weak fine granular structure; very friable; many fine roots; many fine tubular pores; many fine iron-manganese concretions; slightly acid (pH 6.5); abrupt smooth boundary.

BE—10 to 18 inches; grayish brown (2.5Y 5/2) silty clay loam: weak very fine subangular blocky structure; very friable; common very fine roots; many very fine tubular pores; common fine distinct light gray (2.5Y 7/2) silt coats; few very fine iron-manganese concretions; moderately acid (pH 5.9); abrupt smooth boundary.

Btg1—18 to 21 inches; grayish brown (2.5Y 5/2) silty clay; moderate fine subangular blocky structure; firm; few very fine roots; common very fine tubular pores; common prominent clay films on faces of

pedes; common fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation; few very fine iron-manganese concretions; very strongly acid (pH 4.7); abrupt smooth boundary.

Btg2—21 to 36 inches; dark grayish brown (2.5Y 4/2) and olive brown (2.5Y 4/4) clay; moderate medium subangular blocky structure parting to strong very fine angular blocky; very firm; common very fine tubular and few medium vesicular pores; common prominent clay films on faces of pedes; common prominent light gray (2.5Y 7/2) redoximorphic concentrations; common fine prominent yellowish brown (10YR 5/6) masses of redoximorphic concentrations; common medium iron-manganese concretions; very strongly acid (pH 4.5); clear smooth boundary.

2Btg3—36 to 41 inches; light brownish gray (2.5Y 6/2), light yellowish brown (2.5Y 6/4), and light olive brown (2.5Y 5/6) silt loam; moderate fine subangular blocky structure; friable; common very fine tubular and few medium vesicular pores; few distinct clay films on faces of pedes; common very fine iron-manganese concretions; very strongly acid (pH 4.9); clear wavy boundary.

2Btg4—41 to 80 inches; light yellowish brown (2.5Y 6/4), light brownish gray (2.5Y 6/2), and light olive brown (2.5Y 5/6) silt loam; weak very fine subangular blocky structure; friable; common very fine tubular and few medium vesicular pores; few faint clay films on faces of pedes; 1 percent chert gravel; common very fine iron-manganese concretions; very strongly acid (pH 4.9).

Range in Characteristics

Ap horizon:

Content of rock fragments—0 to 5 percent gravel

BE horizon

Content of rock fragments—0 to 5 percent gravel
Texture of the fine-earth fraction—silty clay loam or silt loam

Btg horizon (upper part):

Content of rock fragments—0 to 5 percent gravel
Texture of the fine-earth fraction—silty clay or clay

Btg horizon (lower part):

Content of rock fragments—0 to 15 percent gravel
Texture of the fine-earth fraction—silty clay loam, silt loam, silty clay, or clay

Macedonia Series

The Macedonia series consists of very deep, well drained soils that formed in a slope alluvium and the

underlying residuum from cherty dolostone. These soils are on ridgetops. Permeability is moderate. Slopes range from 3 to 8 percent.

Taxonomic classification: Fine, mixed, semiactive, mesic Typic Paleudults

Typical Pedon

Macedonia gravelly silt loam, 3 to 8 percent slopes; 1,050 feet south and 2,100 feet west of the northeast corner of sec. 36, T. 26 N., R. 11 W.; USGS Dyestone Mountain topographic quadrangle; UTM zone 15, Easting 580190 meters, Northing 4083220 meters.

A—0 to 3 inches; brown (10YR 4/3) gravelly silt loam; moderate very fine granular structure; very friable; many fine and medium roots; many very fine irregular pores; 25 percent chert gravel; strongly acid (pH 5.2); clear smooth boundary.

E—3 to 10 inches; brown (10YR 5/3) gravelly silt loam; weak fine subangular blocky structure; friable; many very fine to coarse roots; common very fine tubular pores; 30 percent chert gravel; very strongly acid (pH 4.7); clear smooth boundary.

Bt1—10 to 14 inches; light yellowish brown (10YR 6/4) gravelly silt loam; moderate fine subangular blocky structure; friable; common very fine to medium roots; few fine tubular pores; many distinct continuous yellowish red (5YR 4/6) clay films on faces of pedes; 30 percent chert gravel; very strongly acid (pH 4.6); clear wavy boundary.

Bt2—14 to 23 inches; strong brown (7.5YR 4/6) gravelly silty clay loam; moderate fine subangular blocky structure; friable; common fine and medium roots; few fine tubular pores; many distinct strong brown (5YR 5/6) clay films on faces of pedes; 5 percent chert gravel; very strongly acid (pH 4.8); clear wavy boundary.

2Bt3—23 to 33 inches; 80 percent yellowish brown (10YR 5/4) and 20 percent reddish yellow (7.5YR 6/6) clay; moderate very fine subangular blocky structure; firm; common fine roots; common fine tubular pores; many distinct strong brown (7.5YR 5/6) clay films on faces of pedes; 10 percent sandstone gravel; very strongly acid (pH 4.7); gradual wavy boundary.

2Bt4—33 to 50 inches; 60 percent strong brown (7.5YR 5/6) and 40 percent brown (10YR 5/3) clay; moderate very fine subangular blocky structure; firm; few very fine to medium roots; few fine tubular pores; many prominent dark red (10R 3/6) clay films on faces of pedes; many prominent grayish brown (10YR 5/2) clay films on faces of pedes; 5 percent sandstone gravel and 5 percent sandstone

cobbles; very strongly acid (pH 4.7); clear wavy boundary.

2Bt5—50 to 65 inches; 50 percent red (2.5YR 4/6) and 50 percent light gray (10YR 7/1) clay; moderate medium prismatic structure parting to moderate very fine subangular blocky; firm; few very fine roots; few fine tubular pores; many prominent dark red (10R 3/6) and common distinct light brownish gray (10YR 6/2) clay films on faces of peds; extremely acid (pH 4.3); gradual wavy boundary.

2Bt6—65 to 80 inches; 60 percent red (2.5YR 4/6) and 40 percent strong brown (7.5YR 5/6) very gravelly clay; moderate very fine subangular blocky structure; firm; few fine tubular pores; many prominent dark red (2.5YR 4/6) and light gray (10YR 7/1) clay films on faces of peds; 40 percent chert gravel and 5 percent chert cobbles; extremely acid (pH 4.2).

Range in Characteristics

A or Ap horizon:

Content of rock fragments—15 to 35 percent gravel

E horizon:

Content of rock fragments—0 to 35 percent gravel

Texture of the fine-earth fraction—silt loam or silty clay loam

Bt horizon:

Content of rock fragments—0 to 30 percent gravel or cobbles

Texture of the fine-earth fraction—clay, silty clay, silt loam, or silty clay loam

2Bt horizon:

Content of rock fragments—0 to 50 percent gravel or cobbles

Texture of the fine-earth fraction—clay or silty clay

Mano Series

The Mano series consists of very deep, moderately well drained soils that formed in slope alluvium and residuum from cherty dolostone. These soils are on uplands. Permeability is slow. Slopes range from 1 to 35 percent.

Taxonomic classification: Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs

Typical Pedon

Mano extremely gravelly silt loam, in an area of Mano-Ocie complex, 15 to 35 percent slopes, stony; 1,900 feet south and 1,600 feet east of the northwest corner of sec. 19, T. 25 N., R. 11 W.; USGS Dora topographic

quadrangle; UTM zone 15, Easting 571550 meters, Northing 4076580 meters.

Oi—0 to 1 inch; partly decomposed organic matter.

A—1 to 3 inches; brown (10YR 5/3) extremely gravelly silt loam; moderate very fine granular structure; friable; many very fine and fine roots; many very fine irregular pores; 65 percent chert gravel; moderately acid (pH 5.8); clear smooth boundary.

AB—3 to 9 inches; 85 percent brown (10YR 4/3) and 15 percent yellowish brown (10YR 5/4) gravelly silt loam; moderate very fine subangular blocky structure; friable; many very fine and fine roots; common very fine irregular pores; 25 percent chert gravel and 5 percent chert cobbles; moderately acid (pH 5.6); clear smooth boundary.

Bt1—9 to 16 inches; yellowish brown (10YR 5/4) very gravelly silt loam; moderate very fine subangular blocky structure; friable; many very fine to coarse roots; common fine irregular and tubular pores; common distinct brown (7.5YR 5/4) clay films on faces of peds; 25 percent chert gravel and 10 percent chert cobbles; strongly acid (pH 5.1); clear smooth boundary.

Bt2—16 to 30 inches; 70 percent light yellowish brown (10YR 6/4) and 30 percent strong brown (7.5YR 5/6) very cobbly clay loam; moderate very fine subangular blocky structure; firm; many very fine to coarse roots; many very fine tubular and irregular pores; common distinct brown (7.5YR 5/4) clay films on faces of peds; 10 percent chert gravel, 25 percent chert cobbles, and 10 percent chert stones; moderately acid (pH 5.7); abrupt smooth boundary.

2Bt3—30 to 39 inches; strong brown (7.5YR 5/8) cobbly clay; moderate medium prismatic structure parting to moderate fine and very fine angular blocky; firm; few very fine to coarse roots; common fine tubular pores; many distinct strong brown (7.5YR 5/8) clay films on faces of peds; 5 percent chert gravel and 20 percent chert cobbles; moderately acid (pH 5.8); clear smooth boundary.

2Bt4—39 to 49 inches; brownish yellow (10YR 6/8) clay; moderate medium prismatic structure parting to moderate fine and fine angular blocky; firm; few fine and very fine roots; common fine tubular pores; many distinct brownish yellow (10YR 6/8) clay films on faces of peds; 10 percent chert cobbles; strongly acid (pH 5.4); clear smooth boundary.

2Bt5—49 to 64 inches; 85 percent strong brown (7.5YR 4/6) and 15 percent yellow (10YR 7/6) cobbly clay; weak fine angular blocky structure; firm; few fine roots; common fine tubular pores; many distinct strong brown (7.5YR 5/6) clay films on faces of

pedes; 10 percent chert gravel and 20 percent chert cobbles; moderately acid (pH 5.6); diffuse smooth boundary.

2Bt6—64 to 80 inches; 80 percent strong brown (7.5YR 4/6) and 20 percent yellow (10YR 7/6) very cobbly clay; weak fine angular blocky structure; firm; few fine roots; common fine tubular pores; many distinct strong brown (7.5YR 5/6) clay films on faces of pedes; 35 percent chert gravel and 25 percent chert cobbles; moderately acid (pH 5.7).

Range in Characteristics

A or Ap horizon:

Content of rock fragments—15 to 75 percent gravel, cobbles, or stones

AB horizon:

Content of rock fragments—15 to 75 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—silt loam or loam

Bt horizon:

Content of rock fragments—35 to 75 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—silt loam, silty clay loam, loam, or clay loam

2Bt horizon:

Content of rock fragments—0 to 60 percent gravel or cobbles

Texture of the fine-earth fraction—clay or silty clay

Moko Series

The Moko series consists of shallow and very shallow, somewhat excessively drained soils that formed in gravelly residuum. These soils are on uplands. Permeability is moderate. Slopes range from 3 to 35 percent.

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Lithic Hapludolls

Typical Pedon

Moko very gravelly loam, in an area of Gatewood-Moko complex, 15 to 35 percent slopes, very rocky, very flaggy; 1,500 feet north and 480 feet east of the southwest corner of sec. 34, T. 27 N., R. 18 W.; USGS Keltner topographic quadrangle; UTM Zone 15, Easting 509470 meters, Northing 4094100 meters.

A1—0 to 4 inches; very dark grayish brown (10YR 3/2) very gravelly loam, dark grayish brown (10YR 4/2) dry; moderate very fine and fine granular structure; friable; many fine and very fine roots; many fine irregular and vesicular pores; 40 percent dolostone

gravel; moderately alkaline (pH 7.9); clear wavy boundary.

A2—4 to 9 inches; very dark grayish brown (10YR 3/2) very gravelly clay loam, dark grayish brown (10YR 4/2) dry; weak very fine and fine subangular blocky structure; friable; common fine and medium roots; common fine vesicular pores; 45 percent dolostone gravel; moderately alkaline (pH 7.9); abrupt smooth boundary.

2R—9 inches; dolostone.

Range in Characteristics

Depth to bedrock: 6 to 20 inches

Content of rock fragments: 40 to 80 percent gravel, cobbles, or flagstones

Texture of the fine-earth fraction: Silt loam, loam, silty clay loam, or clay loam

Noark Series

The Noark series consists of very deep, well drained soils that formed in colluvium and clayey residuum. These soils are on uplands. Permeability is moderate. Slopes range from 3 to 8 percent.

Taxonomic classification: Clayey-skeletal, mixed, semiactive, mesic Typic Paleudults

Typical Pedon

Noark very gravelly silt loam, in an area of Scholten-Noark complex, 3 to 8 percent slopes; 6,390 feet south and 1,450 feet east of the northwest corner of sec. 1, T. 29 N., R. 18 W.; USGS Seymour topographic quadrangle; UTM Zone 15, Easting 513507 meters, Northing 4122075 meters; in Webster County, Missouri.

A—0 to 5 inches; dark grayish brown (10YR 4/2) very gravelly silt loam, light brownish gray (10YR 6/2) dry; moderate very fine and fine granular structure; very friable; common fine and medium roots; 40 percent chert gravel; moderately acid; clear smooth boundary.

E—5 to 12 inches; pale brown (10YR 6/3) very gravelly silt loam; moderate very fine and fine granular structure; very friable; common fine and medium roots; 50 percent chert gravel; strongly acid; gradual smooth boundary.

BE—12 to 16 inches; brown (7.5YR 5/4) and pale brown (10YR 6/3) very gravelly silt loam; weak fine and very fine subangular blocky structure; friable; common fine to coarse roots; 50 percent chert gravel; strongly acid; clear smooth boundary.

2Bt1—16 to 27 inches; yellowish red (5YR 4/6) and reddish brown (5YR 5/4) very gravelly silty clay;

moderate fine and very fine subangular blocky structure; firm; few fine to coarse roots; few faint clay films on faces of peds; 35 percent chert gravel and 5 percent chert cobbles; very strongly acid; clear wavy boundary.

2Bt2—27 to 41 inches; dark red (2.5YR 3/6) very gravelly clay; moderate very fine and fine angular blocky structure; firm; few fine roots; common faint clay films on faces of peds; 45 percent chert gravel and 5 percent chert cobbles; very strongly acid; gradual wavy boundary.

2Bt3—41 to 80 inches; dark red (2.5YR 3/6) very gravelly clay; moderate fine angular blocky structure; firm; few fine and medium roots; many faint films on faces of peds; 50 percent chert gravel and 10 percent chert cobbles; extremely acid.

Range in Characteristics

A or Ap horizon:

Content of rock fragments—15 to 60 percent gravel; 0 to 15 percent cobbles

E or BE horizon:

Content of rock fragments—15 to 60 percent gravel; 0 to 20 percent cobbles

Texture of the fine-earth fraction—silt loam or silty clay loam

2Bt horizon:

Content of rock fragments—0 to 80 percent gravel; 0 to 50 percent cobbles

Texture of the fine-earth fraction—silty clay or clay

Ocie Series

The Ocie series consists of deep, moderately well drained soils that formed in slope alluvium and the underlying residuum from cherty dolostone. These soils are on uplands. Permeability is slow. Slopes range from 1 to 35 percent.

Taxonomic classification: Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs

Typical Pedon

Ocie very gravelly silt loam, in an area of Ocie-Gatewood complex, 15 to 35 percent slopes, very stony; 1,060 feet south and 2,000 feet west of the northeast corner of sec. 22, T. 25 N., R. 17 W.; USGS Brownbranch topographic quadrangle; UTM zone 15, Easting 518830 meters, Northing 4077560 meters.

Oi—0 to 1 inch; partially decomposed organic matter.

A—1 to 6 inches; brown (10YR 5/3) very gravelly silt loam, very pale brown (10YR 8/2) dry; moderate

very fine and fine granular structure; friable; many fine to coarse roots; many very fine irregular pores; 50 percent chert gravel; very strongly acid (pH 5.0); clear smooth boundary.

E—6 to 11 inches; pale brown (10YR 6/3) extremely gravelly silt loam; weak very fine and fine granular structure; friable; many fine to coarse roots; many very fine irregular pores; 65 percent chert gravel; slightly acid (pH 6.1); clear wavy boundary.

Bt1—11 to 20 inches; yellowish brown (10YR 5/6) very gravelly silt loam; weak very fine and fine subangular blocky structure; friable; many fine to coarse roots; many very fine tubular pores; few distinct light yellowish brown (10YR 6/4) clay films on faces of peds; 45 percent chert gravel; neutral (pH 6.7); clear smooth boundary.

Bt2—20 to 29 inches; 75 percent strong brown (7.5YR 5/6) and 25 percent yellowish brown (10YR 5/4) very gravelly silty clay loam; moderate fine subangular blocky structure; firm; many fine to coarse roots; few fine tubular pores; common distinct brown (7.5YR 5/4) clay films on faces of peds; 35 percent chert gravel and 5 percent sandstone gravel; neutral (pH 6.8); clear smooth boundary.

2Bt3—29 to 38 inches; 80 percent strong brown (7.5YR 4/6) and 20 percent yellowish brown (10YR 5/4) clay; moderate fine angular and subangular blocky structure; firm; common fine to coarse roots; few fine tubular pores; many distinct brown (7.5YR 4/4) clay films on faces of peds; 5 percent chert gravel; neutral (pH 6.8); clear smooth boundary.

2Bt4—38 to 50 inches; 80 percent strong brown (7.5YR 4/6) and 20 percent yellowish brown (10YR 5/4) clay; moderate fine angular and subangular blocky structure; firm; common fine to coarse roots; few fine tubular pores; many distinct brown (7.5YR 4/4) clay films on faces of peds; neutral (pH 6.8).

R—50 inches; dolostone.

Range in Characteristics

Depth to bedrock: 40 to 60 inches

A or Ap horizon:

Content of rock fragments—15 to 75 percent gravel, cobbles, or stones

Subsurface horizon:

Content of rock fragments—15 to 75 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—silt loam or loam

Bt horizon:

Content of rock fragments—35 to 75 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—silt loam, silty clay loam, loam, or clay loam

2Bt horizon:

Content of rock fragments—0 to 35 percent gravel or cobbles

Texture of the fine-earth fraction—clay or silty clay

Pomme Series

The Pomme series consists of very deep, well drained soils that formed in loess and the underlying slope alluvium. These soils are on structural benches and strath terraces. Permeability is moderate. Slopes range from 1 to 15 percent.

Taxonomic classification: Fine-loamy, mixed, semiactive, mesic Typic Paleudalfs

Typical Pedon

Pomme silt loam, 3 to 8 percent slopes; 1,500 feet north and 2,300 feet east of the southwest corner of sec. 35, T. 28 N., R. 9 W.; USGS Willow Springs North topographic quadrangle; UTM zone 15, Easting 597672 meters, Northing 4101389 meters; in Texas County, Missouri.

Ap—0 to 7 inches; dark brown (10YR 3/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure parting to moderate fine granular; very friable; common fine roots; many very fine tubular pores; 15 percent chert gravel; neutral (pH 6.8); clear smooth boundary.

Bt1—7 to 12 inches; mixed, strong brown (7.5YR 5/6) and dark brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; few fine roots; common very fine tubular pores; few prominent clay films on faces of peds; many fine prominent dark yellowish brown silt coats on faces of peds; 10 percent chert gravel; slightly acid (pH 6.3); clear smooth boundary.

Bt2—12 to 18 inches; mixed, strong brown (7.5YR 4/6) and dark yellowish brown (10YR 4/4) gravelly silty clay loam; weak fine subangular blocky structure; friable; few fine roots; common very fine tubular pores; few prominent clay films on faces of peds; many fine prominent dark yellowish brown silt coats on faces of peds; common very fine black concretions of iron and manganese oxides; common very fine black stains of iron and manganese oxides on faces of peds; 15 percent chert gravel; moderately acid (pH 6.0); clear smooth boundary.

2Bt3—18 to 39 inches; mixed, red (2.5YR 4/6) and reddish brown (5YR 4/4) very gravelly clay loam;

moderate fine angular blocky structure; firm; few very fine roots; few fine tubular and few coarse vesicular pores; common medium prominent clay films on faces of peds and on gravel; 55 percent chert gravel; moderately acid (pH 5.8); gradual smooth boundary.

2Bt4—39 to 80 inches; red (2.5YR 4/6) extremely gravelly clay; moderate fine angular blocky structure; firm; common coarse vesicular pores; common medium prominent clay films on faces of peds and on gravel; 65 percent chert gravel; strongly acid (pH 5.2).

Range in Characteristics

Depth to bedrock: More than 80 inches

Ap or A horizon:

Content of rock fragments—0 to 15 percent gravel

Bt horizon:

Content of rock fragments—5 to 45 percent gravel; 0 to 5 percent cobbles

Texture of the fine-earth fraction—silt loam, silty clay loam, or clay loam

2Bt and 3Bt horizons:

Content of rock fragments—35 to 70 percent gravel; 0 to 5 percent cobbles

Texture of the fine-earth fraction—clay, clay loam, or silty clay loam

Poynor Series

The Poynor series consists of very deep, well drained soils that formed in slope alluvium and the underlying residuum from cherty dolostone. These soils are on uplands. Permeability is moderate. Slopes range from 1 to 50 percent.

Taxonomic classification: Loamy-skeletal over clayey, siliceous, semiactive, mesic Typic Paleudults

Typical Pedon

Poynor extremely gravelly silt loam, 8 to 15 percent slopes; 800 feet south and 300 feet east of the northwest corner of sec. 31, T. 25 N., R. 11 W.; USGS Dora topographic quadrangle; UTM zone 15, Easting 572600 meters, Northing 4073220 meters.

Oi—0 to 1 inch; partially decomposed organic matter.

A—1 to 4 inches; brown (10YR 4/3) extremely gravelly silt loam; moderate fine granular structure; friable; many fine to coarse roots; common fine irregular pores; 65 percent chert gravel; very strongly acid (pH 4.9); clear smooth boundary.

BE—4 to 10 inches; light yellowish brown (10YR 6/4)

very gravelly silt loam; weak fine subangular blocky structure; friable; many fine to coarse roots; common fine and very fine irregular and tubular pores; 40 percent chert gravel; very strongly acid (pH 4.6); clear smooth boundary.

Bt1—10 to 16 inches; yellowish brown (10YR 5/4) very gravelly silt loam; moderate fine subangular blocky structure; friable; common fine and medium roots; many very fine and fine irregular and tubular pores; common distinct strong brown (7.5YR 5/6) clay films on faces of peds; 50 percent chert gravel; very strongly acid (pH 4.6); clear wavy boundary.

Bt2—16 to 29 inches; strong brown (7.5YR 5/6) extremely gravelly silt loam; moderate fine subangular blocky structure; friable; few fine roots; common very fine and fine tubular pores; common distinct yellowish red (5YR 4/6) clay films on faces of peds; 65 percent chert gravel; very strongly acid (pH 4.8); clear wavy boundary.

2Bt3—29 to 41 inches; 60 percent red (2.5YR 4/6) and 40 percent strong brown (7.5YR 5/6) gravelly clay; moderate fine and medium subangular blocky structure; firm; few fine roots; common very fine tubular pores; common distinct yellowish red (5YR 4/6) clay films on faces of peds; 15 percent chert gravel; very strongly acid (pH 4.5); gradual smooth boundary.

2Bt4—41 to 53 inches; 80 percent red (2.5YR 4/6) and 20 percent yellowish brown (10YR 5/6) clay; strong fine and medium subangular blocky structure; firm; few fine roots; common fine tubular pores; many prominent red (2.5YR 4/6) clay films on faces of peds; 10 percent chert gravel; very strongly acid (pH 4.6); gradual smooth boundary.

2Bt5—53 to 80 inches; 70 percent red (2.5YR 4/6) and 30 percent yellowish brown (10YR 5/6) clay; strong fine and medium subangular blocky structure; firm; few fine tubular pores; many distinct continuous red (2.5YR 4/6) clay films on faces of peds; 10 percent chert gravel; extremely acid (pH 4.3).

Range in Characteristics

Depth to 2Bt horizon: 14 to 36 inches

A horizon:

Content of rock fragments—35 to 80 percent gravel, cobbles, or stones

Bt horizon:

Content of rock fragments—35 to 80 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—silt loam or silty clay loam

2Bt horizon:

Content of rock fragments—0 to 40 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—clay or silty clay

Racket Series

The Racket series consists of very deep, well drained soils that formed in loamy alluvium. These soils are on flood plains. Permeability is moderate. Slopes range from 0 to 3 percent.

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

Typical Pedon

Racket loam, 0 to 3 percent slopes, frequently flooded; 400 feet west and 1,650 feet south of the northeast corner of sec. 23, T. 25 N., R. 17 W.; USGS Brownbranch topographic quadrangle; UTM zone 15, Easting 520930 meters, Northing 4077510 meters.

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 5/3) dry; weak very fine and fine granular structure; friable; many fine and medium roots; many very fine irregular pores; neutral (pH 7.3); abrupt smooth boundary.

A1—5 to 16 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine and very fine subangular blocky structure; friable; common very fine to medium roots; many fine irregular pores; slightly alkaline (pH 7.4); clear smooth boundary.

A2—16 to 31 inches; dark brown (10YR 3/3) loam, dark yellowish brown (10YR 4/4) dry; moderate fine prismatic structure parting to moderate fine and very fine subangular blocky; friable; common very fine and fine roots; many fine irregular pores; neutral (pH 7.3); clear smooth boundary.

A3—31 to 38 inches; dark brown (10YR 3/3) loam; weak fine prismatic structure parting to moderate very fine and fine subangular blocky; friable; very few very fine roots; common fine tubular pores; neutral (pH 7.2); gradual smooth boundary.

Bw1—38 to 53 inches; dark yellowish brown (10YR 3/4) loam; weak fine prismatic structure parting to weak fine subangular blocky; friable; few very fine roots; common very fine tubular pores; neutral (pH 7.1); gradual smooth boundary.

Bw2—53 to 71 inches; dark yellowish brown (10YR 3/4) fine sandy loam; weak fine prismatic structure parting to weak fine subangular blocky; friable; few very fine roots; common very fine tubular pores; neutral (pH 7.1); clear wavy boundary.

2C—71 to 80 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine subangular blocky structure; friable; common very fine tubular pores; neutral (pH 7.0).

Range in Characteristics

Ap horizon:

Content of rock fragments—0 to 10 percent gravel

A horizon:

Content of rock fragments—0 to 10 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—silt loam or loam

Bw horizon:

Content of rock fragments—0 to 30 percent gravel or cobbles

Texture of the fine-earth fraction—loam, silt loam, or fine sandy loam

2C horizon (if it occurs):

Content of rock fragments—0 to 60 percent gravel or cobbles

Texture of the fine-earth fraction—stratified fine sandy loam to sand

Razort Series

The Razort series consists of very deep, well drained soils that formed in stream alluvium. These soils are on stream terraces. Permeability is moderate. Slopes range from 0 to 3 percent.

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

Typical Pedon

Razort silt loam, 0 to 3 percent slopes, rarely flooded; 2,200 feet north and 2,500 feet east of the southwest corner of sec. 2, T. 32 N., R. 12 W.; USGS Roby topographic quadrangle; UTM zone 15, Easting 568655 meters, Northing 4151254 meters; in Texas County, Missouri.

Ap1—0 to 4 inches; dark brown (10YR 3/3) silt loam, dark brown (10YR 4/3) dry; moderate medium granular structure; very friable; many fine roots; many fine irregular pores; neutral (pH 6.8); clear smooth boundary.

Ap2—4 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, dark brown (10YR 4/3) dry; moderate medium granular structure; very friable; many fine roots; many fine irregular pores; neutral (pH 6.6); clear smooth boundary.

Bt1—8 to 11 inches; brown (10YR 5/3) silt loam; weak fine subangular blocky structure; very friable; common very fine roots; many very fine tubular pores; dark grayish brown coatings on faces of peds and in vertical pores; few fine black concretions of iron and manganese oxides; neutral (pH 6.6); clear smooth boundary.

Bt2—11 to 17 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; friable; few fine roots; common fine tubular pores; common faint clay films on faces of peds and in pores; slightly acid (pH 6.4); gradual smooth boundary.

Bt3—17 to 27 inches; mixed, dark yellowish brown (10YR 3/4) and yellowish brown (10YR 5/4) loam; moderate medium subangular blocky structure; friable; few fine roots; common fine tubular pores; common faint clay films on faces of peds and in pores; neutral (pH 6.6); gradual smooth boundary.

Bt4—27 to 42 inches; dark yellowish brown (10YR 4/4) gravelly loam; weak medium subangular blocky structure; friable; few fine roots; common fine tubular pores; common faint clay films on faces of peds and in pores; 15 percent chert gravel; neutral (pH 6.8); gradual smooth boundary.

BC—42 to 80 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; friable; few fine roots; few very fine tubular pores; common medium faint brown (10YR 5/3) silt coats; 5 percent chert gravel; neutral (pH 6.8).

Range in Characteristics

Depth to bedrock: More than 80 inches

A horizon:

Content of rock fragments—0 to 15 percent gravel

Bt horizon:

Content of rock fragments—0 to 15 percent gravel
Texture of the fine-earth fraction—silt loam, loam, or clay loam

BC or C horizon:

Content of rock fragments—0 to 35 percent gravel
Texture of the fine-earth fraction—loam, clay loam, silty clay loam, or loamy sand

Relfe Series

The Relfe series consists of very deep, excessively drained soils that formed in stream alluvium. These soils are on flood plains. Permeability is very rapid. Slopes range from 0 to 3 percent.

Taxonomic classification: Sandy-skeletal, siliceous, mesic Mollic Udifluvents

Typical Pedon

Relfe loamy coarse sand, in an area of Relfe-Sandbur complex, 0 to 3 percent slopes, frequently flooded; 1,000 feet north and 1,150 feet east of the southwest corner of sec. 34, T. 27 N., R. 11 W.; USGS Nichols Knob topographic quadrangle; UTM zone 15, Easting 576480 meters, Northing 4091940 meters.

A—0 to 9 inches; dark brown (10YR 3/3) loamy coarse sand, grayish brown (10YR 5/2) dry; weak fine granular structure; very friable; many very fine to coarse roots; many fine irregular pores; 10 percent chert gravel; neutral (pH 6.6); clear smooth boundary.

C—9 to 15 inches; brown (10YR 4/3) very gravelly coarse sand; single grain; loose; many very fine to coarse roots; many fine irregular pores; 45 percent chert gravel; neutral (pH 6.6); abrupt smooth boundary.

A'—15 to 21 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine subangular blocky structure; friable; common very fine to medium roots; many very fine tubular pores; 10 percent chert gravel; slightly acid (pH 6.5); abrupt wavy boundary.

C1—21 to 33 inches; stratified, strong brown (7.5YR 4/6) very gravelly coarse sand; single grain; loose; few very fine to coarse roots; many fine irregular pores; 35 percent chert gravel and 10 percent chert cobbles; neutral (pH 6.6); clear wavy boundary.

C2—33 to 43 inches; stratified, yellowish brown (10YR 5/4) very gravelly sand; single grain; loose; few fine and medium roots; common fine irregular pores; 45 percent chert gravel and 5 percent chert cobbles; slightly acid (pH 6.5); clear wavy boundary.

C3—43 to 65 inches; stratified, brown (10YR 4/3) extremely gravelly coarse sand; single grain; loose; few fine and medium roots; common fine irregular pores; 60 percent chert gravel and 10 percent chert cobbles; neutral (pH 6.7); gradual wavy boundary.

C4—65 to 80 inches; stratified, yellowish brown (10YR 5/4) extremely gravelly coarse sandy loam; single grain; loose; few fine roots; common fine irregular pores; 45 percent chert gravel and 20 percent chert cobbles; neutral (pH 7.0).

Range in Characteristics

A horizon:

Content of rock fragments—10 to 75 percent gravel

Bw horizon (if it occurs):

Content of rock fragments—15 to 75 percent gravel
Texture of the fine-earth fraction—sandy loam or loam

C horizon:

Content of rock fragments—35 to 85 percent gravel, cobbles, or stones
Texture of the fine-earth fraction—stratified sandy loam to coarse sand

Sandbur Series

The Sandbur series consists of very deep, somewhat excessively drained soils that formed in loamy alluvium. These soils are on flood plains. Permeability is rapid. Slopes range from 0 to 3 percent.

Taxonomic classification: Coarse-loamy, siliceous, superactive, nonacid, mesic Mollic Udifluvents

Typical Pedon

Sandbur fine sandy loam, in an area of Relfe-Sandbur complex, 0 to 3 percent slopes, frequently flooded; 2,200 feet north and 300 feet west of the southeast corner of sec. 17, T. 25 N., R. 11 W.; USGS Dora topographic quadrangle; UTM zone 15, Easting 574220 meters, Northing 4077780 meters.

A—0 to 7 inches; dark brown (10YR 3/3) fine sandy loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; many fine and medium roots; many fine irregular pores; neutral (pH 6.6); abrupt smooth boundary.

C1—7 to 17 inches; stratified, very dark grayish brown (10YR 3/2) and brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable; few fine and medium roots; many fine irregular pores; neutral (pH 6.9); abrupt smooth boundary.

C2—17 to 30 inches; stratified, very dark brown (10YR 2/2) fine sandy loam; weak fine and medium subangular blocky structure; friable; few very fine and fine roots; common fine tubular pores; 1 percent chert gravel; neutral (pH 6.9); clear smooth boundary.

C3—30 to 43 inches; stratified, very dark grayish brown (10YR 3/2) fine sandy loam; weak medium subangular blocky structure; friable; few fine and very fine roots; few very fine tubular pores; 2 percent chert gravel; neutral (pH 6.8); clear smooth boundary.

C4—43 to 55 inches; stratified, dark brown (10YR 3/3) loamy sand; massive; friable; few fine and very fine roots; few very fine irregular pores; 3 percent

chert gravel; neutral (pH 6.9); clear smooth boundary.

C5—55 to 61 inches; stratified, dark yellowish brown (10YR 4/4) gravelly sand; single grain; very friable; few fine and very fine roots; few very fine irregular pores; 15 percent chert gravel; neutral (pH 6.8); clear smooth boundary.

C6—61 to 80 inches; stratified, yellowish brown (10YR 5/4) fine sand; single grain; very friable; few very fine irregular pores; 1 percent chert gravel; neutral (pH 6.9).

Range in Characteristics

A horizon:

Content of rock fragments—0 to 15 percent gravel

C horizon (upper part):

Content of rock fragments—0 to 35 percent gravel
Texture of the fine-earth fraction—fine sandy loam, sandy loam, or loam

C horizon (lower part):

Content of rock fragments—0 to 80 percent gravel, cobbles, or stones
Texture of the fine-earth fraction—sandy clay loam, sandy loam, loam, loamy sand, or sand

Scholten Series

The Scholten series consists of very deep, moderately well drained soils that formed in gravelly slope alluvium and the underlying clayey residuum from dolostone. These soils are on uplands. Permeability is moderate above the fragipan, very slow in the fragipan, and moderate below the fragipan. Slopes range from 1 to 15 percent.

Taxonomic classification: Loamy-skeletal, siliceous, active, mesic Typic Fragiudults

Typical Pedon

Scholten gravelly silt loam, in an area of Scholten-Tonti complex, 3 to 8 percent slopes; 2,100 feet south and 300 feet west of the northeast corner of sec. 27, T. 27 N., R. 11 W.; USGS Nichols Knob topographic quadrangle; UTM zone 15, Easting 577640 meters, Northing 4094200 meters.

A—1 to 5 inches; brown (10YR 5/3) gravelly silt loam; moderate fine and medium granular structure; friable; many fine to coarse roots; many very fine irregular pores; 15 percent chert gravel; very strongly acid (pH 4.9); clear smooth boundary.

E—5 to 9 inches; 65 percent yellowish brown (10YR 5/4) and 35 percent brown (10YR 5/3) gravelly silt

loam; weak fine subangular blocky structure; friable; many fine to coarse roots; many very fine tubular pores; 20 percent chert gravel; very strongly acid (pH 4.6); clear smooth boundary.

Bt1—9 to 16 inches; yellowish brown (10YR 5/4) very gravelly silt loam; moderate fine and medium subangular blocky structure; friable; many fine to coarse roots; many very fine tubular pores; common prominent reddish brown (5YR 4/4) clay films on faces of peds; 35 percent chert gravel; very strongly acid (pH 4.9); clear smooth boundary.

Bt2—16 to 23 inches; 75 percent brown (7.5YR 5/4) and 25 percent light brown (7.5YR 6/4) very gravelly silt loam; moderate fine subangular blocky structure; firm; common fine roots; many very fine tubular pores; few prominent reddish brown (5YR 4/4) clay films on faces of peds; 50 percent chert gravel; very strongly acid (pH 4.9); clear smooth boundary.

2Btx—23 to 31 inches; 60 percent brown (7.5YR 5/4) and 40 percent light yellowish brown (10YR 6/4) extremely gravelly silt loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; 70 percent brittle; few fine roots between prisms; common fine vesicular and tubular pores; common prominent brown (7.5YR 4/4) and few prominent light brownish gray (10YR 6/2) clay films between peds; 55 percent chert gravel and 15 percent chert cobbles; very strongly acid (pH 4.7); clear wavy boundary.

3Bt1—31 to 40 inches; 60 percent strong brown (7.5YR 5/6) and 40 percent red (10R 4/6) extremely gravelly clay; moderate medium subangular blocky structure; firm; few fine roots; common fine tubular pores; few prominent light brownish gray (10YR 6/2) clay films between peds; 55 percent chert gravel and 20 percent chert cobbles; very strongly acid (pH 4.7); clear wavy boundary.

3Bt2—40 to 52 inches; 65 percent red (10R 4/6) and 35 percent strong brown (7.5YR 5/6) extremely gravelly clay; moderate medium subangular blocky structure; very firm; few fine roots; few fine tubular pores; few distinct light brownish gray (10YR 6/2) clay films on faces of peds; 50 percent chert gravel and 15 percent chert cobbles; very strongly acid (pH 4.8); gradual wavy boundary.

3Bt3—52 to 80 inches; 80 percent dark red (10R 3/6) and 20 percent strong brown (7.5YR 5/6) extremely gravelly clay; moderate medium subangular blocky structure; very firm; few fine roots; common fine tubular pores; many distinct light brownish gray

(10YR 6/2) clay films on faces of peds; 50 percent chert gravel and 15 percent chert cobbles; very strongly acid (pH 4.7).

Range in Characteristics

Depth to a fragipan: 18 to 36 inches

A horizon:

Content of rock fragments—15 to 80 percent gravel, cobbles, or stones

E horizon:

Content of rock fragments—15 to 80 percent gravel, cobbles, or stones

Bt horizon:

Content of rock fragments—35 to 80 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—silt loam or silty clay loam

2Btx horizon:

Content of rock fragments—0 to 80 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—silt loam, silty clay loam, or loam

.Bt horizon:

Content of rock fragments—0 to 80 percent gravel, cobbles, or stones

Texture of the fine-earth fraction—clay or silty clay

Splitlimb Series

The Splitlimb series consists of very deep, somewhat poorly drained soils that formed in loess and slope alluvium. These soils are on uplands. They are within nearly level to gently sloping sinkholes. Permeability is moderate. Slopes range from 0 to 3 percent.

Taxonomic classification: Fine-silty, mixed, active, mesic Aquic Paleudults

Typical Pedon

Splitlimb silt loam, 0 to 3 percent slopes, frequently ponded; 220 feet north and 50 feet west of the center of sec. 32, T. 27 N., R. 16 W.; USGS Ava topographic quadrangle; UTM zone 15, Easting 525360 meters, Northing 4093390 meters.

A—0 to 4 inches; brown (10YR 5/3) silt loam, pale brown (10YR 6/3) dry; moderate very fine and fine granular structure; friable; many fine roots; many fine irregular and tubular pores; neutral (pH 6.6); gradual smooth boundary.

E—4 to 9 inches; dark yellowish brown (10YR 4/4) silt

loam; weak very fine and fine granular structure; friable; common fine roots; common fine irregular and tubular pores; neutral (pH 6.7); abrupt smooth boundary.

Bt1—9 to 16 inches; yellowish brown (10YR 5/6) silt loam; weak fine subangular blocky structure; friable; common fine roots; common fine tubular pores; common faint yellowish brown (10YR 5/4) clay films on faces of peds; slightly acid (pH 6.1); gradual smooth boundary.

Bt2—16 to 22 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; common fine and medium roots; common fine tubular pores; common distinct olive brown (2.5Y 4/4) clay films on faces of peds; few distinct light brownish gray (10YR 6/2) iron depletions; few fine black (N 2/0) iron-manganese concretions; very strongly acid (pH 4.8); abrupt smooth boundary.

Bt3—22 to 27 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; common fine tubular pores; common prominent gray (2.5Y 5/1) clay films on faces of peds; common distinct gray (2.5Y 6/1) iron depletions; common prominent yellowish brown (10YR 5/6) masses of iron accumulation; few fine dark red (2.5YR 3/6) iron nodules; very strongly acid (pH 4.7); abrupt smooth boundary.

2Bt4—27 to 37 inches; 80 percent red (2.5YR 4/8) and 20 percent yellowish brown (10YR 5/6) silty clay loam; moderate fine and very fine subangular blocky structure; firm; common fine tubular pores; common prominent dark reddish brown (2.5YR 3/4) clay films on faces of peds; common fine prominent gray (10YR 6/1) iron depletions; very strongly acid (pH 4.7); gradual smooth boundary.

2Bt5—37 to 45 inches; 50 percent red (2.5YR 4/5) and 50 percent brown (7.5YR 5/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; common fine tubular pores; common prominent dark red (2.5YR 3/6) clay films on faces of peds; common fine prominent gray (10YR 6/1) iron depletions; very strongly acid (pH 4.6); abrupt wavy boundary.

2Bt6—45 to 54 inches; 50 percent red (2.5YR 4/5) and 50 percent brown (7.5YR 5/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; common fine tubular pores; common prominent dark red (2.5YR 3/4) clay films on faces of peds; common fine prominent gray (10YR 6/1) iron depletions; 5 percent chert gravel; very strongly acid (pH 4.6); abrupt smooth boundary.

2Bt7—65 to 80 inches; red (2.5YR 4/6) silty clay loam; strong fine and very fine subangular blocky structure; firm; common fine tubular pores; common prominent dark reddish brown (2.5YR 3/4) clay films on faces of peds; very strongly acid (pH 4.5).

Range in Characteristics

A horizon:

Content of rock fragments—0 to 5 percent gravel

E horizon:

Content of rock fragments—0 to 5 percent gravel

Bt horizon:

Content of rock fragments—0 to 5 percent gravel

Texture of the fine-earth fraction—silt loam or silty clay loam

2Bt horizon:

Content of rock fragments—0 to 10 percent gravel

Texture of the fine-earth fraction—silty clay loam or silt loam

Tick Series

The Tick series consists of deep, well drained soils that formed in silty slope alluvium over dense, clayey residuum from mudstone. These soils are on gently sloping to very steep upland ridges. Permeability is moderately slow. Slopes range from 3 to 50 percent.

Taxonomic classification: Fine, mixed, subactive, mesic Typic Hapludults

Typical Pedon

Tick very gravelly silt loam, 3 to 15 percent slopes, stony; 575 feet south and 50 feet east of the northwest corner of sec. 1, T. 26 N., R. 11 W.; USGS Dyestone Mountain topographic quadrangle; UTM Zone 15, Easting 579750 meters, Northing 4090630 meters.

Oi—0 to 1 inch; slightly decomposed oak leaf litter.

A—1 to 5 inches; dark grayish brown (10YR 4/2) very gravelly silt loam, light brownish gray (10YR 6/2) dry; weak very fine granular structure; very friable; many very fine to medium roots; many fine tubular pores; 55 percent chert gravel; very strongly acid (pH 4.9); clear smooth boundary.

E—5 to 12 inches; light brown (7.5YR 6/4) very gravelly silt loam; weak very fine subangular blocky structure; friable; many very fine to coarse roots; common fine tubular pores; 40 percent chert gravel; very strongly acid (pH 4.9); clear smooth boundary.

Bt1—12 to 24 inches; reddish yellow (7.5YR 6/6) gravelly silty clay loam; moderate very fine and fine

subangular blocky structure; firm; common very fine to medium roots; common fine tubular pores; common prominent strong brown (7.5YR 5/6) clay films on faces of peds; 30 percent chert gravel; very strongly acid (pH 4.9); clear smooth boundary.

Bt2—24 to 34 inches; brownish yellow (10YR 6/6) gravelly clay; moderate very fine and fine subangular blocky structure; firm; few very fine to medium roots; few fine tubular pores; common distinct strong brown (7.5YR 5/6) clay films on faces of peds; 30 percent chert gravel; very strongly acid (pH 4.8); clear wavy boundary.

Bt3—34 to 43 inches; 60 percent brownish yellow (10YR 6/6) and 40 percent light gray (10YR 7/1) clay; moderate fine angular blocky structure; firm; few very fine to medium roots; few fine tubular pores; common distinct yellowish brown (10YR 5/6) clay films on faces of peds; 5 percent chert gravel and 5 percent soft mudstone paragravel; very strongly acid (pH 4.8); clear wavy boundary.

Bt4—43 to 54 inches; 80 percent brownish yellow (10YR 6/6) and 20 percent light gray (10YR 7/1) very paragravelly clay; moderate fine angular blocky structure; very firm; few very fine to medium roots; few fine tubular pores; common prominent yellowish red (5YR 4/6) clay films on faces of peds; 45 percent soft mudstone paragravel; very strongly acid (pH 4.8); abrupt smooth boundary.

2Cd—54 to 80 inches; soft, dense, clayey, stratified mudstone.

Range in Characteristics

Depth to dense layer: 40 to 60 inches

A horizon:

Content of rock fragments—35 to 80 percent gravel

E horizon:

Content of rock fragments—5 to 55 percent gravel

Texture of the fine-earth fraction—silt loam or loam

Bt horizon (upper part):

Content of rock fragments—0 to 35 percent gravel or paragravel

Texture of the fine-earth fraction—silt loam, silty clay loam, or silty clay

Bt horizon (lower part):

Content of rock fragments—10 to 60 percent gravel or paragravel

Texture of the fine-earth fraction—silty clay or clay

Tonti Series

The Tonti series consists of very deep, moderately well drained soils that formed in a thin layer of loess,

gravelly slope alluvium, and the underlying residuum from dolostone. These soils are on uplands. Permeability is moderate above the fragipan, very slow in the fragipan, and moderate below the fragipan. Slopes range from 1 to 8 percent.

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

Typical Pedon

Tonti silt loam, 1 to 3 percent slopes; 800 feet south and 700 feet west of the northeast corner of sec. 10, T. 27 N., R. 11 W.; USGS Cabool Southwest topographic quadrangle; UTM zone 15, Easting 577600 meters, Northing 4099430 meters.

- Oi—0 to 1 inch; partially decomposed organic matter.
- A—1 to 4 inches; yellowish brown (10YR 5/4) silt loam, light yellowish brown (10YR 6/4) dry; moderate very fine and fine subangular blocky structure; friable; common very fine and fine roots; many fine tubular pores; 5 percent chert gravel; strongly acid (pH 5.3); clear wavy boundary.
- E—4 to 8 inches; dark yellowish brown (10YR 4/4) gravelly silt loam; weak thin platy structure; friable; few very fine and fine roots; many fine tubular pores; 5 percent chert gravel; very strongly acid (pH 5.0); clear wavy boundary.
- Bt1—8 to 16 inches; yellowish brown (10YR 5/6) silt loam; moderate very fine and fine subangular blocky structure; friable; few very fine to coarse roots; common fine tubular pores; common distinct strong brown (7.5YR 4/6) clay films on faces of peds; 10 percent chert gravel; very strongly acid (pH 4.9); clear wavy boundary.
- Bt2—16 to 24 inches; brownish yellow (10YR 6/6) gravelly silty clay loam; moderate fine and medium subangular blocky structure; friable; few very fine to coarse roots; common fine tubular pores; many distinct yellowish brown (10YR 5/6) clay films on faces of peds; 15 percent chert gravel; very strongly acid (pH 4.8); clear smooth boundary.
- 2Btx1—24 to 31 inches; 50 percent brownish yellow (10YR 6/6) and 50 percent yellowish brown (10YR 5/8) very gravelly silt loam; moderate coarse prismatic structure; firm; 75 percent brittle; few very fine and fine roots between prisms; common fine vesicular and tubular pores; common prominent grayish brown (10YR 5/2) clay films between peds; 40 percent chert gravel; very strongly acid (pH 4.8); abrupt smooth boundary.
- 2Btx2—31 to 37 inches; 50 percent brownish yellow (10YR 6/6) and 50 percent light yellowish brown (10YR 6/4) very gravelly silt loam; moderate coarse prismatic structure; firm; 65 percent brittle; few fine

to coarse roots between prisms; common fine vesicular and tubular pores; common prominent light brownish gray (10YR 6/2) clay films between peds; 50 percent chert gravel; very strongly acid (pH 4.8); clear wavy boundary.

- 2Btx3—37 to 46 inches; light yellowish brown (10YR 6/4) extremely gravelly silt loam; moderate coarse prismatic structure parting to moderate fine subangular blocky; firm; 50 percent brittle; few very fine roots between prisms; common fine vesicular and tubular pores; few prominent grayish brown (10YR 5/2) clay films between peds; 70 percent chert gravel; very strongly acid (pH 4.8); abrupt smooth boundary.
- 3Bt1—46 to 59 inches; yellowish red (5YR 5/8) very gravelly silty clay; weak very fine prismatic structure parting to moderate fine and very fine subangular blocky; firm; few fine roots between prisms; many fine vesicular and tubular pores; common prominent red (2.5YR 4/6) grayish brown (10YR 5/2) clay films between peds; 40 percent chert gravel; very strongly acid (pH 4.7); abrupt smooth boundary.
- 3Bt2—59 to 66 inches; yellowish red (5YR 5/6) very gravelly silty clay; weak very fine prismatic structure parting to moderate fine and very fine subangular blocky; firm; few fine vesicular and tubular pores; many prominent grayish brown (10YR 5/2) and red (2.5YR 4/6) clay films between peds; 55 percent chert gravel; very strongly acid (pH 4.8); abrupt smooth boundary.
- 3Bt3—66 to 80 inches; yellowish red (5YR 5/8) extremely gravelly clay; moderate fine subangular blocky structure; firm; few fine vesicular and tubular pores; many prominent red (2.5YR 4/6) clay films between peds; 65 percent chert gravel; very strongly acid (pH 4.7).

Range in Characteristics

Depth to a fragipan: 16 to 28 inches

A horizon:

Content of rock fragments—0 to 15 percent gravel

Subsurface horizon:

Content of rock fragments—0 to 30 percent gravel
Texture of the fine-earth fraction—silt loam or loam

Bt horizon:

Content of rock fragments—0 to 35 percent gravel
Texture of the fine-earth fraction—silt loam or silty clay loam

Btx horizon:

Content of rock fragments—0 to 80 percent gravel or cobbles

Texture of the fine-earth fraction—silt loam, silty clay loam, loam, or silty clay

3Bt horizon:

Content of rock fragments—0 to 85 percent gravel or cobbles

Texture of the fine-earth fraction—clay or silty clay

Topazmill Series

The Topazmill series consists of very deep, well drained soils that formed in loamy slope alluvium derived from sandstone. These soils are on footslopes. Permeability is moderate. Slopes range from 3 to 35 percent.

Taxonomic classification: Fine-loamy, siliceous, semiactive, mesic Typic Paleudults

Typical Pedon

Topazmill loam, 3 to 8 percent slopes; 1,100 feet north and 1,600 feet east of the southwest corner of sec. 3, T. 23 N., R. 12 W.; USGS Sycamore topographic quadrangle; UTM zone 15, Easting 564980 meters, Northing 4061160 meters; in Ozark County, Missouri.

Ap—0 to 4 inches; dark brown (10YR 4/3) loam, pale brown (10YR 6/3) dry; weak fine granular structure; very friable; many fine roots throughout; many very fine irregular pores; neutral (pH 6.9); clear smooth boundary.

BA—4 to 8 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine subangular blocky structure; very friable; common fine roots throughout; many very fine irregular and tubular pores; few fine prominent discontinuous very dark brown (10YR 4/2) organic coatings on faces of peds; neutral (pH 7.0); clear smooth boundary.

Bt1—8 to 17 inches; strong brown (7.5YR 4/6) fine sandy loam; weak fine subangular blocky structure; friable; few fine roots throughout; common very fine tubular pores; few fine distinct yellowish red (5YR 5/6) clay films on faces of peds; few fine prominent pale brown (10YR 6/3) clay depletions on faces of peds; strongly acid (pH 5.3); gradual smooth boundary.

Bt2—17 to 26 inches; strong brown (7.5YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; many fine tubular pores; common fine prominent discontinuous yellowish red (5YR 5/6) and common medium prominent red (2.5YR 4/6) clay films on faces of peds; few fine prominent pale brown (10YR 6/3) clay depletions on faces of peds; very strongly acid (pH 5.0); clear smooth boundary.

2Bt3—26 to 37 inches; strong brown (7.5YR 5/6) sandy clay loam; moderate medium subangular blocky structure; firm; many fine tubular pores; many coarse prominent red (2.5YR 3/6) and common medium prominent yellowish brown (10YR 5/4) clay films on faces of peds; few fine prominent discontinuous pale brown (10YR 6/3) clay depletions on faces of peds; very strongly acid (pH 4.9); clear smooth boundary.

2Bt4—37 to 57 inches; mixed yellowish brown (10YR 4/4) and strong brown (7.5YR 5/6) clay loam; moderate medium subangular blocky structure; firm; many fine tubular pores; common coarse red (10R 4/6) clay films on faces of peds; many coarse pale brown (10YR 6/3) clay depletions; very strongly acid (pH 4.9); gradual smooth boundary.

2Bt5—57 to 80 inches; red (2.5YR 4/6) clay loam; weak medium subangular blocky structure; firm; many fine tubular and irregular pores; many medium prominent strong brown (7.5YR 5/6) and common medium prominent yellowish brown (10YR 5/4) clay films on faces of peds; common medium prominent pale brown (10YR 6/3) clay depletions on faces of peds; very strongly acid (pH 4.8).

Range in Characteristics

A horizon:

Content of rock fragments—0 to 15 percent

BA horizon:

Content of rock fragments—0 to 15 percent

Texture of the fine-earth fraction—fine sandy loam, loam, silt loam, or sandy loam

Bt horizon:

Content of rock fragments—0 to 35 percent

Texture of the fine-earth fraction—fine sandy loam, loam, sandy clay loam, clay loam, or sandy loam

2Bt horizon:

Content of rock fragments—0 to 65 percent

Texture of the fine-earth fraction—fine sandy loam, loam, sandy clay loam, clay loam, or sandy loam

Viraton Series

The Viraton series consists of very deep, moderately well drained soils that formed in loess, slope alluvium, and the underlying clayey residuum. These soils are on uplands. Permeability is moderate above and below the fragipan and very slow in the fragipan. Slopes range from 3 to 8 percent.

Taxonomic classification: Fine-loamy, siliceous, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

Viraton silt loam, in an area of Gressy-Viraton complex, 3 to 8 percent slopes; 400 feet north and 1,300 feet east of the southwest corner of sec. 7, T. 21 N., R. 10 W.; USGS Caulfield topographic quadrangle; UTM zone 15, Easting 579300 meters, Northing 4039500 meters; in Howell County, Missouri.

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; very friable; common very fine and fine roots; common very fine and fine tubular pores; 2 percent chert gravel; strongly acid (pH 5.5); clear smooth boundary.

Bt1—6 to 11 inches; brown (7.5YR 5/4) silt loam; strong fine subangular blocky structure; friable; few very fine and fine roots; common fine and medium tubular pores; common distinct strong brown (7.5YR 4/6) clay films on faces of peds; 5 percent chert gravel; moderately acid (pH 5.6); clear smooth boundary.

Bt2—11 to 16 inches; strong brown (7.5YR 4/6) gravelly silt loam; strong fine subangular blocky structure; firm; few very fine and fine roots; many fine, medium, and coarse vesicular and tubular pores; common distinct yellowish red (5YR 4/6) clay films on faces of peds; many prominent brown (10YR 5/3) iron depletions; 25 percent chert gravel; strongly acid (pH 5.5); clear smooth boundary.

2Btx—16 to 26 inches; strong brown (7.5YR 5/6) extremely gravelly clay loam; weak very coarse prismatic structure parting to strong medium subangular blocky; very firm; 70 percent brittle; few fine roots between prisms; common fine vesicular and tubular pores; common distinct yellowish red (5YR 4/6) clay films on faces of peds; many prominent brown (10YR 5/3) iron depletions; 65 percent chert gravel; strongly acid (pH 5.4); clear wavy boundary.

3Bt1—26 to 36 inches; dark red (2.5YR 3/6) extremely gravelly clay; strong very fine angular blocky structure; very firm; very few very fine roots; common fine and medium vesicular and tubular pores; many distinct dark yellowish brown (10YR 3/6) clay films on faces of peds; few prominent brown (10YR 5/3) iron depletions; 60 percent chert gravel and 5 percent sandstone flagstones; strongly acid (pH 5.4); clear wavy boundary.

3Bt2—36 to 58 inches; red (2.5YR 4/6) and strong brown (7.5YR 5/6) clay; strong fine angular blocky structure; very firm; very few very fine tubular pores; common distinct dark red (2.5YR 3/6) clay films on

faces of peds; 2 percent chert gravel; strongly acid (pH 5.4); clear wavy boundary.

3Bt3—58 to 80 inches; red (2.5YR 4/8) and yellow (10YR 7/8) clay; strong fine angular blocky structure; very firm; very few very fine tubular pores; common distinct red (2.5YR 4/6) clay films on faces of peds; 2 percent chert gravel; strongly acid (pH 5.4).

Range in Characteristics

Depth to a fragipan: 15 to 32 inches

A horizon:

Content of rock fragments—0 to 15 percent gravel

Bt horizon:

Content of rock fragments—0 to 35 percent gravel
Texture of the fine-earth fraction—silt loam or silty clay loam

2Btx horizon:

Content of rock fragments—35 to 70 percent gravel
Texture of the fine-earth fraction—silt loam, silty clay loam, or clay loam

3Bt horizon:

Content of rock fragments—0 to 70 percent gravel and cobbles
Texture of the fine-earth fraction—silty clay or clay

Wasola Series

The Wasola series consists of very deep, somewhat poorly drained soils that formed in loamy slope alluvium. These soils are on footslopes and in basins. Permeability is moderately slow. Slopes range from 1 to 8 percent.

Taxonomic classification: Fine-loamy, siliceous, active, mesic Fragiatic Hapludalfs

Typical Pedon

Wasola silt loam, 1 to 8 percent slopes; 625 feet north and 5,550 feet east of the southwest corner of sec. 31, T. 22 N., R. 10 W.; USGS Caulfield topographic quadrangle; UTM zone 15, Easting 580500 meters, Northing 4042900 meters; in Howell County, Missouri.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure parting to moderate fine granular; friable; common fine roots; many fine irregular and tubular pores; few fine round black (N 2/0) slightly hard concretions of iron and manganese oxide; very strongly acid (pH 4.7); clear smooth boundary.

Bt1—9 to 17 inches; yellowish brown (10YR 5/4) silt

loam; moderate medium subangular blocky structure parting to weak fine subangular blocky; firm; common fine roots; common fine and medium tubular pores; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine distinct grayish brown (10YR 5/2) clay depletions; few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation; few fine round black (N 2/0) slightly hard concretions of iron and manganese oxide; moderately acid (pH 5.6); clear smooth boundary.

Bt2—17 to 23 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure parting to weak fine subangular blocky; very firm; common fine and very fine roots; common tubular pores; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct grayish brown (10YR 5/2) iron depletions; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; common medium round black (N 2/0) slightly hard concretions of iron and manganese oxide; 10 percent chert gravel; moderately acid (pH 5.8); clear smooth boundary.

2Btx1—23 to 32 inches; yellowish brown (10YR 5/6) gravelly clay loam; moderate medium subangular blocky structure parting to weak fine subangular blocky; very firm; 30 percent brittleness; common very fine roots; common very fine tubular pores; common distinct gray (10YR 5/1) clay films on faces of peds; common medium prominent grayish brown (10YR 5/2) iron depletions; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; common medium round black (N 2/0) slightly hard concretions of iron and manganese oxide; 2 percent chert gravel; moderately acid (pH 5.7); clear smooth boundary.

2Btx2—32 to 48 inches; brown (10YR 4/3) very gravelly clay loam; moderate fine angular blocky structure; very firm; 30 percent brittleness; few very fine roots; many very fine tubular pores; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent grayish brown (10YR 5/2) and few fine prominent olive yellow (2.5Y 6/8) iron depletions; few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; common fine rounded black (N 2/0) slightly hard concretions of iron and manganese oxides; 35 percent sandstone gravel; slightly acid (pH 6.2); gradual wavy boundary.

3Bt—48 to 80 inches; brownish yellow (10YR 6/8) clay; weak fine subangular blocky structure; firm; few very fine tubular pores; common faint brownish yellow (10YR 6/6) and common prominent brown

(10YR 5/3) clay films on faces of peds; common medium rounded black (N 2/0) slightly hard concretions of iron and manganese oxides; 5 percent sandstone gravel; neutral (pH 7.1).

Range in Characteristics

A or Ap horizon:

Content of rock fragments—0 to 20 percent gravel; 0 to 5 percent cobbles

Bt horizon:

Content of rock fragments—0 to 25 percent gravel; 0 to 5 percent cobbles
Texture of the fine-earth fraction—silt loam, silty clay loam, or clay loam

2Btx horizon:

Content of rock fragments—0 to 50 percent gravel; 0 to 5 percent cobbles
Texture of the fine-earth fraction—silty clay loam, clay loam, silt loam, or loam

3Bt horizon:

Content of rock fragments—0 to 65 percent gravel; 0 to 5 percent cobbles
Texture of the fine-earth fraction—silty clay or clay

Winnipeg Series

The Winnipeg series consists of very deep, well drained soils that formed in loess and the underlying slope alluvium. These soils are on structural benches and strath terraces. Permeability is moderate. Slopes range from 2 to 5 percent.

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

Typical Pedon

Winnipeg silt loam, 2 to 5 percent slopes; 1,000 feet north and 200 feet west of the southeast corner of sec. 31, T. 30 N., R. 10 W.; USGS Bucyrus topographic quadrangle; UTM zone 15, Easting 582412 meters, Northing 4123558 meters; in Texas County, Missouri.

Ap—0 to 6 inches; brown (10YR 4/3) silt loam, light yellowish brown (10YR 6/4) dry; weak fine granular structure; very friable; many very fine roots; many very fine irregular pores; neutral (pH 6.6); 1 percent chert gravel; clear smooth boundary.

Bt1—6 to 11 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; common fine roots; many very fine tubular pores; few faint discontinuous brown (7.5YR 4/4) clay films on faces of peds; neutral (pH 7.0); clear smooth boundary.

Bt2—11 to 16 inches; 50 percent yellowish brown (10YR 5/4) and 50 percent strong brown (7.5YR 5/8) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; many very fine tubular pores; few prominent discontinuous brown (7.5YR 4/4) clay films on faces of peds; few very fine prominent black (10YR 2/1) stains of iron and manganese oxides on faces of peds; neutral (pH 7.0); clear smooth boundary.

2Bt3—16 to 30 inches; 40 percent red (2.5YR 4/8), 30 percent strong brown (7.5YR 4/6), and 30 percent pale brown (10YR 6/3) silty clay loam; strong medium subangular blocky structure; firm; few fine roots; many very fine tubular pores; common prominent discontinuous yellowish red (5YR 4/6) clay films on faces of peds; common medium prominent black (10YR 2/1) stains of iron and manganese oxides on faces of peds; slightly acid (pH 6.2); clear smooth boundary.

2Bt4—30 to 38 inches; 50 percent red (2.5YR 4/8), 30 percent strong brown (7.5YR 5/6), and 20 percent pale brown (10YR 6/3) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; common fine tubular pores; many prominent discontinuous yellowish red (5YR 4/6) clay films on faces of peds and in pores; common fine prominent black (10YR 2/1) stains of iron and manganese oxides on faces of peds; many fine black (10YR 2/1) concretions of iron and manganese oxides; strongly acid (pH 5.2); clear wavy boundary.

2Bt5—38 to 44 inches; 50 percent red (2.5YR 4/8), 40 percent strong brown (7.5YR 5/6), and 10 percent pale brown (10YR 6/3) clay loam; strong fine subangular blocky structure; firm; many very fine tubular pores; many prominent discontinuous yellowish red (5YR 4/6) clay films on faces of peds and in pores; few fine prominent black (10YR 2/1) stains of iron and manganese oxides on faces of peds; 10 percent chert gravel; moderately acid (pH 5.6); abrupt smooth boundary.

3Bt6—44 to 80 inches; 70 percent red (2.5YR 4/8), 20 percent strong brown (7.5YR 5/6), and 10 percent pale brown (10YR 6/3) clay; moderate medium subangular blocky structure; firm; many very fine tubular pores; many prominent discontinuous yellowish red (5YR 4/6) clay films on faces of peds and in pores; many medium prominent black (10YR 2/1) stains of iron and manganese oxides on faces of peds; 5 percent chert gravel; neutral (pH 6.6).

Range in Characteristics

Depth to bedrock: More than 80 inches

Bt horizon:

Content of rock fragments—0 to 10 percent gravel
Texture of the fine-earth fraction—silt loam or silty clay loam

2Bt horizon:

Content of rock fragments—0 to 15 percent gravel
Texture of the fine-earth fraction—silty clay loam or silty clay

Zanoni Series

The Zanoni series consists of very deep, well drained soils that formed in loamy alluvium. These soils are on stream terraces. Permeability is moderately rapid. Slopes range from 1 to 3 percent.

Taxonomic classification: Coarse-loamy, siliceous, active, mesic Ultic Hapludalfs

Typical Pedon

Zanoni fine sandy loam, 1 to 3 percent slopes, rarely flooded; 2,000 feet north and 400 feet west of the southeast corner of sec. 12, T. 26 N., R. 12 W.; USGS Nichols Knob topographic quadrangle; UTM zone 15, Easting 571125 meters, Northing 4089120 meters.

Ap—0 to 4 inches; dark brown (10YR 3/3) fine sandy loam, pale brown (10YR 6/3) dry; moderate fine granular structure; very friable; many very fine and fine roots throughout; many very fine irregular pores; 10 percent chert gravel; strongly acid (pH 5.5); clear smooth boundary.

AB—4 to 9 inches; brown (10YR 4/3) fine sandy loam; weak subangular structure; friable; common fine and medium roots throughout; many very fine irregular and tubular pores; 5 percent chert gravel; slightly acid (pH 6.1); clear smooth boundary.

Bt1—9 to 18 inches; strong brown (7.5YR 4/6) and brown (7.5YR 4/4) fine sandy loam; weak fine subangular blocky structure; friable; few fine and medium roots; common very fine tubular pores; few distinct yellowish red (5YR 5/6) clay films on faces of peds; few prominent very dark grayish brown (10YR 3/2) organic coats; 10 percent chert gravel; moderately acid (pH 5.7); gradual smooth boundary.

Bt2—18 to 26 inches; brown (7.5YR 4/4) gravelly fine sandy loam; moderate coarse subangular blocky structure; friable; few very fine roots; many fine tubular pores; few distinct yellowish red (5YR 5/6) clay films on faces of peds; few prominent very dark grayish brown (10YR 3/2) organic coats; 15 percent chert gravel; strongly acid (pH 5.2); clear smooth boundary.

- Bt3—26 to 34 inches; strong brown (7.5YR 4/6) gravelly fine sandy loam; weak very fine subangular blocky structure; friable; few very fine roots; many fine tubular pores; few distinct yellowish red (5YR 5/6) clay films on faces of peds; 15 percent chert gravel; very strongly acid (pH 4.8); clear smooth boundary.
- Bt4—34 to 44 inches; brown (7.5YR 4/4) gravelly fine sandy loam; weak fine subangular blocky structure; friable; few very fine roots; many fine tubular pores; few distinct yellowish red (5YR 5/6) clay films on rock fragments; 30 percent chert gravel; very strongly acid (pH 4.8); abrupt smooth boundary.
- 2C1—44 to 58 inches; brown (7.5YR 5/4) extremely gravelly coarse sand; massive; friable; many fine irregular pores; 70 percent chert gravel; very strongly acid (pH 4.9); gradual smooth boundary.
- 2C2—58 to 80 inches; strong brown (7.5YR 5/6) extremely gravelly loamy coarse sand; massive; friable; many fine irregular pores; 80 percent chert gravel; very strongly acid (pH 4.9).

Range in Characteristics

A horizon:

Content of rock fragments—0 to 15 percent gravel

AB horizon:

Content of rock fragments—0 to 15 percent gravel
Texture of the fine-earth fraction—sandy loam, fine sandy loam, or loam

Bt horizon:

Content of rock fragments—0 to 35 percent gravel
Texture of the fine-earth fraction—sandy loam, fine sandy loam, loam, coarse sandy loam, or sandy clay loam

2C horizon:

Content of rock fragments—0 to 80 percent gravel or cobbles
Texture of the fine-earth fraction—loamy sand, sandy loam, sand, coarse sand, or coarse sandy loam

Formation of the Soils

This section relates the soils in the survey area to the major factors of soil formation. It also describes the geology and physiography of the survey area.

Factors of Soil Formation

Soil is the product of soil-forming processes acting on accumulated or deposited geologic material. The characteristics of the soil are determined by the type of parent material; the plant and animal life on and in the soil; the climate under which the soil-forming factors were active; topography, or lay of the land; and the length of time these forces have been active.

The parent material affects the kind of soil profile that is formed and in extreme cases determines it almost entirely. Plant and animal life are the active factors of soil formation. The climate determines the amount of water available for leaching and the amount of heat for physical and chemical changes. Together, climate and plant and animal life act on the parent material and slowly change it to a natural body that has genetically related horizons. Topography commonly modifies these other factors. Finally, time is required for changes in the parent material to result in the formation of a soil. Generally, a long time is required for the development of distinct soil horizons.

These factors of soil formation are all so closely interrelated in their effects on the soil that few generalizations can be made about the effect of any one factor unless conditions are specified for the others. Soil formation is complex, and many processes of soil development are still unknown.

Parent Material

Parent material is the unconsolidated mass from which soil is formed. The formation or deposition of this material is the first step in the development of a soil profile. The characteristics of the parent material determine the chemical and mineralogical composition of the soil. In Douglas County, four kinds of parent material, alone or in combinations, have contributed to the formation of the soils. These four kinds of parent material are residuum, or material weathered from

bedrock; loess, or wind-deposited material; alluvium, or water-deposited material; and slope alluvium (also called colluvium), or gravitationally relocated material.

Living Organisms

Plants and animals living on or in the soil are active in the soil-forming process. Plants furnish organic material to the soil and bring up plant nutrients from underlying layers to the surface layer. As plants die and decay, they contribute organic matter to the soil. Bacteria and fungi decompose the plant remains and help to incorporate the organic matter into the soil.

The kind of native vegetation has greatly influenced soil formation in Douglas County. The basic kinds of native vegetation were prairie grasses and forest vegetation. Additions of organic matter to soils that formed under prairie grasses are largely a result of the yearly decomposition of plant materials. Plant tops decompose at the surface, and the roots decompose at various depths in the soil. As a result, soils that formed under prairie grasses have a thick, dark surface layer.

Additions of organic matter to soils that formed under forest vegetation are mostly the result of leaves and twigs that decompose on the surface. These soils have a thin, dark surface layer.

Insects, worms, humans, and other animals affect soil formation. Bacteria and fungi promote the decay of organic material, fix nitrogen, and improve tilth. Burrowing animals and insects loosen and mix various soil horizons.

In a relatively short time, human activities have greatly affected the processes of soil formation. The major alterations include changes in the type of vegetation, drainage of wet areas, and accelerated erosion. Row crops have replaced native grasses and many of the forested areas. Nearly all of the flood plains and much of the upland areas are now farmed. These changes have increased food production but have had an adverse effect in terms of sustained productivity. Accelerated erosion continues to reduce the potential of many upland soils, and the loss of cropland to urban development is virtually irreversible.

Climate

Climate has been and still is an important factor of soil formation. Geologic erosion, plant and animal life, and, in more recent times, accelerated erosion all have varied with the climate.

High temperatures and adequate rainfall encourage rapid chemical and physical changes. When calcium carbonate and other soluble salts are removed by leaching, soil fertility declines. This type of climate is conducive to the breakdown of minerals and the relocation of clay within the soil. The clay is moved downward into the soil profile, and this downward movement results in the formation of the subsoil. Nearly all of the upland soils in the county show evidence of this illuviation.

Topography

Topography, or relief, affects soil formation through its influence on drainage, runoff, the rate of water infiltration, and geologic erosion. Topography is characterized by the length, shape, aspect, and degree of slope. It is important in determining the pattern and distribution of soils.

The amount of water entering the soil depends on slope, permeability, and the intensity of rainfall. Because runoff is rapid in steep areas, very little water passes through the soil and soil formation is slow. Geologic erosion almost keeps pace with the soil-forming processes. In gently sloping areas, runoff is slow, erosion is minimal, and most of the water passes through the soil. Leaching, the translocation of clay, and other soil-forming processes are intensified in these areas. Soils in these areas generally show maximum profile development.

Soils on steep, south-facing slopes receive more direct sunlight and are drier than similar soils on north-facing slopes. Drier conditions influence soil formation by affecting the kind of vegetation, the susceptibility to erosion, and the cycles of freezing and thawing.

Time

The degree of profile development is dependent on the length of time that the parent material has been in place and subject to the soil-forming processes. Older soils show the effects of leaching and clay movement and have developed distinct horizons. Young soils show little profile development.

Geology and Physiography

Douglas County is on the Salem Plateau, a subprovince of the Ozark Plateau. The landscape varies from steep, wooded hillsides and narrow, very gravelly ridgetops to broad, nearly level to gently sloping upland divides.

Sinkholes are very common in some areas of Douglas County. They absorb and transport much of the surface water, leaving many streams with a smaller water flow than would be normal for their watersheds. The sinkholes range in size from a few feet across to an area of more than 100 acres. They range from a few feet to more than 100 feet deep. The soils on the bottom of the sinkholes range from well drained to poorly drained. Some sinkholes pond water much of the year.

The bedrock of Douglas County has a regional dip to the south. Because of weathering, the bedrock surface is quite uneven. Pinnacles of dolostone that have shallow soils rapidly give way to areas of very deep soils. Soil depth can range from less than 1 foot to over 50 feet in relatively short distances. The largest areas of exposed bedrock and shallow soils are generally along the major streams on the steepest hillsides. Bedrock outcrops in Douglas County consist primarily of Ordovician cherty dolostone and sandstone from the Jefferson City Formation through the upper Gasconade Formation.

From oldest to youngest, geologic formations that crop out in Douglas County are the Gasconade, the Roubidoux, and the Jefferson City Formations. Mississippian limestone is found above the Jefferson City Formation in the extreme northwestern corner of the county. A few pinnacles of Pennsylvanian mudstone are found at the higher elevations.

The Gasconade Formation is 300 to 350 feet thick and it consists of gray to light brown dolostone with thin to massive white porcellaneous chert. The only exposures in Douglas County are the lower bluffs along major rivers. Due to the tip of the bedrock, the Gasconade geology disappears in the southern portion of the county.

The Roubidoux Formation is 150 to 200 feet thick and consists of cherty dolostone, sandstone, and dolomitic sandstone. Many of the hillsides dominated by the Roubidoux Formation have many sandstone and chert boulders on the surface and are being managed as woodlands.

The Jefferson City and Cotter Formations are 200 to 350 feet thick and consist of silty to crystalline

dolostone with thin to medium beds of chert and thin beds of sandstone and shale.

The Mississippian Formation is about 100 feet thick and consists of very coarsely crystalline, fossiliferous, crinoidal limestone that has layers of chert nodules.

The Pennsylvanian Cheltenham Formation, which is composed of clays and associated clastics, lies above other beds. The clays are mostly brownish yellow in color, but also contain areas of white, purple, and red. At the base and intergrading with the lowest part of the clay in many places, are sandstone, chert

conglomerates, and chert rubble or residuum. The clays appear to be bedded deposits laid down on a solution surface. This formation occurs as remnant pinnacles on higher elevations and varies in thickness from 10 to 100 feet. Local people refer to this well-rounded chert pebbles that are found on many of these hilltops as "hilltop gravel."

Wells drilled for private water supplies are typically 200 to 400 feet deep, with the Roubidoux Formation and the Gunter sandstone member of the Gasconade Formation supplying the water. Public water wells are generally deeper than private water wells.

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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.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

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.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in

inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

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.

Base slope. A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Board foot. A unit of measure of the wood in lumber, logs, or trees. The amount of wood in a board 1

foot wide, 1 foot long, and 1 inch thick before finishing.

Bottom land. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

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.

Channeled. Refers to a drainage area in which natural meandering or repeated branching and

convergence of a streambed have created deeply incised cuts, either active or abandoned, in alluvial material.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Clayey soil. Silty clay, sandy clay, or clay.

Clearcut. A method of forest harvesting that removes the entire stand of trees in one cutting. Reproduction is achieved artificially or by natural seeding from the adjacent stands.

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.

Closed depression. A low area completely surrounded by higher ground and having no natural outlet.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

Codominant trees. Trees whose crowns form the general level of the forest canopy and that receive full light from above but comparatively little from the sides.

- COLE (coefficient of linear extensibility).** See Linear extensibility.
- Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.
- Commercial forest.** Forest land capable of producing 20 cubic feet or more per acre per year at the culmination of mean annual increment.
- 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 crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.
- Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.
- Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."
- Consolidated sandstone.** Sandstone that disperses within a few hours when fragments are placed in water. The fragments are extremely hard or very hard when dry, are not easily crushed, and cannot be textured by the usual field method.
- Consolidated shale.** Shale that disperses within a few hours when fragments are placed in water. The fragments are extremely hard or very hard when dry and are not easily crushed.
- 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.
- Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.
- Cropping system.** Growing crops according to a planned system of rotation and management practices.
- Cross-slope farming.** Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.
- Crown.** The upper part of a tree or shrub, including the living branches and their foliage.
- Culmination of the mean annual increment (CMAI).** The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deep soil. A soil that is 40 to 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Deep to water (in tables). Deep to permanent water during the dry season.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Depth to bedrock (in tables). Bedrock is too near the surface for the specified use.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Dolomite (mineral). A common rock-forming rhombohedral carbonate mineral: $\text{CaMg}(\text{CO}_3)_2$.

Dolostone. A carbonate sedimentary rock consisting chiefly (more than 50 percent by weight or by areal percentages under the microscope) of the mineral dolomite.

Dominant trees. Trees whose crowns form the general level of the forest canopy and that receive full light from above and from the sides.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of

the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. An area of ground at a lower elevation than the surrounding ground and in which water collects and is drained to a closed depression or lake or to a drainageway at a lower elevation. A drainageway may or may not have distinctly incised channels at its upper reaches or throughout its course.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

Droughty (in tables). Soil holds too little water for plants during dry periods.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian 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.
- Erodes easily** (in tables). Soil is easily eroded by water.
- Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.
Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.
Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.
- Erosion pavement.** A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.
- 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.
- Even aged.** Refers to a stand of trees in which only small differences in age occur between individual trees. A range of 20 years is allowed.
- 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.
- Fan terrace.** A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.
- Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.
- Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.
- Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.
- Fill slope.** A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.
- Fine textured soil.** Sandy clay, silty clay, or clay.
- Firebreak.** Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.
- 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.
- Flooding** (in tables). Soil flooded by moving water from stream overflow or runoff.
- 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).
- Forb.** Any herbaceous plant not a grass or a sedge.
- Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.
- Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.
- Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.
- Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.
- 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.

Hard to pack (in tables). Difficult to compact using regular earthwork construction equipment.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Heavy metal. Inorganic substances that are solid at ordinary temperatures and are not soluble in water. They form oxides and hydroxides that are basic. Examples are copper, iron, cadmium, zinc, manganese, lead, and arsenic.

Highly erodible (in tables). Soil has an erodibility index greater than 8 and is very susceptible to erosion by water.

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.

Increasesers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasesers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Infrequent flooding (in tables). Flooding occurs at an interval that limits riparian plant species.

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. 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.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat} . Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water

and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. 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 stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $1/3$ - or $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loamy soil. Coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, or silty clay loam.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal 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.

Mean annual increment (MAI). The average annual

increase in volume of a tree during the entire life of the tree.

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.

Merchantable trees. Trees that are of sufficient size to be economically processed into wood products.

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 deep soil. A soil that is 20 to 40 inches deep over bedrock or to other material that restricts the penetration of plant roots.

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.

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

Overstory. The trees in a forest that form the upper crown cover.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables water or air to move downward through the profile.

The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as “permeability.” Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

- pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)
- Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.
- Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.
- Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.
- Plateau.** An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.
- Plowpan.** A compacted layer formed in the soil directly below the plowed layer.
- Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.
- Poor filter** (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.
- Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.
- Potential native plant community.** See Climax plant community.
- Potential rooting depth (effective rooting depth).** Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has

no properties restricting the penetration of roots to this depth.

- Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.
- Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.
- Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.
- Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.
- Quartzite, metamorphic.** Rock consisting mainly of quartz that formed through recrystallization of quartz-rich sandstone or chert.
- Quartzite, sedimentary.** Very hard but unmetamorphosed sandstone consisting chiefly of quartz grains.
- Rangeland.** Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.
- Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed 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.

Relict stream terrace. One of a series of platforms in or adjacent to a stream valley that formed prior to the current stream system.

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.

Riser. The relatively short, steeply sloping area below a terrace tread that grades to a lower terrace tread or base level.

Riverwash. Unstable areas of sandy, silty, clayey, or gravelly sediments. These areas are flooded, washed, and reworked by rivers so frequently that they support little or no vegetation.

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.

Rock outcrop. Exposures of bare bedrock other than lava flows and rock-lined pits.

Root zone. The part of the soil that can be penetrated by plant roots.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts 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 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.

Sandy soil. Sand or loamy sand.

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.

Sawlogs. Logs of suitable size and quality for the production of lumber.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Scribner's log rule. A method of estimating the number of board feet that can be cut from a log of a given diameter and length.

Seasonal wetness (in tables). The soil may be wet during the period of desired use. This usually occurs during the winter and early spring.

Seasonally ponded (in tables). Standing water on soils in closed depressions that is removed only by percolation or evapotranspiration. Generally occurs during the winter and early spring.

Second bottom. The first terrace above the normal flood plain (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.
- Shallow soil.** A soil that is 10 to 20 inches deep over bedrock or to other material that restricts the penetration of plant roots.
- Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.
- Shelterwood system.** A forest management system requiring the removal of a stand in a series of cuts so that regeneration occurs under a partial canopy. After regeneration, a final cut removes the shelterwood and allows the stand to develop in the open as an even-aged stand. The system is well suited to sites where shelter is needed for regeneration, and it can aid regeneration of the more intolerant tree species in a stand.
- 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.
- Shoulder slope.** The uppermost inclined surface at the top of a hillside. It is the transition zone from the backslope to the summit of a hill or mountain. The surface is dominantly convex in profile and erosional in origin.
- Shrink-swell** (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.
- Side slope.** 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.
- Silica-sesquioxide ratio.** The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.
- Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.
- Siltstone.** 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 class.** A grouping of site indexes into five to seven production capability levels. Each level can be represented by a site curve.
- Site curve (50-year).** A set of related curves on a graph that shows the average height of dominant or dominant and codominant trees for a range of ages on soils that differ in productivity. Each level is represented by a curve. The basis of the curves is the height of dominant and codominant trees that are 50 years old or are 50 years old at breast height.
- Site curve (100-year).** A set of related curves on a graph that shows the average height of dominant or dominant and codominant trees for a range of ages on soils that differ in productivity. Each level is represented by a curve. The basis of the curves is the height of dominant and codominant trees that are 100 years old or are 100 years old at breast height.
- 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.
- Skid trails.** Pathways along which logs are dragged to a common site for loading onto a logging truck.
- Slash.** The branches, treetops, reject logs, and broken or uprooted trees left on the ground after logging.
- 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.
- Slippage** (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.
- Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.
- Slope** (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.
- Slope alluvium.** Sediment gradually transported on slopes of mountains or hills primarily by alluvial processes and characterized by particle sorting. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by

stone lines. Sorting of rounded or subrounded pebbles or cobbles and burnished peds distinguish these materials from unsorted colluvial deposits.

- Slope/erodibility** (in tables). A combination of slope and susceptibility to water erosion may be restrictive in the use of this soil.
- Small stones** (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.
- 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 reaction** (in tables). A measure of acidity or alkalinity of a soil, expressed in pH values, which indicates that the soil reaction is either too high or too low for the intended use.
- 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.
- Species.** A single, distinct kind of plant or animal having certain distinguishing characteristics.
- Stone line.** A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.
- Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A surface cut formed by the erosion of hard or semiconsolidated bedrock and thinly mantled with stream deposits.

Stream channel. The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel. It originally formed near the level of the stream and is the dissected remnants of an abandoned flood plain, streambed, or valley floor that were produced during a former stage of erosion or deposition.

Strippcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Tailwater. The water directly downstream of a structure.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.” The abbreviations (see table 17) are *C—clay, CL—clay loam, COS—coarse sand, COSL—coarse sandy loam, FS—fine sand, FSL—fine sandy loam, L—loam, LCOS—loamy coarse sand, LFS—loamy fine sand, LS—loamy sand, LVFS—loamy very fine sand, S—sand, SC—sandy clay, SCL—sandy clay loam, SI—silt, SIC—silty clay, SICL—silty clay loam, SIL—silt loam, SL—sandy loam, VFS—very fine sand, and VFSL—very fine sandy loam*. Terms used in lieu of texture descriptions are *BR—bedrock, UBR—unweathered bedrock, MPM—moderately decomposed plant material, and VAR—variable*. The texture modifiers that may apply to textural classes are *BY—bouldery, BYV—very bouldery, BYX—extremely bouldery, CB—cobbly, CBV—very cobbly, CBX—extremely cobbly, CN—channery, CNV—very channery, CNX—extremely channery, FL—flaggy, FLV—very flaggy, FLX—extremely flaggy, GR—gravelly, GRV—very gravelly, GRX—extremely gravelly, SR—stratified, ST—stony, STV—very stony, and STX—extremely stony*.

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.

Too acid (in tables). The soil is so acid that growth of plants is restricted.

Too clayey (in tables). The soil is slippery and sticky when wet and slow to dry.

Too sandy (in tables). The soil is soft and loose, droughty, and low in fertility or is too fine to use as gravel.

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.

Trafficability. The degree to which a soil is capable of supporting vehicular traffic across a wide range in soil moisture conditions.

Tread. The relatively flat surface that was cut or built by stream or wave action.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley. An elongated depressional area primarily developed by stream action.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Very deep soil. A soil that is more than 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Very shallow soil. A soil that is less than 10 inches deep over bedrock or to other material that restricts the penetration of plant roots.

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.

Water-spreading. Diverting runoff from natural channels by means of a system of dams, dikes, or ditches and spreading it over relatively flat surfaces.

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.

Wetness (in tables). The soil is wet during the period of desired use.

Wilting point (or permanent wilting point). The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation
(Recorded in the period 1961-90 at West Plains, Missouri)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	2 years in 10 will have--			Average number of days with 0.10 inch or more	Average snowfall In
				Maximum temperature higher than--	Minimum temperature lower than--		Average	Less than--	More than--		
°F	°F	°F	°F	°F	Units	In	In	In		In	
January-----	43.5	20.5	32.0	73	-7	7	2.34	0.86	3.58	4	3.7
February-----	48.1	24.5	36.3	77	0	15	2.93	1.51	4.18	4	3.7
March-----	58.7	34.2	46.4	84	11	81	4.63	2.49	6.51	7	2.1
April-----	69.7	43.7	56.7	88	24	236	4.39	2.46	6.10	7	0.2
May-----	77.0	52.4	64.7	90	33	456	4.51	2.43	6.33	7	0.0
June-----	84.5	60.8	72.6	96	44	678	4.34	2.43	6.03	6	0.0
July-----	89.7	65.7	77.7	101	50	857	3.10	1.41	4.56	5	0.0
August-----	88.2	63.7	76.0	101	49	804	3.60	1.57	5.34	5	0.0
September---	80.5	56.9	68.7	96	36	560	3.87	1.57	5.81	5	0.0
October-----	71.1	43.9	57.5	90	25	257	3.18	0.76	5.09	4	0.0
November---	57.9	34.1	46.0	79	12	68	4.16	1.84	6.14	5	0.7
December---	46.5	24.9	35.7	72	-1	14	4.00	1.87	5.84	6	2.7
Yearly:											
Average---	67.9	43.8	55.9	---	---	---	---	---	---	---	---
Extreme---	107	-18	---	103	-9	---	---	---	---	---	---
Total-----	---	---	---	---	---	4,032	45.05	37.95	51.67	65	13.0

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall
(Recorded in the period 1961-90 at West Plains, Missouri)

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. 7	Apr. 19	May 1
2 year in 10 later than--	Apr. 2	Apr. 14	Apr. 26
5 year in 10 later than--	Mar. 23	Apr. 4	Apr. 16
First freezing temperature in fall:			
1 yr in 10 earlier than--	Oct. 26	Oct. 14	Oct. 4
2 yr in 10 earlier than--	Oct. 31	Oct. 19	Oct. 8
5 yr in 10 earlier than--	Nov. 10	Oct. 28	Oct. 17

Table 3.--Growing Season

(Recorded in the period 1961-90 at West Plains, Missouri)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F Days	Higher than 28 °F Days	Higher than 32 °F Days
9 years in 10	211	184	165
8 years in 10	218	192	171
5 years in 10	230	206	183
2 years in 10	243	220	195
1 year in 10	250	227	201

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
70022	Tonti silt loam, 3 to 8 percent slopes-----	2,321	0.4
70025	Branson-Splitlimb complex, 1 to 3 percent slopes-----	365	*
70026	Tonti silt loam, 1 to 3 percent slopes-----	2,665	0.5
73000	Pomme silt loam, 3 to 8 percent slopes-----	7,119	1.4
73013	Lowassie silt loam, 0 to 3 percent slopes, frequently ponded-----	43	*
73017	Bendavis-Poynor complex, 15 to 50 percent slopes, rocky, very stony-----	624	0.1
73019	Poynor very gravelly silt loam, 1 to 8 percent slopes-----	9,229	1.8
73021	Poynor extremely gravelly silt loam, 15 to 35 percent slopes, stony-----	36,760	7.1
73023	Mano-Ocie complex, 1 to 8 percent slopes-----	28,810	5.5
73024	Mano-Ocie complex, 8 to 15 percent slopes, stony-----	42,680	8.2
73032	Gatewood very gravelly silt loam, 3 to 15 percent slopes, stony-----	94	*
73033	Gatewood extremely gravelly silt loam, 15 to 35 percent slopes, very rocky, very stony-----	93	*
73051	Winnipeg silt loam, 2 to 5 percent slopes-----	293	*
73059	Pomme silt loam, 1 to 3 percent slopes-----	214	*
73063	Bendavis-Poynor complex, 1 to 8 percent slopes-----	29	*
73068	Tick very gravelly silt loam, 3 to 15 percent slopes, stony-----	101	*
73069	Tick extremely gravelly silt loam, 15 to 50 percent slopes, very stony---	352	*
73073	Scholten-Poynor complex, 8 to 15 percent slopes-----	1,556	0.3
73076	Mano-Ocie complex, 15 to 35 percent slopes, stony-----	42,285	8.1
73121	Scholten-Tonti complex, 3 to 8 percent slopes-----	7,947	1.5
73176	Bendavis-Poynor complex, 8 to 15 percent slopes, stony-----	107	*
73198	Gressy-Viraton complex, 3 to 8 percent slopes-----	6,018	1.2
73199	Moko-Rock outcrop complex, 3 to 15 percent slopes, very flaggy-----	209	*
73220	Poynor extremely gravelly silt loam, 8 to 15 percent slopes-----	62,455	12.0
73222	Splitlimb silt loam, 0 to 3 percent slopes, frequently ponded-----	5	*
73223	Coulstone-Bender complex, 15 to 50 percent slopes, very stony-----	73,745	14.1
73224	Moko-Rock outcrop complex, 15 to 35 percent slopes, extremely flaggy----	125	*
73225	Ocie-Gatewood complex, 3 to 8 percent slopes-----	4,015	0.8
73226	Ocie-Gatewood complex, 3 to 15 percent slopes, stony-----	22,240	4.3
73227	Ocie-Gatewood complex, 15 to 35 percent slopes, very stony-----	64,935	12.5
73228	Gatewood-Moko complex, 3 to 15 percent slopes, very rocky, very flaggy---	2,760	0.5
73229	Gatewood-Moko complex, 15 to 35 percent slopes, very rocky, very flaggy--	4,112	0.8
73230	Coulstone-Bender-Gatewood complex, 15 to 60 percent slopes, rocky, very stony-----	1,608	0.3
73231	Wasola silt loam, 1 to 8 percent slopes-----	509	*
73236	Scholten-Poynor complex, 3 to 8 percent slopes-----	30,620	5.9
73237	Clarksville very gravelly silt loam, 3 to 15 percent slopes-----	1,661	0.3
73242	Fanchon-Tonti complex, 3 to 8 percent slopes-----	2,285	0.4
73243	Topazmill loam, 3 to 8 percent slopes-----	3,189	0.6
73300	Macedonia gravelly silt loam, 3 to 8 percent slopes-----	200	*
73311	Scholten-Bendavis-Poynor complex, 8 to 15 percent slopes-----	516	*
73325	Clarksville extremely gravelly silt loam, 15 to 50 percent slopes-----	7,845	1.5
73326	Topazmill-Coulstone complex, 3 to 15 percent slopes-----	2,096	0.4
73327	Topazmill-Coulstone complex, 15 to 35 percent slopes-----	217	*
73328	Scholten-Noark complex, 3 to 8 percent slopes-----	2,873	0.6
73329	Mano-Ocie complex, karst, 3 to 35 percent slopes-----	465	*
73331	Pomme silt loam, 8 to 15 percent slopes-----	844	0.2
73332	Topazmill loam, 8 to 15 percent slopes-----	738	0.1
74627	Hartville silt loam, 1 to 3 percent slopes, rarely flooded-----	117	*
74657	Pomme silt loam, bench, 1 to 8 percent slopes-----	650	0.1
74682	Zanoni fine sandy loam, 1 to 3 percent slopes, occasionally flooded-----	1,667	0.3
74683	Cedargap-Razort complex, 0 to 3 percent slopes, frequently flooded-----	12,428	2.4
75381	Bearthicket silt loam, 0 to 3 percent slopes, rarely flooded-----	422	*
75382	Cedargap gravelly loam, 0 to 3 percent slopes, frequently flooded-----	7,783	1.5
75390	Razort silt loam, 0 to 3 percent slopes, rarely flooded-----	2,204	0.4
75406	Racket loam, 0 to 3 percent slopes, frequently flooded-----	459	*
75417	Relfe-Sandbur complex, 0 to 3 percent slopes, frequently flooded-----	15,169	2.9
99001	Water-----	231	*
99002	Borrow areas-----	114	*
	Total-----	521,216	100.0

* Less than 0.1 percent.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Alfalfa hay	Caucasian bluestem	Orchardgrass -red clover	Tall fescue	Warm-season grasses	Winter wheat
		Tons	Tons	Tons	Tons	Tons	Bu
70022: Tonti-----	3e	3.60	3.90	3.00	4.00	4.20	36
70025: Branson-----	2e	6.70	7.00	5.20	6.00	7.50	46
Splitlimb----	2w	8.40	9.00	6.70	7.50	9.60	50
70026: Tonti-----	2e	3.60	3.90	3.00	4.00	4.20	38
73000: Pomme-----	3e	6.20	6.10	5.00	5.50	6.40	43
73013: Lowassie-----	3w	---	---	7.20	8.25	10.40	---
73017: Bendavis-----	7e	---	---	---	---	---	---
Poynor-----	7e	---	---	---	---	---	---
73019: Poynor-----	4e	4.00	4.20	3.20	4.00	4.50	29
73021: Poynor-----	7e	---	4.20	---	4.40	4.50	---
73023: Mano-----	4e	4.20	4.50	3.40	4.00	4.50	36
Ocie-----	4e	3.50	4.20	2.80	3.80	4.50	32
73024: Mano-----	6e	4.20	4.50	3.40	4.00	4.80	---
Ocie-----	6e	3.50	4.20	2.80	3.80	4.50	---
73032: Gatewood-----	6e	2.40	3.00	2.00	3.80	3.20	---
73033: Gatewood-----	7e	---	---	---	---	---	---
73051: Winnipeg-----	2e	7.50	8.00	6.20	7.00	8.50	46
73059: Pomme-----	2e	6.20	6.10	5.00	5.50	6.40	43
73063: Bendavis-----	4e	2.00	2.30	1.60	2.00	2.40	19
Poynor-----	4e	4.00	4.20	3.20	4.00	4.50	29
73068: Tick-----	6e	3.00	3.00	2.40	2.70	3.20	---

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Caucasian bluestem	Orchardgrass -red clover	Tall fescue	Warm-season grasses	Winter wheat
		Tons	Tons	Tons	Tons	Tons	Bu
73069: Tick-----	7e	---	---	---	---	---	---
73073: Scholten-----	6e	1.00	1.10	0.80	2.00	1.20	---
Poynor-----	6e	4.00	4.20	3.20	4.00	4.50	---
73076: Mano-----	7e	---	---	---	---	---	---
Ocie-----	7e	---	---	---	---	---	---
73121: Scholten-----	3e	1.00	1.10	0.80	2.00	1.20	19
Tonti-----	3e	3.60	3.90	3.00	4.00	4.20	36
73176: Bendavis-----	6e	2.00	2.25	1.60	2.00	2.40	---
Poynor-----	6e	4.00	4.20	3.20	4.00	4.50	---
73198: Gressy-----	3e	5.50	5.80	4.40	5.50	6.10	43
Viraton-----	3e	3.60	3.90	3.00	4.00	4.20	30
73199: Moko-----	6s	---	---	---	---	---	---
Rock outcrop--	8s	---	---	---	---	---	---
73220: Poynor-----	6e	4.00	4.20	3.20	4.00	4.50	---
73222: Splitlimb-----	2w	8.40	9.00	6.70	5.50	9.60	50
73223: Coulstone-----	7e	---	---	---	---	---	---
Bender-----	7e	---	---	---	---	---	---
73224: Moko-----	7s	---	---	---	---	---	---
Rock outcrop--	8s	---	---	---	---	---	---
73225: Ocie-----	6e	3.50	4.20	2.80	4.00	4.50	32
Gatewood-----	6e	2.40	3.00	2.00	3.80	3.20	24
73226: Ocie-----	6e	3.50	4.20	2.80	4.00	4.50	---
Gatewood-----	6e	2.40	3.00	2.00	3.80	3.20	---
73227: Ocie-----	7e	---	---	---	---	---	---
Gatewood-----	7e	---	---	---	---	---	---

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Caucasian bluestem	Orchardgrass -red clover	Tall fescue	Warm-season grasses	Winter wheat
		Tons	Tons	Tons	Tons	Tons	Bu
73228:							
Gatewood-----	6e	---	---	---	---	---	---
Moko-----	6s	---	---	---	---	---	---
73229:							
Gatewood-----	7e	---	---	---	---	---	---
Moko-----	7s	---	---	---	---	---	---
73230:							
Coulstone-----	7e	---	---	---	---	---	---
Bender-----	7e	---	---	---	---	---	---
Gatewood-----	7e	---	---	---	---	---	---
73231:							
Wasola-----	3e	5.00	5.30	4.00	5.50	5.60	48
73236:							
Scholten-----	4e	1.00	1.10	0.80	2.00	1.20	19
Poynor-----	4e	4.00	4.20	3.20	4.00	4.50	29
73237:							
Clarksville---	7e	---	---	---	---	---	---
73242:							
Fanchon-----	3e	6.20	6.10	5.00	5.50	6.40	41
Tonti-----	3e	3.60	3.90	3.00	4.00	4.20	36
73243:							
Topazmill-----	3e	6.60	7.00	5.30	5.00	7.40	43
73300:							
Macedonia-----	3e	4.80	5.00	3.70	5.30	5.30	36
73311:							
Scholten-----	6e	---	---	---	---	---	---
Bendavis-----	6e	---	---	---	---	---	---
Poynor-----	6e	---	---	---	---	---	---
73325:							
Clarksville---	7e	---	---	---	---	---	---
73326:							
Topazmill-----	4e	6.60	7.00	5.30	5.00	7.40	43
Coulstone-----	4e	1.00	1.10	0.80	2.00	1.20	---
73327:							
Topazmill-----	7e	---	---	---	---	---	---
Coulstone-----	7e	---	---	---	---	---	---
73328:							
Scholten-----	4e	1.00	1.10	0.80	2.00	1.20	19
Noark-----	4s	4.00	4.20	3.20	4.00	4.50	22

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Caucasian bluestem	Orchardgrass -red clover	Tall fescue	Warm-season grasses	Winter wheat
		Tons	Tons	Tons	Tons	Tons	Bu
73329:							
Mano-----	4e	4.20	4.50	3.40	4.00	4.80	---
Ocie-----	4e	3.50	4.20	2.80	3.80	4.50	---
73331:							
Pomme-----	4e	6.20	6.10	5.00	5.50	6.40	43
73332:							
Topazmill----	4e	6.60	7.00	5.30	5.00	7.40	43
74627:							
Hartville-----	2e	---	---	6.00	6.60	7.80	38
74657:							
Pomme-----	3e	6.20	6.10	5.00	5.50	6.40	43
74682:							
Zanoni-----	2e	6.60	7.00	5.20	5.25	7.40	38
74683:							
Cedargap-----	3s	5.20	5.50	4.00	3.50	5.00	31
Razort-----	2e	8.70	8.30	7.00	6.75	9.80	48
75381:							
Bearthicket---	2w	9.40	10.00	7.50	8.00	10.60	50
75382:							
Cedargap-----	3w	5.20	5.50	4.00	3.50	5.80	24
75390:							
Razort-----	2e	8.70	9.30	7.00	6.75	9.80	48
75406:							
Racket-----	2w	8.70	9.30	7.00	6.75	9.80	41
75417:							
Relfe-----	4s	2.00	2.30	1.60	3.00	2.40	---
Sandbur-----	3w	6.60	7.00	5.20	6.75	7.40	---
99001.							
Water							
99002:							
Borrow areas--	8s	---	---	---	---	---	---

Table 6.--Pasture and Hayland Groups

Map symbol	Soil name	Component name	Pasture and hayland group
70022	Tonti silt loam, 3 to 8 percent slopes-----	Tonti	LyP
70025	Branson-Splitlimb complex, 1 to 3 percent slopes-----	Branson Splitlimb	LyU LyU
70026	Tonti silt loam, 1 to 3 percent slopes-----	Tonti	LyP
73000	Pomme silt loam, 3 to 8 percent slopes-----	Pomme	LyU
73013	Lowassie silt loam, 0 to 3 percent slopes, frequently ponded-----	Lowassie	WCU
73017	Bendavis-Poynor complex, 15 to 50 percent slopes, rocky, very stony-----	Bendavis Poynor	GNS GNS
73019	Poynor very gravelly silt loam, 1 to 8 percent slopes-----	Poynor	GrU
73021	Poynor extremely gravelly silt loam, 15 to 35 percent slopes, stony-----	Poynor	GrU
73023	Mano-Ocie complex, 1 to 8 percent slopes-----	Mano Ocie	GrU GrU
73024	Mano-Ocie complex, 8 to 15 percent slopes, stony-----	Mano Ocie	GrU GrU
73032	Gatewood very gravelly silt loam, 3 to 15 percent slopes, stony-----	Gatewood	MDU
73033	Gatewood extremely gravelly silt loam, 15 to 35 percent slopes, very rocky, very stony-----	Gatewood	GNS
73051	Winnipeg silt loam, 2 to 5 percent slopes-----	Winnipeg	LyU
73059	Pomme silt loam, 1 to 3 percent slopes-----	Pomme	LyU
73063	Bendavis-Poynor complex, 1 to 8 percent slopes-----	Bendavis Poynor	MDU GrU
73068	Tick very gravelly silt loam, 3 to 15 percent slopes, stony-----	Tick	GrU
73069	Tick extremely gravelly silt loam, 15 to 50 percent slopes, very stony-----	Tick	GNS
73073	Scholten-Poynor complex, 8 to 15 percent slopes-----	Scholten Poynor	GrP GrU
73076	Mano-Ocie complex, 15 to 35 percent slopes, stony-----	Mano Ocie	GrU GrU
73121	Scholten-Tonti complex, 3 to 8 percent slopes-----	Scholten Tonti	GrP LyP
73176	Bendavis-Poynor complex, 8 to 15 percent slopes, stony-----	Bendavis Poynor	MDU GrU
73198	Gressy-Viraton complex, 3 to 8 percent slopes-----	Gressy Viraton	LyU LyP
73199	Moko-Rock outcrop complex, 3 to 15 percent slopes, very flaggy-----	Moko Rock outcrop	GNS GNS
73220	Poynor extremely gravelly silt loam, 8 to 15 percent slopes-----	Poynor	GrU
73222	Splitlimb silt loam, 0 to 3 percent slopes, frequently ponded-----	Splitlimb	LyU
73223	Coulstone-Bender complex, 15 to 50 percent slopes, very stony-----	Coulstone Bender	GNS GNS
73224	Moko-Rock outcrop complex, 15 to 35 percent slopes, extremely flaggy-----	Moko Rock outcrop	GNS GNS
73225	Ocie-Gatewood complex, 3 to 8 percent slopes-----	Ocie Gatewood	GrU MDU
73226	Ocie-Gatewood complex, 3 to 15 percent slopes, stony-----	Ocie Gatewood	GrU MDU
73227	Ocie-Gatewood complex, 15 to 35 percent slopes, very stony-----	Ocie Gatewood	GNS GNS
73228	Gatewood-Moko complex, 3 to 15 percent slopes, very rocky, very flaggy-----	Gatewood Moko	GNS GNS
73229	Gatewood-Moko complex, 15 to 35 percent slopes, very rocky, very flaggy-----	Gatewood Moko	GNS GNS
73230	Coulstone-Bender-Gatewood complex, 15 to 60 percent slopes, rocky, very stony	Coulstone Bender Gatewood	GNS GNS GNS
73231	Wasola silt loam, 1 to 8 percent slopes-----	Wasola	LyU
73236	Scholten-Poynor complex, 3 to 8 percent slopes-----	Scholten Poynor	GrP GrU
73237	Clarksville very gravelly silt loam, 3 to 15 percent slopes-----	Clarksville	GNS
73242	Fanchon-Tonti complex, 3 to 8 percent slopes-----	Fanchon Tonti	LyU LyP
73243	Topazmill loam, 3 to 8 percent slopes-----	Topazmill	LyU
73300	Macedonia gravelly silt loam, 3 to 8 percent slopes-----	Macedonia	CyU

Table 6.--Pasture and Hayland Groups--Continued

Map symbol	Soil name	Component name	Pasture and hayland group
73311	Scholten-Bendavis-Poynor complex, 8 to 15 percent slopes-----	Scholten	GrP
		Bendavis	MDU
		Poynor	GrU
73325	Clarksville extremely gravelly silt loam, 15 to 50 percent slopes-----	Clarksville	GNS
73326	Topazmill-Coulstone complex, 3 to 15 percent slopes-----	Topazmill	LyU
		Coulstone	GRU
73327	Topazmill-Coulstone complex, 15 to 35 percent slopes-----	Topazmill	LyU
		Coulstone	GRU
73328	Scholten-Noark complex, 3 to 8 percent slopes-----	Scholten	GrP
		Noark	GrU
73329	Mano-Ocie complex, karst, 3 to 35 percent slopes-----	Mano	GrU
		Ocie	GrU
73331	Pomme silt loam, 8 to 15 percent slopes-----	Pomme	LyU
73332	Topazmill loam, 8 to 15 percent slopes-----	Topazmill	LyU
74627	Hartville silt loam, 1 to 3 percent slopes, rarely flooded-----	Hartville	WCB
74657	Pomme silt loam, bench, 1 to 8 percent slopes-----	Pomme	LyU
74682	Zanoni fine sandy loam, 1 to 3 percent slopes, occasionally flooded-----	Zanoni	LyO
74683	Cedargap-Razort complex, 0 to 3 percent slopes, frequently flooded-----	Cedargap	GrO
		Razort	LyO
75381	Bearthicket silt loam, 0 to 3 percent slopes, rarely flooded-----	Bearthicket	LyO
75382	Cedargap gravelly loam, 0 to 3 percent slopes, frequently flooded-----	Cedargap	GrO
75390	Razort silt loam, 0 to 3 percent slopes, rarely flooded-----	Razort	LyO
75406	Racket loam, 0 to 3 percent slopes, frequently flooded-----	Racket	LyO
75417	Relfe-Sandbur complex, 0 to 3 percent slopes, frequently flooded-----	Relfe	SyO
		Sandbur	LyO
99001	Water-----	Water	---
99002	Borrow areas-----	Borrow areas	GNS

Table 7.--Forest Productivity

(Site index is based on 50 years. Absence of an entry indicates that information was not available.)

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
70022: Tonti-----	black oak-----	60	43	black oak, shortleaf pine
	post oak-----	---	---	
	shortleaf pine-----	53	71	
70025: Branson-----	northern red oak----	70	57	black walnut, shortleaf pine, white oak
	white oak-----	66	43	
Splitlimb-----	black oak-----	---	---	black oak, northern red oak, shortleaf pine
	northern red oak----	70	57	
	shortleaf pine-----	---	---	
	white oak-----	66	43	
70026: Tonti-----	black oak-----	60	43	black oak, shortleaf pine
	post oak-----	---	---	
	shortleaf pine-----	53	71	
73000: Pomme-----	northern red oak----	65	43	black oak, northern red oak, white oak
	white oak-----	60	43	
73013: Lowassie-----	pin oak-----	50	29	black oak, green ash, pin oak
	post oak-----	45	29	
73017: Bendavis-----	black oak-----	55	43	black oak, scarlet oak, shortleaf pine
	post oak-----	45	29	
	scarlet oak-----	---	---	
	shortleaf pine-----	56	86	
Poynor-----	black oak-----	60	43	black oak, shortleaf pine
	shortleaf pine-----	58	86	
	white oak-----	54	43	
73019: Poynor-----	black oak-----	60	43	black oak, shortleaf pine
	shortleaf pine-----	58	86	
	white oak-----	54	43	
73021: Poynor-----	black oak-----	60	43	black oak, shortleaf pine
	shortleaf pine-----	58	86	
	white oak-----	54	43	
73023: Mano-----	black oak-----	65	43	northern red oak, white oak
	northern red oak----	---	---	
	white oak-----	60	43	
Ocie-----	black oak-----	60	43	northern red oak, shortleaf pine, white oak
	northern red oak----	---	---	
	white oak-----	57	43	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
73024:				
Mano-----	black oak-----	65	43	northern red oak, white oak
	northern red oak---	---	---	
	white oak-----	60	43	
Ocie-----	black oak-----	60	43	northern red oak, shortleaf pine, white oak
	northern red oak---	---	---	
	white oak-----	57	43	
73032:				
Gateway-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar---	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
73033:				
Gateway-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar---	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
73051:				
Winnipeg-----	black oak-----	65	43	black walnut, northern red oak, white oak
	black walnut-----	---	---	
	northern red oak---	66	43	
	white oak-----	60	43	
73059:				
Pomme-----	northern red oak---	65	43	black oak, northern red oak, white oak
	white oak-----	60	43	
73063:				
Bendavis-----	black oak-----	54	43	scarlet oak, shortleaf pine
	post oak-----	47	29	
	scarlet oak-----	---	---	
	shortleaf pine-----	56	86	
Poynor-----	black oak-----	---	---	black oak, shortleaf pine
	shortleaf pine-----	58	86	
	white oak-----	---	---	
73068:				
Tick-----	black oak-----	55	43	black oak
	post oak-----	45	29	
	white oak-----	50	29	
73069:				
Tick-----	black oak-----	55	43	black oak
	post oak-----	45	29	
	white oak-----	50	29	
73073:				
Scholten-----	black oak-----	50	29	black oak, eastern redcedar, shortleaf pine
	blackjack oak-----	---	---	
	hickory-----	---	---	
	post oak-----	---	---	
Poynor-----	black oak-----	60	43	black oak, shortleaf pine
	shortleaf pine-----	58	86	
	white oak-----	54	43	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity		Trees to manage	
	Common trees	Site index		Volume of wood fiber cu ft/ac
73076:				
Mano-----	black oak-----	65	43	northern red oak, white oak
	northern red oak---	---	---	
	white oak-----	60	43	
Ocie-----	black oak-----	60	43	northern red oak, shortleaf pine
	northern red oak---	---	---	
	white oak-----	57	43	
73121:				
Scholten-----	black oak-----	50	29	black oak, eastern redcedar, shortleaf pine
	blackjack oak-----	---	---	
	hickory-----	---	---	
	post oak-----	---	---	
Tonti-----	black oak-----	60	43	black oak, shortleaf pine
	post oak-----	---	---	
	shortleaf pine-----	53	71	
73176:				
Bendavis-----	black oak-----	54	43	scarlet oak, shortleaf pine
	post oak-----	47	29	
	scarlet oak-----	---	---	
	shortleaf pine-----	55	86	
Poynor-----	black oak-----	60	43	black oak, shortleaf pine
	shortleaf pine-----	58	86	
	white oak-----	54	43	
73198:				
Gressy-----	northern red oak---	65	43	black walnut, white oak
	white oak-----	65	43	
Viraton-----	black oak-----	60	43	black oak, shortleaf pine, white oak
	shortleaf pine-----	56	86	
	white oak-----	55	43	
73199:				
Moko-----	eastern redcedar---	30	29	eastern redcedar
Rock outcrop.				
73220:				
Poynor-----	black oak-----	60	43	black oak, shortleaf pine
	shortleaf pine-----	58	86	
	white oak-----	54	43	
73222:				
Splitlimb-----	black oak-----	---	---	black oak, northern red oak, white oak
	northern red oak---	70	57	
	shortleaf pine-----	---	---	
	white oak-----	66	43	
73223:				
Coulstone-----	black oak-----	56	43	black oak, scarlet oak, shortleaf pine
	scarlet oak-----	---	---	
	shortleaf pine-----	57	86	
	white oak-----	55	43	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
73223: Bender-----	black oak-----	52	29	black oak, scarlet oak, shortleaf pine
	scarlet oak-----	---	---	
	shortleaf pine-----	53	71	
	white oak-----	50	29	
73224: Moko-----	eastern redcedar---	30	29	eastern redcedar
Rock outcrop.				
73225: Ocie-----	black oak-----	58	43	northern red oak, shortleaf pine
	northern red oak----	---	0	
	white oak-----	57	43	
Gatewood-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar----	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
73226: Ocie-----	black oak-----	58	43	northern red oak, shortleaf pine
	northern red oak----	---	---	
	white oak-----	57	43	
Gatewood-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar----	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
73227: Ocie-----	black oak-----	58	43	northern red oak, shortleaf pine
	northern red oak----	---	---	
	white oak-----	57	43	
Gatewood-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar----	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
73228: Gatewood-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar----	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
Moko-----	eastern redcedar---	30	29	eastern redcedar
73229: Gatewood-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar----	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
Moko-----	eastern redcedar---	30	29	eastern redcedar
73230: Coulstone-----	black oak-----	56	43	black oak, shortleaf pine
	scarlet oak-----	---	---	
	shortleaf pine-----	57	86	
	white oak-----	55	43	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
73230:				
Bender-----	black oak-----	52	29	black oak, scarlet
	scarlet oak-----	---	---	oak, shortleaf
	shortleaf pine-----	53	71	pine
	white oak-----	50	29	
Gatewood-----	black oak-----	42	29	eastern redcedar,
	eastern redcedar----	40	43	shortleaf pine
	post oak-----	43	29	
	white oak-----	45	29	
73231:				
Wasola-----	northern red oak----	65	43	black walnut,
	white oak-----	65	43	shortleaf pine,
				white oak
73236:				
Scholten-----	black oak-----	50	29	black oak,
	blackjack oak-----	---	---	shortleaf pine,
	hickory-----	---	---	white oak
	post oak-----	---	---	
Poynor-----	black oak-----	53	43	shortleaf pine,
	shortleaf pine-----	55	86	white oak
	white oak-----	48	29	
73237:				
Clarksville-----	black oak-----	61	43	northern red oak,
	northern red oak----	---	---	white oak
	shortleaf pine-----	58	86	
	white oak-----	55	43	
73242:				
Fanchon-----	northern red oak----	65	43	black walnut,
	white oak-----	65	43	shortleaf pine,
				white oak
Tonti-----	black oak-----	60	43	black oak,
	post oak-----	---	---	shortleaf pine
	shortleaf pine-----	53	71	
73243:				
Topazmill-----	black oak-----	75	57	green ash, northern
	northern red oak----	75	57	red oak, shortleaf
	white oak-----	65	43	pine, white oak
73300:				
Macedonia-----	black oak-----	60	43	black oak, green
	shortleaf pine-----	60	86	ash, shortleaf
	white oak-----	55	43	pine, white oak
73311:				
Scholten-----	black oak-----	50	29	black oak,
	blackjack oak-----	---	---	shortleaf pine
	hickory-----	---	---	
	post oak-----	---	---	
Bendavis-----	black oak-----	55	43	shortleaf pine
	post oak-----	45	29	
	scarlet oak-----	---	---	
	shortleaf pine-----	56	86	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
73311:				
Poynor-----	black oak-----	60	43	black oak,
	shortleaf pine-----	58	86	shortleaf pine
	white oak-----	54	43	
73325:				
Clarksville-----	black oak-----	61	43	northern red oak,
	northern red oak-----	---	---	white oak
	shortleaf pine-----	58	86	
	white oak-----	55	43	
73326:				
Topazmill-----	black oak-----	75	57	green ash, northern
	northern red oak-----	75	57	red oak, shortleaf
	white oak-----	65	43	pine, white oak
Coulstone-----	black oak-----	56	43	black oak, scarlet
	scarlet oak-----	---	---	oak, shortleaf
	shortleaf pine-----	57	60	pine
	white oak-----	55	43	
73327:				
Topazmill-----	black oak-----	75	57	green ash, northern
	northern red oak-----	75	57	red oak, shortleaf
	white oak-----	65	43	pine, white oak
Coulstone-----	black oak-----	56	43	black oak, scarlet
	scarlet oak-----	---	---	oak, shortleaf
	shortleaf pine-----	57	86	pine
	white oak-----	55	43	
73328:				
Scholten-----	black oak-----	50	29	black oak, eastern
	blackjack oak-----	---	---	redcedar,
	hickory-----	---	---	shortleaf pine
	post oak-----	---	---	
Noark-----	black oak-----	60	43	black oak, northern
	eastern redcedar-----	40	43	red oak, white oak
	northern red oak-----	---	---	
	shortleaf pine-----	60	86	
	southern red oak-----	---	---	
	white oak-----	56	43	
73329:				
Mano-----	black oak-----	65	43	northern red oak,
	northern red oak-----	---	---	white oak
	white oak-----	60	43	
Ocie-----	black oak-----	60	43	northern red oak,
	northern red oak-----	---	---	shortleaf pine,
	white oak-----	57	43	white oak
73331:				
Pomme-----	northern red oak-----	65	43	black oak, northern
	white oak-----	60	43	red oak, white oak
73332:				
Topazmill-----	black oak-----	75	57	green ash, northern
	northern red oak-----	75	57	red oak, shortleaf
	white oak-----	65	43	pine, white oak

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
74627: Hartville-----	northern red oak----	---	---	green ash, northern red oak, white oak
	white oak-----	55	43	
74657: Pomme-----	northern red oak----	65	43	black walnut, shortleaf pine, white oak
	white oak-----	65	43	
74682: Zanoni-----	American sycamore---	85	86	black walnut, shortleaf pine
	black walnut-----	---	---	
	shortleaf pine-----	---	---	
	white oak-----	75	57	
74683: Cedargap-----	black oak-----	66	43	black oak, shortleaf pine
	black walnut-----	---	---	
	green ash-----	---	---	
Razort-----	American sycamore---	85	86	black walnut, northern red oak, white oak
	eastern cottonwood--	90	100	
	northern red oak----	75	57	
	white oak-----	75	57	
75381: Bearthicket-----	American sycamore---	---	---	black walnut, green ash, northern red oak, white oak
	black walnut-----	---	---	
	common hackberry----	---	---	
	pin oak-----	96	86	
	red maple-----	---	---	
75382: Cedargap-----	black oak-----	66	43	black oak, shortleaf pine
	black walnut-----	---	---	
	green ash-----	---	---	
75390: Razort-----	American sycamore---	85	86	black walnut, northern red oak, white oak
	eastern cottonwood--	90	100	
	northern red oak----	75	57	
	white oak-----	70	57	
75406: Racket-----	American sycamore---	---	---	black walnut, green ash, silver maple
	black cherry-----	---	---	
	black walnut-----	72	72	
	green ash-----	---	---	
	northern red oak----	---	---	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
75417:				
Relfe-----	black oak-----	60	43	black oak,
	shortleaf pine-----	---	---	shortleaf pine
Sandbur-----	American basswood---	---	---	American sycamore,
	American sycamore---	---	---	black walnut,
	northern red oak---	---	---	green ash,
	river birch-----	---	---	northern red oak
	white oak-----	60	43	
99001.				
Water				
99002.				
Borrow areas				

Table 8a.--Forest Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70022: Tonti-----	Not limited		Slightly limited slope (slightly limited)	0.10	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Slightly limited seasonal wetness (slightly limited)	0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20
70025: Branson-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50
Splitlimb-----	Not limited		Not limited		Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.25	Slightly limited seasonal wetness (slightly limited)	0.25	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.25
70026: Tonti-----	Not limited		Not limited		Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Slightly limited seasonal wetness (slightly limited)	0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20
73000: Pomme-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited slippage potential (moderately limited) low strength (moderately limited)	0.50 0.50
73013: Lowassie-----	Limited seasonally ponded (limited) seasonal wetness (moderately limited)	0.80 0.60	Limited seasonally ponded (limited) seasonal wetness (moderately limited)	0.80 0.60	Very limited seasonal wetness (very limited) seasonally ponded (limited) low strength (moderately limited)	1.00 0.80 0.50	Very limited seasonal wetness (very limited) seasonally ponded (limited)	1.00 0.80	Very limited seasonal wetness (very limited) ponded (wetness) (very limited) low strength (moderately limited)	1.00 1.00 0.50

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73017:										
Bendavis-----	Limited small stones (limited) slope (slightly limited)	0.67 0.25	Very limited slope (very limited) small stones (limited) surface stones (moderately limited)	1.00 0.67 0.38	Limited slope (limited) seasonal wetness (slightly limited)	0.91 0.10	Limited slope (limited) small stones (limited) seasonal wetness (slightly limited)	0.91 0.67 0.10	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.10
Poynor-----	Limited small stones (limited) slope (slightly limited)	0.73 0.14	Limited slope (limited) small stones (limited) surface stones (slightly limited)	0.99 0.73 0.03	Moderately limited slope (moderately limited)	0.60	Limited small stones (limited) slope (moderately limited)	0.73 0.60	Very limited slope (very limited)	1.00
73019:										
Poynor-----	Limited small stones (limited)	0.67	Limited small stones (limited) slope (slightly limited)	0.67 0.10	Not limited		Limited small stones (limited)	0.67	Not limited	
73021:										
Poynor-----	Limited small stones (limited) slope (slightly limited)	0.73 0.14	Limited slope (limited) small stones (limited) surface stones (slightly limited)	0.99 0.73 0.03	Moderately limited slope (moderately limited)	0.60	Limited small stones (limited) slope (moderately limited)	0.73 0.60	Very limited slope (very limited)	1.00
73023:										
Mano-----	Slightly limited small stones (slightly limited)	0.08	Slightly limited small stones (slightly limited)	0.08	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.10	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.50 0.10

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73023: Ocie-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited small stones (moderately limited)	0.42	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.10	Moderately limited slippage potential (moderately limited) seasonal wetness (slightly limited)	0.50 0.10
73024: Mano-----	Slightly limited small stones (slightly limited)	0.24	Moderately limited slope (moderately limited) small stones (slightly limited) surface stones (slightly limited)	0.47 0.24 0.03	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited seasonal wetness (slightly limited) small stones (slightly limited)	0.10 0.01	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10
Ocie-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited slope (moderately limited) small stones (moderately limited) surface stones (slightly limited)	0.47 0.42 0.03	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.10	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10
73032: Gatewood-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited small stones (moderately limited) slope (moderately limited) surface stones (slightly limited)	0.42 0.34 0.02	Slightly limited seasonal wetness (slightly limited)	0.15	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.15	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.45 0.15
73033: Gatewood-----	Very limited small stones (limited) slope (slightly limited)	0.99 0.14	Limited small stones (limited) slope (limited)	0.99 0.99	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.60 0.15	Limited small stones (limited) slope (moderately limited) seasonal wetness (slightly limited)	1.00 0.60 0.15	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.15
73051: Winnipeg-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73059: Pomme-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited slippage potential (moderately limited) low strength (moderately limited)	0.50 0.50
73063: Bendavis-----	Slightly limited small stones (slightly limited)	0.04	Slightly limited small stones (slightly limited)	0.04	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.10	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.50 0.10
Poynor-----	Limited small stones (limited)	0.67	Limited small stones (limited)	0.67	Not limited		Limited small stones (limited)	0.67	Not limited	
73068: Tick-----	Limited small stones (limited)	0.67	Moderately limited slope (moderately limited) surface stones (slightly limited)	0.47 0.01	Not limited		Not limited		Limited slope (limited)	0.76
73069: Tick-----	Limited small stones (limited) very sandy (surface) (moderately limited) slope (slightly limited)	0.93 0.50 0.14	Limited slope (limited) small stones (limited) very sandy (surface) (moderately limited)	0.99 0.93 0.50	Moderately limited slope (moderately limited) very sandy (surface) (moderately limited)	0.60 0.50	Limited small stones (limited) slope (moderately limited)	0.94 0.60	Very limited slope (very limited) slippage potential (limited) very sandy (surface) (moderately limited)	1.00 0.90 0.50
73073: Scholten-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited slope (moderately limited) small stones (moderately limited)	0.47 0.42	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.28	Limited slope (limited) seasonal wetness (slightly limited)	0.76 0.28

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73073: Poynor-----	Moderately limited small stones (moderately limited)	0.60	Moderately limited small stones (moderately limited) slope (moderately limited)	0.60 0.47	Not limited		Moderately limited small stones (moderately limited)	0.60	Limited slope (limited)	0.76
73076: Mano-----	Moderately limited small stones (moderately limited) slope (slightly limited)	0.42 0.14	Limited slope (limited) small stones (moderately limited)	0.99 0.42	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.60 0.10	Moderately limited slope (moderately limited) small stones (slightly limited) seasonal wetness (slightly limited)	0.60 0.30 0.10	Very limited slope (very limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.10
Ocie-----	Moderately limited small stones (moderately limited) slope (slightly limited)	0.42 0.14	Limited slope (limited) small stones (moderately limited)	0.99 0.42	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.60 0.10	Moderately limited slope (moderately limited) small stones (slightly limited) seasonal wetness (slightly limited)	0.60 0.30 0.10	Very limited slope (very limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.10
73121: Scholten-----	Slightly limited small stones (slightly limited)	0.15	Slightly limited small stones (slightly limited)	0.15	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28
Tonti-----	Not limited		Not limited		Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Slightly limited seasonal wetness (slightly limited)	0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20
73176: Bendavis-----	Moderately limited small stones (moderately limited)	0.60	Moderately limited small stones (moderately limited) slope (moderately limited) surface stones (slightly limited)	0.60 0.47 0.02	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited small stones (moderately limited) seasonal wetness (slightly limited)	0.60 0.10	Limited slope (limited) seasonal wetness (slightly limited)	0.76 0.10

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73176: Poynor-----	Slightly limited small stones (slightly limited)	0.24	Moderately limited slope (moderately limited) small stones (slightly limited) surface stones (slightly limited)	0.47 0.24 0.02	Not limited		Slightly limited small stones (slightly limited)	0.01	Limited slope (limited)	0.76
73198: Gressy-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50
Viraton-----	Not limited		Not limited		Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Slightly limited seasonal wetness (slightly limited)	0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20
73199: Moko-----	Limited large stones (limited) small stones (slightly limited)	0.61 0.08	Limited large stones >35% (very limited) slope (moderately limited) surface stones (slightly limited)	0.99 0.34 0.09	Not limited		Limited large stones (limited)	0.61	Moderately limited slope (moderately limited)	0.45
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73220: Poynor-----	Very limited small stones (very limited) very sandy (surface) (moderately limited)	1.00 0.50	Very limited small stones (very limited) very sandy (surface) (moderately limited) slope (moderately limited)	1.00 0.50 0.47	Moderately limited very sandy (surface) (moderately limited)	0.50	Very limited small stones (very limited)	1.00	Limited slope (limited) very sandy (surface) (moderately limited)	0.76 0.50

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73222:										
Splitlimb-----	Limited seasonally ponded (limited)	0.80	Limited seasonally ponded (limited)	0.80	Limited seasonally ponded (limited)	0.80	Limited seasonally ponded (limited)	0.80	Very limited ponded (wetness) (very limited)	1.00
					low strength (moderately limited)	0.50	seasonal wetness (slightly limited)	0.26	low strength (moderately limited)	0.50
					seasonal wetness (slightly limited)	0.26			seasonal wetness (slightly limited)	0.26
73223:										
Coulstone-----	Limited surface stones (limited)	0.66	Very limited surface stones >15% (very limited)	1.00	Moderately limited slope (moderately limited)	0.60	Moderately limited slope (moderately limited)	0.60	Very limited slope (very limited)	1.00
	small stones (moderately limited)	0.60	slope (limited)	0.99	large surface stones (moderately limited)	0.52	small stones (moderately limited)	0.60	surface stones (limited)	0.66
	slope (slightly limited)	0.14	small stones (moderately limited)	0.60			large surface stones (moderately limited)	0.52	large surface stones (moderately limited)	0.52
Bender-----	Moderately limited very sandy (surface) (moderately limited)	0.50	Very limited slope (very limited)	1.00	Limited slope (limited)	0.79	Limited slope (limited)	0.79	Very limited slope (very limited)	1.00
	surface stones (moderately limited)	0.41	surface stones (limited)	0.78	very sandy (surface) (moderately limited)	0.50	large stones (moderately limited)	0.40	very sandy (surface) (moderately limited)	0.50
	large stones (moderately limited)	0.40	large stones (limited)	0.73					slippage potential (moderately limited)	0.50
73224:										
Moko-----	Slightly limited slope (slightly limited)	0.14	Limited slope (limited)	0.99	Moderately limited slope (moderately limited)	0.60	Moderately limited slope (moderately limited)	0.60	Very limited slope (very limited)	1.00
	small stones (slightly limited)	0.13	large stones (moderately limited)	0.33			large stones (slightly limited)	0.06		
	large stones (slightly limited)	0.06	small stones (slightly limited)	0.13						
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73225:										
Ocie-----	Slightly limited small stones (slightly limited)	0.08	Slightly limited slope (slightly limited)	0.10	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited)	0.50
			small stones (slightly limited)	0.08					seasonal wetness (slightly limited)	0.10

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73225: Gatewood-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited small stones (moderately limited) slope (slightly limited)	0.42 0.10	Slightly limited seasonal wetness (slightly limited)	0.15	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.15	Slightly limited seasonal wetness (slightly limited)	0.15
73226: Ocie-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited small stones (moderately limited) slope (moderately limited)	0.42 0.34	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.10	Moderately limited slippage potential (moderately limited) slope (moderately limited) seasonal wetness (slightly limited)	0.50 0.45 0.10
Gatewood-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited small stones (moderately limited) slope (moderately limited)	0.42 0.34	Slightly limited seasonal wetness (slightly limited)	0.15	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.15	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.45 0.15
73227: Ocie-----	Moderately limited small stones (moderately limited) slope (slightly limited)	0.42 0.25	Very limited slope (very limited) small stones (moderately limited)	1.00 0.42	Limited slope (limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.91 0.50 0.10	Limited slope (limited) small stones (slightly limited) seasonal wetness (slightly limited)	0.91 0.30 0.10	Very limited slope (very limited) slippage potential (moderately limited) low strength (moderately limited)	1.00 0.50 0.50
Gatewood-----	Moderately limited small stones (moderately limited) slope (slightly limited)	0.51 0.25	Very limited slope (very limited) small stones (moderately limited)	1.00 0.51	Limited slope (limited) seasonal wetness (slightly limited)	0.91 0.15	Limited slope (limited) small stones (moderately limited) seasonal wetness (slightly limited)	0.91 0.45 0.15	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.15

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73228:										
Gatewood-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited small stones (moderately limited) slope (moderately limited) surface stones (slightly limited)	0.42 0.34 0.09	Slightly limited seasonal wetness (slightly limited)	0.15	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.15	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.45 0.15
Moko-----	Slightly limited small stones (slightly limited) large stones (slightly limited)	0.13 0.06	Moderately limited slope (moderately limited) large stones (moderately limited) small stones (slightly limited)	0.34 0.33 0.13	Not limited		Slightly limited large stones (slightly limited)	0.06	Moderately limited slope (moderately limited)	0.45
73229:										
Gatewood-----	Slightly limited slope (slightly limited) small stones (slightly limited)	0.14 0.13	Limited slope (limited) small stones (slightly limited) surface stones (slightly limited)	0.99 0.13 0.09	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.60 0.15	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.60 0.15	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.15
Moko-----	Slightly limited slope (slightly limited) small stones (slightly limited) large stones (slightly limited)	0.14 0.13 0.06	Limited slope (limited) large stones (moderately limited) small stones (slightly limited)	0.99 0.33 0.13	Moderately limited slope (moderately limited)	0.60	Moderately limited slope (moderately limited) large stones (slightly limited)	0.60 0.06	Very limited slope (very limited)	1.00
73230:										
Coulstone-----	Limited surface stones (limited) large stones (limited) slope (slightly limited)	0.66 0.61 0.14	Very limited surface stones >15% (very limited) large stones >35% (very limited) slope (limited)	1.00 0.99 0.99	Moderately limited slope (moderately limited) large surface stones (moderately limited)	0.60 0.52	Limited large stones (limited) slope (moderately limited) large surface stones (moderately limited)	0.61 0.60 0.52	Very limited slope (very limited) surface stones (limited) large surface stones (moderately limited)	1.00 0.66 0.52

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230:										
Bender-----	Moderately limited surface stones (moderately limited)	0.41	Very limited slope (very limited)	1.00	Limited slope (limited)	0.79	Limited slope (limited)	0.79	Very limited slope (very limited)	1.00
	slope (slightly limited)	0.20	surface stones (limited)	0.78			large stones (slightly limited)	0.19	slippage potential (moderately limited)	0.50
	large stones (slightly limited)	0.19	large stones (moderately limited)	0.48					surface stones (moderately limited)	0.41
Gatewood-----	Very limited small stones (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited slope (very limited)	1.00
	very sandy (surface) (moderately limited)	0.50	small stones (very limited)	1.00	very sandy (surface) (moderately limited)	0.50	slope (very limited)	1.00	very sandy (surface) (moderately limited)	0.50
	slope (moderately limited)	0.37	very sandy (surface) (moderately limited)	0.50	seasonal wetness (slightly limited)	0.15	seasonal wetness (slightly limited)	0.15	seasonal wetness (slightly limited)	0.15
73231:										
Wasola-----	Limited small stones (limited)	0.73	Limited small stones (limited)	0.73	Moderately limited low strength (moderately limited)	0.50	Limited small stones (limited)	0.73	Moderately limited slippage potential (moderately limited)	0.50
					seasonal wetness (slightly limited)	0.20	seasonal wetness (slightly limited)	0.20	low strength (moderately limited)	0.50
									seasonal wetness (slightly limited)	0.20
73236:										
Scholten-----	Slightly limited small stones (slightly limited)	0.15	Slightly limited small stones (slightly limited)	0.15	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28
			slope (slightly limited)	0.10						
Poynor-----	Limited small stones (limited)	0.67	Limited small stones (limited)	0.67	Not limited		Limited small stones (limited)	0.67	Not limited	
			surface stones (slightly limited)	0.15						

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73237: Clarksville----	Moderately limited small stones (moderately limited)	0.53	Moderately limited small stones (moderately limited) surface stones (moderately limited) slope (moderately limited)	0.53 0.45 0.34	Not limited		Moderately limited small stones (moderately limited)	0.49	Moderately limited slippage potential (moderately limited) slope (moderately limited)	0.50 0.45
73242: Fanchon-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50
Tonti-----	Not limited		Not limited		Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.27	Slightly limited seasonal wetness (slightly limited)	0.27	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.27
73243: Topazmill-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50
73300: Macedonia-----	Slightly limited small stones (slightly limited)	0.01	Slightly limited small stones (slightly limited)	0.01	Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50
73311: Scholten-----	Slightly limited small stones (slightly limited)	0.15	Moderately limited slope (moderately limited) small stones (slightly limited)	0.47 0.15	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28	Limited slope (limited) seasonal wetness (slightly limited)	0.76 0.28
Bendavis-----	Not limited		Moderately limited slope (moderately limited) surface stones (slightly limited)	0.47 0.02	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited seasonal wetness (slightly limited)	0.10	Limited slope (limited) seasonal wetness (slightly limited)	0.76 0.10

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73311: Poynor-----	Slightly limited small stones (slightly limited)	0.24	Moderately limited slope (moderately limited) small stones (slightly limited)	0.47 0.24	Not limited		Slightly limited small stones (slightly limited)	0.01	Limited slope (limited)	0.76
73325: Clarksville----	Very limited small stones (limited) slope (slightly limited)	0.99 0.29	Very limited slope (very limited) small stones (limited)	1.00 0.99	Limited slope (limited)	0.99	Limited small stones (limited) slope (limited)	1.00 0.99	Very limited slope (very limited) slippage potential (moderately limited)	1.00 0.50
73326: Topazmill-----	Not limited		Moderately limited slope (moderately limited)	0.39	Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited slope (moderately limited) low strength (moderately limited)	0.60 0.50
Coulstone-----	Limited surface stones (limited) large stones (limited) small stones (slightly limited)	0.66 0.61 0.02	Very limited surface stones >15% (very limited) large stones >35% (very limited) slope (moderately limited)	1.00 0.99 0.39	Moderately limited large surface stones (moderately limited)	0.52	Limited large stones (limited) large surface stones (moderately limited)	0.61 0.52	Limited surface stones (limited) slope (moderately limited) large surface stones (moderately limited)	0.66 0.60 0.52
73327: Topazmill-----	Slightly limited slope (slightly limited)	0.07	Limited slope (limited)	0.80	Moderately limited low strength (moderately limited) slope (moderately limited)	0.50 0.31	Moderately limited slope (moderately limited)	0.31	Very limited slope (very limited) slippage potential (moderately limited) low strength (moderately limited)	1.00 0.50 0.50
Coulstone-----	Limited surface stones (limited) large stones (limited) slope (slightly limited)	0.66 0.61 0.07	Very limited surface stones >15% (very limited) large stones >35% (very limited) slope (limited)	1.00 0.99 0.80	Moderately limited large surface stones (moderately limited) slope (moderately limited)	0.52 0.31	Limited large stones (limited) large surface stones (moderately limited) slope (moderately limited)	0.61 0.52 0.31	Very limited slope (very limited) surface stones (limited) large surface stones (moderately limited)	1.00 0.66 0.52

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73328: Scholten-----	Slightly limited small stones (slightly limited)	0.15	Slightly limited small stones (slightly limited) slope (slightly limited)	0.15 0.10	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28
Noark-----	Limited small stones (limited)	0.86	Limited small stones (limited) slope (slightly limited)	0.86 0.10	Not limited		Limited small stones (limited)	0.87	Not limited	
73329: Mano-----	Slightly limited small stones (slightly limited)	0.24	Moderately limited slope (moderately limited) small stones (slightly limited)	0.47 0.24	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited seasonal wetness (slightly limited) small stones (slightly limited)	0.10 0.01	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10
Ocie-----	Moderately limited small stones (moderately limited)	0.42	Moderately limited slope (moderately limited) small stones (moderately limited)	0.47 0.42	Slightly limited seasonal wetness (slightly limited)	0.10	Slightly limited small stones (slightly limited) seasonal wetness (slightly limited)	0.30 0.10	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10
73331: Pomme-----	Not limited		Moderately limited slope (moderately limited)	0.47	Moderately limited low strength (moderately limited)	0.50	Not limited		Limited slope (limited) slippage potential (moderately limited) low strength (moderately limited)	0.76 0.50 0.50
73332: Topazmill-----	Not limited		Moderately limited slope (moderately limited)	0.39	Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited slope (moderately limited) low strength (moderately limited)	0.60 0.50

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74627: Hartville-----	Not limited		Not limited		Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Slightly limited seasonal wetness (slightly limited)	0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20
74657: Pomme-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited slippage potential (moderately limited) low strength (moderately limited)	0.50 0.50
74682: Zanoni-----	Not limited		Not limited		Not limited		Not limited		Moderately limited flooding (moderately limited)	0.60
74683: Cedargap-----	Slightly limited small stones (slightly limited)	0.13	Slightly limited small stones (slightly limited)	0.13	Not limited		Not limited		Very limited flooding (very limited)	1.00
Razort-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50
75381: Bearthicket---	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50
75382: Cedargap-----	Slightly limited small stones (slightly limited)	0.08	Slightly limited small stones (slightly limited)	0.08	Not limited		Not limited		Very limited flooding (very limited)	1.00
75390: Razort-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Moderately limited low strength (moderately limited)	0.50

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting		Mechanical planting		Use of harvesting equipment		Mechanical site preparation (surface)		Roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75406: Racket-----	Not limited		Not limited		Moderately limited low strength (moderately limited)	0.50	Not limited		Very limited flooding (very limited) low strength (moderately limited)	1.00 0.50
75417: Relfe-----	Moderately limited small stones (moderately limited) very sandy (surface) (moderately limited)	0.56 0.50	Moderately limited small stones (moderately limited) very sandy (surface) (moderately limited)	0.56 0.50	Moderately limited very sandy (surface) (moderately limited)	0.50	Moderately limited small stones (moderately limited)	0.53	Very limited flooding (very limited) very sandy (surface) (moderately limited)	1.00 0.50
Sandbur-----	Not limited		Not limited		Not limited		Not limited		Very limited flooding (very limited)	1.00
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 8b.--Forest Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70022: Tonti-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.12	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Not limited	
70025: Branson-----	Slightly limited slope/erodibility (slightly limited)	0.17	Slightly limited slope/erodibility (slightly limited)	0.04	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
Splitlimb-----	Slightly limited slope/erodibility (slightly limited)	0.11	Slightly limited slope/erodibility (slightly limited)	0.02	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.25	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.25	Not limited	
70026: Tonti-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.05	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Not limited	
73000: Pomme-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited)	0.80	Moderately limited slippage potential (moderately limited) low strength (moderately limited)	0.50 0.50	Not limited	
73013: Lowassie-----	Slightly limited slope/erodibility (slightly limited)	0.11	Slightly limited slope/erodibility (slightly limited)	0.02	Very limited seasonal wetness (very limited) low strength (limited)	1.00 0.80	Very limited seasonal wetness (very limited) seasonally ponded (limited) low strength (moderately limited)	1.00 0.80 0.50	Very limited seasonal wetness (very limited)	1.00

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73017:										
Bendavis-----	Very limited slope/erodibility (very limited)	1.00	Limited slope/erodibility (limited)	0.65	Slightly limited seasonal wetness (slightly limited)	0.10	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00	Slightly limited soil reaction (slightly limited)	0.18
Poynor-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited)	1.00	Limited droughty (limited)	0.84
73019:										
Poynor-----	Limited slope/erodibility (limited)	0.67	Slightly limited slope/erodibility (slightly limited)	0.12	Not limited		Not limited		Limited droughty (limited)	0.84
73021:										
Poynor-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited)	1.00	Limited droughty (limited)	0.84
73023:										
Mano-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited) seasonal wetness (slightly limited)	0.80	Moderately limited slippage potential (moderately limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.50	Not limited	
Ocie-----	Moderately limited slope/erodibility (moderately limited)	0.31	Slightly limited slope/erodibility (slightly limited)	0.10	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited) seasonal wetness (slightly limited)	0.50	Not limited	
73024:										
Mano-----	Limited slope/erodibility (limited)	0.75	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.10	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76	Not limited	

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73024: Ocie-----	Limited slope/erodibility (limited)	0.75	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.10	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10	Not limited	
73032: Gateway-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.18	Slightly limited seasonal wetness (slightly limited)	0.15	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.45 0.15	Not limited	
73033: Gateway-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Slightly limited seasonal wetness (slightly limited)	0.15	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.15	Not limited	
73051: Winnipeg-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.05	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
73059: Pomme-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.04	Limited low strength (limited)	0.80	Moderately limited slippage potential (moderately limited) low strength (moderately limited)	0.50 0.50	Not limited	
73063: Bendavis-----	Moderately limited slope/erodibility (moderately limited)	0.31	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.10	Moderately limited slippage potential (moderately limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.50 0.10	Not limited	

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73063: Poynor-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.10	Not limited		Not limited		Moderately limited droughty (moderately limited)	0.57
73068: Tick-----	Limited slope/erodibility (limited)	0.75	Slightly limited slope/erodibility (slightly limited)	0.24	Not limited		Limited slope (limited)	0.76	Not limited	
73069: Tick-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) slippage potential (limited) very sandy (surface) (moderately limited)	1.00 0.90 0.50	Not limited	
73073: Scholten-----	Limited slope/erodibility (limited)	0.75	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.28	Limited slope (limited) seasonal wetness (slightly limited)	0.76 0.28	Not limited	
Poynor-----	Limited slope/erodibility (limited)	0.75	Slightly limited slope/erodibility (slightly limited)	0.24	Not limited		Limited slope (limited)	0.76	Limited droughty (limited)	0.84
73076: Mano-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Slightly limited seasonal wetness (slightly limited)	0.10	Very limited slope (very limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.10	Not limited	
Ocie-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Slightly limited seasonal wetness (slightly limited)	0.10	Very limited slope (very limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.10	Not limited	

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73121:										
Scholten-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.08	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28	Not limited	
Tonti-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Not limited	
73176:										
Bendavis-----	Limited slope/erodibility (limited)	0.75	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.10	Limited slope (limited) seasonal wetness (slightly limited)	0.76 0.10	Not limited	
Poynor-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Not limited		Limited slope (limited)	0.76	Not limited	
73198:										
Gressy-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
Viraton-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Not limited	
73199:										
Moko-----	Moderately limited slope/erodibility (moderately limited)	0.35	Slightly limited slope/erodibility (slightly limited)	0.18	Not limited		Moderately limited slippage potential (moderately limited) slope (moderately limited)	0.50 0.45	Limited droughty (limited)	0.90
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73220: Poynor-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Not limited		Limited slope (limited) very sandy (surface) (moderately limited)	0.76 0.50	Limited droughty (limited)	0.84
73222: Splitlimb-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.05	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.26	Limited seasonally ponded (limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.80 0.50 0.26	Not limited	
73223: Coulstone-----	Limited slope/erodibility (limited)	0.96	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) surface stones (limited) large surface stones (moderately limited)	1.00 0.66 0.52	Limited droughty (limited)	0.88
Bender-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.59	Not limited		Very limited slope (very limited) slippage potential (moderately limited) very sandy (surface) (moderately limited)	1.00 0.50 0.50	Very limited droughty (very limited)	1.00
73224: Moko-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) slippage potential (moderately limited)	1.00 0.50	Limited droughty (limited)	0.90
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73225:										
Ocie-----	Limited slope/erodibility (limited)	0.67	Slightly limited slope/erodibility (slightly limited)	0.12	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited) seasonal wetness (slightly limited)	0.50 0.10		Not limited
Gatewood-----	Limited slope/erodibility (limited)	0.67	Slightly limited slope/erodibility (slightly limited)	0.12	Slightly limited seasonal wetness (slightly limited)	0.15	Slightly limited seasonal wetness (slightly limited)	0.15		Not limited
73226:										
Ocie-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.18	Slightly limited seasonal wetness (slightly limited)	0.10	Moderately limited slippage potential (moderately limited) slope (moderately limited) seasonal wetness (slightly limited)	0.50 0.45 0.10		Not limited
Gatewood-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.18	Slightly limited seasonal wetness (slightly limited)	0.15	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.45 0.15		Not limited
73227:										
Ocie-----	Very limited slope/erodibility (very limited)	1.00	Limited slope/erodibility (limited)	0.65	Slightly limited seasonal wetness (slightly limited)	0.10	Very limited slope (very limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.10		Not limited
Gatewood-----	Very limited slope/erodibility (very limited)	1.00	Limited slope/erodibility (limited)	0.65	Slightly limited seasonal wetness (slightly limited)	0.15	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.15		Not limited

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73228:										
Gatewood-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.18	Slightly limited seasonal wetness (slightly limited)	0.15	Moderately limited slope (moderately limited) seasonal wetness (slightly limited)	0.45 0.15	Not limited	
Moko-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.18	Not limited		Moderately limited slippage potential (moderately limited) slope (moderately limited)	0.50 0.45	Limited droughty (limited)	0.90
73229:										
Gatewood-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Slightly limited seasonal wetness (slightly limited)	0.15	Very limited slope (very limited) seasonal wetness (slightly limited)	1.00 0.15	Not limited	
Moko-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) slippage potential (moderately limited)	1.00 0.50	Limited droughty (limited)	0.90
73230:										
Coulstone-----	Limited slope/erodibility (limited)	0.96	Moderately limited slope/erodibility (moderately limited)	0.49	Not limited		Very limited slope (very limited) surface stones (limited) large surface stones (moderately limited)	1.00 0.66 0.52	Very limited droughty (very limited)	1.00
Bender-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.59	Not limited		Very limited slope (very limited) slippage potential (moderately limited) surface stones (moderately limited)	1.00 0.50 0.41	Very limited droughty (very limited)	1.00

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230:										
Gatewood-----	Very limited slope/erodibility (very limited)	1.00	Limited slope/erodibility (limited)	0.78	Slightly limited seasonal wetness (slightly limited)	0.15	Very limited slope (very limited) very sandy (surface) (moderately limited) seasonal wetness (slightly limited)	1.00 0.50 0.15	Not limited	
73231:										
Wasola-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.20	Moderately limited slippage potential (moderately limited) low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.50 0.20	Not limited	
73236:										
Scholten-----	Limited slope/erodibility (limited)	0.67	Slightly limited slope/erodibility (slightly limited)	0.12	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28	Not limited	
Poynor-----	Moderately limited slope/erodibility (moderately limited)	0.31	Slightly limited slope/erodibility (slightly limited)	0.10	Not limited		Not limited		Not limited	
73237:										
Clarksville----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.18	Not limited		Moderately limited slippage potential (moderately limited) slope (moderately limited)	0.50 0.45	Slightly limited droughty (slightly limited) soil reaction (slightly limited)	0.19 0.18
73242:										
Fanchon-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.08	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
Tonti-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.27	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.27	Not limited	

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73243:										
Topazmill-----	Moderately limited slope/erodibility (moderately limited)	0.44	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
73300:										
Macedonia-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
73311:										
Scholten-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.28	Limited slope (limited) seasonal wetness (slightly limited)	0.28	0.76	Not limited
Bendavis-----	Limited slope/erodibility (limited)	0.75	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.10	Limited slope (limited) seasonal wetness (slightly limited)	0.10	0.76	Not limited
Poynor-----	Limited slope/erodibility (limited)	0.75	Slightly limited slope/erodibility (slightly limited)	0.24	Not limited		Limited slope (limited)	0.76	Limited droughty (limited)	0.84
73325:										
Clarksville----	Very limited slope/erodibility (very limited)	1.00	Limited slope/erodibility (limited)	0.69	Not limited		Very limited slope (very limited) slippage potential (moderately limited)	0.50	1.00	Not limited
73326:										
Topazmill-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.20	Limited low strength (limited)	0.80	Moderately limited slope (moderately limited) low strength (moderately limited)	0.50	0.60	Not limited

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73326: Coulstone-----	Limited slope/erodibility (limited)	0.62	Slightly limited slope/erodibility (slightly limited)	0.20	Not limited		Limited surface stones (limited) slope (moderately limited) large surface stones (moderately limited)	0.66 0.60 0.52	Very limited droughty (very limited)	1.00
73327: Topazmill-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.39	Limited low strength (limited)	0.80	Very limited slope (very limited) slippage potential (moderately limited) low strength (moderately limited)	1.00 0.50 0.50	Not limited	
Coulstone-----	Very limited slope/erodibility (very limited)	1.00	Moderately limited slope/erodibility (moderately limited)	0.39	Not limited		Very limited slope (very limited) surface stones (limited) large surface stones (moderately limited)	1.00 0.66 0.52	Very limited droughty (very limited)	1.00
73328: Scholten-----	Limited slope/erodibility (limited)	0.67	Slightly limited slope/erodibility (slightly limited)	0.12	Slightly limited seasonal wetness (slightly limited)	0.28	Slightly limited seasonal wetness (slightly limited)	0.28	Not limited	
Noark-----	Moderately limited slope/erodibility (moderately limited)	0.38	Slightly limited slope/erodibility (slightly limited)	0.12	Not limited		Not limited		Not limited	
73329: Mano-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.10	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10	Not limited	

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73329: Ocie-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Slightly limited seasonal wetness (slightly limited)	0.10	Limited slope (limited) slippage potential (moderately limited) seasonal wetness (slightly limited)	0.76 0.50 0.10	Not limited	
73331: Pomme-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.24	Limited low strength (limited)	0.80	Limited slope (limited) slippage potential (moderately limited) low strength (moderately limited)	0.76 0.50 0.50	Not limited	
73332: Topazmill-----	Very limited slope/erodibility (very limited)	1.00	Slightly limited slope/erodibility (slightly limited)	0.20	Limited low strength (limited)	0.80	Moderately limited slope (moderately limited) low strength (moderately limited)	0.60 0.50	Not limited	
74627: Hartville-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.05	Limited low strength (limited) seasonal wetness (slightly limited)	0.80 0.20	Moderately limited low strength (moderately limited) seasonal wetness (slightly limited)	0.50 0.20	Not limited	
74657: Pomme-----	Moderately limited slope/erodibility (moderately limited)	0.56	Slightly limited slope/erodibility (slightly limited)	0.10	Limited low strength (limited)	0.80	Moderately limited slippage potential (moderately limited)	0.50	Not limited	
74682: Zanoni-----	Slightly limited slope/erodibility (slightly limited)	0.11	Slightly limited slope/erodibility (slightly limited)	0.02	Moderately limited low strength (moderately limited)	0.50	Moderately limited flooding (moderately limited)	0.60	Moderately limited flooding (moderately limited)	0.60
74683: Cedargap-----	Slightly limited slope/erodibility (slightly limited)	0.11	Slightly limited slope/erodibility (slightly limited)	0.02	Moderately limited low strength (moderately limited)	0.50	Very limited flooding (very limited)	1.00	Limited flooding (limited)	0.90

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails		Off-road or off-trail erosion		Soil rutting		Log landings		Seedling survival	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74683: Razort-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.05	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
75381: Bearthicket----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.05	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
75382: Cedargap-----	Slightly limited slope/erodibility (slightly limited)	0.17	Slightly limited slope/erodibility (slightly limited)	0.03	Moderately limited low strength (moderately limited)	0.50	Very limited flooding (very limited)	1.00	Limited flooding (limited)	0.90
75390: Razort-----	Slightly limited slope/erodibility (slightly limited)	0.17	Slightly limited slope/erodibility (slightly limited)	0.04	Limited low strength (limited)	0.80	Moderately limited low strength (moderately limited)	0.50	Not limited	
75406: Racket-----	Slightly limited slope/erodibility (slightly limited)	0.11	Slightly limited slope/erodibility (slightly limited)	0.02	Limited low strength (limited)	0.80	Very limited flooding (very limited) low strength (moderately limited)	1.00 0.50	Limited flooding (limited)	0.90
75417: Relfe-----	Slightly limited slope/erodibility (slightly limited)	0.12	Slightly limited slope/erodibility (slightly limited)	0.04	Not limited		Very limited flooding (very limited) very sandy (surface) (moderately limited)	1.00 0.50	Very limited droughty (very limited) flooding (limited)	1.00 0.90
Sandbur-----	Slightly limited slope/erodibility (slightly limited)	0.22	Slightly limited slope/erodibility (slightly limited)	0.04	Moderately limited low strength (moderately limited)	0.50	Very limited flooding (very limited)	1.00	Limited flooding (limited)	0.90
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 9.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height.)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
70022: Tonti-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
70025: Branson-----	American hazelnut; downy arrowwood; fragrant sumac	American plum; blue spruce; eastern hophornbeam; eastern redbud; eastern redcedar; roughleaf dogwood	Arborvitae; common serviceberry; sugar maple; white oak	Northern red oak; tuliptree; white ash	Eastern white pine
Splitlimb-----	American hazelnut; downy arrowwood; fragrant sumac	American plum; blue spruce; eastern hophornbeam; eastern redbud; eastern redcedar; roughleaf dogwood	Arborvitae; common serviceberry; sugar maple; white oak	Northern red oak; tuliptree; white ash	Eastern white pine
70026: Tonti-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73000: Pomme-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73013: Lowassie-----	Buttonbush; ninebark	Possumhaw; sandbar willow	Black willow; bur oak; green hawthorn	Baldcypress; green ash; pecan; red maple; swamp white oak; sweetgum	Eastern cottonwood; silver maple
73017: Bendavis-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73019: Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73021: Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73023: Mano-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73024: Mano-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73032: Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73033: Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73051: Winnipeg-----	American hazelnut; downy arrowwood; fragrant sumac	American plum; blue spruce; eastern hophornbeam; eastern redbud; eastern redcedar; roughleaf dogwood	Arborvitae; common serviceberry; sugar maple; white oak	Northern red oak; tuliptree; white ash	Eastern white pine
73059: Pomme-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73063: Bendavis-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73068: Tick-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73069: Tick-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73073: Scholten-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73076: Mano-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73121: Scholten-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Tonti-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73176: Bendavis-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73198: Gressy-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Viraton-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73199: Moko. Rock outcrop.					
73220: Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73222: Splitlimb-----	American hazelnut; downy arrowwood; fragrant sumac	American plum; blue spruce; eastern hophornbeam; eastern redbud; eastern redcedar; roughleaf dogwood	Arborvitae; common serviceberry; sugar maple; white oak	Northern red oak; tuliptree; white ash	Eastern white pine
73223: Coulstone-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Bender-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73224: Moko. Rock outcrop.					

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73225: Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73226: Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73227: Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73228: Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Moko.					
73229: Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Moko.					
73230: Coulstone-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73230: Bender-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Gatewood-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73231: Wasola-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73236: Scholten-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73237: Clarksville-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73242: Fanchon-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Tonti-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73243: Topazmill-----	American hazelnut; coralberry; flameleaf sumac	American plum; blue spruce; eastern redcedar; gray dogwood; Washington hawthorn	Common serviceberry; persimmon; post oak; shingle oak	Austrian pine; black oak	---
73300: Macedonia-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73311: Scholten-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Bendavis-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Poynor-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73325: Clarksville-----	American plum; fragrant sumac	Blackhaw; gray dogwood	Eastern redcedar; nannyberry; Washington hawthorn	Baldcypress; green ash; sweetgum	Eastern white pine; pin oak
73326: Topazmill-----	American hazelnut; coralberry; flameleaf sumac	American plum; blue spruce; eastern redcedar; gray dogwood; Washington hawthorn	Common serviceberry; persimmon; post oak; shingle oak	Austrian pine; black oak	---
Coulstone-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73327: Topazmill-----	American hazelnut; coralberry; flameleaf sumac	American plum; blue spruce; eastern redcedar; gray dogwood; Washington hawthorn	Common serviceberry; persimmon; post oak; shingle oak	Austrian pine; black oak	---
Coulstone-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73328: Scholten-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Noark-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
73329: Mano-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
Ocie-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
73331: Pomme-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
73332: Topazmill-----	American hazelnut; coralberry; flameleaf sumac	American plum; blue spruce; eastern redcedar; gray dogwood; Washington hawthorn	Common serviceberry; persimmon; post oak; shingle oak	Austrian pine; black oak	---
74627: Hartville-----	Common ninebark; fragrant sumac; St. Johnswort	Eastern redcedar; possumhaw; roughleaf dogwood; Washington hawthorn	Arborvitae; bur oak; green hawthorn; post oak	Austrian pine; common hackberry; green ash; honeylocust; pin oak	---
74657: Pomme-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
74682: Zanoni-----	Coralberry; flameleaf sumac	Eastern redcedar; gray dogwood; jack pine	Chinkapin oak; persimmon; post oak	Black oak; honeylocust	---
74683: Cedargap-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Razort-----	American hazelnut; ninebark; wild hydrangea	American plum; blue spruce; possumhaw; roughleaf dogwood	Arborvitae; bur oak; green hawthorn; shingle oak	Austrian pine; baldcypress; hackberry; pin oak; red maple	American sycamore; eastern cottonwood; eastern white pine
75381: Bearthicket-----	American hazelnut; ninebark; wild hydrangea	American plum; blue spruce; possumhaw; roughleaf dogwood	Arborvitae; bur oak; green hawthorn; shingle oak	Austrian pine; baldcypress; hackberry; pin oak; red maple	American sycamore; eastern cottonwood; eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
75382: Cedargap-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
75390: Razort-----	American hazelnut; ninebark; wild hydrangea	American plum; blue spruce; possumhaw; roughleaf dogwood	Arborvitae; bur oak; green hawthorn; shingle oak	Austrian pine; baldcypress; hackberry; pin oak; red maple	American sycamore; eastern cottonwood; eastern white pine
75406: Racket-----	American hazelnut; ninebark; wild hydrangea	American plum; blue spruce; possumhaw; roughleaf dogwood	Arborvitae; bur oak; green hawthorn; shingle oak	Austrian pine; baldcypress; hackberry; pin oak; red maple	American sycamore; eastern cottonwood; eastern white pine
75417: Relfe-----	Coralberry; fragrant sumac; ninebark	Eastern redbud; eastern redcedar; flowering dogwood; gray dogwood	Common serviceberry; persimmon; post oak; red pine; shingle oak; shortleaf pine	Black oak; mockernut hickory; northern red oak; white ash	---
Sandbur-----	Coralberry; flameleaf sumac	Eastern redcedar; gray dogwood; jack pine	Chinkapin oak; persimmon; post oak	Black oak; honeylocust	---
99001. Water					
99002. Borrow areas					

Table 10.--Recreational Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70022:								
Tonti-----	Very limited percs slowly (very limited) wetness (moderately limited)	1.00 0.50	Very limited percs slowly (very limited) wetness (slightly limited)	1.00 0.28	Very limited percs slowly (very limited) slope (limited) wetness (moderately limited)	1.00 0.98 0.50	Slightly limited wetness (slightly limited)	0.28
70025:								
Branson-----	Not limited		Not limited		Not limited		Not limited	
Splitlimb-----	Limited wetness (limited)	0.75	Moderately limited wetness (moderately limited)	0.45	Limited wetness (limited)	0.75	Moderately limited wetness (moderately limited)	0.45
70026:								
Tonti-----	Very limited percs slowly (very limited) wetness (moderately limited)	1.00 0.50	Very limited percs slowly (very limited) wetness (slightly limited)	1.00 0.28	Very limited percs slowly (very limited) wetness (moderately limited) small stones (moderately limited)	1.00 0.50 0.31	Slightly limited wetness (slightly limited)	0.28
73000:								
Pomme-----	Not limited		Not limited		Moderately limited slope (moderately limited)	0.40	Not limited	
73013:								
Lowassie-----	Very limited ponded (wetness) (very limited) wetness (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited ponded (wetness) (very limited) wetness (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited ponded (wetness) (very limited) wetness (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Very limited ponded (wetness) (very limited) wetness (very limited)	1.00 1.00
73017:								
Bendavis-----	Very limited slope (very limited) small stones (very limited)	1.00 1.00	Very limited slope (very limited) small stones (very limited)	1.00 1.00	Very limited small stones (very limited) slope (very limited)	1.00 1.00	Very limited slope (very limited) large surface stones (limited) small stones (limited)	1.00 0.70 0.67
Poynor-----	Very limited slope (very limited) small stones (very limited) large surface stones (moderately limited)	1.00 1.00 0.31	Very limited slope (very limited) small stones (very limited) large surface stones (moderately limited)	1.00 1.00 0.31	Very limited small stones (very limited) slope (very limited) too acid (slightly limited)	1.00 1.00 0.30	Limited slope (limited) small stones (limited) large surface stones (moderately limited)	0.92 0.73 0.31

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73019: Poynor-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited) slope (limited)	1.00 0.98	Limited small stones (limited)	0.67
73021: Poynor-----	Very limited slope (very limited) small stones (very limited) large surface stones (moderately limited)	1.00 1.00 0.31	Very limited slope (very limited) small stones (very limited) large surface stones (moderately limited)	1.00 1.00 0.31	Very limited small stones (very limited) slope (very limited) too acid (slightly limited)	1.00 1.00 0.30	Limited slope (limited) small stones (limited) large surface stones (moderately limited)	0.92 0.73 0.31
73023: Mano-----	Moderately limited small stones (moderately limited) percs slowly (moderately limited)	0.48 0.39	Moderately limited small stones (moderately limited) percs slowly (moderately limited)	0.48 0.39	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00 0.78 0.39	Not limited	
Ocie-----	Very limited small stones (very limited) percs slowly (moderately limited)	1.00 0.39	Very limited small stones (very limited) percs slowly (moderately limited)	1.00 0.39	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00 0.78 0.39	Slightly limited small stones (slightly limited)	0.30
73024: Mano-----	Very limited small stones (limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited small stones (limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited slope (very limited) small stones (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Moderately limited large surface stones (moderately limited) small stones (slightly limited)	0.31 0.01
Ocie-----	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Moderately limited large surface stones (moderately limited) small stones (slightly limited)	0.31 0.30
73032: Gateway-----	Very limited small stones (very limited) percs slowly (moderately limited) wetness (moderately limited)	1.00 0.39 0.35	Very limited small stones (very limited) percs slowly (moderately limited) large surface stones (slightly limited)	1.00 0.39 0.13	Very limited small stones (very limited) slope (very limited) depth to bedrock (moderately limited)	1.00 1.00 0.46	Slightly limited small stones (slightly limited) large surface stones (slightly limited) wetness (slightly limited)	0.30 0.13 0.13

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73033:								
Gatewood-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (limited)	1.00
	small stones (very limited)	1.00	small stones (very limited)	1.00	slope (very limited)	1.00	slope (limited)	0.92
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	depth to bedrock (moderately limited)	0.46	wetness (slightly limited)	0.13
73051:								
Winnipeg-----	Not limited		Not limited		Not limited		Not limited	
73059:								
Pomme-----	Not limited		Not limited		Not limited		Not limited	
73063:								
Bendavis-----	Moderately limited small stones (moderately limited)	0.33	Moderately limited small stones (moderately limited)	0.33	Very limited small stones (very limited)	1.00	Not limited	
					slope (limited)	0.78		
					depth to bedrock (slightly limited)	0.27		
73068:								
Tick-----	Limited slope (limited)	0.63	Limited slope (limited)	0.63	Very limited slope (very limited)	1.00	Not limited	
	percs slowly (moderately limited)	0.34	percs slowly (moderately limited)	0.34	percs slowly (moderately limited)	0.34		
	too acid (slightly limited)	0.06	too acid (slightly limited)	0.06	small stones (moderately limited)	0.31		
73069:								
Tick-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited small stones (limited)	0.94
	small stones (very limited)	1.00	small stones (very limited)	1.00	slope (very limited)	1.00	slope (limited)	0.92
	percs slowly (moderately limited)	0.34	percs slowly (moderately limited)	0.34	percs slowly (moderately limited)	0.34	large surface stones (slightly limited)	0.07
73073:								
Scholten-----	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited wetness (moderately limited)	0.56
	small stones (very limited)	1.00	small stones (very limited)	1.00	slope (very limited)	1.00	small stones (slightly limited)	0.30
	wetness (limited)	0.90	slope (limited)	0.63	percs slowly (very limited)	1.00		

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73073:								
Poynor-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited small stones (moderately limited)	0.60
	slope (limited)	0.63	slope (limited)	0.63	slope (very limited)	1.00		
	percs slowly (slightly limited)	0.18	percs slowly (slightly limited)	0.18	percs slowly (slightly limited)	0.18		
73076:								
Mano-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited slope (limited)	0.92
	small stones (very limited)	1.00	small stones (very limited)	1.00	slope (very limited)	1.00	small stones (slightly limited)	0.30
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39		
Ocie-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited slope (limited)	0.92
	small stones (very limited)	1.00	small stones (very limited)	1.00	slope (very limited)	1.00	small stones (slightly limited)	0.30
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39		
73121:								
Scholten-----	Limited wetness (limited)	0.90	Limited small stones (limited)	0.73	Very limited small stones (very limited)	1.00	Moderately limited wetness (moderately limited)	0.56
	small stones (limited)	0.73	wetness (moderately limited)	0.56	wetness (limited)	0.90		
	too acid (slightly limited)	0.12	too acid (slightly limited)	0.12	slope (moderately limited)	0.40		
Tonti-----	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Slightly limited wetness (slightly limited)	0.28
	wetness (moderately limited)	0.50	wetness (slightly limited)	0.28	wetness (moderately limited)	0.50		
					slope (moderately limited)	0.40		
73176:								
Bendavis-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited small stones (moderately limited)	0.60
	slope (limited)	0.63	slope (limited)	0.63	slope (very limited)	1.00	large surface stones (slightly limited)	0.13
	large surface stones (slightly limited)	0.13	large surface stones (slightly limited)	0.13	depth to bedrock (moderately limited)	0.58		
Poynor-----	Very limited small stones (limited)	1.00	Very limited small stones (limited)	1.00	Very limited small stones (very limited)	1.00	Slightly limited large surface stones (slightly limited)	0.13
	slope (limited)	0.63	slope (limited)	0.63	slope (very limited)	1.00	small stones (slightly limited)	0.01
	large surface stones (slightly limited)	0.13	large surface stones (slightly limited)	0.13				

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73198: Gressy-----	Not limited		Not limited		Moderately limited slope (moderately limited)	0.40	Not limited	
					small stones (slightly limited)	0.01		
Viraton-----	Very limited percs slowly (very limited) wetness (moderately limited)	1.00 0.50	Very limited percs slowly (very limited) wetness (slightly limited)	1.00 0.28	Very limited percs slowly (very limited) wetness (moderately limited) slope (moderately limited)	1.00 0.50 0.40	Slightly limited wetness (slightly limited)	0.28
73199: Moko-----	Limited shallow to bedrock (limited) large stones (limited) small stones (moderately limited)	0.90 0.61 0.48	Limited shallow to bedrock (limited) large stones (limited) small stones (moderately limited)	0.90 0.61 0.48	Very limited large stones >25% (very limited) shallow to bedrock (very limited) small stones (very limited)	1.00 1.00 1.00	Limited large stones (limited) large surface stones (moderately limited)	0.61 0.37
Rock outcrop-----	Not rated		Not rated		Not rated		Not rated	
73220: Poynor-----	Very limited small stones (very limited) slope (limited) percs slowly (slightly limited)	1.00 0.63 0.18	Very limited small stones (very limited) slope (limited) percs slowly (slightly limited)	1.00 0.63 0.18	Very limited small stones (very limited) slope (very limited) percs slowly (slightly limited)	1.00 1.00 0.18	Very limited small stones (very limited)	1.00
73222: Splitlimb-----	Very limited ponded (wetness) (very limited) wetness (limited) percs slowly (slightly limited)	1.00 0.81 0.13	Very limited ponded (wetness) (very limited) wetness (moderately limited) percs slowly (slightly limited)	1.00 0.49	Very limited ponded (wetness) (very limited) wetness (limited) percs slowly (slightly limited)	1.00 0.81 0.13	Very limited ponded (wetness) (very limited) wetness (moderately limited)	1.00 0.49
73223: Coulstone-----	Very limited slope (very limited) small stones (very limited) large surface stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) small stones (very limited) large surface stones (very limited)	1.00 1.00 1.00	Very limited small stones (very limited) slope (very limited)	1.00 1.00	Very limited large surface stones (very limited) slope (limited) small stones (moderately limited)	1.00 0.92 0.60
Bender-----	Very limited slope (very limited) small stones (limited) large surface stones (moderately limited)	1.00 0.71 0.43	Very limited slope (very limited) small stones (limited) large surface stones (moderately limited)	1.00 0.71 0.43	Very limited large stones >25% (very limited) slope (very limited) small stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) large surface stones (moderately limited) large stones (moderately limited)	1.00 0.43 0.40

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73224:								
Moko-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.92
	shallow to bedrock (limited)	0.90	shallow to bedrock (limited)	0.90	shallow to bedrock (very limited)	1.00	large surface stones (moderately limited)	0.37
	small stones (limited)	0.66	small stones (limited)	0.66	small stones (very limited)	1.00	large stones (slightly limited)	0.06
Rock outcrop-----	Not rated		Not rated		Not rated		Not rated	
73225:								
Ocie-----	Moderately limited small stones (moderately limited)	0.48	Moderately limited small stones (moderately limited)	0.48	Very limited small stones (very limited)	1.00	Not limited	
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	slope (limited)	0.98		
					percs slowly (moderately limited)	0.39		
Gatewood-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Slightly limited small stones (slightly limited)	0.30
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	slope (limited)	0.98	wetness (slightly limited)	0.13
	wetness (moderately limited)	0.35	wetness (slightly limited)	0.13	depth to bedrock (moderately limited)	0.46		
73226:								
Ocie-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Slightly limited small stones (slightly limited)	0.30
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	slope (very limited)	1.00		
	slope (slightly limited)	0.04	slope (slightly limited)	0.04	percs slowly (moderately limited)	0.39		
Gatewood-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Slightly limited small stones (slightly limited)	0.30
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	slope (very limited)	1.00	wetness (slightly limited)	0.13
	wetness (moderately limited)	0.35	wetness (slightly limited)	0.13	depth to bedrock (moderately limited)	0.46		
73227:								
Ocie-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	small stones (very limited)	1.00	small stones (very limited)	1.00	small stones (very limited)	1.00	small stones (slightly limited)	0.30
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39		
Gatewood-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited slope (very limited)	1.00
	small stones (very limited)	1.00	small stones (very limited)	1.00	slope (very limited)	1.00	small stones (moderately limited)	0.45
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (slightly limited)	0.13

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73228:								
Gatewood-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited large surface stones (moderately limited)	0.37
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	slope (very limited)	1.00	small stones (slightly limited)	0.30
	large surface stones (moderately limited)	0.37	large surface stones (moderately limited)	0.37	depth to bedrock (moderately limited)	0.46	wetness (slightly limited)	0.13
Moko-----	Limited shallow to bedrock (limited)	0.90	Limited shallow to bedrock (limited)	0.90	Very limited shallow to bedrock (very limited)	1.00	Moderately limited large surface stones (moderately limited)	0.37
	small stones (limited)	0.66	small stones (limited)	0.66	small stones (very limited)	1.00	large stones (slightly limited)	0.06
	large surface stones (moderately limited)	0.37	large surface stones (moderately limited)	0.37	slope (very limited)	1.00		
73229:								
Gatewood-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.92
	small stones (limited)	0.64	small stones (limited)	0.64	small stones (very limited)	1.00	large surface stones (moderately limited)	0.37
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	depth to bedrock (moderately limited)	0.46	wetness (slightly limited)	0.13
Moko-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.92
	shallow to bedrock (limited)	0.90	shallow to bedrock (limited)	0.90	shallow to bedrock (very limited)	1.00	large surface stones (moderately limited)	0.37
	small stones (limited)	0.66	small stones (limited)	0.66	small stones (very limited)	1.00	large stones (slightly limited)	0.06
73230:								
Coulstone-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited large surface stones (very limited)	1.00
	large surface stones (very limited)	1.00	large surface stones (very limited)	1.00	large stones >25% (very limited)	1.00	slope (limited)	0.92
	large stones (limited)	0.61	large stones (limited)	0.61	small stones (very limited)	1.00	large stones (limited)	0.61
Bender-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	small stones (limited)	0.81	small stones (limited)	0.81	small stones (very limited)	1.00	large surface stones (moderately limited)	0.43
	large surface stones (moderately limited)	0.43	large surface stones (moderately limited)	0.43	large stones >25% (very limited)	1.00	large stones (slightly limited)	0.19
Gatewood-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00
	small stones (very limited)	1.00	small stones (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	depth to bedrock (moderately limited)	0.46	wetness (slightly limited)	0.13

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73231: Wasola-----	Very limited wetness (moderately limited)	0.50	Very limited percs slowly (moderately limited)	0.39	Very limited wetness (moderately limited)	0.50	Limited wetness (slightly limited)	0.28
	percs slowly (moderately limited)	0.39	wetness (slightly limited)	0.28	slope (moderately limited)	0.40		
73236: Scholten-----	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Moderately limited wetness (moderately limited)	0.56
	wetness (limited)	0.90	small stones (limited)	0.73	small stones (very limited)	1.00		
	small stones (limited)	0.73	wetness (moderately limited)	0.56	slope (limited)	0.98		
Poynor-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited small stones (limited)	0.67
	too acid (slightly limited)	0.12	too acid (slightly limited)	0.12	slope (limited)	0.78		
					too acid (slightly limited)	0.12		
73237: Clarksville-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited large surface stones (limited)	0.79
	large surface stones (limited)	0.79	large surface stones (limited)	0.79	slope (very limited)	1.00	small stones (moderately limited)	0.49
	too acid (limited)	0.71	too acid (limited)	0.71	too acid (limited)	0.71		
73242: Fanchon-----	Not limited		Not limited		Moderately limited slope (moderately limited)	0.40	Not limited	
Tonti-----	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Moderately limited wetness (moderately limited)	0.51
	wetness (limited)	0.84	wetness (moderately limited)	0.51	wetness (limited)	0.84		
					slope (moderately limited)	0.40		
73243: Topazmill-----	Not limited		Not limited		Moderately limited slope (moderately limited)	0.40	Not limited	
73300: Macedonia-----	Slightly limited small stones (slightly limited)	0.06	Slightly limited small stones (slightly limited)	0.06	Very limited small stones (limited)	1.00	Not limited	
					slope (limited)	0.78		

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73311:								
Scholten-----	Very limited percs slowly (very limited) wetness (limited) small stones (limited)	1.00 0.90 0.73	Very limited percs slowly (very limited) small stones (limited) slope (limited)	1.00 0.73 0.63	Very limited slope (very limited) percs slowly (very limited) small stones (very limited)	1.00 1.00 1.00	Moderately limited wetness (moderately limited)	0.56
Bendavis-----	Limited slope (limited) large surface stones (slightly limited)	0.63 0.13	Limited slope (limited) large surface stones (slightly limited)	0.63 0.13	Very limited slope (very limited) depth to bedrock (moderately limited)	1.00 0.58	Slightly limited large surface stones (slightly limited)	0.13
Poynor-----	Very limited small stones (limited) slope (limited) too acid (slightly limited)	1.00 0.63 0.12	Very limited small stones (limited) slope (limited) too acid (slightly limited)	1.00 0.63 0.12	Very limited slope (very limited) small stones (very limited) too acid (slightly limited)	1.00 1.00 0.12	Slightly limited small stones (slightly limited)	0.01
73325:								
Clarksville-----	Very limited slope (very limited) small stones (very limited)	1.00 1.00	Very limited slope (very limited) small stones (very limited)	1.00 1.00	Very limited small stones (very limited) slope (very limited)	1.00 1.00	Very limited slope (very limited) small stones (limited)	1.00 1.00
73326:								
Topazmill-----	Slightly limited slope (slightly limited)	0.16	Slightly limited slope (slightly limited)	0.16	Very limited slope (very limited)	1.00	Not limited	
Coulstone-----	Very limited large surface stones (very limited) large stones (limited) small stones (slightly limited)	1.00 0.61 0.21	Very limited large surface stones (very limited) large stones (limited) small stones (slightly limited)	1.00 0.61 0.21	Very limited slope (very limited) large stones >25% (very limited) small stones (very limited)	1.00 1.00 1.00	Very limited large surface stones (very limited) large stones (limited)	1.00 0.61
73327:								
Topazmill-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Moderately limited slope (moderately limited)	0.50
Coulstone-----	Very limited slope (very limited) large surface stones (very limited) large stones (limited)	1.00 1.00 0.61	Very limited slope (very limited) large surface stones (very limited) large stones (limited)	1.00 1.00 0.61	Very limited slope (very limited) large stones >25% (very limited) small stones (very limited)	1.00 1.00 1.00	Very limited large surface stones (very limited) large stones (limited) slope (moderately limited)	1.00 0.61 0.50

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73328: Scholten-----	Limited wetness (limited) small stones (limited) too acid (slightly limited)	0.90 0.73 0.12	Limited small stones (limited) wetness (moderately limited) too acid (slightly limited)	0.73 0.56 0.12	Very limited small stones (very limited) slope (limited) wetness (limited)	1.00 0.98 0.90	Moderately limited wetness (moderately limited)	0.56
Noark-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited) slope (limited)	1.00 0.98	Limited small stones (limited)	0.87
73329: Mano-----	Very limited small stones (limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited small stones (limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Slightly limited small stones (slightly limited)	0.01
Ocie-----	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited small stones (very limited) slope (limited) percs slowly (moderately limited)	1.00 0.63 0.39	Very limited small stones (very limited) slope (very limited) percs slowly (moderately limited)	1.00 1.00 0.39	Slightly limited small stones (slightly limited)	0.30
73331: Pomme-----	Limited slope (limited)	0.63	Limited slope (limited)	0.63	Very limited slope (very limited)	1.00	Not limited	
73332: Topazmill-----	Slightly limited slope (slightly limited)	0.16	Slightly limited slope (slightly limited)	0.16	Very limited slope (very limited)	1.00	Not limited	
74627: Hartville-----	Limited flooding (rare) (limited) wetness (moderately limited) percs slowly (moderately limited)	0.90 0.50 0.39	Moderately limited percs slowly (moderately limited) wetness (slightly limited)	0.39 0.28	Moderately limited wetness (moderately limited) percs slowly (moderately limited)	0.50 0.39	Slightly limited wetness (slightly limited)	0.28
74657: Pomme-----	Not limited		Not limited		Limited slope (limited)	0.78	Not limited	
74682: Zanoni-----	Very limited flooding (very limited)	1.00	Not limited		Moderately limited flooding (moderately limited) small stones (moderately limited)	0.60 0.31	Not limited	

Table 10.--Recreational Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74683:								
Cedargap-----	Very limited flooding (very limited) small stones (limited)	1.00 0.64	Limited small stones (limited) flooding (moderately limited)	0.64 0.60	Very limited flooding (very limited) small stones (very limited)	1.00 1.00	Moderately limited flooding (moderately limited)	0.60
Razort-----	Limited flooding (rare) (limited)	0.90	Not limited		Slightly limited small stones (slightly limited)	0.15	Not limited	
75381:								
Bearthicket-----	Limited flooding (rare) (limited)	0.90	Not limited		Not limited		Not limited	
75382:								
Cedargap-----	Very limited flooding (very limited) small stones (moderately limited)	1.00 0.48	Moderately limited flooding (moderately limited) small stones (moderately limited)	0.60 0.48	Very limited flooding (very limited) small stones (very limited)	1.00 1.00	Moderately limited flooding (moderately limited)	0.60
75390:								
Razort-----	Limited flooding (rare) (limited)	0.90	Not limited		Slightly limited small stones (slightly limited)	0.15	Not limited	
75406:								
Racket-----	Very limited flooding (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60	Very limited flooding (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60
75417:								
Relfe-----	Very limited flooding (very limited) small stones (very limited)	1.00 1.00	Very limited small stones (very limited) flooding (moderately limited)	1.00 0.60	Very limited flooding (very limited) small stones (very limited)	1.00 1.00	Moderately limited flooding (moderately limited) small stones (moderately limited)	0.60 0.53
Sandbur-----	Very limited flooding (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60	Very limited flooding (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60
99001:								
Water-----	Not rated		Not rated		Not rated		Not rated	
99002:								
Borrow areas-----	Not rated		Not rated		Not rated		Not rated	

Table 11a.--Wildlife Habitat

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70022:										
Tonti-----	Very limited percs slowly (very limited) droughty (limited) high erodibility (limited)	1.00 0.90 0.80	Very limited percs slowly (very limited) high erodibility (limited) wetness (moderately limited)	1.00 0.80 0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.59
70025:										
Branson-----	Moderately limited moderate erodibility (moderately limited)	0.50	Moderately limited moderate erodibility (moderately limited)	0.50	Not limited		Not limited		Not limited	
Splitlimb-----	Moderately limited wetness (moderately limited) moderate erodibility (moderately limited)	0.53 0.50	Moderately limited wetness (moderately limited) moderate erodibility (moderately limited)	0.53 0.50	Moderately limited wetness (moderately limited)	0.53	Moderately limited wetness (moderately limited)	0.53	Limited wetness (limited)	0.79
70026:										
Tonti-----	Very limited percs slowly (very limited) droughty (limited) moderate erodibility (moderately limited)	1.00 0.90 0.50	Very limited percs slowly (very limited) moderate erodibility (moderately limited) wetness (moderately limited)	1.00 0.50 0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.59
73000:										
Pomme-----	Limited high erodibility (limited) droughty (slightly limited)	0.80 0.02	Limited high erodibility (limited)	0.80	Not limited		Not limited		Not limited	

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73013:										
Lowassie-----	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00
	ponded (wetness) (very limited)	1.00	ponded (wetness) (very limited)	1.00	seasonally ponded (limited)	0.80	seasonally ponded (limited)	0.80	seasonally ponded (limited)	0.80
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39						
73017:										
Bendavis-----	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Limited small stones (limited)	0.67	Limited small stones (limited)	0.67	Moderately limited wetness (moderately limited)	0.45
	small stones (very limited)	1.00	small stones (very limited)	1.00	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	depth to bedrock (slightly limited)	0.13
	slope (limited)	0.91	slope (limited)	0.91			depth to bedrock (slightly limited)	0.13		
Poynor-----	Very limited droughty (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited small stones (limited)	0.73	Limited small stones (limited)	0.73	Moderately limited droughty (moderately limited)	0.57
	small stones (very limited)	1.00	high erodibility (limited)	0.80	droughty (moderately limited)	0.57	droughty (moderately limited)	0.57		
	high erodibility (limited)	0.80	slope (moderately limited)	0.60						
73019:										
Poynor-----	Very limited droughty (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited small stones (limited)	0.67	Limited small stones (limited)	0.67	Moderately limited droughty (moderately limited)	0.57
	small stones (very limited)	1.00	high erodibility (limited)	0.80	droughty (moderately limited)	0.57	droughty (moderately limited)	0.57		
	high erodibility (limited)	0.80	droughty (moderately limited)	0.57						
73021:										
Poynor-----	Very limited droughty (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited small stones (limited)	0.73	Limited small stones (limited)	0.73	Moderately limited droughty (moderately limited)	0.57
	small stones (very limited)	1.00	high erodibility (limited)	0.80	droughty (moderately limited)	0.57	droughty (moderately limited)	0.57		
	high erodibility (limited)	0.80	slope (moderately limited)	0.60						

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73023:										
Mano-----	Limited droughty (limited)	0.87	Limited high erodibility (limited)	0.80	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Moderately limited wetness (moderately limited)	0.45
	high erodibility (limited)	0.80	small stones (moderately limited)	0.48	small stones (slightly limited)	0.08				
	small stones (moderately limited)	0.48	percs slowly (moderately limited)	0.39						
Ocie-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited small stones (moderately limited)	0.42	Slightly limited small stones (slightly limited)	0.30	Moderately limited wetness (moderately limited)	0.45
	high erodibility (limited)	0.80	high erodibility (limited)	0.80	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28		
	droughty (limited)	0.63	percs slowly (moderately limited)	0.39						
73024:										
Mano-----	Limited small stones (limited)	1.00	Limited small stones (limited)	1.00	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Moderately limited wetness (moderately limited)	0.45
	droughty (limited)	0.87	high erodibility (limited)	0.80	small stones (slightly limited)	0.24	small stones (slightly limited)	0.01		
	high erodibility (limited)	0.80	percs slowly (moderately limited)	0.39						
Ocie-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited small stones (moderately limited)	0.42	Slightly limited small stones (slightly limited)	0.30	Moderately limited wetness (moderately limited)	0.45
	high erodibility (limited)	0.80	high erodibility (limited)	0.80	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28		
	droughty (limited)	0.63	percs slowly (moderately limited)	0.39						
73032:										
Gatewood-----	Very limited droughty (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited small stones (moderately limited)	0.42	Moderately limited depth to bedrock (moderately limited)	0.46	Moderately limited wetness (moderately limited)	0.51
	small stones (very limited)	1.00	high erodibility (limited)	0.80	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	depth to bedrock (moderately limited)	0.46
	high erodibility (limited)	0.80	depth to bedrock (moderately limited)	0.46	droughty (moderately limited)	0.31	droughty (moderately limited)	0.31	droughty (moderately limited)	0.31

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73033:										
Gatewood-----	Very limited droughty (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited small stones (limited)	0.99	Limited small stones (limited)	1.00	Moderately limited wetness (moderately limited)	0.51
	small stones (very limited)	1.00	high erodibility (limited)	0.80	wetness (moderately limited)	0.36	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46
	high erodibility (limited)	0.80	slope (moderately limited)	0.60	droughty (moderately limited)	0.31	wetness (moderately limited)	0.36	droughty (moderately limited)	0.31
73051:										
Winnipeg-----	Moderately limited moderate erodibility (moderately limited)	0.50	Moderately limited moderate erodibility (moderately limited)	0.50	Not limited		Not limited		Not limited	
73059:										
Pomme-----	Moderately limited moderate erodibility (moderately limited)	0.50	Moderately limited moderate erodibility (moderately limited)	0.50	Not limited		Not limited		Not limited	
	droughty (slightly limited)	0.02								
73063:										
Bendavis-----	Limited droughty (limited)	0.95	Moderately limited moderate erodibility (moderately limited)	0.50	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Moderately limited wetness (moderately limited)	0.45
	moderate erodibility (moderately limited)	0.50	small stones (moderately limited)	0.33	small stones (slightly limited)	0.04	depth to bedrock (slightly limited)	0.27	depth to bedrock (slightly limited)	0.27
	small stones (moderately limited)	0.33	wetness (slightly limited)	0.28						
Poynor-----	Very limited droughty (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited small stones (limited)	0.67	Limited small stones (limited)	0.67	Moderately limited droughty (moderately limited)	0.40
	small stones (very limited)	1.00	moderate erodibility (moderately limited)	0.50	droughty (moderately limited)	0.40	droughty (moderately limited)	0.40		
	moderate erodibility (moderately limited)	0.50	droughty (moderately limited)	0.40						

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73068:										
Tick-----	Limited droughty (limited)	0.82	Limited high erodibility (limited)	0.80	Not limited		Not limited		Not limited	
	high erodibility (limited)	0.80	percs slowly (moderately limited)	0.34						
	percs slowly (moderately limited)	0.34								
73069:										
Tick-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited small stones (limited)	0.93	Limited small stones (limited)	0.94	Not limited	
	droughty (limited)	0.82	high erodibility (limited)	0.80						
	high erodibility (limited)	0.80	slope (moderately limited)	0.60						
73073:										
Scholten-----	Very limited droughty (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Limited droughty (limited)	0.70	Limited droughty (limited)	0.70	Limited wetness (limited)	0.93
	percs slowly (very limited)	1.00	small stones (very limited)	1.00	wetness (moderately limited)	0.58	wetness (moderately limited)	0.58	droughty (limited)	0.70
	small stones (very limited)	1.00	high erodibility (limited)	0.80	small stones (moderately limited)	0.42	small stones (slightly limited)	0.30		
Poynor-----	Very limited droughty (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited droughty (limited)	0.75	Limited droughty (limited)	0.75	Limited droughty (limited)	0.75
	small stones (very limited)	1.00	high erodibility (limited)	0.80	small stones (moderately limited)	0.60	small stones (moderately limited)	0.60		
	high erodibility (limited)	0.80	droughty (limited)	0.75						
73076:										
Mano-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited small stones (moderately limited)	0.42	Slightly limited small stones (slightly limited)	0.30	Moderately limited wetness (moderately limited)	0.45
	droughty (limited)	0.87	high erodibility (limited)	0.80	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28		
	high erodibility (limited)	0.80	slope (moderately limited)	0.60						

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73076:										
Ocie-----	Very limited small stones (very limited) high erodibility (limited) droughty (limited)	1.00 0.80 0.63	Very limited small stones (very limited) high erodibility (limited) slope (moderately limited)	1.00 0.80 0.60	Moderately limited small stones (moderately limited) wetness (slightly limited)	0.42 0.28	Slightly limited small stones (slightly limited) wetness (slightly limited)	0.30 0.28	Moderately limited wetness (moderately limited)	0.45
73121:										
Scholten-----	Very limited droughty (very limited) high erodibility (limited) small stones (limited)	1.00 0.80 0.73	Limited droughty (limited) high erodibility (limited) small stones (limited)	0.92 0.80 0.73	Limited droughty (limited) wetness (moderately limited) small stones (slightly limited)	0.92 0.58 0.15	Limited droughty (limited) wetness (moderately limited)	0.92 0.58	Limited wetness (limited) droughty (limited)	0.93 0.92
Tonti-----	Very limited percs slowly (very limited) droughty (limited) high erodibility (limited)	1.00 0.90 0.80	Very limited percs slowly (very limited) high erodibility (limited) wetness (moderately limited)	1.00 0.80 0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.59
73176:										
Bendavis-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited small stones (very limited) high erodibility (limited) depth to bedrock (moderately limited)	1.00 0.80 0.58	Moderately limited small stones (moderately limited) droughty (moderately limited) wetness (slightly limited)	0.60 0.45 0.28	Moderately limited small stones (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.60 0.58 0.45	Moderately limited depth to bedrock (moderately limited) droughty (moderately limited) wetness (moderately limited)	0.58 0.45 0.45
Poynor-----	Limited small stones (limited) droughty (very limited) high erodibility (limited)	1.00 0.99 0.80	Limited small stones (limited) high erodibility (limited)	1.00 0.80	Slightly limited small stones (slightly limited)	0.24	Slightly limited small stones (slightly limited)	0.01	Not limited	

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73198: Grossy-----	Moderately limited moderate erodibility (moderately limited)	0.50	Moderately limited moderate erodibility (moderately limited)	0.50	Not limited		Not limited		Not limited	
Viraton-----	Very limited percs slowly (very limited) droughty (limited) moderate erodibility (moderately limited)	1.00 0.98 0.50	Very limited percs slowly (very limited) moderate erodibility (moderately limited) wetness (moderately limited)	1.00 0.50 0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.59
73199: Moko-----	Very limited droughty (very limited) shallow to bedrock (very limited) large stones >35% (very limited)	1.00 1.00 0.99	Very limited droughty (very limited) shallow to bedrock (very limited) large stones >35% (very limited)	1.00 1.00 0.99	Very limited droughty (very limited) large stones (limited) small stones (slightly limited)	1.00 0.61 0.08	Very limited droughty (very limited) shallow to bedrock (very limited) large stones (limited)	1.00 1.00 0.61	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (limited)	1.00 1.00 0.61
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73220: Poynor-----	Very limited small stones (very limited) droughty (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited small stones (very limited) high erodibility (limited) droughty (moderately limited)	1.00 0.80 0.57	Very limited small stones (very limited) droughty (moderately limited)	1.00 0.57	Very limited small stones (very limited) droughty (moderately limited)	1.00 0.57	Moderately limited droughty (moderately limited)	0.57
73222: Splitlimb-----	Very limited ponded (wetness) (very limited) wetness (moderately limited) percs slowly (slightly limited)	1.00 0.55 0.13	Very limited ponded (wetness) (very limited) wetness (moderately limited) percs slowly (slightly limited)	1.00 0.55 0.13	Limited seasonally ponded (limited) wetness (moderately limited)	0.80 0.55	Limited seasonally ponded (limited) wetness (moderately limited)	0.80 0.55	Limited wetness (limited) seasonally ponded (limited)	0.85 0.80

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73223:										
Coulstone-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited small stones (very limited) droughty (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited droughty (very limited) small stones (moderately limited)	1.00 1.00 0.60	Very limited droughty (very limited) small stones (moderately limited)	1.00 1.00 0.60	Very limited droughty (very limited)	1.00
Bender-----	Very limited droughty (very limited) high erodibility (limited) slope (limited)	1.00 0.80 0.79	Very limited droughty (very limited) high erodibility (limited) slope (limited)	1.00 0.80 0.79	Very limited droughty (very limited) large stones (moderately limited) small stones (slightly limited)	1.00 1.00 0.40 0.14	Very limited droughty (very limited) large stones (moderately limited) depth to bedrock (moderately limited)	1.00 1.00 0.40 0.32	Very limited droughty (very limited) large stones (moderately limited) depth to bedrock (moderately limited)	1.00 1.00 0.40 0.32
73224:										
Moko-----	Very limited droughty (very limited) shallow to bedrock (very limited) high erodibility (limited)	1.00 1.00 1.00 0.80	Very limited droughty (very limited) shallow to bedrock (very limited) high erodibility (limited)	1.00 1.00 1.00 0.80	Very limited droughty (very limited) small stones (slightly limited) large stones (slightly limited)	1.00 1.00 0.13 0.06	Very limited droughty (very limited) shallow to bedrock (very limited) large stones (slightly limited)	1.00 1.00 1.00 0.06	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (slightly limited)	1.00 1.00 1.00 0.06
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73225:										
Ocie-----	Limited high erodibility (limited) droughty (limited) small stones (moderately limited)	0.80 0.63 0.48	Limited high erodibility (limited) small stones (moderately limited) percs slowly (moderately limited)	0.80 0.48 0.39	Slightly limited wetness (slightly limited) small stones (slightly limited)	0.28 0.08	Slightly limited wetness (slightly limited)	0.28	Moderately limited wetness (moderately limited)	0.45
Gatewood-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited small stones (very limited) high erodibility (limited) depth to bedrock (moderately limited)	1.00 0.80 0.46	Moderately limited small stones (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.42 0.36 0.31	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46 0.36 0.31	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73226:										
Ocie-----	Very limited small stones (very limited) high erodibility (limited) droughty (limited)	1.00 0.80 0.63	Very limited small stones (very limited) high erodibility (limited) percs slowly (moderately limited)	1.00 0.80 0.39	Moderately limited small stones (moderately limited) wetness (slightly limited)	0.42 0.28	Slightly limited small stones (slightly limited) wetness (slightly limited)	0.30 0.28	Moderately limited wetness (moderately limited)	0.45
Gatewood-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited small stones (very limited) high erodibility (limited) depth to bedrock (moderately limited)	1.00 0.80 0.46	Moderately limited small stones (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.42 0.36 0.31	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46 0.36 0.31	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31
73227:										
Ocie-----	Very limited small stones (very limited) slope (limited) high erodibility (limited)	1.00 0.91 0.80	Very limited small stones (very limited) slope (limited) high erodibility (limited)	1.00 0.91 0.80	Moderately limited small stones (moderately limited) wetness (slightly limited)	0.42 0.28	Slightly limited small stones (slightly limited) wetness (slightly limited)	0.30 0.28	Moderately limited wetness (moderately limited)	0.45
Gatewood-----	Very limited small stones (very limited) droughty (very limited) slope (limited)	1.00 1.00 0.91	Very limited small stones (very limited) slope (limited) high erodibility (limited)	1.00 0.91 0.80	Moderately limited small stones (moderately limited) wetness (moderately limited)	0.51 0.36	Moderately limited small stones (moderately limited) wetness (moderately limited) depth to bedrock (slightly limited)	0.45 0.36 0.13	Moderately limited wetness (moderately limited) depth to bedrock (slightly limited)	0.51 0.13
73228:										
Gatewood-----	Very limited droughty (very limited) small stones (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited small stones (very limited) high erodibility (limited) depth to bedrock (moderately limited)	1.00 0.80 0.46	Moderately limited small stones (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.42 0.36 0.31	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46 0.36 0.31	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73228:										
Moko-----	Very limited droughty (very limited) shallow to bedrock (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited droughty (very limited) shallow to bedrock (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited droughty (very limited) small stones (slightly limited) large stones (slightly limited)	1.00 0.13 0.06	Very limited droughty (very limited) shallow to bedrock (very limited) large stones (slightly limited)	1.00 1.00 0.06	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (slightly limited)	1.00 1.00 0.06
73229:										
Gatewood-----	Very limited droughty (very limited) high erodibility (limited) small stones (limited)	1.00 0.80 0.64	Limited high erodibility (limited) small stones (limited) slope (moderately limited)	0.80 0.64 0.60	Moderately limited wetness (moderately limited) droughty (moderately limited) small stones (slightly limited)	0.36 0.31 0.13	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46 0.36 0.31	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31
Moko-----	Very limited droughty (very limited) shallow to bedrock (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited droughty (very limited) shallow to bedrock (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited droughty (very limited) small stones (slightly limited) large stones (slightly limited)	1.00 0.13 0.06	Very limited droughty (very limited) shallow to bedrock (very limited) large stones (slightly limited)	1.00 1.00 0.06	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (slightly limited)	1.00 1.00 0.06
73230:										
Coulstone-----	Very limited droughty (very limited) large stones >35% (very limited) high erodibility (limited)	1.00 0.99 0.80	Very limited droughty (very limited) large stones >35% (very limited) high erodibility (limited)	1.00 0.99 0.80	Very limited droughty (very limited) large stones (limited) small stones (slightly limited)	1.00 0.61 0.02	Very limited droughty (very limited) large stones (limited)	1.00 0.61	Very limited droughty (very limited) large stones (limited)	1.00 0.61
Bender-----	Very limited droughty (very limited) small stones (limited) high erodibility (limited)	1.00 0.81 0.80	Very limited droughty (very limited) small stones (limited) high erodibility (limited)	1.00 0.81 0.80	Very limited droughty (very limited) large stones (slightly limited) small stones (slightly limited)	1.00 0.19 0.17	Very limited droughty (very limited) depth to bedrock (moderately limited) large stones (slightly limited)	1.00 0.32 0.19	Very limited droughty (very limited) depth to bedrock (moderately limited) large stones (slightly limited)	1.00 0.32 0.19

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230: Gatewood-----	Very limited droughty (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited wetness (moderately limited)	0.51
	small stones (very limited)	1.00	slope (very limited)	1.00	wetness (moderately limited)	0.36	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46
	slope (very limited)	1.00	high erodibility (limited)	0.80	droughty (moderately limited)	0.31	wetness (moderately limited)	0.36	droughty (moderately limited)	0.31
73231: Wasola-----	Very limited high erodibility (limited)	0.80	Very limited high erodibility (limited)	0.80	Limited wetness (moderately limited)	0.44	Limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.59
	wetness (moderately limited)	0.44	wetness (moderately limited)	0.44						
73236: Scholten-----	Very limited droughty (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Limited droughty (limited)	0.70	Limited droughty (limited)	0.70	Limited wetness (limited)	0.93
	percs slowly (very limited)	1.00	high erodibility (limited)	0.80	wetness (moderately limited)	0.58	wetness (moderately limited)	0.58	droughty (limited)	0.70
	high erodibility (limited)	0.80	small stones (limited)	0.73	small stones (slightly limited)	0.15				
Poynor-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited small stones (limited)	0.67	Limited small stones (limited)	0.67	Not limited	
	high erodibility (limited)	0.80	high erodibility (limited)	0.80						
	droughty (moderately limited)	0.47								
73237: Clarksville---	Very limited droughty (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited small stones (moderately limited)	0.53	Moderately limited small stones (moderately limited)	0.49	Moderately limited droughty (moderately limited)	0.43
	small stones (very limited)	1.00	high erodibility (limited)	0.80	droughty (moderately limited)	0.43	droughty (moderately limited)	0.43		
	high erodibility (limited)	0.80	droughty (moderately limited)	0.43						

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73242:										
Fanchon-----	Moderately limited moderate erodibility (moderately limited)	0.50	Moderately limited moderate erodibility (moderately limited)	0.50	Not limited		Not limited		Not limited	
Tonti-----	Very limited percs slowly (very limited) droughty (limited) wetness (moderately limited)	1.00 0.91 0.56	Very limited percs slowly (very limited) wetness (moderately limited) moderate erodibility (moderately limited)	1.00 0.56 0.50	Moderately limited wetness (moderately limited)	0.56	Moderately limited wetness (moderately limited)	0.56	Limited wetness (limited)	0.88
73243:										
Topazmill-----	Limited high erodibility (limited)	0.80	Limited high erodibility (limited)	0.80	Not limited		Not limited		Not limited	
73300:										
Macedonia-----	Limited droughty (limited) high erodibility (limited) small stones (slightly limited)	0.87 0.80 0.06	Limited high erodibility (limited) small stones (slightly limited)	0.80 0.06	Slightly limited small stones (slightly limited)	0.01	Not limited		Not limited	
73311:										
Scholten-----	Very limited droughty (very limited) percs slowly (very limited) high erodibility (limited)	1.00 1.00 0.80	Very limited percs slowly (very limited) high erodibility (limited) small stones (limited)	1.00 0.80 0.73	Limited droughty (limited) wetness (moderately limited) small stones (slightly limited)	0.70 0.58 0.15	Limited droughty (limited) wetness (moderately limited)	0.70 0.58	Limited wetness (limited) droughty (limited)	0.93 0.70
Bendavis-----	Very limited droughty (very limited) high erodibility (limited) depth to bedrock (moderately limited)	1.00 0.80 0.58	Limited high erodibility (limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.80 0.58 0.45	Moderately limited droughty (moderately limited) wetness (slightly limited)	0.45 0.28	Moderately limited depth to bedrock (moderately limited) droughty (moderately limited) wetness (slightly limited)	0.58 0.45 0.28	Moderately limited depth to bedrock (moderately limited) droughty (moderately limited) wetness (moderately limited)	0.58 0.45 0.45

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73311: Poynor-----	Very limited droughty (very limited)	1.00	Limited small stones (limited)	1.00	Moderately limited droughty (moderately limited)	0.57	Moderately limited droughty (moderately limited)	0.57	Moderately limited droughty (moderately limited)	0.57
	small stones (limited)	1.00	high erodibility (limited)	0.80	small stones (slightly limited)	0.24	small stones (slightly limited)	0.01		
	high erodibility (limited)	0.80	droughty (moderately limited)	0.57						
73325: Clarksville---	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited small stones (limited)	0.99	Limited small stones (limited)	1.00	Slightly limited droughty (slightly limited)	0.01
	droughty (very limited)	1.00	slope (limited)	0.99	droughty (slightly limited)	0.01	droughty (slightly limited)	0.01		
	slope (limited)	0.99	high erodibility (limited)	0.80						
73326: Topazmill-----	Limited high erodibility (limited)	0.80	Limited high erodibility (limited)	0.80	Not limited		Not limited		Not limited	
Coulstone-----	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00
	large stones >35% (very limited)	0.99	large stones >35% (very limited)	0.99	large stones (limited)	0.61	large stones (limited)	0.61	large stones (limited)	0.61
	high erodibility (limited)	0.80	high erodibility (limited)	0.80	small stones (slightly limited)	0.02				
73327: Topazmill-----	Limited high erodibility (limited)	0.80	Limited high erodibility (limited)	0.80	Not limited		Not limited		Not limited	
	slope (moderately limited)	0.31	slope (moderately limited)	0.31						
Coulstone-----	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00
	large stones >35% (very limited)	0.99	large stones >35% (very limited)	0.99	large stones (limited)	0.61	large stones (limited)	0.61	large stones (limited)	0.61
	high erodibility (limited)	0.80	high erodibility (limited)	0.80	small stones (slightly limited)	0.02				

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73328:										
Scholten-----	Very limited droughty (very limited)	1.00	Limited droughty (limited)	0.92	Limited droughty (limited)	0.92	Limited droughty (limited)	0.92	Limited wetness (limited)	0.93
	high erodibility (limited)	0.80	high erodibility (limited)	0.80	wetness (moderately limited)	0.58	wetness (moderately limited)	0.58	droughty (limited)	0.92
	small stones (limited)	0.73	small stones (limited)	0.73	small stones (slightly limited)	0.15				
Noark-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Limited small stones (limited)	0.86	Limited small stones (limited)	0.87	Slightly limited droughty (slightly limited)	0.30
	droughty (very limited)	1.00	high erodibility (limited)	0.80	droughty (slightly limited)	0.30	droughty (slightly limited)	0.30		
	high erodibility (limited)	0.80	droughty (slightly limited)	0.30						
73329:										
Mano-----	Limited small stones (limited)	1.00	Limited small stones (limited)	1.00	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Moderately limited wetness (moderately limited)	0.45
	droughty (limited)	0.87	high erodibility (limited)	0.80	small stones (slightly limited)	0.24	small stones (slightly limited)	0.01		
	high erodibility (limited)	0.80	percs slowly (moderately limited)	0.39						
Ocie-----	Very limited small stones (very limited)	1.00	Very limited small stones (very limited)	1.00	Moderately limited small stones (moderately limited)	0.42	Slightly limited small stones (slightly limited)	0.30	Moderately limited wetness (moderately limited)	0.45
	high erodibility (limited)	0.80	high erodibility (limited)	0.80	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28		
	droughty (limited)	0.63	percs slowly (moderately limited)	0.39						
73331:										
Pomme-----	Limited high erodibility (limited)	0.80	Limited high erodibility (limited)	0.80	Not limited		Not limited		Not limited	
	droughty (slightly limited)	0.02								

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73332: Topazmill-----	Limited high erodibility (limited)	0.80	Limited high erodibility (limited)	0.80	Not limited		Not limited		Not limited	
74627: Hartville-----	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.59
	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39						
74657: Pomme-----	Moderately limited moderate erodibility (moderately limited)	0.50	Moderately limited moderate erodibility (moderately limited)	0.50	Not limited		Not limited		Not limited	
	droughty (slightly limited)	0.02								
74682: Zanoni-----	Moderately limited flooding (moderately limited)	0.60	Moderately limited flooding (moderately limited)	0.60	Not limited		Not limited		Not limited	
	droughty (slightly limited)	0.26								
74683: Cedargap-----	Very limited droughty (very limited)	1.00	Limited flooding (limited)	0.90	Slightly limited droughty (slightly limited)	0.17	Slightly limited droughty (slightly limited)	0.17	Slightly limited droughty (slightly limited)	0.17
	flooding (limited)	0.90	high erodibility (limited)	0.80	small stones (slightly limited)	0.13				
	high erodibility (limited)	0.80	small stones (limited)	0.64						
Razort-----	Limited high erodibility (limited)	0.80	Limited high erodibility (limited)	0.80	Not limited		Not limited		Not limited	
75381: Bearthicket----	Not limited		Not limited		Not limited		Not limited		Not limited	

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover)		Domestic grasses and legumes (for use as food and cover)		Upland wild herbaceous plants		Upland shrubs and vines		Upland deciduous trees	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75382: Cedargap-----	Limited flooding (limited) small stones (moderately limited) droughty (slightly limited)	0.90 0.48 0.22	Limited flooding (limited) small stones (moderately limited)	0.90 0.48	Slightly limited small stones (slightly limited)	0.08	Not limited		Not limited	
75390: Razort-----	Not limited		Not limited		Not limited		Not limited		Not limited	
75406: Racket-----	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Not limited		Not limited		Not limited	
75417: Relfe-----	Very limited droughty (very limited) small stones (very limited) flooding (limited)	1.00 1.00 0.90	Very limited droughty (very limited) small stones (very limited) flooding (limited)	1.00 1.00 0.90	Very limited droughty (very limited) small stones (moderately limited)	1.00 0.56	Very limited droughty (very limited) small stones (moderately limited)	1.00 0.53	Very limited droughty (very limited)	1.00
Sandbur-----	Limited flooding (limited) droughty (moderately limited)	0.90 0.34	Limited flooding (limited)	0.90	Not limited		Not limited		Not limited	
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 11b.--Wildlife Habitat

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70022: Tonti-----	Moderately limited wetness (moderately limited)	0.59	Limited infrequent flooding (limited) deep to water (moderately limited)	0.80 0.45	Not limited		Moderately limited deep to water (moderately limited)	0.45	Limited slope (limited)	0.66
70025: Branson-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Moderately limited seepage (moderately limited)	0.42
Splitlimb-----	Limited wetness (limited)	0.79	Limited infrequent flooding (limited) deep to water (moderately limited)	0.80 0.37	Not limited		Moderately limited deep to water (moderately limited)	0.37	Moderately limited seepage (moderately limited)	0.36
70026: Tonti-----	Moderately limited wetness (moderately limited)	0.59	Limited infrequent flooding (limited) deep to water (moderately limited)	0.80 0.45	Not limited		Moderately limited deep to water (moderately limited)	0.45	Not limited	
73000: Pomme-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Moderately limited seepage (moderately limited) slope (moderately limited)	0.45 0.31
73013: Lowassie-----	Very limited wetness (very limited) seasonally ponded (limited)	1.00 0.80	Limited seasonally ponded (limited) infrequent flooding (limited)	0.80 0.80	Limited seasonally ponded (limited)	0.80	Limited seasonally ponded (limited)	0.80	Limited seasonally ponded (limited)	0.80

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73017:										
Bendavis-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited)	0.80	Limited small stones (limited)	0.67	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
	depth to bedrock (slightly limited)	0.13	small stones (limited)	0.67			soil reaction (slightly limited)	0.18	soil reaction (slightly limited)	0.18
			deep to water (limited)	0.61						
Poynor-----	Moderately limited droughty (moderately limited)	0.57	Very limited deep to water (very limited)	1.00	Limited small stones (limited)	0.73	Very limited deep to water (very limited)	1.00	Very limited slope (very limited)	1.00
			infrequent flooding (limited)	0.80	droughty (moderately limited)	0.57			seepage (moderately limited)	0.45
			small stones (limited)	0.73						
73019:										
Poynor-----	Moderately limited droughty (moderately limited)	0.57	Very limited deep to water (very limited)	1.00	Limited small stones (limited)	0.67	Very limited deep to water (very limited)	1.00	Limited slope (limited)	0.91
			infrequent flooding (limited)	0.80	droughty (moderately limited)	0.57			seepage (moderately limited)	0.45
			small stones (limited)	0.67						
73021:										
Poynor-----	Moderately limited droughty (moderately limited)	0.57	Very limited deep to water (very limited)	1.00	Limited small stones (limited)	0.73	Very limited deep to water (very limited)	1.00	Very limited slope (very limited)	1.00
			infrequent flooding (limited)	0.80	droughty (moderately limited)	0.57			seepage (moderately limited)	0.45
			small stones (limited)	0.73						
73023:										
Mano-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited)	0.80	Not limited		Limited deep to water (limited)	0.61	Limited slope (limited)	0.66
			deep to water (limited)	0.61						

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.30	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Limited slope (limited)	0.66
73024: Mano-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.01	Slightly limited small stones (slightly limited)	0.01	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.30	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
73032: Gatewood-----	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31	Limited infrequent flooding (limited) deep to water (moderately limited) small stones (slightly limited)	0.80 0.53 0.30	Moderately limited droughty (moderately limited) small stones (slightly limited)	0.31 0.30	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00
73033: Gatewood-----	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31	Limited small stones (limited) infrequent flooding (limited) deep to water (moderately limited)	1.00 0.80 0.53	Limited small stones (limited) droughty (moderately limited)	1.00 0.31	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73051: Winnipeg-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Moderately limited seepage (moderately limited)	0.45
73059: Pomme-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Moderately limited seepage (moderately limited)	0.45
73063: Bendavis-----	Moderately limited wetness (moderately limited) depth to bedrock (slightly limited)	0.45 0.27	Limited infrequent flooding (limited) deep to water (limited)	0.80 0.61	Not limited		Limited deep to water (limited)	0.61	Limited slope (limited) seepage (moderately limited)	0.66 0.54
Poynor-----	Moderately limited droughty (moderately limited)	0.40	Very limited deep to water (very limited) infrequent flooding (limited) small stones (limited)	1.00 0.80 0.67	Limited small stones (limited) droughty (moderately limited)	0.67 0.40	Very limited deep to water (very limited)	1.00	Limited slope (limited) seepage (moderately limited)	0.66 0.45
73068: Tick-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (slightly limited)	1.00 0.07
73069: Tick-----	Not limited		Very limited deep to water (very limited) small stones (limited) infrequent flooding (limited)	1.00 0.94 0.80	Limited small stones (limited)	0.94	Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (slightly limited)	1.00 0.07

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73073:										
Scholten-----	Limited wetness (limited)	0.93	Limited infrequent flooding (limited)	0.80	Limited droughty (limited)	0.70	Moderately limited deep to water (moderately limited)	0.32	Very limited slope (very limited)	1.00
	droughty (limited)	0.70	deep to water (moderately limited)	0.32	small stones (slightly limited)	0.30				
			small stones (slightly limited)	0.30						
Poynor-----	Limited droughty (limited)	0.75	Very limited deep to water (very limited)	1.00	Limited droughty (limited)	0.75	Very limited deep to water (very limited)	1.00	Very limited slope (very limited)	1.00
			infrequent flooding (limited)	0.80	small stones (moderately limited)	0.60			seepage (moderately limited)	0.45
			small stones (moderately limited)	0.60						
73076:										
Mano-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited)	0.80	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
			deep to water (limited)	0.61						
			small stones (slightly limited)	0.30						
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited)	0.80	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
			deep to water (limited)	0.61						
			small stones (slightly limited)	0.30						
73121:										
Scholten-----	Limited wetness (limited)	0.93	Limited infrequent flooding (limited)	0.80	Limited droughty (limited)	0.92	Moderately limited deep to water (moderately limited)	0.32	Moderately limited seepage (moderately limited)	0.48
	droughty (limited)	0.92	deep to water (moderately limited)	0.32					slope (moderately limited)	0.31
Tonti-----	Moderately limited wetness (moderately limited)	0.59	Limited infrequent flooding (limited)	0.80	Not limited		Moderately limited deep to water (moderately limited)	0.45	Moderately limited slope (moderately limited)	0.31
			deep to water (moderately limited)	0.45						

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73176:										
Bendavis-----	Moderately limited		Limited		Moderately limited		Limited		Very limited	
	depth to bedrock (moderately limited)	0.58	infrequent flooding (limited)	0.80	small stones (moderately limited)	0.60	deep to water (limited)	0.61	slope (very limited)	1.00
	droughty (moderately limited)	0.45	deep to water (limited)	0.61	droughty (moderately limited)	0.45			seepage (moderately limited)	0.45
	wetness (moderately limited)	0.45	small stones (moderately limited)	0.60						
Poynor-----	Not limited		Very limited		Slightly limited		Very limited		Very limited	
			deep to water (very limited)	1.00	small stones (slightly limited)	0.01	deep to water (very limited)	1.00	slope (very limited)	1.00
			infrequent flooding (limited)	0.80					seepage (moderately limited)	0.45
			small stones (slightly limited)	0.01						
73198:										
Gressy-----	Not limited		Very limited		Not limited		Very limited		Moderately limited	
			deep to water (very limited)	1.00			deep to water (very limited)	1.00	seepage (moderately limited)	0.48
			infrequent flooding (limited)	0.80					slope (moderately limited)	0.31
Viraton-----	Moderately limited		Limited		Not limited		Moderately limited		Moderately limited	
	wetness (moderately limited)	0.59	infrequent flooding (limited)	0.80			deep to water (moderately limited)	0.45	slope (moderately limited)	0.31
			deep to water (moderately limited)	0.45						
73199:										
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	shallow to bedrock (very limited)	1.00	deep to water (very limited)	1.00	droughty (very limited)	1.00	deep to water (very limited)	1.00	slope (very limited)	1.00
	droughty (very limited)	1.00	infrequent flooding (limited)	0.80	large stones (limited)	0.61			seepage (moderately limited)	0.45
	large stones (limited)	0.61	large stones (limited)	0.61						
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73220: Poynor-----	Moderately limited droughty (moderately limited)	0.57	Very limited deep to water (very limited) small stones (very limited) infrequent flooding (limited)	1.00 1.00 0.80	Very limited small stones (very limited) droughty (moderately limited)	1.00 0.57	Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (moderately limited)	1.00 0.36
73222: Splitlimb-----	Limited wetness (limited) seasonally ponded (limited)	0.85 0.80	Limited seasonally ponded (limited) infrequent flooding (limited) deep to water (moderately limited)	0.80 0.80 0.35	Limited seasonally ponded (limited)	0.80	Limited seasonally ponded (limited) deep to water (moderately limited)	0.80 0.35	Limited seasonally ponded (limited) seepage (slightly limited)	0.80 0.18
73223: Coulstone-----	Limited droughty (very limited)	1.00	Very limited deep to water (very limited) infrequent flooding (limited) small stones (moderately limited)	1.00 0.80 0.60	Limited droughty (very limited) small stones (moderately limited)	1.00 0.60	Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (limited)	1.00 0.68
Bender-----	Very limited droughty (very limited) large stones (moderately limited) depth to bedrock (moderately limited)	1.00 0.40 0.32	Very limited deep to water (very limited) infrequent flooding (limited) large stones (moderately limited)	1.00 0.80 0.40	Very limited droughty (very limited) large stones (moderately limited)	1.00 0.40	Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (limited)	1.00 0.89
73224: Moko-----	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (slightly limited)	1.00 1.00 0.06	Very limited deep to water (very limited) infrequent flooding (limited) large stones (slightly limited)	1.00 0.80 0.06	Very limited droughty (very limited) large stones (slightly limited)	1.00 0.06	Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (moderately limited)	1.00 0.45
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73225:										
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited)	0.80 0.61	Not limited		Limited deep to water (limited)	0.61	Limited slope (limited)	0.91
Gatewood-----	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31	Limited infrequent flooding (limited) deep to water (moderately limited) small stones (slightly limited)	0.80 0.53 0.30	Moderately limited droughty (moderately limited) small stones (slightly limited)	0.31 0.30	Moderately limited deep to water (moderately limited)	0.53	Limited slope (limited)	0.91
73226:										
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.30	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
Gatewood-----	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31	Limited infrequent flooding (limited) deep to water (moderately limited) small stones (slightly limited)	0.80 0.53 0.30	Moderately limited droughty (moderately limited) small stones (slightly limited)	0.31 0.30	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00
73227:										
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.30	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73227:										
Gatewood-----	Moderately limited wetness (moderately limited)	0.51	Limited infrequent flooding (limited)	0.80	Moderately limited small stones (moderately limited)	0.45	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00
	depth to bedrock (slightly limited)	0.13	deep to water (moderately limited)	0.53	small stones (moderately limited)	0.45				
73228:										
Gatewood-----	Moderately limited wetness (moderately limited)	0.51	Limited infrequent flooding (limited)	0.80	Moderately limited droughty (moderately limited)	0.31	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00
	depth to bedrock (moderately limited)	0.46	deep to water (moderately limited)	0.53	small stones (slightly limited)	0.30				
	droughty (moderately limited)	0.31	small stones (slightly limited)	0.30						
Moko-----	Very limited shallow to bedrock (very limited)	1.00	Very limited deep to water (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited deep to water (very limited)	1.00	Very limited slope (very limited)	1.00
	droughty (very limited)	1.00	infrequent flooding (limited)	0.80	large stones (slightly limited)	0.06			seepage (moderately limited)	0.45
	large stones (slightly limited)	0.06	large stones (slightly limited)	0.06						
73229:										
Gatewood-----	Moderately limited wetness (moderately limited)	0.51	Limited infrequent flooding (limited)	0.80	Moderately limited droughty (moderately limited)	0.31	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00
	depth to bedrock (moderately limited)	0.46	deep to water (moderately limited)	0.53						
	droughty (moderately limited)	0.31								
Moko-----	Very limited shallow to bedrock (very limited)	1.00	Very limited deep to water (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited deep to water (very limited)	1.00	Very limited slope (very limited)	1.00
	droughty (very limited)	1.00	infrequent flooding (limited)	0.80	large stones (slightly limited)	0.06			seepage (moderately limited)	0.45
	large stones (slightly limited)	0.06	large stones (slightly limited)	0.06						

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230:										
Coulstone-----	Very limited droughty (very limited) large stones (limited)	1.00 0.61	Very limited deep to water (very limited) infrequent flooding (limited) large stones (limited)	1.00 0.80 0.61	Very limited droughty (very limited) large stones (limited)	1.00 0.61	Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (limited)	1.00 0.79
Bender-----	Very limited droughty (very limited) depth to bedrock (moderately limited) large stones (slightly limited)	1.00 0.32 0.19	Very limited deep to water (very limited) infrequent flooding (limited) large stones (slightly limited)	1.00 0.80 0.19	Very limited droughty (very limited) large stones (slightly limited)	1.00 0.19	Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (limited)	1.00 0.89
Gatewood-----	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.51 0.46 0.31	Very limited small stones (very limited) infrequent flooding (limited) deep to water (moderately limited)	1.00 0.80 0.53	Very limited small stones (very limited) droughty (moderately limited)	1.00 0.31	Moderately limited deep to water (moderately limited)	0.53	Very limited slope (very limited)	1.00
73231:										
Wasola-----	Moderately limited wetness (moderately limited)	0.59	Limited infrequent flooding (limited) small stones (limited) deep to water (moderately limited)	0.80 0.73 0.45	Limited small stones (limited)	0.73	Moderately limited deep to water (moderately limited)	0.45	Moderately limited slope (moderately limited)	0.31
73236:										
Scholten-----	Limited wetness (limited) droughty (limited)	0.93 0.70	Limited infrequent flooding (limited) deep to water (moderately limited)	0.80 0.32	Limited droughty (limited)	0.70	Moderately limited deep to water (moderately limited)	0.32	Limited slope (limited)	0.91

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73236: Poynor-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited) small stones (limited)	1.00 0.80 0.67	Limited small stones (limited)	0.67	Very limited deep to water (very limited)	1.00	Limited slope (limited) seepage (moderately limited)	0.66 0.36
73237: Clarksville----	Moderately limited droughty (moderately limited)	0.43	Very limited deep to water (very limited) infrequent flooding (limited) small stones (moderately limited)	1.00 0.80 0.49	Moderately limited small stones (moderately limited) droughty (moderately limited)	0.49 0.43	Very limited deep to water (very limited) soil reaction (slightly limited)	1.00 0.18	Very limited slope (very limited) seepage (limited) soil reaction (slightly limited)	1.00 0.79 0.18
73242: Fanchon-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Moderately limited seepage (moderately limited) slope (moderately limited)	0.45 0.31
Tonti-----	Limited wetness (limited)	0.88	Limited infrequent flooding (limited) deep to water (moderately limited)	0.80 0.34	Not limited		Moderately limited deep to water (moderately limited)	0.34	Moderately limited slope (moderately limited)	0.31
73243: Topazmill-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Moderately limited seepage (moderately limited) slope (moderately limited)	0.45 0.31
73300: Macedonia-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Limited slope (limited) seepage (moderately limited)	0.66 0.36

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73311:										
Scholten-----	Limited wetness (limited) droughty (limited)	0.93 0.70	Limited infrequent flooding (limited) deep to water (moderately limited)	0.80 0.32	Limited droughty (limited)	0.70	Moderately limited deep to water (moderately limited)	0.32	Very limited slope (very limited)	1.00
Bendavis-----	Moderately limited depth to bedrock (moderately limited) droughty (moderately limited) wetness (moderately limited)	0.58 0.45 0.45	Limited infrequent flooding (limited) deep to water (limited)	0.80 0.61	Moderately limited droughty (moderately limited)	0.45	Limited deep to water (limited)	0.61	Very limited slope (very limited) seepage (moderately limited)	1.00 0.45
Poynor-----	Moderately limited droughty (moderately limited)	0.57	Very limited deep to water (very limited) infrequent flooding (limited) small stones (slightly limited)	1.00 0.80 0.01	Moderately limited droughty (moderately limited) small stones (slightly limited)	0.57 0.01	Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (moderately limited)	1.00 0.36
73325:										
Clarksville----	Slightly limited droughty (slightly limited)	0.01	Very limited deep to water (very limited) small stones (limited)	1.00 1.00	Limited small stones (limited) droughty (slightly limited)	1.00 0.01	Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (moderately limited)	1.00 0.42
73326:										
Topazmill-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (moderately limited)	1.00 0.45
Coulstone-----	Very limited droughty (very limited) large stones (limited)	1.00 0.61	Very limited deep to water (very limited) infrequent flooding (limited) large stones (limited)	1.00 0.80 0.61	Very limited droughty (very limited) large stones (limited)	1.00 0.61	Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (limited)	1.00 0.79

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73327:										
Topazmill-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (moderately limited)	1.00 0.45
Coulstone-----	Very limited droughty (very limited) large stones (limited)	1.00 0.61	Very limited deep to water (very limited) infrequent flooding (limited) large stones (limited)	1.00 0.80 0.61	Very limited droughty (very limited) large stones (limited)	1.00 0.61	Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (limited)	1.00 0.79
73328:										
Scholten-----	Limited wetness (limited) droughty (limited)	0.93 0.92	Limited infrequent flooding (limited) deep to water (moderately limited)	0.80 0.32	Limited droughty (limited)	0.92	Moderately limited deep to water (moderately limited)	0.32	Limited slope (limited) seepage (moderately limited)	0.91 0.48
Noark-----	Slightly limited droughty (slightly limited)	0.30	Very limited deep to water (very limited) small stones (limited) infrequent flooding (limited)	1.00 0.87 0.80	Limited small stones (limited) droughty (slightly limited)	0.87 0.30	Very limited deep to water (very limited)	1.00	Limited slope (limited) seepage (moderately limited)	0.91 0.45
73329:										
Mano-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.01	Slightly limited small stones (slightly limited)	0.01	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00
Ocie-----	Moderately limited wetness (moderately limited)	0.45	Limited infrequent flooding (limited) deep to water (limited) small stones (slightly limited)	0.80 0.61 0.30	Slightly limited small stones (slightly limited)	0.30	Limited deep to water (limited)	0.61	Very limited slope (very limited)	1.00

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73331: Pomme-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (moderately limited)	1.00 0.45
73332: Topazmill-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Very limited slope (very limited) seepage (moderately limited)	1.00 0.45
74627: Hartville-----	Moderately limited wetness (moderately limited)	0.59	Moderately limited deep to water (moderately limited)	0.45	Not limited		Moderately limited deep to water (moderately limited)	0.45	Not limited	
74657: Pomme-----	Not limited		Very limited deep to water (very limited) infrequent flooding (limited)	1.00 0.80	Not limited		Very limited deep to water (very limited)	1.00	Limited slope (limited) seepage (moderately limited)	0.66 0.45
74682: Zanoni-----	Not limited		Very limited deep to water (very limited) infrequent flooding (moderately limited)	1.00 0.50	Not limited		Very limited deep to water (very limited)	1.00	Limited seepage (limited)	0.82
74683: Cedargap-----	Slightly limited droughty (slightly limited)	0.17	Very limited deep to water (very limited)	1.00	Slightly limited droughty (slightly limited)	0.17	Very limited deep to water (very limited)	1.00	Limited seepage (limited)	0.68
Razort-----	Not limited		Very limited deep to water (very limited)	1.00	Not limited		Very limited deep to water (very limited)	1.00	Moderately limited seepage (moderately limited)	0.45
75381: Bearthicket---	Not limited		Very limited deep to water (very limited)	1.00	Not limited		Very limited deep to water (very limited)	1.00	Moderately limited seepage (moderately limited)	0.45

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees		Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants		Irrigated freshwater wetland plants	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75382: Cedargap-----	Not limited		Very limited deep to water (very limited)	1.00	Very limited deep to water (very limited)	1.00	Very limited deep to water (very limited)	1.00	Very limited deep to water (very limited) seepage (moderately limited)	1.00 0.45
75390: Razort-----	Not limited		Very limited deep to water (very limited)	1.00	Not limited		Very limited deep to water (very limited)	1.00	Moderately limited seepage (moderately limited)	0.45
75406: Racket-----	Not limited		Very limited deep to water (very limited)	1.00	Very limited deep to water (very limited)	1.00	Very limited deep to water (very limited)	1.00	Very limited deep to water (very limited) seepage (moderately limited)	1.00 0.48
75417: Relfe-----	Very limited droughty (very limited)	1.00	Very limited deep to water (very limited) small stones (moderately limited)	1.00 0.56	Very limited droughty (very limited) small stones (moderately limited)	1.00 0.56	Very limited deep to water (very limited)	1.00	Limited seepage (limited)	0.75
Sandbur-----	Not limited		Very limited deep to water (very limited)	1.00	Not limited		Very limited deep to water (very limited)	1.00	Limited seepage (limited)	0.79
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 12.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70022: Tonti-----	Moderately limited wetness (moderately limited)	0.59	Very limited wetness (very limited) shrink-swell (slightly limited)	1.00	Limited slope (limited) wetness (slightly limited)	0.68	Slightly limited wetness (slightly limited)	0.28	Slightly limited too acid (slightly limited) wetness (slightly limited)	0.30
70025: Branson-----	Not limited		Not limited		Not limited		Not limited		Not limited	
Splitlimb-----	Limited wetness (limited) shrink-swell (moderately limited)	0.79 0.45	Very limited wetness (very limited) shrink-swell (moderately limited)	1.00 0.45	Moderately limited wetness (moderately limited) shrink-swell (moderately limited)	0.45 0.45	Very limited low strength (very limited) wetness (moderately limited) shrink-swell (moderately limited)	1.00 0.45	Moderately limited wetness (moderately limited)	0.45
70026: Tonti-----	Moderately limited wetness (moderately limited)	0.59	Very limited wetness (very limited) shrink-swell (slightly limited)	1.00	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Slightly limited too acid (slightly limited) wetness (slightly limited)	0.30
73000: Pomme-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.15	Not limited		Not limited	
73013: Lowassie-----	Very limited wetness (very limited) ponded (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited ponded (very limited) wetness (very limited) shrink-swell (slightly limited)	1.00 1.00 0.27	Very limited ponded (wetness) (very limited) wetness (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited low strength (very limited) ponded (wetness) (very limited) wetness (very limited)	1.00 1.00 1.00	Very limited wetness (very limited) ponded (wetness) (very limited)	1.00 1.00

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73017:										
Bendavis-----	Very limited slope (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	wetness (moderately limited)	0.45	slope (very limited)	1.00	depth to bedrock (slightly limited)	0.25	depth to bedrock (slightly limited)	0.25	small stones (very limited)	1.00
	depth to bedrock (slightly limited)	0.25	wetness (very limited)	1.00					too acid (limited)	0.84
Poynor-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
			shrink-swell (slightly limited)	0.14					small stones (very limited)	1.00
									too acid (limited)	0.61
73019:										
Poynor-----	Not limited		Slightly limited shrink-swell (slightly limited)	0.14	Limited slope (limited)	0.68	Not limited		Very limited small stones (very limited)	1.00
									droughty (moderately limited)	0.57
									too acid (slightly limited)	0.30
73021:										
Poynor-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
			shrink-swell (slightly limited)	0.14					small stones (very limited)	1.00
									too acid (limited)	0.61
73023:										
Mano-----	Moderately limited wetness (moderately limited)	0.45	Very limited wetness (very limited)	1.00	Moderately limited slope (moderately limited)	0.45	Very limited wetness (very limited)	1.00	Moderately limited small stones (moderately limited)	0.48
			shrink-swell (moderately limited)	0.50			shrink-swell (moderately limited)	0.50	too acid (slightly limited)	0.30

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73023:										
Ocie-----	Very limited shrink-swell (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited shrink-swell (very limited)	1.00	Very limited low strength (very limited)	1.00	Very limited small stones (very limited)	1.00
	wetness (moderately limited)	0.45	shrink-swell (limited)	0.71	slope (moderately limited)	0.45	shrink-swell (very limited)	1.00		
			depth to bedrock (moderately limited)	0.42						
73024:										
Mano-----	Limited slope (limited)	0.76	Very limited wetness (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.63	Very limited small stones (limited)	1.00
	wetness (moderately limited)	0.45	slope (limited)	0.76	shrink-swell (very limited)	1.00			slope (limited)	0.63
			shrink-swell (moderately limited)	0.50					too acid (slightly limited)	0.30
Ocie-----	Very limited shrink-swell (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited low strength (very limited)	1.00	Very limited small stones (very limited)	1.00
	slope (limited)	0.76	slope (limited)	0.76	shrink-swell (very limited)	1.00	shrink-swell (very limited)	1.00	slope (limited)	0.63
	wetness (moderately limited)	0.45	shrink-swell (limited)	0.71			slope (limited)	0.63		
73032:										
Gatewood-----	Very limited shrink-swell (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00	Very limited shrink-swell (very limited)	1.00	Very limited low strength (very limited)	1.00	Very limited small stones (very limited)	1.00
	depth to bedrock (moderately limited)	0.53	wetness (very limited)	1.00	slope (very limited)	1.00	shrink-swell (very limited)	1.00	depth to bedrock (moderately limited)	0.46
	wetness (moderately limited)	0.51	shrink-swell (very limited)	1.00	depth to bedrock (moderately limited)	0.53	depth to bedrock (moderately limited)	0.53	droughty (moderately limited)	0.31
73033:										
Gatewood-----	Very limited shrink-swell (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited low strength (very limited)	1.00	Very limited slope (very limited)	1.00
	slope (very limited)	1.00	wetness (very limited)	1.00	shrink-swell (very limited)	1.00	slope (very limited)	1.00	small stones (very limited)	1.00
	depth to bedrock (moderately limited)	0.53	shrink-swell (very limited)	1.00	depth to bedrock (moderately limited)	0.53	shrink-swell (very limited)	1.00	depth to bedrock (moderately limited)	0.46

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73051: Winnipeg-----	Moderately limited shrink-swell (moderately limited)	0.45	Moderately limited shrink-swell (moderately limited)	0.33	Moderately limited shrink-swell (moderately limited)	0.45	Very limited low strength (very limited) shrink-swell (moderately limited)	1.00 0.45	Not limited	
73059: Pomme-----	Not limited		Not limited		Not limited		Not limited		Not limited	
73063: Bendavis-----	Moderately limited wetness (moderately limited) depth to bedrock (moderately limited)	0.45 0.42	Very limited hard bedrock <40" (very limited) wetness (very limited)	1.00 1.00	Moderately limited slope (moderately limited) depth to bedrock (moderately limited)	0.45 0.42	Moderately limited depth to bedrock (moderately limited)	0.42	Moderately limited small stones (moderately limited) too acid (slightly limited) depth to bedrock (slightly limited)	0.33 0.30 0.27
Poynor-----	Not limited		Slightly limited shrink-swell (slightly limited)	0.14	Moderately limited slope (moderately limited)	0.45	Not limited		Very limited small stones (very limited) droughty (moderately limited) too acid (slightly limited)	1.00 0.40 0.30
73068: Tick-----	Limited slope (limited) shrink-swell (moderately limited)	0.76 0.45	Limited slope (limited) shrink-swell (slightly limited)	0.76 0.30	Very limited slope (very limited) shrink-swell (moderately limited)	1.00 0.45	Very limited low strength (very limited) slope (limited) shrink-swell (moderately limited)	1.00 0.63 0.45	Limited slope (limited) too acid (moderately limited)	0.63 0.36
73069: Tick-----	Very limited slope (very limited) shrink-swell (moderately limited)	1.00 0.45	Very limited slope (very limited) shrink-swell (slightly limited)	1.00 0.30	Very limited slope (very limited) shrink-swell (moderately limited)	1.00 0.45	Very limited low strength (very limited) slope (very limited) shrink-swell (moderately limited)	1.00 1.00 0.45	Very limited slope (very limited) small stones (very limited) too acid (moderately limited)	1.00 1.00 0.36

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73073:										
Scholten-----	Limited wetness (limited) slope	0.93	Very limited wetness (very limited) slope	1.00	Very limited slope (very limited) wetness (moderately limited)	1.00	Limited slope (limited) wetness (moderately limited)	0.63	Very limited small stones (very limited) droughty (limited) slope (limited)	1.00
	shrink-swell (moderately limited)	0.76	shrink-swell (slightly limited)	0.76	shrink-swell (moderately limited)	0.56	shrink-swell (moderately limited)	0.56		0.70
		0.45		0.25		0.45		0.45		0.63
Poynor-----	Limited slope (limited)	0.76	Limited slope (limited) shrink-swell (slightly limited)	0.76	Very limited slope (very limited)	1.00	Limited slope (limited)	0.63	Very limited small stones (very limited) droughty (limited) slope (limited)	1.00
				0.14						0.75
										0.63
73076:										
Mano-----	Very limited slope (very limited) wetness (moderately limited)	1.00	Very limited slope (very limited) wetness (very limited) shrink-swell (moderately limited)	1.00	Very limited slope (very limited) shrink-swell (very limited)	1.00	Very limited slope (very limited) shrink-swell (very limited)	1.00	Very limited slope (very limited) small stones (very limited) too acid (slightly limited)	1.00
		0.45		0.50						0.30
Ocie-----	Very limited shrink-swell (very limited) slope (very limited) wetness (moderately limited)	1.00	Very limited slope (very limited) wetness (very limited) shrink-swell (limited)	1.00	Very limited slope (very limited) shrink-swell (very limited)	1.00	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00	Very limited slope (very limited) small stones (very limited)	1.00
		1.00		0.71				1.00		
73121:										
Scholten-----	Limited wetness (limited)	0.93	Very limited wetness (very limited)	1.00	Moderately limited wetness (moderately limited) slope (slightly limited)	0.56	Moderately limited wetness (moderately limited) slope	0.56	Limited droughty (limited) small stones (limited) wetness (moderately limited)	0.92
						0.15				0.73
										0.56

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73121:										
Tonti-----	Moderately limited wetness (moderately limited)	0.59	Very limited wetness (very limited) shrink-swell (slightly limited)	1.00 0.04	Slightly limited wetness (slightly limited) slope (slightly limited)	0.28 0.15	Slightly limited wetness (slightly limited)	0.28	Slightly limited too acid (slightly limited) wetness (slightly limited)	0.30 0.28
73176:										
Bendavis-----	Limited slope (limited) depth to bedrock (moderately limited) wetness (moderately limited)	0.76 0.59 0.45	Very limited hard bedrock <40" (very limited) wetness (very limited) slope (limited)	1.00 1.00 0.76	Very limited slope (very limited) depth to bedrock (moderately limited)	1.00 0.59	Limited slope (limited) depth to bedrock (moderately limited)	0.63 0.59	Very limited small stones (very limited) slope (limited) depth to bedrock (moderately limited)	1.00 0.63 0.58
Poynor-----	Limited slope (limited) shrink-swell (moderately limited)	0.76 0.45	Limited slope (limited) shrink-swell (moderately limited)	0.76 0.32	Very limited slope (very limited) shrink-swell (moderately limited)	1.00 0.45	Very limited low strength (very limited) slope (limited) shrink-swell (moderately limited)	1.00 0.63 0.45	Very limited small stones (limited) slope (limited) too acid (slightly limited)	1.00 0.63 0.30
73198:										
Gressy-----	Not limited		Slightly limited shrink-swell (slightly limited)	0.18	Slightly limited slope (slightly limited)	0.15	Slightly limited low strength (slightly limited)	0.22	Not limited	
Viraton-----	Moderately limited wetness (moderately limited)	0.59	Very limited wetness (very limited) shrink-swell (slightly limited)	1.00 0.20	Slightly limited wetness (slightly limited) slope (slightly limited)	0.28 0.15	Slightly limited wetness (slightly limited)	0.28	Moderately limited too acid (moderately limited) wetness (slightly limited)	0.42 0.28
73199:										
Moko-----	Very limited hard bedrock <20" (very limited) large stones (limited) slope (moderately limited)	1.00 0.99 0.45	Very limited hard bedrock <40" (very limited) large stones (limited) slope (moderately limited)	1.00 0.99 0.45	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.99	Very limited hard bedrock <20" (very limited) large stones (limited) low strength (slightly limited)	1.00 0.99 0.22	Very limited large stones >30% (very limited) shallow to bedrock (very limited) droughty (very limited)	1.00 1.00 1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73220: Poynor-----	Limited slope (limited)	0.76	Limited slope (limited) shrink-swell (slightly limited)	0.76 0.14	Very limited slope (very limited)	1.00	Limited slope (limited)	0.63	Very limited small stones (very limited) slope (limited) droughty (moderately limited)	1.00 0.63 0.57
73222: Splitlimb-----	Very limited ponded (very limited) wetness (limited) shrink-swell (moderately limited)	1.00 0.85 0.45	Very limited ponded (very limited) wetness (very limited) shrink-swell (moderately limited)	1.00 1.00 0.45	Very limited ponded (wetness) (very limited) wetness (moderately limited) shrink-swell (moderately limited)	1.00 0.49 0.45	Very limited low strength (very limited) ponded (wetness) (very limited) wetness (moderately limited)	1.00 1.00 0.49	Very limited ponded (wetness) (very limited) wetness (moderately limited)	1.00 0.49
73223: Coulstone-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited) small stones (very limited) droughty (very limited)	1.00 1.00 1.00
Bender-----	Very limited slope (very limited) large stones (limited) depth to bedrock (moderately limited)	1.00 0.76 0.46	Very limited hard bedrock <40" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.76	Very limited slope (very limited) large stones (limited) depth to bedrock (moderately limited)	1.00 0.76 0.46	Very limited slope (very limited) large stones (limited) depth to bedrock (moderately limited)	1.00 0.76 0.46	Very limited slope (very limited) droughty (very limited) large stones >30% (very limited)	1.00 1.00 1.00
73224: Moko-----	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.86	Very limited hard bedrock <40" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.86	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.86	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.86	Very limited slope (very limited) shallow to bedrock (very limited) droughty (very limited)	1.00 1.00 1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73225:										
Ocie-----	Very limited shrink-swell (very limited) wetness (moderately limited)	1.00 0.45	Very limited wetness (very limited) shrink-swell (limited) depth to bedrock (moderately limited)	1.00 0.71 0.42	Very limited shrink-swell (very limited) slope (limited)	1.00 0.68	Very limited low strength (very limited) shrink-swell (very limited)	1.00 1.00	Moderately limited small stones (moderately limited)	0.48
Gatewood-----	Very limited shrink-swell (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00 0.53 0.51	Very limited hard bedrock <40" (very limited) wetness (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited shrink-swell (very limited) slope (limited) depth to bedrock (moderately limited)	1.00 0.68 0.53	Very limited low strength (very limited) shrink-swell (very limited) depth to bedrock (moderately limited)	1.00 1.00 0.53	Very limited small stones (very limited) depth to bedrock (moderately limited) droughty (moderately limited)	1.00 0.46 0.31
73226:										
Ocie-----	Very limited shrink-swell (very limited) slope (moderately limited) wetness (moderately limited)	1.00 0.45 0.45	Very limited wetness (very limited) shrink-swell (limited) slope (moderately limited)	1.00 0.85 0.45	Very limited shrink-swell (very limited) slope (very limited)	1.00 1.00	Very limited low strength (very limited) shrink-swell (very limited) slope (slightly limited)	1.00 1.00 0.04	Very limited small stones (very limited) slope (slightly limited)	1.00 0.04
Gatewood-----	Very limited shrink-swell (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00 0.53 0.51	Very limited hard bedrock <40" (very limited) wetness (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited shrink-swell (very limited) slope (very limited) depth to bedrock (moderately limited)	1.00 1.00 0.53	Very limited low strength (very limited) shrink-swell (very limited) depth to bedrock (moderately limited)	1.00 1.00 0.53	Very limited small stones (very limited) depth to bedrock (moderately limited) droughty (moderately limited)	1.00 0.46 0.31
73227:										
Ocie-----	Very limited shrink-swell (very limited) slope (very limited) wetness (moderately limited)	1.00 1.00 0.45	Very limited slope (very limited) wetness (very limited) shrink-swell (limited)	1.00 1.00 0.85	Very limited slope (very limited) shrink-swell (very limited)	1.00 1.00	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited slope (very limited) small stones (very limited) too acid (slightly limited)	1.00 1.00 0.06

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73227:										
Gatewood-----	Very limited shrink-swell (very limited) slope (very limited) wetness (moderately limited)	1.00 1.00 0.51	Very limited hard bedrock <40" (very limited) wetness (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited slope (very limited) shrink-swell (very limited) depth to bedrock (slightly limited)	1.00 1.00 0.25	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited slope (very limited) small stones (very limited) wetness (slightly limited)	1.00 1.00 0.13
73228:										
Gatewood-----	Very limited shrink-swell (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00 0.53 0.51	Very limited hard bedrock <40" (very limited) wetness (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited shrink-swell (very limited) slope (very limited) depth to bedrock (moderately limited)	1.00 1.00 0.53	Very limited low strength (very limited) shrink-swell (very limited) depth to bedrock (moderately limited)	1.00 1.00 0.53	Very limited small stones (very limited) depth to bedrock (moderately limited) droughty (moderately limited)	1.00 0.46 0.31
Moko-----	Very limited hard bedrock <20" (very limited) large stones (limited) slope (moderately limited)	1.00 0.86 0.45	Very limited hard bedrock <40" (very limited) large stones (limited) slope (moderately limited)	1.00 0.86 0.45	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.86	Very limited hard bedrock <20" (very limited) large stones (limited) low strength (slightly limited)	1.00 0.86 0.22	Very limited shallow to bedrock (very limited) droughty (very limited) large stones (limited)	1.00 1.00 0.83
73229:										
Gatewood-----	Very limited shrink-swell (very limited) slope (very limited) depth to bedrock (moderately limited)	1.00 1.00 0.53	Very limited hard bedrock <40" (very limited) wetness (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited slope (very limited) shrink-swell (very limited) depth to bedrock (moderately limited)	1.00 1.00 0.53	Very limited low strength (very limited) slope (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited slope (very limited) small stones (limited) depth to bedrock (moderately limited)	1.00 0.64 0.46
Moko-----	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.86	Very limited hard bedrock <40" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.86	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.86	Very limited hard bedrock <20" (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.86	Very limited slope (very limited) shallow to bedrock (very limited) droughty (very limited)	1.00 1.00 1.00

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230:										
Coulstone-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	large stones (limited)	0.88	large stones (limited)	0.88	large stones (limited)	0.88	large stones (limited)	0.88	droughty (very limited)	1.00
									large stones >30% (very limited)	1.00
Bender-----	Very limited slope (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	large stones (limited)	0.71	large stones (very limited)	1.00	large stones (limited)	0.71	large stones (limited)	0.71	droughty (very limited)	1.00
	depth to bedrock (moderately limited)	0.46	large stones (limited)	0.71	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	large stones >30% (very limited)	1.00
Gatewood-----	Very limited shrink-swell (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited low strength (very limited)	1.00	Very limited slope (very limited)	1.00
	slope (very limited)	1.00	wetness (very limited)	1.00	shrink-swell (very limited)	1.00	slope (very limited)	1.00	small stones (very limited)	1.00
	depth to bedrock (moderately limited)	0.53	shrink-swell (very limited)	1.00	depth to bedrock (moderately limited)	0.53	shrink-swell (very limited)	1.00	depth to bedrock (moderately limited)	0.46
73231:										
Wasola-----	Moderately limited wetness (moderately limited)	0.59	Very limited wetness (very limited)	1.00	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Very limited small stones (very limited)	1.00
			shrink-swell (moderately limited)	0.53	slope (slightly limited)	0.15			wetness (slightly limited)	0.28
73236:										
Scholten-----	Limited wetness (limited)	0.93	Very limited wetness (very limited)	1.00	Limited slope (limited)	0.68	Moderately limited wetness (moderately limited)	0.56	Limited small stones (limited)	0.73
			shrink-swell (slightly limited)	0.04	wetness (moderately limited)	0.56			droughty (limited)	0.70
									wetness (moderately limited)	0.56
Poynor-----	Not limited		Slightly limited shrink-swell (slightly limited)	0.14	Moderately limited slope (moderately limited)	0.45	Not limited		Very limited small stones (very limited)	1.00
									too acid (moderately limited)	0.42

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73237: Clarksville----	Moderately limited slope (moderately limited) large stones (slightly limited)	0.45 0.29	Moderately limited slope (moderately limited) large stones (slightly limited) shrink-swell (slightly limited)	0.45 0.29 0.09	Very limited slope (very limited) large stones (slightly limited)	1.00 0.29	Slightly limited large stones (slightly limited) slope (slightly limited)	0.29 0.04	Very limited small stones (very limited) too acid (limited) droughty (moderately limited)	1.00 0.84 0.43
73242: Fanchon-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.15	Very limited low strength (very limited)	1.00	Slightly limited too acid (slightly limited)	0.24
Tonti-----	Limited wetness (limited)	0.88	Very limited wetness (very limited) shrink-swell (slightly limited)	1.00 0.01	Moderately limited wetness (moderately limited) slope (slightly limited)	0.51 0.15	Moderately limited wetness (moderately limited)	0.51	Moderately limited wetness (moderately limited) too acid (slightly limited)	0.51 0.12
73243: Topazmill-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.15	Slightly limited low strength (slightly limited)	0.22	Not limited	
73300: Macedonia-----	Moderately limited shrink-swell (moderately limited)	0.45	Moderately limited shrink-swell (moderately limited)	0.45	Moderately limited slope (moderately limited) shrink-swell (moderately limited)	0.45 0.45	Moderately limited shrink-swell (moderately limited)	0.45	Slightly limited too acid (slightly limited) small stones (slightly limited)	0.30 0.06
73311: Scholten-----	Limited wetness (limited) slope (limited)	0.93 0.76	Very limited wetness (very limited) slope (limited) shrink-swell (slightly limited)	1.00 0.76 0.04	Very limited slope (very limited) wetness (moderately limited)	1.00 0.56	Limited slope (limited) wetness (moderately limited)	0.63 0.56	Limited small stones (limited) droughty (limited) slope (limited)	0.73 0.70 0.63

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73311:										
Bendavis-----	Limited slope (limited)	0.76	Very limited hard bedrock <40" (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.63	Limited slope (limited)	0.63
	depth to bedrock (moderately limited)	0.59	wetness (very limited)	1.00	depth to bedrock (moderately limited)	0.59	depth to bedrock (moderately limited)	0.59	depth to bedrock (moderately limited)	0.58
	wetness (moderately limited)	0.45	slope (limited)	0.76					droughty (moderately limited)	0.45
Poynor-----	Limited slope (limited)	0.76	Limited slope (limited)	0.76	Very limited slope (very limited)	1.00	Limited slope (limited)	0.63	Very limited small stones (limited)	1.00
			shrink-swell (slightly limited)	0.14					slope (limited)	0.63
									droughty (moderately limited)	0.57
73325:										
Clarksville----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
									small stones (very limited)	1.00
									too acid (slightly limited)	0.18
73326:										
Topazmill-----	Moderately limited slope (moderately limited)	0.60	Moderately limited slope (moderately limited)	0.60	Very limited slope (very limited)	1.00	Moderately limited shrink-swell (moderately limited)	0.45	Slightly limited slope (slightly limited)	0.16
	shrink-swell (moderately limited)	0.45	shrink-swell (moderately limited)	0.45	shrink-swell (moderately limited)	0.45	slope (slightly limited)	0.16		
Coulstone-----	Limited large stones (limited)	0.88	Limited large stones (limited)	0.88	Very limited slope (very limited)	1.00	Limited large stones (limited)	0.88	Very limited droughty (very limited)	1.00
	slope (moderately limited)	0.60	slope (moderately limited)	0.60	large stones (limited)	0.88	slope (slightly limited)	0.16	large stones >30% (very limited)	1.00
									small stones (slightly limited)	0.21

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73327:										
Topazmill-----	Very limited slope (very limited) shrink-swell (moderately limited)	1.00 0.45	Very limited slope (very limited) shrink-swell (moderately limited)	1.00 0.45	Very limited slope (very limited) shrink-swell (moderately limited)	1.00 0.45	Very limited slope (very limited) shrink-swell (moderately limited)	1.00 0.45	Very limited slope (very limited) shrink-swell (moderately limited)	1.00 0.45
Coulstone-----	Very limited slope (very limited) large stones (limited)	1.00 0.88	Very limited slope (very limited) large stones (limited)	1.00 0.88	Very limited slope (very limited) large stones (limited)	1.00 0.88	Very limited slope (very limited) large stones (limited)	1.00 0.88	Very limited slope (very limited) large stones (very limited) large stones >30% (very limited)	1.00 1.00 1.00
73328:										
Scholten-----	Limited wetness (limited)	0.93	Very limited wetness (very limited)	1.00	Limited slope (limited) wetness (moderately limited)	0.68 0.56	Moderately limited wetness (moderately limited)	0.56	Limited droughty (limited) small stones (limited) wetness (moderately limited)	0.92 0.73 0.56
Noark-----	Moderately limited shrink-swell (moderately limited)	0.45	Moderately limited shrink-swell (moderately limited)	0.33	Limited slope (limited) shrink-swell (moderately limited)	0.68 0.45	Moderately limited shrink-swell (moderately limited)	0.45	Very limited small stones (very limited) droughty (slightly limited) too acid (slightly limited)	1.00 0.30 0.06
73329:										
Mano-----	Limited slope (limited) wetness (moderately limited)	0.76 0.45	Very limited wetness (very limited) slope (limited) shrink-swell (moderately limited)	1.00 0.76 0.50	Very limited slope (very limited)	1.00	Limited slope (limited) shrink-swell (very limited) slope (limited)	0.63 1.00 0.63	Very limited small stones (limited) slope (limited) too acid (slightly limited)	1.00 0.63 0.30

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73329: Ocie-----	Very limited shrink-swell (very limited) slope (limited) wetness (moderately limited)	1.00 0.76 0.45	Very limited wetness (very limited) slope (limited) shrink-swell (limited)	1.00 0.76 0.71	Very limited shrink-swell (very limited) slope (very limited)	1.00 1.00	Very limited low strength (very limited) shrink-swell (very limited) slope (limited)	1.00 1.00 0.63	Very limited small stones (very limited) slope (limited)	1.00 0.63
73331: Pomme-----	Limited slope (limited)	0.76	Limited slope (limited)	0.76	Very limited slope (very limited)	1.00	Limited slope (limited)	0.63	Limited slope (limited)	0.63
73332: Topazmill----	Moderately limited slope (moderately limited) shrink-swell (moderately limited)	0.60 0.45	Moderately limited slope (moderately limited) shrink-swell (moderately limited)	0.60 0.45	Very limited slope (very limited) shrink-swell (moderately limited)	1.00 0.45	Moderately limited shrink-swell (moderately limited) slope (slightly limited)	0.45 0.16	Slightly limited slope (slightly limited)	0.16
74627: Hartville-----	Very limited flooding (very limited) shrink-swell (very limited) wetness (moderately limited)	1.00 1.00 0.59	Very limited flooding (very limited) wetness (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Very limited flooding (very limited) shrink-swell (very limited) wetness (slightly limited)	1.00 1.00 0.28	Very limited low strength (very limited) shrink-swell (very limited) flooding (rare) (limited)	1.00 1.00 0.90	Slightly limited wetness (slightly limited)	0.28
74657: Pomme-----	Not limited		Not limited		Moderately limited slope (moderately limited)	0.45	Not limited		Not limited	
74682: Zanoni-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74683:										
Cedargap-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) small stones (limited) droughty (slightly limited)	1.00 0.64 0.17
Razort-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Limited flooding (rare) (limited)	0.90	Not limited	
75381:										
Bearthicket----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited low strength (very limited) flooding (rare) (limited)	1.00 0.90	Not limited	
75382:										
Cedargap-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) wetness (slightly limited)	1.00 0.16	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) small stones (moderately limited)	1.00 0.48
75390:										
Razort-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Limited flooding (rare) (limited)	0.90	Not limited	
75406:										
Racket-----	Very limited flooding (very limited) shrink-swell (moderately limited)	1.00 0.45	Very limited flooding (very limited) shrink-swell (slightly limited) wetness (slightly limited)	1.00 0.20 0.16	Very limited flooding (very limited) shrink-swell (moderately limited)	1.00 0.45	Very limited flooding (very limited) low strength (limited) shrink-swell (moderately limited)	1.00 0.78 0.45	Very limited flooding (very limited)	1.00

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings		Local roads and streets		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value						
75417:										
Relfe-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) droughty (very limited) small stones (very limited)	1.00 1.00 1.00						
Sandbur-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00						
99001:										
Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002:										
Borrow areas---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 13.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70022:										
Tonti-----	Very limited wetness (very limited) percs slowly (very limited)	1.00 1.00	Very limited wetness (very limited) slope (limited) seepage (moderately limited)	1.00 0.91 0.50	Limited wetness (limited) too clayey (limited) too acid (moderately limited)	0.99 0.90 0.54	Limited wetness (limited)	0.80	Very limited small stones >35% (very limited) too clayey (limited) too acid (moderately limited)	1.00 0.79 0.54
70025:										
Branson-----	Moderately limited percs slowly (moderately limited)	0.45	Limited seepage (limited)	0.68	Moderately limited too acid (moderately limited) too clayey (slightly limited)	0.42 0.19	Not limited		Moderately limited too acid (moderately limited) too clayey (slightly limited)	0.42 0.06
Splitlimb-----	Very limited wetness (very limited) percs slowly (moderately limited)	1.00 0.45	Very limited wetness (very limited) seepage (moderately limited)	1.00 0.32	Very limited wetness (very limited) too acid (moderately limited) too clayey (slightly limited)	1.00 0.48 0.04	Limited wetness (limited)	0.90	Moderately limited wetness (moderately limited) too acid (moderately limited)	0.55 0.48
70026:										
Tonti-----	Very limited wetness (very limited) percs slowly (very limited)	1.00 1.00	Very limited wetness (very limited) seepage (moderately limited)	1.00 0.50	Limited wetness (limited) too clayey (limited) too acid (moderately limited)	0.99 0.96 0.54	Limited wetness (limited)	0.80	Limited small stones (limited) too clayey (limited) hard to pack (limited)	1.00 0.91 0.70
73000:										
Pomme-----	Slightly limited percs slowly (slightly limited)	0.25	Moderately limited seepage (moderately limited) slope (moderately limited)	0.50 0.31	Very limited too clayey (very limited) too acid (slightly limited)	1.00 0.18	Not limited		Very limited too clayey (very limited) too acid (slightly limited)	1.00 0.18

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73013:										
Lowassie-----	Very limited ponded (wetness) (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00
	wetness (very limited)	1.00	ponded (wetness) (very limited)	1.00	wetness (very limited)	1.00	ponded (wetness) (very limited)	1.00	wetness (very limited)	1.00
	percs slowly (limited)	0.93			too clayey (limited)	0.80			too clayey (moderately limited)	0.60
73017:										
Bendavis-----	Very limited depth to bedrock (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00
	slope (very limited)	1.00	wetness (very limited)	1.00	depth to bedrock (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	wetness (very limited)	1.00	depth to bedrock (very limited)	1.00	wetness (limited)	0.79	wetness (limited)	0.61	small stones >35% (very limited)	1.00
Poynor-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	percs slowly (slightly limited)	0.25	seepage (moderately limited)	0.50	too clayey (very limited)	1.00			too clayey (very limited)	1.00
					too acid (moderately limited)	0.36			hard to pack (limited)	0.70
73019:										
Poynor-----	Slightly limited percs slowly (slightly limited)	0.25	Limited slope (limited)	0.91	Limited too clayey (limited)	1.00	Not limited		Limited too clayey (limited)	0.99
			seepage (moderately limited)	0.50	too acid (limited)	0.76			too acid (limited)	0.76
									hard to pack (limited)	0.70
73021:										
Poynor-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	percs slowly (slightly limited)	0.25	seepage (moderately limited)	0.50	too clayey (very limited)	1.00			too clayey (very limited)	1.00
					too acid (moderately limited)	0.36			hard to pack (limited)	0.70

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73023:										
Mano-----	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited too clayey (very limited)	1.00	Limited wetness (limited)	0.61	Very limited too clayey (very limited)	1.00
	percs slowly (limited)	0.93	slope (limited)	0.66	wetness (limited)	0.79			hard to pack (limited)	0.70
			seepage (moderately limited)	0.50					wetness (moderately limited)	0.40
Ocie-----	Very limited percs slowly (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Limited wetness (limited)	0.61	Very limited too clayey (very limited)	1.00
	wetness (very limited)	1.00	slope (limited)	0.66	too clayey (very limited)	1.00	depth to bedrock (slightly limited)	0.25	hard to pack (limited)	0.70
	depth to bedrock (moderately limited)	0.42	seepage (moderately limited)	0.50	wetness (limited)	0.79			wetness (moderately limited)	0.40
73024:										
Mano-----	Very limited wetness (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited too clayey (very limited)	1.00	Limited slope (limited)	0.63	Very limited too clayey (very limited)	1.00
	percs slowly (limited)	0.93	wetness (very limited)	1.00	wetness (limited)	0.79	wetness (limited)	0.61	hard to pack (limited)	0.70
	slope (limited)	0.63	seepage (moderately limited)	0.50	slope (limited)	0.63			slope (limited)	0.63
Ocie-----	Very limited percs slowly (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Limited slope (limited)	0.63	Very limited too clayey (very limited)	1.00
	wetness (very limited)	1.00	wetness (very limited)	1.00	too clayey (very limited)	1.00	wetness (limited)	0.61	hard to pack (limited)	0.70
	slope (limited)	0.63	seepage (moderately limited)	0.50	wetness (limited)	0.79	depth to bedrock (slightly limited)	0.25	slope (limited)	0.63
73032:										
Gatewood-----	Very limited depth to bedrock (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00
	wetness (very limited)	1.00	depth to bedrock (very limited)	1.00	too clayey (very limited)	1.00	wetness (limited)	0.69	too clayey (very limited)	1.00
	slope (slightly limited)	0.04	slope (very limited)	1.00	wetness (limited)	0.89	slope (slightly limited)	0.04	hard to pack (limited)	0.70

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73033:										
Gatewood-----	Very limited depth to bedrock (very limited) slope (very limited) wetness (very limited)	1.00 1.00 1.00	Very limited slope (very limited) wetness (very limited) depth to bedrock (very limited)	1.00 1.00 1.00	Very limited slope (very limited) depth to bedrock (very limited) too clayey (very limited)	1.00 1.00 1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited) wetness (limited)	1.00 1.00 1.00 0.69	Very limited depth to bedrock (very limited) slope (very limited) too clayey (very limited)	1.00 1.00 1.00 1.00
73051:										
Winnipeg-----	Slightly limited percs slowly (slightly limited)	0.25	Moderately limited seepage (moderately limited)	0.50	Limited too clayey (limited)	0.76	Not limited		Moderately limited too clayey (moderately limited)	0.54
73059:										
Pomme-----	Slightly limited percs slowly (slightly limited)	0.25	Moderately limited seepage (moderately limited)	0.50	Very limited too clayey (very limited) too acid (slightly limited)	1.00 0.18	Not limited		Very limited too clayey (very limited) too acid (slightly limited)	1.00 0.18
73063:										
Bendavis-----	Very limited depth to bedrock (very limited) wetness (very limited) percs slowly (slightly limited)	1.00 1.00 0.10	Very limited wetness (very limited) depth to bedrock (very limited) seepage (limited)	1.00 1.00 0.92	Very limited depth to bedrock (very limited) wetness (limited) too acid (slightly limited)	1.00 0.79 0.30	Very limited depth to bedrock (very limited) wetness (limited)	1.00 0.61	Very limited depth to bedrock (very limited) small stones (limited) wetness (moderately limited)	1.00 0.98 0.40
Poynor-----	Slightly limited percs slowly (slightly limited)	0.25	Limited slope (limited) seepage (moderately limited)	0.66 0.50	Limited too clayey (limited) too acid (limited)	1.00 0.76	Not limited		Limited too clayey (limited) too acid (limited) hard to pack (limited)	0.99 0.76 0.70
73068:										
Tick-----	Limited percs slowly (limited) slope (limited)	0.99 0.63	Very limited slope (very limited)	1.00	Very limited too clayey (very limited) slope (limited) too acid (moderately limited)	1.00 0.63 0.48	Limited slope (limited)	0.63	Very limited too clayey (very limited) slope (limited) too acid (moderately limited)	1.00 0.63 0.48

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73069:										
Tick-----	Very limited slope (very limited) percs slowly (limited)	1.00 0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited) too clayey (very limited) too acid (moderately limited)	1.00 1.00 0.48	Very limited slope (very limited)	1.00	Very limited slope (very limited) too clayey (very limited) too acid (moderately limited)	1.00 1.00 0.48
73073:										
Scholten-----	Very limited wetness (very limited) percs slowly (very limited) slope (limited)	1.00 1.00 0.63	Very limited slope (very limited) wetness (very limited) seepage (limited)	1.00 1.00 0.68	Very limited wetness (very limited) too clayey (limited) slope (limited)	1.00 0.88 0.63	Limited wetness (limited) slope (limited)	0.96 0.63	Very limited small stones >35% (very limited) too clayey (limited) hard to pack (limited)	1.00 0.76 0.70
Poynor-----	Limited percs slowly (limited) slope (limited)	0.75 0.63	Very limited slope (very limited) seepage (moderately limited)	1.00 0.50	Very limited too clayey (very limited) slope (limited) too acid (moderately limited)	1.00 0.63 0.42	Limited slope (limited)	0.63	Very limited too clayey (very limited) hard to pack (limited) slope (limited)	1.00 0.70 0.63
73076:										
Mano-----	Very limited slope (very limited) wetness (very limited) percs slowly (limited)	1.00 1.00 0.93	Very limited slope (very limited) wetness (very limited) seepage (moderately limited)	1.00 1.00 0.50	Very limited slope (very limited) too clayey (very limited) wetness (limited)	1.00 1.00 0.79	Very limited slope (very limited) wetness (limited)	1.00 0.61	Very limited slope (very limited) too clayey (very limited) hard to pack (limited)	1.00 1.00 0.70
Ocie-----	Very limited percs slowly (very limited) slope (very limited) wetness (very limited)	1.00 1.00 1.00	Very limited slope (very limited) wetness (very limited) seepage (moderately limited)	1.00 1.00 0.50	Very limited slope (very limited) depth to bedrock (very limited) too clayey (very limited)	1.00 1.00 1.00	Very limited slope (very limited) wetness (limited) depth to bedrock (slightly limited)	1.00 0.61 0.25	Very limited slope (very limited) too clayey (very limited) hard to pack (limited)	1.00 1.00 0.70

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73121:										
Scholten-----	Very limited wetness (very limited) percs slowly (very limited)	1.00 1.00	Very limited wetness (very limited) seepage (limited) slope (moderately limited)	1.00 0.68 0.31	Very limited wetness (very limited) too clayey (limited) too acid (moderately limited)	1.00 0.88 0.36	Limited wetness (limited)	0.96	Very limited small stones >35% (very limited) too clayey (limited) wetness (moderately limited)	1.00 0.76 0.59
Tonti-----	Very limited wetness (very limited) percs slowly (very limited)	1.00 1.00	Very limited wetness (very limited) seepage (moderately limited) slope (moderately limited)	1.00 0.50 0.31	Limited wetness (limited) too clayey (limited) too acid (moderately limited)	0.99 0.96 0.54	Limited wetness (limited)	0.80	Limited small stones (limited) too clayey (limited) too acid (moderately limited)	0.99 0.91 0.54
73176:										
Bendavis-----	Very limited depth to bedrock (very limited) wetness (very limited) slope (limited)	1.00 1.00 0.63	Very limited slope (very limited) wetness (very limited) depth to bedrock (very limited)	1.00 1.00 1.00	Very limited depth to bedrock (very limited) wetness (limited) slope (limited)	1.00 0.79 0.63	Very limited depth to bedrock (very limited) slope (limited) wetness (limited)	1.00 0.63 0.61	Very limited depth to bedrock (very limited) small stones >35% (very limited) slope (limited)	1.00 1.00 0.63
Poynor-----	Limited slope (limited) percs slowly (slightly limited)	0.63 0.25	Very limited slope (very limited) seepage (moderately limited)	1.00 0.50	Very limited too clayey (very limited) slope (limited) too acid (moderately limited)	1.00 0.63 0.36	Limited slope (limited)	0.63	Very limited too clayey (very limited) hard to pack (limited) slope (limited)	1.00 0.70 0.63
73198:										
Grossy-----	Limited percs slowly (limited)	0.93	Limited seepage (limited) slope (moderately limited)	0.98 0.31	Very limited too clayey (very limited) too acid (slightly limited)	1.00 0.06	Not limited		Very limited too clayey (very limited) too acid (slightly limited) small stones (slightly limited)	1.00 0.06 0.01

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value								
73198:										
Viraton-----	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited too clayey (very limited)	1.00	Limited wetness (limited)	0.80	Very limited too clayey (very limited)	1.00
	percs slowly (very limited)	1.00	seepage (moderately limited)	0.50	wetness (limited)	0.99			small stones (moderately limited)	0.51
			slope (moderately limited)	0.31	too acid (moderately limited)	0.48			wetness (moderately limited)	0.50
73199:										
Moko-----	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00
	large stones (limited)	0.99	slope (very limited)	1.00	slope (slightly limited)	0.04	slope (slightly limited)	0.04	large stones (limited)	0.99
	slope (slightly limited)	0.04	large stones (limited)	0.81					small stones (moderately limited)	0.50
Rock outcrop---	Not rated									
73220:										
Poynor-----	Limited percs slowly (limited)	0.75	Very limited slope (very limited)	1.00	Very limited too clayey (very limited)	1.00	Limited slope (limited)	0.63	Very limited too clayey (very limited)	1.00
	slope (limited)	0.63	seepage (moderately limited)	0.50	slope (limited)	0.63			hard to pack (limited)	0.70
					too acid (moderately limited)	0.42			slope (limited)	0.63
73222:										
Splitlimb-----	Very limited ponded (wetness) (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00
	wetness (very limited)	1.00	ponded (wetness) (very limited)	1.00	wetness (very limited)	1.00	wetness (limited)	0.93	wetness (moderately limited)	0.57
	percs slowly (limited)	0.71	seepage (moderately limited)	0.32	too acid (moderately limited)	0.48			too acid (moderately limited)	0.48

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73223:										
Coulstone-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
			seepage (very limited)	1.00	seepage (limited)	0.67	seepage (limited)	0.79	small stones >3% (very limited)	1.00
					too acid (slightly limited)	0.18			too acid (slightly limited)	0.18
Bender-----	Very limited depth to bedrock (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00
	slope (very limited)	1.00	depth to bedrock (very limited)	1.00	depth to bedrock (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	large stones (limited)	0.76	seepage (very limited)	1.00	seepage (limited)	0.96	seepage (limited)	0.97	seepage (limited)	0.99
73224:										
Moko-----	Very limited depth to bedrock (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00
	slope (very limited)	1.00	depth to bedrock (very limited)	1.00	depth to bedrock (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	large stones (limited)	0.86	large stones (moderately limited)	0.50					large stones (limited)	0.77
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73225:										
Ocie-----	Very limited percs slowly (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Limited wetness (limited)	0.61	Very limited too clayey (very limited)	1.00
	wetness (very limited)	1.00	slope (limited)	0.91	too clayey (very limited)	1.00	depth to bedrock (slightly limited)	0.25	hard to pack (limited)	0.70
	depth to bedrock (moderately limited)	0.42	seepage (moderately limited)	0.50	wetness (limited)	0.79			wetness (moderately limited)	0.40
Gatewood-----	Very limited depth to bedrock (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00
	wetness (very limited)	1.00	depth to bedrock (very limited)	1.00	too clayey (very limited)	1.00	wetness (limited)	0.69	too clayey (very limited)	1.00
			slope (limited)	0.91	wetness (limited)	0.89			hard to pack (limited)	0.70

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73226:										
Ocie-----	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Limited wetness (limited)	0.61	Very limited too clayey (very limited)	1.00
	percs slowly (limited)	0.93	slope (very limited)	1.00	too clayey (very limited)	1.00	depth to bedrock (slightly limited)	0.25	small stones (limited)	0.83
	depth to bedrock (moderately limited)	0.42	seepage (moderately limited)	0.50	wetness (limited)	0.79	slope (slightly limited)	0.04	hard to pack (limited)	0.70
Gatewood-----	Very limited depth to bedrock (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00
	wetness (very limited)	1.00	depth to bedrock (very limited)	1.00	too clayey (very limited)	1.00	wetness (limited)	0.69	too clayey (very limited)	1.00
	slope (slightly limited)	0.04	slope (very limited)	1.00	wetness (limited)	0.89	slope (slightly limited)	0.04	hard to pack (limited)	0.70
73227:										
Ocie-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	wetness (very limited)	1.00	wetness (very limited)	1.00	depth to bedrock (very limited)	1.00	wetness (limited)	0.61	too clayey (very limited)	1.00
	percs slowly (limited)	0.93	seepage (moderately limited)	0.50	too clayey (very limited)	1.00	depth to bedrock (slightly limited)	0.25	hard to pack (limited)	0.70
Gatewood-----	Very limited depth to bedrock (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00
	slope (very limited)	1.00	wetness (very limited)	1.00	depth to bedrock (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	wetness (very limited)	1.00	depth to bedrock (very limited)	1.00	too clayey (very limited)	1.00	wetness (limited)	0.69	too clayey (very limited)	1.00
73228:										
Gatewood-----	Very limited depth to bedrock (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00
	wetness (very limited)	1.00	depth to bedrock (very limited)	1.00	too clayey (very limited)	1.00	wetness (limited)	0.69	too clayey (very limited)	1.00
	slope (slightly limited)	0.04	slope (very limited)	1.00	wetness (limited)	0.89	slope (slightly limited)	0.04	hard to pack (limited)	0.70

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value								
73228:										
Moko-----	Very limited									
	depth to bedrock (very limited)	1.00								
	large stones (limited)	0.86	slope (very limited)	1.00	slope (slightly limited)	0.04	slope (slightly limited)	0.04	large stones (limited)	0.77
	slope (slightly limited)	0.04	large stones (moderately limited)	0.50					slope (slightly limited)	0.04
73229:										
Gatewood-----	Very limited									
	depth to bedrock (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00	depth to bedrock (very limited)	1.00	depth to bedrock (very limited)	1.00
	slope (very limited)	1.00	wetness (very limited)	1.00	depth to bedrock (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	wetness (very limited)	1.00	depth to bedrock (very limited)	1.00	too clayey (very limited)	1.00	wetness (limited)	0.69	too clayey (very limited)	1.00
Moko-----	Very limited									
	depth to bedrock (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00	depth to bedrock (very limited)	1.00	depth to bedrock (very limited)	1.00
	slope (very limited)	1.00	depth to bedrock (very limited)	1.00	depth to bedrock (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	large stones (limited)	0.86	large stones (moderately limited)	0.50					large stones (limited)	0.77
73230:										
Coulstone-----	Very limited									
	slope (very limited)	1.00								
	large stones (limited)	0.88	seepage (very limited)	1.00	large stones (very limited)	1.00	seepage (limited)	0.79	large stones >35% (very limited)	1.00
			large stones (very limited)	1.00	seepage (limited)	0.67			too acid (slightly limited)	0.18
Bender-----	Very limited									
	depth to bedrock (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00	depth to bedrock (very limited)	1.00	depth to bedrock (very limited)	1.00
	slope (very limited)	1.00	depth to bedrock (very limited)	1.00	depth to bedrock (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	large stones (limited)	0.71	seepage (very limited)	1.00	seepage (limited)	0.96	seepage (limited)	0.97	seepage (limited)	0.99

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230:										
Gatewood-----	Very limited depth to bedrock (very limited) slope (very limited) wetness (very limited)	1.00 1.00 1.00	Very limited slope (very limited) wetness (very limited) depth to bedrock (very limited)	1.00 1.00 1.00	Very limited slope (very limited) depth to bedrock (very limited) too clayey (very limited)	1.00 1.00 1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited) wetness (limited)	1.00 1.00 1.00 0.69	Very limited depth to bedrock (very limited) slope (very limited) too clayey (very limited)	1.00 1.00 1.00 1.00
73231:										
Wasola-----	Very limited wetness (very limited) percs slowly (limited)	1.00 0.93	Very limited wetness (very limited) seepage (moderately limited) slope (moderately limited)	1.00 0.50 0.31	Limited wetness (limited) too clayey (moderately limited) too acid (slightly limited)	0.99 0.31 0.30	Limited wetness (limited)	0.80	Very limited small stones >35% (very limited) wetness (moderately limited) too acid (slightly limited)	1.00 0.50 0.30
73236:										
Scholten-----	Very limited wetness (very limited) percs slowly (very limited)	1.00 1.00	Very limited wetness (very limited) slope (limited) seepage (limited)	1.00 0.91 0.68	Very limited wetness (very limited) too clayey (limited) too acid (moderately limited)	1.00 0.88 0.48	Limited wetness (limited)	0.96	Very limited small stones >35% (very limited) too clayey (limited) wetness (moderately limited)	1.00 0.76 0.59
Poynor-----	Moderately limited percs slowly (moderately limited)	0.45	Limited seepage (limited) slope (limited)	0.82 0.66	Very limited too clayey (very limited) too acid (moderately limited)	1.00 0.42	Not limited		Very limited too clayey (very limited) hard to pack (limited) small stones (limited)	1.00 0.70 0.70
73237:										
Clarksville----	Slightly limited large stones (slightly limited) percs slowly (slightly limited) slope (slightly limited)	0.29 0.25 0.04	Very limited seepage (very limited) slope (very limited)	1.00 1.00	Limited too clayey (limited) large stones (limited) slope (slightly limited)	0.92 0.63 0.04	Limited seepage (limited) slope (slightly limited)	0.75 0.04	Limited too clayey (limited) small stones (moderately limited) large stones (moderately limited)	0.83 0.50 0.32

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73242:										
Fanchon-----	Slightly limited percs slowly (slightly limited)	0.25	Moderately limited seepage (moderately limited) slope (moderately limited)	0.50 0.31	Very limited too clayey (very limited) too acid (slightly limited)	1.00 0.30	Not limited		Very limited too clayey (very limited) too acid (slightly limited)	1.00 0.30
Tonti-----	Very limited wetness (very limited) percs slowly (very limited)	1.00 1.00	Very limited wetness (very limited) seepage (limited) slope (moderately limited)	1.00 0.68 0.31	Very limited wetness (very limited) too clayey (limited) too acid (moderately limited)	1.00 1.00 0.42	Limited wetness (limited)	0.94	Limited too clayey (limited) hard to pack (limited) wetness (moderately limited)	0.99 0.70 0.57
73243:										
Topazmill-----	Slightly limited percs slowly (slightly limited)	0.25	Moderately limited seepage (moderately limited) slope (moderately limited)	0.50 0.31	Slightly limited too acid (slightly limited) too clayey (slightly limited)	0.30 0.11	Not limited		Slightly limited too acid (slightly limited)	0.30
73300:										
Macedonia-----	Moderately limited percs slowly (moderately limited)	0.45	Limited slope (limited) seepage (slightly limited)	0.66 0.08	Very limited too clayey (very limited) too acid (moderately limited)	1.00 0.54	Not limited		Very limited too clayey (very limited) hard to pack (limited) too acid (moderately limited)	1.00 0.70 0.54
73311:										
Scholten-----	Very limited wetness (very limited) percs slowly (very limited) slope (limited)	1.00 1.00 0.63	Very limited slope (very limited) wetness (very limited) seepage (limited)	1.00 1.00 0.68	Very limited wetness (very limited) too clayey (limited) slope (limited)	1.00 0.88 0.63	Limited wetness (limited) slope (limited)	0.96 0.63	Very limited small stones >35% (very limited) too clayey (limited) slope (limited)	1.00 0.76 0.63

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value								
73311:										
Bendavis-----	Very limited									
	depth to bedrock (very limited)	1.00	slope (very limited)	1.00	depth to bedrock (very limited)	1.00	depth to bedrock (very limited)	1.00	depth to bedrock (very limited)	1.00
	wetness (very limited)	1.00	wetness (very limited)	1.00	wetness (limited)	0.79	slope (limited)	0.63	small stones >35% (very limited)	1.00
	slope (limited)	0.63	depth to bedrock (very limited)	1.00	slope (limited)	0.63	wetness (limited)	0.61	slope (limited)	0.63
Poynor-----	Limited		Very limited		Very limited		Limited		Very limited	
	slope (limited)	0.63	slope (very limited)	1.00	too clayey (very limited)	1.00	slope (limited)	0.63	too clayey (very limited)	1.00
	percs slowly (slightly limited)	0.25	seepage (moderately limited)	0.50	slope (limited)	0.63			hard to pack (limited)	0.70
					too acid (moderately limited)	0.42			slope (limited)	0.63
73325:										
Clarksville----	Very limited									
	slope (very limited)	1.00								
	percs slowly (moderately limited)	0.52	seepage (moderately limited)	0.32	too clayey (limited)	0.90			small stones >35% (very limited)	1.00
					too acid (moderately limited)	0.42			too clayey (limited)	0.79
73326:										
Topazmill-----	Slightly limited		Very limited		Limited		Slightly limited		Limited	
	percs slowly (slightly limited)	0.25	slope (very limited)	1.00	too acid (limited)	0.61	slope (slightly limited)	0.16	too acid (limited)	0.61
	slope (slightly limited)	0.16	seepage (moderately limited)	0.50	slope (slightly limited)	0.16			slope (slightly limited)	0.16
					too clayey (slightly limited)	0.04				
Coulstone-----	Limited		Very limited		Very limited		Limited		Very limited	
	large stones (limited)	0.88	seepage (very limited)	1.00	large stones (very limited)	1.00	seepage (limited)	0.79	large stones >35% (very limited)	1.00
	slope (slightly limited)	0.16	slope (very limited)	1.00	seepage (limited)	0.67	slope (slightly limited)	0.16	too acid (slightly limited)	0.18
			large stones (very limited)	1.00	too acid (slightly limited)	0.18			slope (slightly limited)	0.16

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73327:										
Topazmill-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	percs slowly (slightly limited)	0.25	seepage (moderately limited)	0.50	too acid (limited)	0.61	too clayey (slightly limited)	0.11	too acid (limited)	0.61
Coulstone-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	large stones (limited)	0.88	seepage (very limited)	1.00	large stones (very limited)	1.00	seepage (limited)	0.79	large stones >35% (very limited)	1.00
			large stones (very limited)	1.00	seepage (limited)	0.67			too acid (slightly limited)	0.18
73328:										
Scholten-----	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Limited wetness (limited)	0.96	Very limited small stones >35% (very limited)	1.00
	percs slowly (slightly limited)	0.25	slope (limited)	0.91	too clayey (limited)	0.88			too clayey (limited)	0.76
			seepage (limited)	0.68	too acid (moderately limited)	0.36			wetness (moderately limited)	0.59
Noark-----	Slightly limited percs slowly (slightly limited)	0.25	Limited slope (limited)	0.91	Very limited too clayey (very limited)	1.00	Not limited		Very limited small stones >35% (very limited)	1.00
			seepage (moderately limited)	0.50	too acid (limited)	0.68			too clayey (very limited)	1.00
									too acid (limited)	0.68
73329:										
Mano-----	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited too clayey (very limited)	1.00	Limited slope (limited)	0.63	Very limited too clayey (very limited)	1.00
	percs slowly (limited)	0.93	slope (very limited)	1.00	wetness (limited)	0.79	wetness (limited)	0.61	hard to pack (limited)	0.70
	slope (limited)	0.63	seepage (moderately limited)	0.50	slope (limited)	0.63			slope (limited)	0.63

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73329:										
Ocie-----	Very limited percs slowly (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Limited slope (limited)	0.63	Very limited too clayey (very limited)	1.00
	wetness (very limited)	1.00	slope (very limited)	1.00	too clayey (very limited)	1.00	wetness (limited)	0.61	hard to pack (limited)	0.70
	slope (limited)	0.63	seepage (moderately limited)	0.50	wetness (limited)	0.79	depth to bedrock (slightly limited)	0.25	slope (limited)	0.63
73331:										
Pomme-----	Limited slope (limited)	0.63	Very limited slope (very limited)	1.00	Very limited too clayey (very limited)	1.00	Limited slope (limited)	0.63	Very limited too clayey (very limited)	1.00
	percs slowly (slightly limited)	0.25	seepage (moderately limited)	0.50	slope (limited)	0.63			slope (limited)	0.63
					too acid (slightly limited)	0.18			too acid (slightly limited)	0.18
73332:										
Topazmill-----	Slightly limited percs slowly (slightly limited)	0.25	Very limited slope (very limited)	1.00	Limited too acid (limited)	0.61	Slightly limited slope (slightly limited)	0.16	Limited too acid (limited)	0.61
	slope (slightly limited)	0.16	seepage (moderately limited)	0.50	slope (slightly limited)	0.16			slope (slightly limited)	0.16
					too clayey (slightly limited)	0.11				
74627:										
Hartville-----	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Limited wetness (limited)	0.99	Limited wetness (limited)	0.80	Moderately limited wetness (moderately limited)	0.50
	percs slowly (limited)	0.93			too clayey (limited)	0.62	flooding (rare) (moderately limited)	0.60	too clayey (moderately limited)	0.33
	flooding (rare) (moderately limited)	0.60			flooding (rare) (moderately limited)	0.60				
74657:										
Pomme-----	Slightly limited percs slowly (slightly limited)	0.25	Limited slope (limited)	0.66	Very limited too clayey (very limited)	1.00	Not limited		Very limited small stones >35% (very limited)	1.00
			seepage (moderately limited)	0.50	too acid (slightly limited)	0.18			too clayey (very limited)	1.00
									too acid (slightly limited)	0.18

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74682:										
Zanoni-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) seepage (very limited)	1.00	Very limited flooding (very limited) seepage (very limited)	1.00	Very limited flooding (very limited) seepage (limited)	1.00	Very limited seepage (very limited) small stones (slightly limited)	1.00
74683:										
Cedargap-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) seepage (very limited)	1.00	Very limited flooding (very limited) seepage (limited) too clayey (slightly limited)	1.00	Very limited flooding (very limited) seepage (limited)	1.00	Very limited small stones >35% (very limited) seepage (slightly limited)	1.00
Razort-----	Moderately limited flooding (rare) (moderately limited) percs slowly (slightly limited)	0.60	Very limited seepage (very limited)	1.00	Limited seepage (limited) flooding (rare) (moderately limited)	0.79	Limited seepage (limited) flooding (rare) (moderately limited)	0.75	Moderately limited seepage (moderately limited) small stones (moderately limited)	0.50
75381:										
Bearthicket---	Moderately limited flooding (rare) (moderately limited) percs slowly (slightly limited)	0.60	Moderately limited seepage (moderately limited)	0.50	Moderately limited flooding (rare) (moderately limited)	0.60	Moderately limited flooding (rare) (moderately limited)	0.60	Not limited	
75382:										
Cedargap-----	Very limited flooding (very limited) wetness (moderately limited) percs slowly (slightly limited)	1.00	Very limited flooding (very limited) seepage (moderately limited)	1.00	Very limited flooding (very limited) wetness (slightly limited) too clayey (slightly limited)	1.00	Very limited flooding (very limited) wetness (slightly limited)	1.00	Very limited small stones >35% (very limited)	1.00
75390:										
Razort-----	Moderately limited flooding (rare) (moderately limited) percs slowly (slightly limited)	0.60	Very limited seepage (very limited)	1.00	Limited seepage (limited) flooding (rare) (moderately limited)	0.79	Limited seepage (limited) flooding (rare) (moderately limited)	0.75	Moderately limited seepage (moderately limited) small stones (slightly limited)	0.50

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field		Sewage lagoons		Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75406:										
Racket-----	Very limited flooding (very limited) wetness (moderately limited) percs slowly (slightly limited)	1.00 0.31 0.20	Very limited flooding (very limited) seepage (very limited)	1.00 1.00	Very limited flooding (very limited) seepage (limited) wetness (slightly limited)	1.00 0.79 0.15	Very limited flooding (very limited) seepage (moderately limited)	1.00 0.50	Moderately limited seepage (moderately limited) small stones (slightly limited)	0.50 0.02
75417:										
Relfe-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) seepage (very limited)	1.00 1.00	Very limited flooding (very limited) seepage (very limited) too sandy (moderately limited)	1.00 1.00 0.60	Very limited flooding (very limited) seepage (very limited)	1.00 1.00	Very limited seepage (very limited) small stones >35% (very limited) too sandy (moderately limited)	1.00 1.00 0.60
Sandbur-----	Very limited flooding (very limited) percs slowly (slightly limited)	1.00 0.25	Very limited flooding (very limited) seepage (very limited)	1.00 1.00	Very limited flooding (very limited) too sandy (very limited)	1.00 1.00	Very limited flooding (very limited) seepage (limited)	1.00 0.75	Very limited too sandy (very limited) seepage (moderately limited)	1.00 0.50
99001:										
Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002:										
Borrow areas---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 14.--Construction Materials and Excavating

(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 potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70022:										
Tonti-----	Moderately limited wetness (moderately limited)	0.48	Improbable excess fines (thickest layer)	1.00	Probable excess fines (bottom layer)	0.75	Very limited small stones (very limited)	1.00	Very limited dense layer <20" (very limited)	1.00
	shrink-swell (slightly limited)	0.04	excess fines (bottom layer)	1.00	probable source (thickest layer)	0.42	dense layer <20" (very limited)	1.00	wetness (very limited)	1.00
							area reclaim (very limited)	1.00	cutbanks cave (very limited)	1.00
70025:										
Branson-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Slightly limited too acid (slightly limited)	0.12	Slightly limited cutbanks cave (slightly limited)	0.29
			excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00			too clayey (slightly limited)	0.06
Splitlimb-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Limited wetness (limited)	0.71	Very limited wetness (very limited)	1.00
	wetness (limited)	0.71	excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00	too acid (moderately limited)	0.48	cutbanks cave (slightly limited)	0.29
	shrink-swell (moderately limited)	0.45					too clayey (moderately limited)	0.33		
70026:										
Tonti-----	Moderately limited wetness (moderately limited)	0.48	Improbable excess fines (thickest layer)	1.00	Probable excess fines (bottom layer)	0.75	Very limited small stones (very limited)	1.00	Very limited dense layer <20" (very limited)	1.00
	shrink-swell (slightly limited)	0.04	excess fines (bottom layer)	1.00	probable source (thickest layer)	0.50	dense layer <20" (very limited)	1.00	wetness (very limited)	1.00
							area reclaim (very limited)	1.00	cutbanks cave (very limited)	1.00
73000:										
Pomme-----	Not limited		Improbable excess fines (thickest layer)	1.00	Improbable excess fines (thickest layer)	1.00	Limited small stones (limited)	0.92	Very limited cutbanks cave (very limited)	1.00
			excess fines (bottom layer)	1.00	excess fines (bottom layer)	1.00	too clayey (limited)	0.61	too clayey (very limited)	1.00
							too acid (slightly limited)	0.18		

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73013:										
Lowassie-----	Very limited wetness (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Very limited wetness (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00
	low strength (very limited)	1.00	excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00	too clayey (very limited)	1.00	wetness (very limited)	1.00
	shrink-swell (slightly limited)	0.27					too acid (moderately limited)	0.54	too clayey (moderately limited)	0.60
73017:										
Bendavis-----	Very limited depth to bedrock (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Possible excess fines (bottom layer)	0.75	Very limited slope (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00
	slope (very limited)	1.00	excess fines (bottom layer)	1.00	excess fines (thickest layer)	0.75	small stones (very limited)	1.00	slope (very limited)	1.00
	wetness (slightly limited)	0.12					large surface stones (limited)	0.70	cutbanks cave (very limited)	1.00
Poynor-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Probable excess fines (bottom layer)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	slope (limited)	0.92	excess fines (bottom layer)	1.00	probable source (thickest layer)	0.50	small stones (very limited)	1.00	cutbanks cave (very limited)	1.00
	shrink-swell (slightly limited)	0.14					too acid (moderately limited)	0.36	too clayey (very limited)	1.00
73019:										
Poynor-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Probable excess fines (bottom layer)	1.00	Very limited small stones (very limited)	1.00	Very limited cutbanks cave (very limited)	1.00
	shrink-swell (slightly limited)	0.14	excess fines (bottom layer)	1.00	probable source (thickest layer)	0.50	too acid (moderately limited)	0.42	too clayey (limited)	0.99
							too clayey (moderately limited)	0.33		
73021:										
Poynor-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Probable excess fines (bottom layer)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	slope (limited)	0.92	excess fines (bottom layer)	1.00	probable source (thickest layer)	0.50	small stones (very limited)	1.00	cutbanks cave (very limited)	1.00
	shrink-swell (slightly limited)	0.14					too clayey (moderately limited)	0.50	too clayey (very limited)	1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73023:										
Mano-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Probable excess fines (bottom layer)	1.00	Very limited small stones (very limited)	1.00	Very limited cutbanks cave (very limited)	1.00
	shrink-swell (moderately limited)	0.50	excess fines (bottom layer)	1.00	probable source (thickest layer)	0.50	too acid (slightly limited)	0.30	too clayey (very limited)	1.00
	wetness (slightly limited)	0.12					wetness (slightly limited)	0.12	wetness (very limited)	1.00
Ocie-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Very limited too clayey (very limited)	1.00	Very limited too clayey (very limited)	1.00
	shrink-swell (limited)	0.71	excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00	small stones (limited)	0.88	cutbanks cave (very limited)	1.00
	depth to bedrock (slightly limited)	0.25					wetness (slightly limited)	0.12	wetness (very limited)	1.00
73024:										
Mano-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Probable excess fines (bottom layer)	1.00	Very limited small stones (very limited)	1.00	Very limited cutbanks cave (very limited)	1.00
	shrink-swell (moderately limited)	0.50	excess fines (bottom layer)	1.00	probable source (thickest layer)	0.50	slope (limited)	0.63	too clayey (very limited)	1.00
	wetness (slightly limited)	0.12					too acid (moderately limited)	0.48	wetness (very limited)	1.00
Ocie-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Very limited too clayey (very limited)	1.00	Very limited too clayey (very limited)	1.00
	shrink-swell (limited)	0.71	excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00	small stones (very limited)	1.00	cutbanks cave (very limited)	1.00
	depth to bedrock (slightly limited)	0.25					slope (limited)	0.63	wetness (very limited)	1.00
73032:										
Gatewood-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Possible excess fines (thickest layer)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00
	depth to bedrock (very limited)	1.00	excess fines (bottom layer)	1.00	excess fines (bottom layer)	0.99	too clayey (very limited)	1.00	wetness (very limited)	1.00
	shrink-swell (very limited)	1.00					small stones (moderately limited)	0.50	too clayey (very limited)	1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73033:										
Gatewood-----	Very limited low strength (very limited) depth to bedrock (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited) too clayey (very limited)	1.00 1.00 1.00	Very limited hard bedrock <40" (very limited) slope (very limited) wetness (very limited)	1.00 1.00 1.00
73051:										
Winnipeg-----	Very limited low strength (very limited) shrink-swell (moderately limited)	1.00 0.33	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Moderately limited too clayey (moderately limited)	0.55	Moderately limited too clayey (moderately limited) cutbanks cave (slightly limited)	0.54 0.29
73059:										
Pomme-----	Not limited		Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Limited small stones (limited) too clayey (limited) area reclaim (moderately limited)	0.88 0.61 0.32	Very limited cutbanks cave (very limited) too clayey (very limited)	1.00 1.00
73063:										
Bendavis-----	Very limited depth to bedrock (very limited) wetness (slightly limited)	1.00 0.12	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (bottom layer) excess fines (thickest layer)	0.99 0.99	Very limited small stones (very limited) depth to bedrock (limited) too acid (slightly limited)	1.00 0.93 0.30	Very limited hard bedrock <40" (very limited) cutbanks cave (very limited) wetness (very limited)	1.00 1.00 1.00
Poynor-----	Very limited low strength (very limited) shrink-swell (slightly limited)	1.00 0.14	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.50	Very limited small stones (very limited) too acid (moderately limited) too clayey (moderately limited)	1.00 0.42 0.33	Very limited cutbanks cave (very limited) too clayey (limited)	1.00 0.99

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73068:										
Tick-----	Very limited low strength (very limited) shrink-swell (slightly limited)	1.00 0.30	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Very limited too clayey (very limited) slope (limited) too acid (moderately limited)	1.00 0.63 0.42	Very limited too clayey (very limited) slope (limited) cutbanks cave (slightly limited)	1.00 0.63 0.29
73069:										
Tick-----	Very limited low strength (very limited) slope (limited) shrink-swell (slightly limited)	1.00 0.92 0.30	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Very limited slope (very limited) too clayey (very limited) too acid (moderately limited)	1.00 1.00 0.42	Very limited slope (very limited) too clayey (very limited) cutbanks cave (slightly limited)	1.00 1.00 0.29
73073:										
Scholten-----	Limited wetness (limited) shrink-swell (slightly limited)	0.82 0.25	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (thickest layer) excess fines (bottom layer)	1.00 0.75	Very limited small stones (very limited) area reclaim (very limited) dense layer (limited)	1.00 1.00 1.00	Very limited wetness (very limited) cutbanks cave (very limited) dense layer (limited)	1.00 1.00 1.00
Poynor-----	Very limited low strength (very limited) shrink-swell (slightly limited)	1.00 0.14	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (bottom layer) excess fines (thickest layer)	1.00 0.75	Very limited small stones (very limited) slope (limited) too acid (moderately limited)	1.00 0.63 0.42	Very limited cutbanks cave (very limited) too clayey (very limited) slope (limited)	1.00 1.00 0.63
73076:										
Mano-----	Very limited low strength (very limited) slope (limited) shrink-swell (moderately limited)	1.00 0.92 0.50	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.50	Very limited slope (very limited) small stones (very limited) too acid (moderately limited)	1.00 1.00 0.48	Very limited slope (very limited) cutbanks cave (very limited) too clayey (very limited)	1.00 1.00 1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73076:										
Ocie-----	Very limited low strength (very limited) slope (limited) shrink-swell (limited)	1.00 0.92 0.71	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Very limited slope (very limited) too clayey (very limited) small stones (very limited)	1.00 1.00 1.00	Very limited too clayey (very limited) slope (very limited) cutbanks cave (very limited)	1.00 1.00 1.00
73121:										
Scholten-----	Limited wetness (limited)	0.82	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (thickest layer) excess fines (bottom layer)	1.00 0.62	Very limited small stones (very limited) dense layer (limited) wetness (limited)	1.00 1.00 0.82	Very limited wetness (very limited) cutbanks cave (very limited) dense layer (limited)	1.00 1.00 1.00
Tonti-----	Moderately limited wetness (moderately limited) shrink-swell (slightly limited)	0.48 0.04	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (thickest layer) excess fines (bottom layer)	1.00 0.75	Very limited small stones (very limited) dense layer <20" (very limited) area reclaim (very limited)	1.00 1.00 1.00	Very limited dense layer <20" (very limited) wetness (very limited) cutbanks cave (very limited)	1.00 1.00 1.00
73176:										
Bendavis-----	Very limited depth to bedrock (very limited) wetness (slightly limited)	1.00 0.12	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (bottom layer) excess fines (thickest layer)	0.75 0.75	Very limited depth to bedrock (very limited) small stones (very limited) slope (limited)	1.00 1.00 0.63	Very limited hard bedrock <40" (very limited) cutbanks cave (very limited) wetness (very limited)	1.00 1.00 1.00
Poynor-----	Very limited low strength (very limited) shrink-swell (moderately limited)	1.00 0.32	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (bottom layer) excess fines (thickest layer)	1.00 0.99	Very limited too clayey (very limited) slope (limited) too acid (moderately limited)	1.00 0.63 0.36	Very limited too clayey (very limited) slope (limited) cutbanks cave (slightly limited)	1.00 0.63 0.29

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73198:										
Gressy-----	Slightly limited low strength (slightly limited)	0.22	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Slightly limited small stones (slightly limited)	0.12	Very limited cutbanks cave (very limited)	1.00
	shrink-swell (slightly limited)	0.18	excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00	area reclaim (slightly limited)	0.08	too clayey (very limited)	1.00
Viraton-----	Moderately limited wetness (moderately limited)	0.48	Improbable excess fines (thickest layer)	1.00	Probable excess fines (bottom layer)	1.00	Very limited small stones (very limited)	1.00	Very limited dense layer <20" (very limited)	1.00
	shrink-swell (slightly limited)	0.20	excess fines (bottom layer)	1.00	probable source (thickest layer)	0.25	dense layer <20" (very limited)	1.00	wetness (very limited)	1.00
							too acid (limited)	0.68	cutbanks cave (very limited)	1.00
73199:										
Moko-----	Very limited depth to bedrock (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Probable small stones (thickest layer)	0.83	Very limited depth to bedrock (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00
	large stones (limited)	0.99	excess fines (bottom layer)	1.00	small stones (bottom layer)	0.66	small stones (very limited)	1.00	large stones (limited)	0.99
	low strength (slightly limited)	0.22	small stones (thickest layer)	0.83	probable source (thickest layer)	0.50	large stones >25% (very limited)	1.00	cutbanks cave (slightly limited)	0.29
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73220:										
Poynor-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Possible excess fines (bottom layer)	1.00	Very limited small stones (very limited)	1.00	Very limited cutbanks cave (very limited)	1.00
	shrink-swell (slightly limited)	0.14	excess fines (bottom layer)	1.00	excess fines (thickest layer)	0.75	slope (limited)	0.63	too clayey (very limited)	1.00
							too acid (moderately limited)	0.42	slope (limited)	0.63
73222:										
Splitlimb-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Limited wetness (limited)	0.76	Very limited ponded (wetness) (very limited)	1.00
	wetness (limited)	0.76	excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00	too acid (moderately limited)	0.48	wetness (very limited)	1.00
	shrink-swell (moderately limited)	0.45					too clayey (moderately limited)	0.33	cutbanks cave (slightly limited)	0.29

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73223:										
Coulstone-----	Limited slope (limited)	0.92	Improbable excess fines (thickest layer)	1.00	Possible excess fines (thickest layer)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
			excess fines (bottom layer)	1.00	excess fines (bottom layer)	0.75	area reclaim (very limited)	1.00	cutbanks cave (very limited)	1.00
							small stones (very limited)	1.00		
Bender-----	Very limited depth to bedrock (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Possible excess fines (bottom layer)	0.75	Very limited depth to bedrock (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00
	slope (very limited)	1.00	excess fines (bottom layer)	1.00	excess fines (thickest layer)	0.75	slope (very limited)	1.00	slope (very limited)	1.00
	large stones (limited)	0.76	small stones (thickest layer)	0.60	small stones (thickest layer)	0.60	small stones (very limited)	1.00	large stones (limited)	0.76
73224:										
Moko-----	Very limited depth to bedrock (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00
	slope (limited)	0.92	excess fines (bottom layer)	1.00	small stones (bottom layer)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	large stones (limited)	0.86	small stones (bottom layer)	1.00	excess fines (thickest layer)	0.99	small stones (very limited)	1.00	large stones (limited)	0.86
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73225:										
Ocie-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Very limited too clayey (very limited)	1.00	Very limited too clayey (very limited)	1.00
	shrink-swell (limited)	0.71	excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00	small stones (very limited)	1.00	cutbanks cave (very limited)	1.00
	depth to bedrock (slightly limited)	0.25					wetness (slightly limited)	0.12	wetness (very limited)	1.00
Gatewood-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (thickest layer)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00
	depth to bedrock (very limited)	1.00	excess fines (bottom layer)	1.00	excess fines (bottom layer)	1.00	too clayey (very limited)	1.00	wetness (very limited)	1.00
	shrink-swell (very limited)	1.00					small stones (moderately limited)	0.50	too clayey (very limited)	1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73226:										
Ocie-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Very limited too clayey (very limited)	1.00	Very limited too clayey (very limited)	1.00
	shrink-swell (limited)	0.85	excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00	small stones (very limited)	1.00	cutbanks cave (very limited)	1.00
	depth to bedrock (slightly limited)	0.25				wetness (slightly limited)	0.12	wetness (very limited)	1.00	
Gatewood-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (thickest layer)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00
	depth to bedrock (very limited)	1.00	excess fines (bottom layer)	1.00	excess fines (bottom layer)	1.00	too clayey (very limited)	1.00	wetness (very limited)	1.00
	shrink-swell (very limited)	1.00				small stones (moderately limited)	0.50	too clayey (very limited)	1.00	
73227:										
Ocie-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	slope (very limited)	1.00	excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00	too clayey (very limited)	1.00	cutbanks cave (very limited)	1.00
	shrink-swell (limited)	0.85				small stones (limited)	0.88	too clayey (very limited)	1.00	
Gatewood-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Very limited slope (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00
	depth to bedrock (very limited)	1.00	excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00	too clayey (very limited)	1.00	slope (very limited)	1.00
	shrink-swell (very limited)	1.00				depth to bedrock (limited)	0.68	wetness (very limited)	1.00	
73228:										
Gatewood-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (thickest layer)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00
	depth to bedrock (very limited)	1.00	excess fines (bottom layer)	1.00	excess fines (bottom layer)	1.00	too clayey (very limited)	1.00	wetness (very limited)	1.00
	shrink-swell (very limited)	1.00				small stones (moderately limited)	0.50	too clayey (very limited)	1.00	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value								
73228:										
Moko-----	Very limited		Improbable		Improbable		Very limited		Very limited	
	depth to bedrock (very limited)	1.00	excess fines (thickest layer)	1.00	excess fines (bottom layer)	1.00	depth to bedrock (very limited)	1.00	hard bedrock <40" (very limited)	1.00
	large stones (limited)	0.86	excess fines (bottom layer)	1.00	small stones (bottom layer)	1.00	small stones (very limited)	1.00	large stones (limited)	0.86
	low strength (slightly limited)	0.22	small stones (bottom layer)	1.00	excess fines (thickest layer)	0.99	large stones >25% (very limited)	1.00	cutbanks cave (slightly limited)	0.29
73229:										
Gatewood-----	Very limited		Improbable		Improbable		Very limited		Very limited	
	low strength (very limited)	1.00	excess fines (thickest layer)	1.00	excess fines (thickest layer)	1.00	depth to bedrock (very limited)	1.00	hard bedrock <40" (very limited)	1.00
	depth to bedrock (very limited)	1.00	excess fines (bottom layer)	1.00	excess fines (bottom layer)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	shrink-swell (very limited)	1.00					too clayey (very limited)	1.00	wetness (very limited)	1.00
Moko-----	Very limited		Improbable		Improbable		Very limited		Very limited	
	depth to bedrock (very limited)	1.00	excess fines (thickest layer)	1.00	excess fines (bottom layer)	1.00	depth to bedrock (very limited)	1.00	hard bedrock <40" (very limited)	1.00
	slope (limited)	0.92	excess fines (bottom layer)	1.00	small stones (bottom layer)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	large stones (limited)	0.86	small stones (bottom layer)	1.00	excess fines (thickest layer)	0.99	small stones (very limited)	1.00	large stones (limited)	0.86
73230:										
Coulstone-----	Limited		Improbable		Possible		Very limited		Very limited	
	slope (limited)	0.92	excess fines (thickest layer)	1.00	excess fines (thickest layer)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	large stones (limited)	0.88	excess fines (bottom layer)	1.00	excess fines (bottom layer)	0.75	small stones (very limited)	1.00	large stones (limited)	0.88
			large stones (bottom layer)	0.30	large stones (thickest layer)	0.30	area reclaim (very limited)	1.00	cutbanks cave (slightly limited)	0.29
Bender-----	Very limited		Improbable		Possible		Very limited		Very limited	
	depth to bedrock (very limited)	1.00	excess fines (thickest layer)	1.00	excess fines (bottom layer)	0.75	depth to bedrock (very limited)	1.00	hard bedrock <40" (very limited)	1.00
	slope (very limited)	1.00	excess fines (bottom layer)	1.00	excess fines (thickest layer)	0.75	slope (very limited)	1.00	slope (very limited)	1.00
	large stones (limited)	0.71	small stones (thickest layer)	0.60	small stones (thickest layer)	0.60	small stones (very limited)	1.00	large stones (limited)	0.71

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73230:										
Gatewood-----	Very limited low strength (very limited) depth to bedrock (very limited) shrink-swell (very limited)	1.00 1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited) too clayey (very limited)	1.00 1.00 1.00	Very limited hard bedrock <40" (very limited) slope (very limited) wetness (very limited)	1.00 1.00 1.00
73231:										
Wasola-----	Moderately limited shrink-swell (moderately limited) wetness (moderately limited)	0.53 0.48	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Very limited area reclaim (very limited) small stones (limited) wetness (moderately limited)	1.00 0.72 0.48	Very limited wetness (very limited) cutbanks cave (very limited) too clayey (slightly limited)	1.00 1.00 0.15
73236:										
Scholten-----	Limited wetness (limited) shrink-swell (slightly limited)	0.82 0.04	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Possible excess fines (thickest layer) excess fines (bottom layer)	1.00 0.62	Very limited small stones (very limited) area reclaim (very limited) dense layer (limited)	1.00 1.00 1.00	Very limited wetness (very limited) cutbanks cave (very limited) dense layer (limited)	1.00 1.00 1.00
Poynor-----	Very limited low strength (very limited) shrink-swell (slightly limited)	1.00 0.14	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable excess fines (bottom layer) probable source (thickest layer)	1.00 0.50	Very limited small stones (very limited) too acid (moderately limited)	1.00 0.36	Very limited cutbanks cave (very limited) too clayey (very limited)	1.00 1.00
73237:										
Clarksville---	Slightly limited large stones (slightly limited) shrink-swell (slightly limited)	0.29 0.09	Improbable excess fines (thickest layer) excess fines (bottom layer) small stones (thickest layer)	1.00 1.00 0.66	Possible excess fines (bottom layer) excess fines (thickest layer) small stones (thickest layer)	0.99 0.99 0.66	Very limited small stones (very limited) area reclaim (very limited) large surface stones (limited)	1.00 1.00 0.79	Limited too clayey (limited) cutbanks cave (slightly limited) large stones (slightly limited)	0.83 0.29 0.29

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73242:										
Fanchon-----	Not limited		Improbable excess fines (thickest layer)	1.00	Possible excess fines (bottom layer)	1.00	Slightly limited too acid (slightly limited)	0.24	Very limited cutbanks cave (very limited)	1.00
			excess fines (bottom layer)	1.00	excess fines (thickest layer)	0.99			too clayey (very limited)	1.00
Tonti-----	Limited wetness (limited)	0.78	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (thickest layer)	1.00	Very limited dense layer <20" (very limited)	1.00	Very limited dense layer <20" (very limited)	1.00
	shrink-swell (slightly limited)	0.01	excess fines (bottom layer)	1.00	excess fines (bottom layer)	1.00	wetness (limited)	0.78	wetness (very limited)	1.00
							small stones (moderately limited)	0.50	cutbanks cave (very limited)	1.00
73243:										
Topazmill-----	Not limited		Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Not limited		Slightly limited cutbanks cave (slightly limited)	0.29
			excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00				
73300:										
Macedonia-----	Moderately limited shrink-swell (moderately limited)	0.45	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (thickest layer)	1.00	Very limited too clayey (very limited)	1.00	Very limited too clayey (very limited)	1.00
			excess fines (bottom layer)	1.00	excess fines (bottom layer)	1.00	small stones (limited)	0.88	cutbanks cave (slightly limited)	0.29
							too acid (moderately limited)	0.54		
73311:										
Scholten-----	Limited wetness (limited)	0.82	Improbable excess fines (thickest layer)	1.00	Possible excess fines (thickest layer)	1.00	Very limited small stones (very limited)	1.00	Very limited wetness (very limited)	1.00
	shrink-swell (slightly limited)	0.04	excess fines (bottom layer)	1.00	excess fines (bottom layer)	0.62	area reclaim (very limited)	1.00	cutbanks cave (very limited)	1.00
							dense layer (limited)	1.00	dense layer (limited)	1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73311:										
Bendavis-----	Very limited depth to bedrock (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Possible excess fines (bottom layer)	0.75	Very limited depth to bedrock (very limited)	1.00	Very limited hard bedrock <40" (very limited)	1.00
	wetness (slightly limited)	0.12	excess fines (bottom layer)	1.00	excess fines (thickest layer)	0.75	small stones (very limited)	1.00	cutbanks cave (very limited)	1.00
							slope (limited)	0.63	wetness (very limited)	1.00
Poynor-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Very limited small stones (very limited)	1.00	Very limited cutbanks cave (very limited)	1.00
	shrink-swell (slightly limited)	0.14	excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00	slope (limited)	0.63	too clayey (very limited)	1.00
							too acid (moderately limited)	0.42	slope (limited)	0.63
73325:										
Clarksville----	Very limited slope (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Probable excess fines (bottom layer)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
			excess fines (bottom layer)	1.00	probable source (thickest layer)	0.50	small stones (very limited)	1.00	cutbanks cave (very limited)	1.00
							area reclaim (very limited)	1.00	too clayey (limited)	0.79
73326:										
Topazmill-----	Moderately limited shrink-swell (moderately limited)	0.45	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Slightly limited slope (slightly limited)	0.16	Slightly limited cutbanks cave (slightly limited)	0.29
			excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00			slope (slightly limited)	0.16
Coulstone-----	Limited large stones (limited)	0.88	Improbable excess fines (thickest layer)	1.00	Possible excess fines (thickest layer)	1.00	Very limited small stones (very limited)	1.00	Limited large stones (limited)	0.88
			excess fines (bottom layer)	1.00	excess fines (bottom layer)	0.75	area reclaim (very limited)	1.00	cutbanks cave (slightly limited)	0.29
			large stones (bottom layer)	0.30	large stones (thickest layer)	0.30	large surface stones (very limited)	1.00	slope (slightly limited)	0.16

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73327:										
Topazmill-----	Moderately limited slope (moderately limited)	0.50	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	shrink-swoll (moderately limited)	0.45	excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00			cutbanks cave (slightly limited)	0.29
Coulstone-----	Limited large stones (limited)	0.88	Improbable excess fines (thickest layer)	1.00	Possible excess fines (thickest layer)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	slope (moderately limited)	0.50	excess fines (bottom layer)	1.00	excess fines (bottom layer)	0.75	small stones (very limited)	1.00	large stones (limited)	0.88
			large stones (bottom layer)	0.30	large stones (thickest layer)	0.30	area reclaim (very limited)	1.00	cutbanks cave (slightly limited)	0.29
73328:										
Scholten-----	Limited wetness (limited)	0.82	Improbable excess fines (thickest layer)	1.00	Possible excess fines (thickest layer)	1.00	Very limited small stones (very limited)	1.00	Very limited wetness (very limited)	1.00
			excess fines (bottom layer)	1.00	excess fines (bottom layer)	0.62	dense layer (limited)	1.00	cutbanks cave (very limited)	1.00
							wetness (limited)	0.82	dense layer (limited)	1.00
Noark-----	Moderately limited shrink-swoll (moderately limited)	0.33	Improbable excess fines (thickest layer)	1.00	Possible excess fines (thickest layer)	1.00	Very limited small stones (very limited)	1.00	Very limited cutbanks cave (very limited)	1.00
			excess fines (bottom layer)	1.00	excess fines (bottom layer)	0.75	area reclaim (very limited)	1.00	too clayey (very limited)	1.00
							too clayey (very limited)	1.00		
73329:										
Mano-----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Probable excess fines (bottom layer)	1.00	Very limited small stones (very limited)	1.00	Very limited cutbanks cave (very limited)	1.00
	shrink-swoll (moderately limited)	0.50	excess fines (bottom layer)	1.00	probable source (thickest layer)	0.50	slope (limited)	0.63	too clayey (very limited)	1.00
	wetness (slightly limited)	0.12					too acid (moderately limited)	0.48	wetness (very limited)	1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73329: Ocie-----	Very limited low strength (very limited) shrink-swell (limited) depth to bedrock (slightly limited)	1.00 0.71 0.25	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Very limited too clayey (very limited) small stones (very limited) slope (limited)	1.00 1.00 0.63	Very limited too clayey (very limited) cutbanks cave (very limited) wetness (very limited)	1.00 1.00 1.00
73331: Pomme-----	Not limited		Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Limited small stones (limited) slope (limited) too clayey (limited)	0.88 0.63 0.61	Very limited cutbanks cave (very limited) too clayey (very limited) slope (limited)	1.00 1.00 0.63
73332: Topazmill-----	Moderately limited shrink-swell (moderately limited)	0.45	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Slightly limited slope (slightly limited)	0.16	Slightly limited cutbanks cave (slightly limited) slope (slightly limited)	0.29 0.16
74627: Hartville-----	Very limited low strength (very limited) shrink-swell (very limited) wetness (moderately limited)	1.00 1.00 0.48	Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Improbable excess fines (bottom layer) excess fines (thickest layer)	1.00 1.00	Very limited too clayey (very limited) wetness (moderately limited)	1.00 0.48	Very limited wetness (very limited) too clayey (moderately limited) cutbanks cave (slightly limited)	1.00 0.33 0.29
74657: Pomme-----	Not limited		Improbable excess fines (thickest layer) excess fines (bottom layer)	1.00 1.00	Probable probable source (thickest layer) probable source (bottom layer)	0.46 0.38	Very limited small stones (very limited) area reclaim (very limited) too clayey (limited)	1.00 1.00 0.61	Very limited cutbanks cave (very limited) too clayey (very limited)	1.00 1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74682: Zanoni-----	Not limited		Improbable excess fines (thickest layer)	1.00	Probable excess fines (thickest layer)	1.00	Very limited area reclaim (very limited)	1.00	Very limited cutbanks cave (very limited)	1.00
			excess fines (bottom layer)	1.00	probable source (bottom layer)	0.25	too sandy (limited)	0.63	flooding (moderately limited)	0.60
74683: Cedargap-----	Not limited		Improbable excess fines (thickest layer)	1.00	Probable probable source (thickest layer)	0.50	Very limited small stones (very limited)	1.00	Very limited cutbanks cave (very limited)	1.00
			excess fines (bottom layer)	1.00	probable source (bottom layer)	0.46	area reclaim (very limited)	1.00	flooding (moderately limited)	0.60
							too sandy (moderately limited)	0.52		
Razort-----	Not limited		Improbable excess fines (thickest layer)	1.00	Possible excess fines (thickest layer)	1.00	Very limited area reclaim (very limited)	1.00	Very limited cutbanks cave (very limited)	1.00
			excess fines (bottom layer)	1.00	excess fines (bottom layer)	0.99	small stones (moderately limited)	0.50		
75381: Bearthicket----	Very limited low strength (very limited)	1.00	Improbable excess fines (thickest layer)	1.00	Improbable excess fines (bottom layer)	1.00	Not limited		Slightly limited cutbanks cave (slightly limited)	0.29
			excess fines (bottom layer)	1.00	excess fines (thickest layer)	1.00				
75382: Cedargap-----	Not limited		Improbable excess fines (thickest layer)	1.00	Possible excess fines (thickest layer)	0.99	Very limited small stones (very limited)	1.00	Very limited cutbanks cave (very limited)	1.00
			excess fines (bottom layer)	1.00	excess fines (bottom layer)	0.75	area reclaim (very limited)	1.00	flooding (moderately limited)	0.60
							too clayey (slightly limited)	0.08	wetness (slightly limited)	0.16
75390: Razort-----	Not limited		Improbable excess fines (thickest layer)	1.00	Improbable excess fines (thickest layer)	1.00	Limited area reclaim (limited)	0.92	Very limited cutbanks cave (very limited)	1.00
			excess fines (bottom layer)	1.00	excess fines (bottom layer)	1.00				

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Roadfill		Sand		Gravel		Topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75406: Racket-----	Limited low strength (limited) shrink-swell (slightly limited)	0.78 0.20	Probable excess fines (thickest layer) probable source (bottom layer)	1.00 0.44	Probable excess fines (thickest layer) probable source (bottom layer)	1.00 0.42	Very limited area reclaim (very limited)	1.00	Very limited cutbanks cave (very limited) flooding (moderately limited) wetness (slightly limited)	1.00 0.60 0.16
75417: Relfe-----	Not limited		Probable excess fines (thickest layer) probable source (bottom layer)	1.00 0.26	Probable excess fines (thickest layer) probable source (bottom layer)	0.75 0.25	Very limited too sandy (very limited) small stones (very limited) area reclaim (very limited)	1.00 1.00 1.00	Very limited cutbanks cave (very limited) flooding (moderately limited)	1.00 0.60
Sandbur-----	Not limited		Possible excess fines (thickest layer) excess fines (bottom layer)	1.00 0.97	Possible excess fines (thickest layer) excess fines (bottom layer)	1.00 0.99	Very limited area reclaim (very limited) too sandy (limited)	1.00 0.76	Very limited cutbanks cave (very limited) flooding (moderately limited)	1.00 0.60
99001: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002: Borrow areas---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 15.--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 potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70022:										
Tonti-----	Moderately limited seepage (moderately limited)	0.50	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Moderately limited erodes easily (moderately limited)	0.60	Limited rooting depth (limited)	0.80
	slope (moderately limited)	0.31	slope (limited)	0.98	slope (limited)	0.98	wetness (moderately limited)	0.44	erodes easily (moderately limited)	0.60
					erodes easily (moderately limited)	0.60	slope (moderately limited)	0.31	wetness (moderately limited)	0.44
70025:										
Branson-----	Limited seepage (limited)	0.68	Not limited		Not limited		Not limited		Not limited	
Splitlimb-----	Moderately limited seepage (moderately limited)	0.32	Not limited		Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60
							wetness (moderately limited)	0.53	wetness (moderately limited)	0.53
70026:										
Tonti-----	Moderately limited seepage (moderately limited)	0.50	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Moderately limited erodes easily (moderately limited)	0.60	Limited rooting depth (limited)	0.80
					erodes easily (moderately limited)	0.60	wetness (moderately limited)	0.44	erodes easily (moderately limited)	0.60
									wetness (moderately limited)	0.44
73000:										
Pomme-----	Moderately limited seepage (moderately limited)	0.50	Moderately limited slope (moderately limited)	0.40	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60
	slope (slightly limited)	0.10			slope (moderately limited)	0.40	slope (slightly limited)	0.10	slope (slightly limited)	0.10

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73013:										
Lowassie-----	Not limited		Very limited ponded (wetness) (very limited) percs slowly (moderately limited)	1.00 0.39	Very limited ponded (wetness) (very limited) erodes easily (moderately limited) percs slowly (moderately limited)	1.00 0.60 0.39	Very limited ponded (wetness) (very limited) wetness (very limited) erodes easily (moderately limited)	1.00 1.00 0.60	Very limited wetness (very limited) erodes easily (moderately limited)	1.00 0.60
73017:										
Bendavis-----	Very limited slope (very limited) depth to bedrock (limited) seepage (moderately limited)	1.00 0.77 0.50	Very limited slope (very limited) percs slowly (very limited) large surface stones (limited)	1.00 1.00 0.70	Very limited percs slowly (very limited) slope (very limited) large surface stones (limited)	1.00 1.00 0.70	Very limited slope (very limited) depth to bedrock (very limited) large surface stones (limited)	1.00 1.00 0.70	Very limited slope (very limited) depth to bedrock (limited) large surface stones (limited)	1.00 0.77 0.70
Poynor-----	Very limited slope (very limited) seepage (moderately limited)	1.00 0.50	Very limited slope (very limited) large surface stones (moderately limited)	1.00 0.31	Very limited slope (very limited) droughty (moderately limited) large surface stones (moderately limited)	1.00 0.57 0.31	Very limited slope (very limited) large surface stones (moderately limited)	1.00 0.31	Very limited slope (very limited) droughty (moderately limited) large surface stones (moderately limited)	1.00 0.57 0.31
73019:										
Poynor-----	Moderately limited seepage (moderately limited) slope (moderately limited)	0.50 0.31	Limited slope (limited)	0.98	Limited slope (limited) droughty (moderately limited)	0.98 0.57	Moderately limited slope (moderately limited)	0.31	Moderately limited droughty (moderately limited) slope (moderately limited)	0.57 0.31
73021:										
Poynor-----	Very limited slope (very limited) seepage (moderately limited)	1.00 0.50	Very limited slope (very limited) large surface stones (moderately limited)	1.00 0.31	Very limited slope (very limited) droughty (moderately limited) large surface stones (moderately limited)	1.00 0.57 0.31	Very limited slope (very limited) large surface stones (moderately limited)	1.00 0.31	Very limited slope (very limited) droughty (moderately limited) large surface stones (moderately limited)	1.00 0.57 0.31

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73023:										
Mano-----	Moderately limited seepage (moderately limited)	0.50	Limited slope (limited)	0.78	Limited slope (limited)	0.78	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28
	slope (slightly limited)	0.20	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	slope (slightly limited)	0.20	slope (slightly limited)	0.20
Ocie-----	Moderately limited seepage (moderately limited)	0.50	Limited slope (limited)	0.78	Limited slope (limited)	0.78	Slightly limited wetness (slightly limited)	0.28	Moderately limited depth to bedrock (moderately limited)	0.40
	depth to bedrock (moderately limited)	0.40	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	depth to bedrock (slightly limited)	0.25	wetness (slightly limited)	0.28
	slope (slightly limited)	0.20					slope (slightly limited)	0.20	slope (slightly limited)	0.20
73024:										
Mano-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
	seepage (moderately limited)	0.50	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	large surface stones (moderately limited)	0.31	large surface stones (moderately limited)	0.31
			large surface stones (moderately limited)	0.31	large surface stones (moderately limited)	0.31	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28
Ocie-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
	seepage (moderately limited)	0.50	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	large surface stones (moderately limited)	0.31	depth to bedrock (moderately limited)	0.40
	depth to bedrock (moderately limited)	0.40	large surface stones (moderately limited)	0.31	large surface stones (moderately limited)	0.31	wetness (slightly limited)	0.28	large surface stones (moderately limited)	0.31
73032:										
Gateway-----	Limited depth to bedrock (limited)	0.89	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Limited depth to bedrock (limited)	0.89
	slope (limited)	0.70	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	slope (limited)	0.70	slope (limited)	0.70
			percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73033:										
Gatewood-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	depth to bedrock (limited)	0.89	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	depth to bedrock (very limited)	1.00	depth to bedrock (limited)	0.89
			percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36
73051:										
Winnipeg-----	Moderately limited seepage (moderately limited)	0.50	Not limited		Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60
73059:										
Pomme-----	Moderately limited seepage (moderately limited)	0.50	Not limited		Not limited		Not limited		Not limited	
73063:										
Bendavis-----	Limited seepage (limited)	0.92	Limited slope (limited)	0.78	Limited slope (limited)	0.78	Very limited depth to bedrock (very limited)	1.00	Limited depth to bedrock (limited)	0.84
	depth to bedrock (limited)	0.84	depth to bedrock (slightly limited)	0.27	depth to bedrock (slightly limited)	0.27	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28
	slope (slightly limited)	0.20					slope (slightly limited)	0.20	slope (slightly limited)	0.20
Poynor-----	Moderately limited seepage (moderately limited)	0.50	Limited slope (limited)	0.78	Limited slope (limited)	0.78	Slightly limited slope (slightly limited)	0.20	Moderately limited droughty (moderately limited)	0.40
	slope (slightly limited)	0.20			droughty (moderately limited)	0.40			slope (slightly limited)	0.20
73068:										
Tick-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
			percs slowly (moderately limited)	0.34	percs slowly (moderately limited)	0.34				

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73069:										
Tick-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
			percs slowly (moderately limited)	0.34	percs slowly (moderately limited)	0.34	large surface stones (slightly limited)	0.07	large surface stones (slightly limited)	0.07
			large surface stones (slightly limited)	0.07	large surface stones (slightly limited)	0.07				
73073:										
Scholten-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
	seepage (limited)	0.68	percs slowly (very limited)	1.00	percs slowly (very limited)	1.00	wetness (moderately limited)	0.58	rooting depth (limited)	0.80
					droughty (limited)	0.70			droughty (limited)	0.70
Poynor-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
	seepage (moderately limited)	0.50	percs slowly (slightly limited)	0.18	droughty (limited)	0.75			droughty (limited)	0.75
					percs slowly (slightly limited)	0.18				
73076:										
Mano-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	seepage (moderately limited)	0.50	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28
Ocie-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	seepage (moderately limited)	0.50	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (slightly limited)	0.28	depth to bedrock (moderately limited)	0.40
	depth to bedrock (moderately limited)	0.40					depth to bedrock (slightly limited)	0.25	wetness (slightly limited)	0.28

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73121:										
Scholten-----	Limited seepage (limited)	0.68	Moderately limited slope (moderately limited)	0.40	Limited droughty (limited)	0.92	Moderately limited wetness (moderately limited)	0.58	Limited droughty (limited)	0.92
	slope (slightly limited)	0.10			slope (moderately limited)	0.40	slope (slightly limited)	0.10	rooting depth (limited)	0.80
									wetness (moderately limited)	0.58
Tonti-----	Moderately limited seepage (moderately limited)	0.50	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Moderately limited erodes easily (moderately limited)	0.60	Limited rooting depth (limited)	0.80
	slope (slightly limited)	0.10	slope (moderately limited)	0.40	erodes easily (moderately limited)	0.60	wetness (moderately limited)	0.44	erodes easily (moderately limited)	0.60
					slope (moderately limited)	0.40	slope (slightly limited)	0.10	wetness (moderately limited)	0.44
73176:										
Bendavis-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Limited slope (limited)	0.99
	depth to bedrock (limited)	0.92	depth to bedrock (moderately limited)	0.58	depth to bedrock (moderately limited)	0.58	slope (limited)	0.99	depth to bedrock (limited)	0.92
	seepage (moderately limited)	0.50	large surface stones (slightly limited)	0.13	droughty (moderately limited)	0.45	wetness (slightly limited)	0.28	droughty (moderately limited)	0.45
Poynor-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
	seepage (moderately limited)	0.50	large surface stones (slightly limited)	0.13	large surface stones (slightly limited)	0.13	large surface stones (slightly limited)	0.13	large surface stones (slightly limited)	0.13
73198:										
Grossy-----	Limited seepage (limited)	0.98	Moderately limited slope (moderately limited)	0.40	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60
	slope (slightly limited)	0.10			slope (moderately limited)	0.40	slope (slightly limited)	0.10	slope (slightly limited)	0.10
Viraton-----	Moderately limited seepage (moderately limited)	0.50	Very limited percs slowly (very limited)	1.00	Very limited percs slowly (very limited)	1.00	Moderately limited erodes easily (moderately limited)	0.60	Limited rooting depth (limited)	0.80
	slope (slightly limited)	0.10	large stones (moderately limited)	0.60	erodes easily (moderately limited)	0.60	wetness (moderately limited)	0.44	erodes easily (moderately limited)	0.60
			slope (moderately limited)	0.40	slope (moderately limited)	0.40	large stones (slightly limited)	0.14	wetness (moderately limited)	0.44

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73199:										
Moko-----	Very limited bedrock <20 in. (very limited)	1.00	Very limited shallow to bedrock (very limited)	1.00	Very limited shallow to bedrock (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited large stones (very limited)	1.00
	slope (limited)	0.70	large stones (very limited)	1.00	droughty (very limited)	1.00	large stones (very limited)	1.00	bedrock <20 in. (very limited)	1.00
			slope (very limited)	1.00	slope (very limited)	1.00	slope (limited)	0.70	droughty (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73220:										
Poynor-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
	seepage (moderately limited)	0.50	percs slowly (slightly limited)	0.18	droughty (moderately limited)	0.57			droughty (moderately limited)	0.57
					percs slowly (slightly limited)	0.18				
73222:										
Splitlimb-----	Moderately limited seepage (moderately limited)	0.32	Very limited ponded (wetness) (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00	Moderately limited erodes easily (moderately limited)	0.60
			percs slowly (slightly limited)	0.13	erodes easily (moderately limited)	0.60	erodes easily (moderately limited)	0.60	wetness (moderately limited)	0.55
					percs slowly (slightly limited)	0.13	wetness (moderately limited)	0.55		
73223:										
Coulstone-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	seepage (very limited)	1.00	large surface stones (very limited)	1.00	droughty (very limited)	1.00	large surface stones (very limited)	1.00	droughty (very limited)	1.00
					large surface stones (very limited)	1.00			large surface stones (very limited)	1.00
Bender-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	seepage (very limited)	1.00	large stones (very limited)	1.00	droughty (very limited)	1.00	depth to bedrock (very limited)	1.00	droughty (very limited)	1.00
	depth to bedrock (limited)	0.86	large surface stones (moderately limited)	0.43	large stones (limited)	0.76	large stones (very limited)	1.00	large stones (very limited)	1.00

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73224:										
Moko-----	Very limited bedrock <20 in. (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited shallow to bedrock (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited large stones (very limited)	1.00
	slope (very limited)	1.00	shallow to bedrock (very limited)	1.00	droughty (very limited)	1.00	depth to bedrock (very limited)	1.00	bedrock <20 in. (very limited)	1.00
			large stones (limited)	0.89	slope (very limited)	1.00	large stones (very limited)	1.00	slope (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73225:										
Ocie-----	Moderately limited seepage (moderately limited)	0.50	Limited slope (limited)	0.98	Limited slope (limited)	0.98	Moderately limited slope (moderately limited)	0.31	Moderately limited depth to bedrock (moderately limited)	0.40
	depth to bedrock (moderately limited)	0.40	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (slightly limited)	0.28	slope (moderately limited)	0.31
	slope (moderately limited)	0.31					depth to bedrock (slightly limited)	0.25	wetness (slightly limited)	0.28
Gatewood-----	Limited depth to bedrock (limited)	0.89	Limited slope (limited)	0.98	Limited slope (limited)	0.98	Very limited depth to bedrock (very limited)	1.00	Limited depth to bedrock (limited)	0.89
	slope (moderately limited)	0.31	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36
			percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	slope (moderately limited)	0.31	droughty (moderately limited)	0.31
73226:										
Ocie-----	Limited slope (limited)	0.70	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.70	Limited slope (limited)	0.70
	seepage (moderately limited)	0.50	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (slightly limited)	0.28	depth to bedrock (moderately limited)	0.40
	depth to bedrock (moderately limited)	0.40					depth to bedrock (slightly limited)	0.25	wetness (slightly limited)	0.28
Gatewood-----	Limited depth to bedrock (limited)	0.89	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Limited depth to bedrock (limited)	0.89
	slope (limited)	0.70	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	slope (limited)	0.70	slope (limited)	0.70
			percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73227:										
Ocie-----	Very limited slope (very limited) seepage (moderately limited) depth to bedrock (moderately limited)	1.00 0.50 0.40	Very limited slope (very limited) percs slowly (moderately limited)	1.00 0.39	Very limited slope (very limited) percs slowly (moderately limited)	1.00 0.39	Very limited slope (very limited) wetness (slightly limited) depth to bedrock (slightly limited)	1.00 0.28 0.25	Very limited slope (very limited) depth to bedrock (moderately limited) wetness (slightly limited)	1.00 0.40 0.28
Gatewood-----	Very limited slope (very limited) depth to bedrock (limited)	1.00 0.77	Very limited slope (very limited) percs slowly (moderately limited) depth to bedrock (slightly limited)	1.00 0.39 0.13	Very limited slope (very limited) percs slowly (moderately limited) depth to bedrock (slightly limited)	1.00 0.39 0.13	Very limited slope (very limited) depth to bedrock (very limited) wetness (moderately limited)	1.00 1.00 0.36	Very limited slope (very limited) depth to bedrock (limited) wetness (moderately limited)	1.00 0.77 0.36
73228:										
Gatewood-----	Limited depth to bedrock (limited) slope (limited)	0.89 0.70	Very limited slope (very limited) depth to bedrock (moderately limited) percs slowly (moderately limited)	1.00 0.46 0.39	Very limited slope (very limited) depth to bedrock (moderately limited) percs slowly (moderately limited)	1.00 0.46 0.39	Very limited depth to bedrock (very limited) slope (limited) large surface stones (moderately limited)	1.00 0.70 0.37	Limited depth to bedrock (limited) slope (limited) large surface stones (moderately limited)	0.89 0.70 0.37
Moko-----	Very limited bedrock <20 in. (very limited) slope (limited)	1.00 0.70	Very limited shallow to bedrock (very limited) slope (very limited) large stones (limited)	1.00 1.00 0.89	Very limited shallow to bedrock (very limited) droughty (very limited) slope (very limited)	1.00 1.00 1.00	Very limited depth to bedrock (very limited) large stones (very limited) slope (limited)	1.00 1.00 0.70	Very limited large stones (very limited) bedrock <20 in. (very limited) droughty (very limited)	1.00 1.00 1.00
73229:										
Gatewood-----	Very limited slope (very limited) depth to bedrock (limited)	1.00 0.89	Very limited slope (very limited) depth to bedrock (moderately limited) percs slowly (moderately limited)	1.00 0.46 0.39	Very limited slope (very limited) depth to bedrock (moderately limited) percs slowly (moderately limited)	1.00 0.46 0.39	Very limited slope (very limited) depth to bedrock (very limited) large surface stones (moderately limited)	1.00 1.00 0.37	Very limited slope (very limited) depth to bedrock (limited) large surface stones (moderately limited)	1.00 0.89 0.37

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73229:										
Moko-----	Very limited bedrock <20 in. (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited shallow to bedrock (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited large stones (very limited)	1.00
	slope (very limited)	1.00	shallow to bedrock (very limited)	1.00	droughty (very limited)	1.00	depth to bedrock (very limited)	1.00	bedrock <20 in. (very limited)	1.00
			large stones (limited)	0.89	slope (very limited)	1.00	large stones (very limited)	1.00	slope (very limited)	1.00
73230:										
Coulstone-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	seepage (very limited)	1.00	large stones (very limited)	1.00	droughty (very limited)	1.00	large surface stones (very limited)	1.00	droughty (very limited)	1.00
			large surface stones (very limited)	1.00	large surface stones (very limited)	1.00	large stones (very limited)	1.00	large stones (very limited)	1.00
Bender-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	seepage (very limited)	1.00	large stones (very limited)	1.00	droughty (very limited)	1.00	depth to bedrock (very limited)	1.00	droughty (very limited)	1.00
	depth to bedrock (limited)	0.86	large surface stones (moderately limited)	0.43	large stones (limited)	0.71	large stones (very limited)	1.00	large stones (very limited)	1.00
Gatewood-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	depth to bedrock (limited)	0.89	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	depth to bedrock (very limited)	1.00	depth to bedrock (limited)	0.89
			percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36
73231:										
Wasola-----	Moderately limited seepage (moderately limited)	0.50	Moderately limited slope (moderately limited)	0.40	Moderately limited slope (moderately limited)	0.40	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44
	slope (slightly limited)	0.10	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	slope (slightly limited)	0.10	slope (slightly limited)	0.10

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73236:										
Scholten-----	Limited seepage (limited) slope (moderately limited)	0.68 0.31	Very limited percs slowly (very limited) slope (limited)	1.00 0.98	Very limited percs slowly (very limited) slope (limited) droughty (limited)	1.00 0.98 0.70	Moderately limited wetness (moderately limited) slope (moderately limited)	0.58 0.31	Limited rooting depth (limited) droughty (limited) wetness (moderately limited)	0.80 0.70 0.58
Poynor-----	Limited seepage (limited) slope (slightly limited)	0.82 0.20	Limited slope (limited)	0.78	Limited slope (limited)	0.78	Slightly limited slope (slightly limited)	0.20	Slightly limited slope (slightly limited)	0.20
73237:										
Clarksville----	Very limited seepage (very limited) slope (limited)	1.00 0.70	Very limited large stones (very limited) slope (very limited) large surface stones (limited)	1.00 1.00 0.79	Very limited slope (very limited) large surface stones (limited) droughty (moderately limited)	1.00 0.79 0.43	Very limited large stones (very limited) large surface stones (limited) slope (limited)	1.00 0.79 0.70	Very limited large stones (very limited) large surface stones (limited) slope (limited)	1.00 0.79 0.70
73242:										
Fanchon-----	Moderately limited seepage (moderately limited) slope (slightly limited)	0.50 0.10	Moderately limited slope (moderately limited)	0.40	Moderately limited slope (moderately limited)	0.40	Slightly limited slope (slightly limited)	0.10	Slightly limited slope (slightly limited)	0.10
Tonti-----	Limited seepage (limited) slope (slightly limited)	0.68 0.10	Very limited percs slowly (very limited) slope (moderately limited) large stones (slightly limited)	1.00 0.40 0.18	Very limited percs slowly (very limited) slope (moderately limited) slope (moderately limited)	1.00 0.60 0.40	Moderately limited erodes easily (moderately limited) wetness (moderately limited) slope (slightly limited)	0.60 0.56 0.10	Limited rooting depth (limited) erodes easily (moderately limited) wetness (moderately limited)	0.80 0.60 0.56
73243:										
Topazmill-----	Moderately limited seepage (moderately limited) slope (slightly limited)	0.50 0.10	Moderately limited slope (moderately limited)	0.40	Moderately limited slope (moderately limited)	0.40	Slightly limited slope (slightly limited)	0.10	Slightly limited slope (slightly limited)	0.10

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73300:										
Macedonia-----	Slightly limited slope (slightly limited)	0.20	Limited slope (limited)	0.78	Limited slope (limited)	0.78	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60
	seepage (slightly limited)	0.08			erodes easily (moderately limited)	0.60	slope (slightly limited)	0.20	slope (slightly limited)	0.20
73311:										
Scholten-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
	seepage (limited)	0.68	percs slowly (very limited)	1.00	percs slowly (very limited)	1.00	wetness (moderately limited)	0.58	rooting depth (limited)	0.80
					droughty (limited)	0.70			droughty (limited)	0.70
Bendavis-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Limited slope (limited)	0.99
	depth to bedrock (limited)	0.92	depth to bedrock (moderately limited)	0.58	depth to bedrock (moderately limited)	0.58	slope (limited)	0.99	depth to bedrock (limited)	0.92
	seepage (moderately limited)	0.50	large surface stones (slightly limited)	0.13	droughty (moderately limited)	0.45	wetness (slightly limited)	0.28	droughty (moderately limited)	0.45
Poynor-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
	seepage (moderately limited)	0.50			droughty (moderately limited)	0.57			droughty (moderately limited)	0.57
73325:										
Clarksville---	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	seepage (moderately limited)	0.32	large stones (slightly limited)	0.18	droughty (slightly limited)	0.01	large stones (slightly limited)	0.01	droughty (slightly limited)	0.01
									large stones (slightly limited)	0.01
73326:										
Topazmill-----	Limited slope (limited)	0.80	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.80	Limited slope (limited)	0.80
	seepage (moderately limited)	0.50								

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73326:										
Coulstone-----	Very limited seepage (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited large surface stones (very limited)	1.00	Very limited droughty (very limited)	1.00
	slope (limited)	0.80	large stones (very limited)	1.00	droughty (very limited)	1.00	large stones (very limited)	1.00	large stones (very limited)	1.00
			large surface stones (very limited)	1.00	large surface stones (very limited)	1.00	slope (limited)	0.80	large surface stones (very limited)	1.00
73327:										
Topazmill-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	seepage (moderately limited)	0.50								
Coulstone-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	seepage (very limited)	1.00	large stones (very limited)	1.00	droughty (very limited)	1.00	large surface stones (very limited)	1.00	droughty (very limited)	1.00
			large surface stones (very limited)	1.00	large surface stones (very limited)	1.00	large stones (very limited)	1.00	large stones (very limited)	1.00
73328:										
Scholten-----	Limited seepage (limited)	0.68	Limited slope (limited)	0.98	Limited slope (limited)	0.98	Moderately limited wetness (moderately limited)	0.58	Limited droughty (limited)	0.92
	slope (moderately limited)	0.31			droughty (limited)	0.92	slope (moderately limited)	0.31	rooting depth (limited)	0.80
									wetness (moderately limited)	0.58
Noark-----	Moderately limited seepage (moderately limited)	0.50	Limited slope (limited)	0.98	Limited slope (limited)	0.98	Moderately limited slope (moderately limited)	0.31	Moderately limited slope (moderately limited)	0.31
	slope (moderately limited)	0.31			droughty (slightly limited)	0.30			droughty (slightly limited)	0.30
73329:										
Mano-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
	seepage (moderately limited)	0.50	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73329: Ocie-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
	seepage (moderately limited)	0.50	percs slowly (moderately limited)	0.39	percs slowly (moderately limited)	0.39	wetness (slightly limited)	0.28	depth to bedrock (moderately limited)	0.40
	depth to bedrock (moderately limited)	0.40					depth to bedrock (slightly limited)	0.25	wetness (slightly limited)	0.28
73331: Pomme-----	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.99	Limited slope (limited)	0.99
	seepage (moderately limited)	0.50								
73332: Topazmill-----	Limited slope (limited)	0.80	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Limited slope (limited)	0.80	Limited slope (limited)	0.80
	seepage (moderately limited)	0.50								
74627: Hartville-----	Not limited		Moderately limited percs slowly (moderately limited)	0.39	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60
					percs slowly (moderately limited)	0.39	wetness (moderately limited)	0.44	wetness (moderately limited)	0.44
74657: Pomme-----	Moderately limited seepage (moderately limited)	0.50	Limited slope (limited)	0.78	Limited slope (limited)	0.78	Slightly limited slope (slightly limited)	0.20	Slightly limited slope (slightly limited)	0.20
	slope (slightly limited)	0.20								
74682: Zanoni-----	Very limited seepage (very limited)	1.00	Moderately limited flooding (moderately limited)	0.60	Moderately limited flooding (moderately limited)	0.60	Not limited		Not limited	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74683: Cedargap-----	Very limited seepage (very limited)	1.00	Limited flooding (limited)	0.90	Limited flooding (limited) droughty (slightly limited)	0.90 0.17	Not limited		Slightly limited droughty (slightly limited)	0.17
Razort-----	Very limited seepage (very limited)	1.00	Not limited		Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60
75381: Bearthicket----	Moderately limited seepage (moderately limited)	0.50	Not limited		Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60
75382: Cedargap-----	Moderately limited seepage (moderately limited)	0.50	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Not limited		Not limited	
75390: Razort-----	Very limited seepage (very limited)	1.00	Not limited		Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60	Moderately limited erodes easily (moderately limited)	0.60
75406: Racket-----	Very limited seepage (very limited)	1.00	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Not limited		Not limited	
75417: Relfe-----	Very limited seepage (very limited)	1.00	Limited flooding (limited)	0.90	Very limited droughty (very limited) flooding (limited)	1.00 0.90	Moderately limited too sandy (moderately limited)	0.60	Very limited droughty (very limited)	1.00
Sandbur-----	Very limited seepage (very limited)	1.00	Limited flooding (limited)	0.90	Limited flooding (limited)	0.90	Very limited too sandy (very limited)	1.00	Not limited	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value								
99001: Water-----	Not rated									
99002: Borrow areas---	Not rated									

Table 16.--Waste 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 potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70022: Tonti-----	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Very limited percs slowly (very limited)	1.00
	too acid (slightly limited)	0.30	too acid (slightly limited)	0.30	slope (moderately limited)	0.31	slope (moderately limited)	0.31	wetness (very limited)	1.00
					too acid (slightly limited)	0.30	too acid (slightly limited)	0.30	slope (limited)	0.91
70025: Branson-----	Not limited		Not limited		Not limited		Not limited		Very limited percs slowly (very limited)	1.00
									too acid (slightly limited)	0.03
Splitlimb-----	Moderately limited wetness (moderately limited)	0.53	Moderately limited wetness (moderately limited)	0.53	Moderately limited wetness (moderately limited)	0.53	Moderately limited wetness (moderately limited)	0.53	Very limited percs slowly (very limited)	1.00
									wetness (very limited)	1.00
									too acid (slightly limited)	0.07
70026: Tonti-----	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Very limited percs slowly (very limited)	1.00
	too acid (slightly limited)	0.30	too acid (slightly limited)	0.30	too acid (slightly limited)	0.30	too acid (slightly limited)	0.30	wetness (very limited)	1.00
									too acid (slightly limited)	0.14
73000: Pomme-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.10	Slightly limited slope (slightly limited)	0.10	Very limited percs slowly (very limited)	1.00
									slope (moderately limited)	0.31

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73013:										
Lowassie-----	Very limited wetness (very limited)	1.00	Very limited wetness (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	ponded (wetness) (very limited)	1.00	ponded (wetness) (very limited)	1.00	wetness (very limited)	1.00	wetness (very limited)	1.00	ponded (wetness) (very limited)	1.00
	percs slowly (limited)	0.99	percs slowly (limited)	0.99	percs slowly (limited)	0.99	percs slowly (limited)	0.99	wetness (very limited)	1.00
73017:										
Bendavis-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	too acid (limited)	0.84	too acid (limited)	0.84	too acid (limited)	0.84	slope (very limited)	1.00	slope (very limited)	1.00
	large surface stones (limited)	0.70	large surface stones (limited)	0.70	large surface stones (limited)	0.70	too acid (limited)	0.84	depth to bedrock (very limited)	1.00
Poynor-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	too acid (limited)	0.61	too acid (limited)	0.61	too acid (limited)	0.61	too acid (limited)	0.61	percs slowly (moderately limited)	0.38
	droughty (moderately limited)	0.57	droughty (moderately limited)	0.57	droughty (moderately limited)	0.57	large surface stones (moderately limited)	0.31	large surface stones (moderately limited)	0.31
73019:										
Poynor-----	Moderately limited droughty (moderately limited)	0.57	Moderately limited droughty (moderately limited)	0.57	Moderately limited droughty (moderately limited)	0.57	Moderately limited slope (moderately limited)	0.31	Limited slope (limited)	0.91
	too acid (slightly limited)	0.30	too acid (slightly limited)	0.30	slope (moderately limited)	0.31	too acid (slightly limited)	0.30	percs slowly (limited)	0.78
					too acid (slightly limited)	0.30			too acid (moderately limited)	0.42
73021:										
Poynor-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	too acid (limited)	0.61	too acid (limited)	0.61	too acid (limited)	0.61	too acid (limited)	0.61	percs slowly (limited)	0.78
	droughty (moderately limited)	0.57	droughty (moderately limited)	0.57	droughty (moderately limited)	0.57	large surface stones (moderately limited)	0.31	large surface stones (moderately limited)	0.31

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73023:										
Mano-----	Slightly limited too acid (slightly limited)	0.30	Slightly limited too acid (slightly limited)	0.30	Slightly limited too acid (slightly limited)	0.30	Slightly limited too acid (slightly limited)	0.30	Very limited percs slowly (very limited)	1.00
	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (very limited)	1.00
					slope (slightly limited)	0.20	slope (slightly limited)	0.20	slope (limited)	0.66
Ocie-----	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Very limited percs slowly (very limited)	1.00
					slope (slightly limited)	0.20	depth to bedrock (slightly limited)	0.25	depth to bedrock (very limited)	1.00
							slope (slightly limited)	0.20	wetness (very limited)	1.00
73024:										
Mano-----	Limited slope (limited)	0.76	Limited slope (limited)	0.76	Limited slope (limited)	0.99	Limited slope (limited)	0.99	Very limited percs slowly (very limited)	1.00
	large surface stones (moderately limited)	0.31	large surface stones (moderately limited)	0.31	large surface stones (moderately limited)	0.31	large surface stones (moderately limited)	0.31	slope (very limited)	1.00
	too acid (slightly limited)	0.30	too acid (slightly limited)	0.30	too acid (slightly limited)	0.30	too acid (slightly limited)	0.30	wetness (very limited)	1.00
Ocie-----	Limited slope (limited)	0.76	Limited slope (limited)	0.76	Limited slope (limited)	0.99	Limited slope (limited)	0.99	Very limited percs slowly (very limited)	1.00
	large surface stones (moderately limited)	0.31	large surface stones (moderately limited)	0.31	large surface stones (moderately limited)	0.31	large surface stones (moderately limited)	0.31	slope (very limited)	1.00
	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	depth to bedrock (very limited)	1.00
73032:										
Gatewood-----	Moderately limited depth to bedrock (moderately limited)	0.46	Moderately limited depth to bedrock (moderately limited)	0.46	Limited slope (limited)	0.70	Very limited depth to bedrock (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	slope (moderately limited)	0.45	slope (moderately limited)	0.45	depth to bedrock (moderately limited)	0.46	slope (limited)	0.70	depth to bedrock (very limited)	1.00
	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (very limited)	1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73033:										
Gatewood-----	Very limited slope (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00 0.46 0.36	Very limited slope (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00 0.46 0.36	Very limited slope (very limited) depth to bedrock (moderately limited) wetness (moderately limited)	1.00 0.46 0.36	Very limited depth to bedrock (very limited) slope (very limited) wetness (moderately limited)	1.00 1.00 0.36	Very limited percs slowly (very limited) slope (very limited) depth to bedrock (very limited)	1.00 1.00 1.00
73051:										
Winnipeg-----	Not limited		Not limited		Not limited		Not limited		Very limited percs slowly (very limited)	1.00
73059:										
Pomme-----	Not limited		Not limited		Not limited		Not limited		Very limited percs slowly (very limited)	1.00
73063:										
Bendavis-----	Slightly limited too acid (slightly limited) wetness (slightly limited) depth to bedrock (slightly limited)	0.30 0.28 0.27	Slightly limited too acid (slightly limited) wetness (slightly limited) depth to bedrock (slightly limited)	0.30 0.28 0.27	Slightly limited too acid (slightly limited) wetness (slightly limited) depth to bedrock (slightly limited)	0.30 0.28 0.27	Very limited depth to bedrock (very limited) too acid (slightly limited) wetness (slightly limited)	1.00 0.30 0.28	Very limited depth to bedrock (very limited) wetness (very limited) percs slowly (limited)	1.00 1.00 0.78
Poynor-----	Moderately limited droughty (moderately limited) too acid (slightly limited)	0.40 0.30	Moderately limited droughty (moderately limited) too acid (slightly limited)	0.40 0.30	Moderately limited droughty (moderately limited) too acid (slightly limited) slope (slightly limited)	0.40 0.30 0.20	Slightly limited too acid (slightly limited) slope (slightly limited)	0.30 0.20	Limited percs slowly (limited) slope (limited) too acid (moderately limited)	0.78 0.66 0.42
73068:										
Tick-----	Limited percs slowly (limited) slope (limited) too acid (moderately limited)	0.99 0.76 0.36	Limited percs slowly (limited) slope (limited) too acid (moderately limited)	0.99 0.76 0.36	Limited slope (limited) percs slowly (limited) too acid (moderately limited)	0.99 0.99 0.36	Limited slope (limited) percs slowly (limited) too acid (moderately limited)	0.99 0.99 0.36	Very limited percs slowly (very limited) slope (very limited) too acid (slightly limited)	1.00 1.00 0.07

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73069:										
Tick-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	percs slowly (limited)	0.99	percs slowly (limited)	0.99	percs slowly (limited)	0.99	percs slowly (limited)	0.99	slope (very limited)	1.00
	too acid (moderately limited)	0.36	too acid (moderately limited)	0.36	too acid (moderately limited)	0.36	too acid (moderately limited)	0.36	too acid (slightly limited)	0.07
73073:										
Scholten-----	Limited slope (limited)	0.76	Limited slope (limited)	0.76	Limited slope (limited)	0.99	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00
	droughty (limited)	0.70	droughty (limited)	0.70	droughty (limited)	0.70	wetness (moderately limited)	0.58	wetness (very limited)	1.00
	wetness (moderately limited)	0.58	wetness (moderately limited)	0.58	wetness (moderately limited)	0.58	too acid (moderately limited)	0.42	percs slowly (limited)	0.96
Poynor-----	Limited slope (limited)	0.76	Limited slope (limited)	0.76	Limited slope (limited)	0.99	Limited slope (limited)	0.99	Very limited percs slowly (very limited)	1.00
	droughty (limited)	0.75	droughty (limited)	0.75	droughty (limited)	0.75	too acid (moderately limited)	0.42	slope (very limited)	1.00
	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42			too acid (slightly limited)	0.03
73076:										
Mano-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	too acid (slightly limited)	0.30	too acid (slightly limited)	0.30	too acid (slightly limited)	0.30	too acid (slightly limited)	0.30	slope (very limited)	1.00
	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (very limited)	1.00
Ocie-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	slope (very limited)	1.00
							depth to bedrock (slightly limited)	0.25	depth to bedrock (very limited)	1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73121:										
Scholten-----	Limited droughty (limited) wetness (moderately limited) too acid (moderately limited)	0.92 0.58 0.42	Limited droughty (limited) wetness (moderately limited) too acid (moderately limited)	0.92 0.58 0.42	Limited droughty (limited) wetness (moderately limited) too acid (moderately limited)	0.92 0.58 0.42	Moderately limited wetness (moderately limited) too acid (moderately limited) slope (slightly limited)	0.58 0.42 0.10	Very limited wetness (very limited) percs slowly (limited) slope (moderately limited)	1.00 0.96 0.31
Tonti-----	Moderately limited wetness (moderately limited) too acid (slightly limited)	0.44 0.30	Moderately limited wetness (moderately limited) too acid (slightly limited)	0.44 0.30	Moderately limited wetness (moderately limited) too acid (slightly limited) slope (slightly limited)	0.44 0.30 0.10	Moderately limited wetness (moderately limited) too acid (slightly limited) slope (slightly limited)	0.44 0.30 0.10	Very limited percs slowly (very limited) wetness (very limited) slope (moderately limited)	1.00 1.00 0.31
73176:										
Bendavis-----	Limited slope (limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.76 0.58 0.45	Limited slope (limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.76 0.58 0.45	Limited slope (limited) depth to bedrock (moderately limited) droughty (moderately limited)	0.99 0.58 0.45	Very limited depth to bedrock (very limited) slope (limited) wetness (slightly limited)	1.00 0.99 0.28	Very limited slope (very limited) depth to bedrock (very limited) wetness (very limited)	1.00 1.00 1.00
Poynor-----	Limited slope (limited) too acid (slightly limited) large surface stones (slightly limited)	0.76 0.30 0.13	Limited slope (limited) too acid (slightly limited) large surface stones (slightly limited)	0.76 0.30 0.13	Limited slope (limited) too acid (slightly limited) large surface stones (slightly limited)	0.99 0.30 0.13	Limited slope (limited) too acid (slightly limited) large surface stones (slightly limited)	0.99 0.30 0.13	Very limited slope (very limited) percs slowly (moderately limited) large surface stones (slightly limited)	1.00 0.32 0.13
73198:										
Gressy-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.10	Slightly limited slope (slightly limited)	0.10	Very limited percs slowly (very limited) slope (moderately limited)	1.00 0.31

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73198:										
Viraton-----	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Moderately limited wetness (moderately limited)	0.44	Very limited percs slowly (very limited)	1.00
	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42	wetness (very limited)	1.00
					slope (slightly limited)	0.10	slope (slightly limited)	0.10	too acid (moderately limited)	0.31
73199:										
Moko-----	Very limited shallow to bedrock (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited droughty (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	droughty (very limited)	1.00	shallow to bedrock (very limited)	1.00	shallow to bedrock (very limited)	1.00	large stones >35% (very limited)	0.99	depth to bedrock (very limited)	1.00
	large stones >35% (very limited)	0.99	large stones >35% (very limited)	0.99	large stones >35% (very limited)	0.99	slope (limited)	0.70	too cobbly (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73220:										
Poynor-----	Limited slope (limited)	0.76	Limited slope (limited)	0.76	Limited slope (limited)	0.99	Limited slope (limited)	0.99	Very limited percs slowly (very limited)	1.00
	droughty (moderately limited)	0.57	droughty (moderately limited)	0.57	droughty (moderately limited)	0.57	too acid (moderately limited)	0.42	slope (very limited)	1.00
	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42			too acid (slightly limited)	0.03
73222:										
Splitlimb-----	Very limited ponded (wetness) (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00	Very limited ponded (wetness) (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	percs slowly (limited)	0.61	percs slowly (limited)	0.61	percs slowly (limited)	0.61	percs slowly (limited)	0.61	ponded (wetness) (very limited)	1.00
	wetness (moderately limited)	0.55	wetness (moderately limited)	0.55	wetness (moderately limited)	0.55	wetness (moderately limited)	0.55	wetness (very limited)	1.00
73223:										
Coulstone-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	droughty (very limited)	1.00	droughty (very limited)	1.00	droughty (very limited)	1.00	large surface stones (very limited)	1.00	large surface stones (very limited)	1.00
	large surface stones (very limited)	1.00	large surface stones (very limited)	1.00	large surface stones (very limited)	1.00	poor filter (very limited)	1.00	percs slowly (moderately limited)	0.32

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73223:										
Bender-----	Very limited droughty (very limited) slope (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited droughty (very limited) slope (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited slope (very limited) droughty (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited slope (very limited) depth to bedrock (very limited) too cobbly (very limited)	1.00 1.00 1.00
73224:										
Moko-----	Very limited shallow to bedrock (very limited) droughty (very limited) slope (very limited)	1.00 1.00 1.00	Very limited droughty (very limited) shallow to bedrock (very limited) slope (very limited)	1.00 1.00 1.00	Very limited droughty (very limited) slope (very limited) shallow to bedrock (very limited)	1.00 1.00 1.00	Very limited depth to bedrock (very limited) slope (very limited) large surface stones (moderately limited)	1.00 1.00 1.00 0.37	Very limited percs slowly (very limited) slope (very limited) depth to bedrock (very limited)	1.00 1.00 1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73225:										
Ocie-----	Slightly limited wetness (slightly limited)	0.28	Slightly limited wetness (slightly limited)	0.28	Moderately limited slope (moderately limited) wetness (slightly limited)	0.31 0.28	Moderately limited slope (moderately limited) wetness (slightly limited) depth to bedrock (slightly limited)	0.31 0.28 0.25	Very limited percs slowly (very limited) depth to bedrock (very limited) wetness (very limited)	1.00 1.00 1.00
Gatewood-----	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46 0.36 0.31	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46 0.36 0.31	Moderately limited depth to bedrock (moderately limited) wetness (moderately limited) droughty (moderately limited)	0.46 0.36 0.31	Very limited depth to bedrock (very limited) wetness (moderately limited) slope (moderately limited)	1.00 1.00 1.00 0.31	Very limited percs slowly (very limited) depth to bedrock (very limited) wetness (very limited)	1.00 1.00 1.00
73226:										
Ocie-----	Moderately limited slope (moderately limited) wetness (slightly limited)	0.45 0.28	Moderately limited slope (moderately limited) wetness (slightly limited)	0.45 0.28	Limited slope (limited) wetness (slightly limited)	0.70 0.28	Limited slope (limited) wetness (slightly limited) depth to bedrock (slightly limited)	0.70 0.28 0.25	Very limited percs slowly (very limited) depth to bedrock (very limited) wetness (very limited)	1.00 1.00 1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73226:										
Gatewood-----	Moderately limited		Moderately limited		Limited		Very limited		Very limited	
	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	slope (limited)	0.70	depth to bedrock (very limited)	1.00	percs slowly (very limited)	1.00
	slope (moderately limited)	0.45	slope (moderately limited)	0.45	depth to bedrock (moderately limited)	0.46	slope (limited)	0.70	depth to bedrock (very limited)	1.00
	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (very limited)	1.00
73227:										
Ocie-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	slope (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00	percs slowly (very limited)	1.00
	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	wetness (slightly limited)	0.28	slope (very limited)	1.00
	too acid (slightly limited)	0.06	too acid (slightly limited)	0.06	too acid (slightly limited)	0.06	depth to bedrock (slightly limited)	0.25	depth to bedrock (very limited)	1.00
Gatewood-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	slope (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00	depth to bedrock (very limited)	1.00	percs slowly (very limited)	1.00
	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	slope (very limited)	1.00	slope (very limited)	1.00
	depth to bedrock (slightly limited)	0.13	depth to bedrock (slightly limited)	0.13	depth to bedrock (slightly limited)	0.13	wetness (moderately limited)	0.36	depth to bedrock (very limited)	1.00
73228:										
Gatewood-----	Moderately limited		Moderately limited		Limited		Very limited		Very limited	
	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	slope (limited)	0.70	depth to bedrock (very limited)	1.00	percs slowly (very limited)	1.00
	slope (moderately limited)	0.45	slope (moderately limited)	0.45	depth to bedrock (moderately limited)	0.46	slope (limited)	0.70	depth to bedrock (very limited)	1.00
	large surface stones (moderately limited)	0.37	large surface stones (moderately limited)	0.37	large surface stones (moderately limited)	0.37	large surface stones (moderately limited)	0.37	wetness (very limited)	1.00
Moko-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	shallow to bedrock (very limited)	1.00	droughty (very limited)	1.00	droughty (very limited)	1.00	depth to bedrock (very limited)	1.00	percs slowly (very limited)	1.00
	droughty (very limited)	1.00	shallow to bedrock (very limited)	1.00	shallow to bedrock (very limited)	1.00	slope (limited)	0.70	depth to bedrock (very limited)	1.00
	slope (moderately limited)	0.45	slope (moderately limited)	0.45	slope (limited)	0.70	large surface stones (moderately limited)	0.37	too cobbly (very limited)	1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73229:										
Gatewood-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	slope (very limited)	1.00	slope (very limited)	1.00
	large surface stones (moderately limited)	0.37	large surface stones (moderately limited)	0.37	large surface stones (moderately limited)	0.37	large surface stones (moderately limited)	0.37	depth to bedrock (very limited)	1.00
Moko-----										
	shallow to bedrock (very limited)	1.00	droughty (very limited)	1.00	droughty (very limited)	1.00	depth to bedrock (very limited)	1.00	percs slowly (very limited)	1.00
	droughty (very limited)	1.00	shallow to bedrock (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00	slope (very limited)	1.00
	slope (very limited)	1.00	slope (very limited)	1.00	shallow to bedrock (very limited)	1.00	large surface stones (moderately limited)	0.37	depth to bedrock (very limited)	1.00
73230:										
Coulstone-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00
	droughty (very limited)	1.00	droughty (very limited)	1.00	droughty (very limited)	1.00	large surface stones (very limited)	1.00	too stony (very limited)	1.00
	large surface stones (very limited)	1.00	large surface stones (very limited)	1.00	large surface stones (very limited)	1.00	poor filter (very limited)	1.00	large surface stones (very limited)	1.00
Bender-----										
	droughty (very limited)	1.00	droughty (very limited)	1.00	slope (very limited)	1.00	depth to bedrock (very limited)	1.00	slope (very limited)	1.00
	slope (very limited)	1.00	slope (very limited)	1.00	droughty (very limited)	1.00	slope (very limited)	1.00	depth to bedrock (very limited)	1.00
	poor filter (very limited)	1.00	poor filter (very limited)	1.00	poor filter (very limited)	1.00	poor filter (very limited)	1.00	too cobbly (very limited)	1.00
Gatewood-----										
	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited depth to bedrock (very limited)	1.00	Very limited percs slowly (very limited)	1.00
	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	depth to bedrock (moderately limited)	0.46	slope (very limited)	1.00	slope (very limited)	1.00
	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	wetness (moderately limited)	0.36	depth to bedrock (very limited)	1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73231:										
Wasola-----	Limited		Limited		Limited		Limited		Very limited	
	percs slowly (limited)	0.99	percs slowly (limited)	0.99	percs slowly (limited)	0.99	percs slowly (limited)	0.99	percs slowly (very limited)	1.00
	wetness (moderately limited)	0.44	wetness (moderately limited)	0.44	wetness (moderately limited)	0.44	wetness (moderately limited)	0.44	wetness (very limited)	1.00
					slope (slightly limited)	0.10	slope (slightly limited)	0.10	slope (moderately limited)	0.31
73236:										
Scholten-----	Limited		Limited		Limited		Moderately limited		Very limited	
	droughty (limited)	0.70	droughty (limited)	0.70	droughty (limited)	0.70	wetness (moderately limited)	0.58	wetness (very limited)	1.00
	wetness (moderately limited)	0.58	wetness (moderately limited)	0.58	wetness (moderately limited)	0.58	too acid (moderately limited)	0.42	percs slowly (limited)	0.96
	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42	slope (moderately limited)	0.31	slope (limited)	0.91
Poynor-----	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Limited	
	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42	too acid (moderately limited)	0.42	percs slowly (limited)	0.73
					slope (slightly limited)	0.20	slope (slightly limited)	0.20	slope (limited)	0.66
									too acid (slightly limited)	0.03
73237:										
Clarksville---	Limited		Limited		Limited		Limited		Very limited	
	too acid (limited)	0.84	too acid (limited)	0.84	too acid (limited)	0.84	too acid (limited)	0.84	slope (very limited)	1.00
	large surface stones (limited)	0.79	large surface stones (limited)	0.79	large surface stones (limited)	0.79	large surface stones (limited)	0.79	too cobbly (limited)	0.95
	slope (moderately limited)	0.45	slope (moderately limited)	0.45	slope (limited)	0.70	slope (limited)	0.70	large surface stones (limited)	0.79
73242:										
Fanchon-----	Slightly limited		Slightly limited		Slightly limited		Slightly limited		Very limited	
	too acid (slightly limited)	0.24	too acid (slightly limited)	0.24	too acid (slightly limited)	0.24	too acid (slightly limited)	0.24	percs slowly (very limited)	1.00
					slope (slightly limited)	0.10	slope (slightly limited)	0.10	slope (moderately limited)	0.31

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73242:										
Tonti-----	Moderately limited wetness (moderately limited)	0.56	Moderately limited wetness (moderately limited)	0.56	Moderately limited wetness (moderately limited)	0.56	Moderately limited wetness (moderately limited)	0.56	Very limited wetness (very limited)	1.00
	too acid (slightly limited)	0.12	too acid (slightly limited)	0.12	too acid (slightly limited)	0.12	too acid (slightly limited)	0.12	slope (moderately limited)	0.31
					slope (slightly limited)	0.10	slope (slightly limited)	0.10	percs slowly (slightly limited)	0.22
73243:										
Topazmill-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.10	Slightly limited slope (slightly limited)	0.10	Very limited percs slowly (very limited)	1.00
									slope (moderately limited)	0.31
73300:										
Macedonia-----	Slightly limited too acid (slightly limited)	0.30	Slightly limited too acid (slightly limited)	0.30	Slightly limited too acid (slightly limited)	0.30	Slightly limited too acid (slightly limited)	0.30	Very limited percs slowly (very limited)	1.00
					slope (slightly limited)	0.20	slope (slightly limited)	0.20	slope (limited)	0.66
									too acid (slightly limited)	0.14
73311:										
Scholten-----	Limited slope (limited)	0.76	Limited slope (limited)	0.76	Limited slope (limited)	0.99	Limited slope (limited)	0.99	Very limited slope (very limited)	1.00
	droughty (limited)	0.70	droughty (limited)	0.70	droughty (limited)	0.70	wetness (moderately limited)	0.58	wetness (very limited)	1.00
	wetness (moderately limited)	0.58	wetness (moderately limited)	0.58	wetness (moderately limited)	0.58	too acid (moderately limited)	0.42	percs slowly (limited)	0.78
Bendavis-----	Limited slope (limited)	0.76	Limited slope (limited)	0.76	Limited slope (limited)	0.99	Very limited depth to bedrock (very limited)	1.00	Very limited slope (very limited)	1.00
	depth to bedrock (moderately limited)	0.58	depth to bedrock (moderately limited)	0.58	depth to bedrock (moderately limited)	0.58	slope (limited)	0.99	depth to bedrock (very limited)	1.00
	droughty (moderately limited)	0.45	droughty (moderately limited)	0.45	droughty (moderately limited)	0.45	wetness (slightly limited)	0.28	wetness (very limited)	1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73311:										
Poynor-----	Limited slope (limited) droughty (moderately limited) too acid (moderately limited)	0.76 0.57 0.42	Limited slope (limited) droughty (moderately limited) too acid (moderately limited)	0.76 0.57 0.42	Limited slope (limited) droughty (moderately limited) too acid (moderately limited)	0.99 0.57 0.42	Limited slope (limited) too acid (moderately limited)	0.99 0.42	Very limited slope (very limited) perc's slowly (limited) too acid (slightly limited)	1.00 0.78 0.03
73325:										
Clarksville----	Very limited slope (very limited) poor filter (very limited) too acid (slightly limited)	1.00 1.00 0.18	Very limited slope (very limited) poor filter (very limited) too acid (slightly limited)	1.00 1.00 0.18	Very limited slope (very limited) poor filter (very limited) too acid (slightly limited)	1.00 1.00 0.18	Very limited slope (very limited) poor filter (very limited) too acid (slightly limited)	1.00 1.00 0.18	Very limited slope (very limited) perc's slowly (very limited) slope (very limited) too acid (slightly limited)	1.00 1.00 0.03
73326:										
Topazmill-----	Moderately limited slope (moderately limited)	0.60	Moderately limited slope (moderately limited)	0.60	Limited slope (limited)	0.80	Limited slope (limited)	0.80	Very limited perc's slowly (very limited) slope (very limited) too acid (slightly limited)	1.00 1.00 0.21
Coulstone-----	Very limited droughty (very limited) large surface stones (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited droughty (very limited) large surface stones (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited droughty (very limited) large surface stones (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited large surface stones (very limited) poor filter (very limited) large stones >35% (very limited)	1.00 1.00 0.99	Very limited slope (very limited) too stony (very limited) large surface stones (very limited)	1.00 1.00 1.00
73327:										
Topazmill-----	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited slope (very limited)	1.00	Very limited perc's slowly (very limited) slope (very limited) too acid (slightly limited)	1.00 1.00 0.21

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73327:										
Coulstone-----	Very limited slope (very limited) droughty (very limited) large surface stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) droughty (very limited) large surface stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) droughty (very limited) large surface stones (very limited)	1.00 1.00 1.00	Very limited slope (very limited) large surface stones (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited slope (very limited) too stony (very limited) large surface stones (very limited)	1.00 1.00 1.00
73328:										
Scholten-----	Limited droughty (limited) wetness (moderately limited) too acid (moderately limited)	0.92 0.58 0.42	Limited droughty (limited) wetness (moderately limited) too acid (moderately limited)	0.92 0.58 0.42	Limited droughty (limited) wetness (moderately limited) too acid (moderately limited)	0.92 0.58 0.42	Moderately limited wetness (moderately limited) too acid (moderately limited) slope (moderately limited)	0.58 0.42 0.31	Very limited wetness (very limited) percs slowly (limited) slope (limited)	1.00 0.96 0.91
Noark-----	Slightly limited droughty (slightly limited) too acid (slightly limited)	0.30 0.06	Slightly limited droughty (slightly limited) too acid (slightly limited)	0.30 0.06	Moderately limited slope (moderately limited) droughty (slightly limited) too acid (slightly limited)	0.31 0.30 0.06	Moderately limited slope (moderately limited) too acid (slightly limited)	0.31 0.06	Very limited percs slowly (very limited) slope (limited) too acid (moderately limited)	1.00 0.91 0.31
73329:										
Mano-----	Limited slope (limited) too acid (slightly limited) wetness (slightly limited)	0.76 0.30 0.28	Limited slope (limited) too acid (slightly limited) wetness (slightly limited)	0.76 0.30 0.28	Limited slope (limited) too acid (slightly limited) wetness (slightly limited)	0.99 0.30 0.28	Limited slope (limited) too acid (slightly limited) wetness (slightly limited)	0.99 0.30 0.28	Very limited percs slowly (very limited) wetness (very limited) slope (very limited)	1.00 1.00 1.00
Ocie-----	Limited slope (limited) wetness (slightly limited)	0.76 0.28	Limited slope (limited) wetness (slightly limited)	0.76 0.28	Limited slope (limited) wetness (slightly limited)	0.99 0.28	Limited slope (limited) wetness (slightly limited) depth to bedrock (slightly limited)	0.99 0.28 0.25	Very limited percs slowly (very limited) depth to bedrock (very limited) wetness (very limited)	1.00 1.00 1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value						
73331:										
Pomme-----	Limited slope (limited)	0.76	Limited slope (limited)	0.76	Limited slope (limited)	0.99	Limited slope (limited)	0.99	Very limited percs slowly (very limited) slope (very limited)	1.00 1.00
73332:										
Topazmill-----	Moderately limited slope (moderately limited)	0.60	Moderately limited slope (moderately limited)	0.60	Limited slope (limited)	0.80	Limited slope (limited)	0.80	Very limited percs slowly (very limited) slope (very limited) too acid (slightly limited)	1.00 1.00 0.21
74627:										
Hartville-----	Limited percs slowly (limited) wetness (moderately limited) flooding (slightly limited)	0.99 0.44 0.30	Limited percs slowly (limited) wetness (moderately limited) flooding (slightly limited)	0.99 0.44 0.30	Limited percs slowly (limited) wetness (moderately limited) flooding (slightly limited)	0.99 0.44 0.30	Limited percs slowly (limited) wetness (moderately limited) flooding (slightly limited)	0.99 0.44 0.30	Very limited percs slowly (very limited) wetness (very limited)	1.00 1.00 1.00
74657:										
Pomme-----	Not limited		Not limited		Slightly limited slope (slightly limited)	0.20	Slightly limited slope (slightly limited)	0.20	Very limited percs slowly (very limited) slope (limited)	1.00 0.66
74682:										
Zanoni-----	Limited flooding (limited)	0.90	Limited flooding (moderately limited) percs slowly (slightly limited)	0.60 0.22						
74683:										
Cedargap-----	Very limited flooding (very limited) droughty (slightly limited)	1.00 0.17	Very limited flooding (very limited) droughty (slightly limited)	1.00 0.17	Very limited flooding (very limited) droughty (slightly limited)	1.00 0.17	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) percs slowly (limited)	1.00 0.78

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value						
74683: Razort-----	Slightly limited flooding (slightly limited)	0.30	Very limited percs slowly (very limited)	1.00						
75381: Bearthicket----	Slightly limited flooding (slightly limited)	0.30	Very limited percs slowly (very limited)	1.00						
75382: Cedargap-----	Very limited flooding (very limited)	1.00	Very limited percs slowly (very limited) flooding (very limited) wetness (limited)	1.00 1.00 0.61						
75390: Razort-----	Slightly limited flooding (slightly limited)	0.30	Very limited percs slowly (very limited)	1.00						
75406: Racket-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) percs slowly (very limited) wetness (limited)	1.00 1.00 0.61						
75417: Relfe-----	Very limited flooding (very limited) droughty (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited flooding (very limited) droughty (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited flooding (very limited) droughty (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited flooding (very limited) droughty (very limited) poor filter (very limited)	1.00 1.00 1.00	Very limited flooding (very limited) percs slowly (moderately limited)	1.00 0.50

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food-processing waste		Land application of municipal sewage sludge		Disposal of wastewater by irrigation		Treatment of wastewater by slow rate process		Treatment of wastewater by rapid infiltration process	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75417:										
Sandbur-----	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited)	1.00	Very limited flooding (very limited) percs slowly (moderately limited)	1.00 0.32
99001:										
Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	
99002:										
Borrow areas---	Not rated		Not rated		Not rated		Not rated		Not rated	

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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
73017: Poynor-----	0-4	GRV-SIL	GC, GC-GM, GM	A-2, A-1, A-2-4, A-4	0-5	0-20	30-55	25-50	20-45	20-40	20-30	2-8
	4-10	GRV-L, GRV-SIL, GRX-SIL	GC, GC-GM, GM	A-2, A-1-b, A-2-4, A-4	0-5	0-20	30-55	20-50	20-50	15-40	20-30	2-8
	10-28	GRV-SIL, GRV-CL, GRX-SICL	GC	A-2, A-2-6, A-6	0-5	0-20	25-55	20-50	20-50	15-45	25-40	10-20
	28-80	SIC, C	CH, MH	A-7	0	0-10	95-100	90-100	85-95	70-90	50-80	25-40
73019: Poynor-----	0-4	GRV-SIL	GC, GC-GM, GM	A-2, A-1, A-2-4, A-4	0-5	0-20	30-55	25-50	20-45	20-40	20-30	2-8
	4-10	GRV-SIL, GR- SIL, GRX-SIL	GC, GC-GM, GM	A-2, A-1-b, A-2-4, A-4	0-5	0-20	25-60	20-55	20-50	15-40	20-30	2-8
	10-28	GRV-SICL, GRX-SICL, GRV-SIL, GRX-SIL	GC	A-2, A-2-6, A-6	0-5	0-20	25-55	20-50	20-50	15-45	25-40	10-20
	28-80	C, GR-C	CH, MH	A-7	0	0-10	65-100	60-100	55-95	50-90	50-70	25-35
73021: Poynor-----	0-4	GRX-SIL	GC, GC-GM, GM	A-2, A-1, A-2-4, A-4	0-5	0-20	30-55	25-50	20-45	20-40	20-30	2-8
	4-10	GRV-SIL, GRX-SIL	GC, GC-GM, GM	A-2, A-1-b, A-2-4, A-4	0-5	0-20	25-55	20-50	20-50	15-40	20-30	2-8
	10-28	GRV-SICL, GRV-SIL, GRX-SIL	GC	A-2, A-2-6, A-6	0-5	0-20	25-55	20-50	20-50	15-45	25-40	10-20
	28-80	C, CB-C	CH, MH	A-7	0	0-15	95-100	90-100	85-95	70-90	50-80	25-40
73023: Mano-----	0-3	GR-SIL	CL, GC, GM, ML	A-4	0	0-5	55-80	50-75	45-75	40-70	15-25	3-8
	3-13	GRV-SIL, GR-SIL	CL, GC, GM, ML	A-4	0	0-5	30-80	25-75	25-75	15-70	15-25	3-8
	13-33	GRV-SIL, GRV-SICL	GC	A-2, A-6	0	0-5	30-55	25-50	25-45	15-40	20-30	5-15
	33-80	C, SIC, GR-C	CH	A-7	0	0	70-95	70-95	65-90	55-85	50-75	30-45
Ocie-----	0-5	GRV-SIL	GC, GC-GM	A-1, A-2, A-4	0	0-15	35-60	30-55	25-50	20-45	0-25	4-10
	5-11	GRV-SIL, GRV-L, GR-SIL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-5	0-20	40-80	25-75	20-60	15-55	20-30	5-15
	11-24	GRV-SICL, GRV-SIL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-5	0-20	35-55	25-50	20-45	15-35	20-30	5-15
	24-56	C, GR-C	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	BR	---	---	---	---	---	---	---	---	---	---
73024: Mano-----	0-3	GRV-SIL	GC-GM, GC, GM	A-1, A-2, A-4	0	0-5	30-55	25-50	25-45	15-40	15-25	3-8
	3-13	GRV-SIL, GR-SIL	CL, GC, GM, ML	A-4	0	0-5	30-80	25-75	25-75	15-70	15-25	3-8
	13-33	GRV-SIL, GRV-SICL	GC	A-2, A-6	0	0-5	30-55	25-50	25-45	15-40	20-30	5-15
	33-80	C, GR-C	CH	A-7	0	0	70-95	70-95	65-90	55-85	50-75	30-45

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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
73024:												
Ocie-----	0-5	GRV-SIL	GC, GC-GM	A-1, A-2, A-4	0	0-15	35-60	30-55	25-50	20-45	0-25	4-10
	5-11	GRV-SIL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-5	0-20	40-60	25-55	20-45	15-35	20-30	5-15
	11-24	GRV-SIL, GRX-SIL, GRV-SICL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-5	0-20	25-55	20-50	20-45	15-35	20-30	5-15
	24-56	GR-C, C	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	BR	---	---	---	---	---	---	---	---	---	---
73032:												
Gateway-----	0-2	GRV-SIL	GC-GM, GC, SC	A-2, A-4, A-6	0	0-15	55-80	35-55	30-50	30-45	25-35	7-15
	2-5	GRV-SIL, GR-SIL	CL, GC, SC	A-2, A-4, A-6	0	0-15	40-90	35-85	30-75	30-70	25-35	7-15
	5-36	C, GR-C	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-80	55-75	30-45
	36-80	BR	---	---	---	---	---	---	---	---	---	---
73033:												
Gateway-----	0-2	GRX-SIL	GC-GM, GC	A-2-6, A-2-4	0	0-15	20-40	15-35	15-35	10-30	25-35	7-15
	2-5	GRV-SIL, GR-SIL	CL, GC, SC	A-2, A-4, A-6	0	0-15	40-90	35-80	30-75	30-70	25-35	7-15
	5-36	C, CB-C	CH	A-7	0-5	0-15	80-95	75-95	70-90	55-85	55-75	30-45
	36-80	BR	---	---	---	---	---	---	---	---	---	---
73051:												
Winnipeg-----	0-6	SIL	CL	A-4	0	0	95-100	90-100	85-95	75-85	25-35	7-15
	6-16	SIL, SICL	CL	A-6	0	0	95-100	90-100	85-95	70-90	30-40	10-20
	16-44	SICL, SIL	CL	A-6	0	0	85-100	75-100	70-95	65-90	35-45	15-25
	44-80	C, GR-SIC, GRV-SICL	GC, SC, CL	A-7, A-2-6, A-6	0	0	45-100	35-100	35-95	30-85	35-70	15-40
73059:												
Pomme-----	0-7	SIL	CL, CL-ML	A-4	0	0-5	80-100	75-100	70-95	50-90	20-30	6-10
	7-19	SICL, GR-SIL, GR-SICL, SIL	CL	A-4, A-6	0	0-10	70-95	65-90	50-85	50-75	30-40	9-15
	19-57	GRV-CL, GR-SICL, SICL	CL, GC	A-2, A-6, A-7-6	0	0-10	50-100	45-90	35-85	30-75	30-45	15-25
	57-80	GR-C, GRV-C	CL, GC, CH	A-7, A-2, A-6	0	0-10	40-80	35-75	30-70	25-65	37-60	15-30
73063:												
Bendavis-----	0-8	GR-SIL	GC-GM, GM, ML	A-4	0	0-5	55-80	50-75	45-70	40-60	15-20	2-8
	8-10	GRV-SIL, GR- SIL, SIL	GM, ML	A-4	0	0-15	40-85	35-80	35-80	30-65	15-20	2-8
	10-31	GRV-SIL, GRV-L, GRX-SICL, GRV-SICL	GC, SC, GC-GM	A-2-4, A-4	0-5	0-25	25-60	20-55	20-50	15-45	20-30	5-15
	31-80	BR	---	---	---	---	---	---	---	---	---	---
Poynor-----	0-4	GRV-SIL	GC, GC-GM, GM	A-2, A-1, A-2-4, A-4	0-5	0-20	30-55	25-50	20-45	20-40	20-30	2-8
	4-10	GRV-SIL, GR-SIL	GC, GC-GM, GM	A-2, A-1-b, A-2-4, A-4	0-5	0-20	30-60	25-55	20-50	15-40	20-30	2-8
	10-28	GRV-SICL, GRX-SIL	GC	A-2, A-2-6, A-6	0-5	0-20	25-55	20-50	20-50	15-45	25-40	10-20
	28-80	GR-C, C	MH, CH	A-7	0	0-10	60-100	55-100	50-95	40-90	51-70	25-35

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											
73230:												
Coulstone-----	0-1	MPM	---	---	---	---	---	---	---	---	---	---
	1-6	CBX-SL	GC-GM, GM	A-1, A-2-4	0-55	0-55	45-70	20-55	15-45	5-35	8-18	2-4
	6-29	CBX-SL, GRX-SL, CBX-L	GC, GC-GM, GM	A-1, A-2-4	0	0-55	50-70	25-50	15-45	5-35	9-29	2-10
	29-42	STX-SL, CBX-L, CBX-C	GC, GC-GM, GM	A-2-6, A-6	0-55	0-45	45-65	20-50	15-45	5-40	20-52	5-23
	42-80	STX-CL, GRV-C, CBX-SCL	GC, GC-GM, GM	A-2-6, A-6	0-75	0-37	30-60	15-50	15-45	5-40	23-52	7-23
Bender-----	0-1	MPM	---	---	---	---	---	---	---	---	---	---
	1-5	CBX-SL	GC-GM, GM	A-1	0-17	0-55	30-60	15-50	10-40	5-25	2-12	1-4
	5-21	CBX-SL, GRX-FSL, CBX-L	SM	A-2	0-31	0-55	30-60	15-50	10-40	5-30	2-20	1-5
	21-31	STX-SL, GRV-FSL, STX-COSL, GRX-L	GC, GC-GM, GM	A-2	0-90	0-90	30-60	15-50	10-40	5-20	3-34	1-13
	31-80	BR	---	---	---	---	---	---	---	---	---	---
Gatewood-----	0-2	GRX-SIL	GC, GW-GC	A-2	0	0-15	30-50	10-30	10-25	5-20	25-35	7-15
	2-5	GRV-SIL, GR-SIL	CL, GC, SC	A-2, A-4, A-6	0	0-15	40-75	30-60	25-55	20-50	25-35	7-15
	5-36	C, CB-C	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	BR	---	---	---	---	---	---	---	---	---	---
73231:												
Wasola-----	0-7	SIL	CL, CL-ML	A-4, A-6	0	0-5	80-100	75-100	60-90	50-85	21-30	6-11
	7-22	SICL, SIL, GR-SIL, GR-SICL	CL	A-4, A-6	0	0-10	65-100	55-100	40-85	35-85	27-40	9-16
	22-30	GRV-SICL, GR-SICL, GR-CL, GR-L	GC	A-7-6, A-6, A-2	0	0-30	35-80	30-75	25-60	20-60	32-45	13-25
	30-80	GRV-SICL, GR-CL, GRV-C, GRV-CL	GC, GM	A-2, A-6	0	0-45	40-85	30-75	20-70	15-70	37-61	15-28
73236:												
Scholten-----	0-7	GRV-SIL	GM, CL-ML, GC-GM	A-2, A-4	0-3	0-15	30-80	25-75	20-75	15-70	15-19	2-4
	7-21	GRV-SIL, CBX-SIL, GRV-SICL	GC-GM, CL, GC, SC	A-4, A-2, A-6	0-4	0-30	30-75	25-65	25-65	25-65	18-32	4-12
	21-34	GRX-SIL, GRV-SIL, GRX-SICL	CL, GC	A-2, A-4, A-6	0-3	0-30	20-65	20-60	20-60	20-55	22-44	6-18
	34-80	GR-C, CBV-GRX-C	CH, CL, GC	A-2, A-7	0-10	0-30	20-65	20-60	20-60	15-55	38-77	17-48
Poynor-----	0-4	GRV-SIL	GM, GC-GM	A-2, A-1, A-2-4	0-24	0-7	25-75	25-50	20-50	10-35	12-20	2-5
	4-10	GRV-SIL, GR-SIL	GC-GM, GM	A-2, A-1-b, A-2-4, A-4	0-2	0-7	25-75	20-70	17-65	15-60	12-20	2-6
	10-28	GRV-SIL, GRX-SIL, CBX-SICL	GC	A-2, A-2-6	0-2	0-40	25-75	20-50	17-50	15-35	14-50	3-22
	28-80	GR-C, C, CB-C	CH, CL	A-7	0-3	0-65	80-100	70-100	65-95	60-90	41-80	20-53

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	3-10	4	10	40	200			
					inches	inches							Pct
	In												
73311: Poynor-----	0-4	GRV-SIL	GC, GC-GM, GM	A-1, A-2-4, A-4	0-3	0-25	40-80	15-70	15-65	10-60	20-30	2-8	
	4-10	GRV-SIL, GRX-SIL	GC, GC-GM, GM	A-1-b, A-2-4, A-4	0-3	0-15	40-85	15-75	15-75	10-65	20-30	2-8	
	10-28	GRV-SICL, GRX-SIL	GC	A-2-6, A-6	0-5	0-45	40-70	25-60	25-55	20-55	25-40	10-20	
	28-80	C, CB-C	CH, MH	A-7	0-5	0-30	55-100	35-100	30-100	25-100	51-70	25-35	
73325: Clarksville-----	0-1	MPM	---	---	---	---	---	---	---	---	---	---	
	1-5	GRX-SIL	GM	A-1	0-10	0-20	20-40	15-30	15-30	10-25	10-21	2-6	
	5-11	GRV-SIL, GR-SIL, CB-SIL	GC-GM	A-2	0-10	0-20	35-85	25-75	20-65	15-60	10-21	2-6	
	11-42	GRX-SIL, CBV-SIL, GRV-L	GC	A-2	0-20	0-25	20-60	15-50	15-45	5-40	20-39	5-16	
	42-80	GRV-C, GR-C, C, CBX-CL, GRX-C	MH	A-7	0-20	0-40	20-90	15-85	10-85	5-80	41-70	17-33	
73326: Topazmill-----	0-7	L	CL-ML, ML, SC-SM, SM	A-4	0	0	90-100	90-100	65-100	40-65	15-25	NP-10	
	7-24	L, CL	CL	A-6	0	0	90-100	90-100	65-100	55-80	25-35	10-15	
	24-80	L, SCL, CL	CL, SC	A-6	0	0	85-100	85-100	60-95	45-70	25-40	10-20	
Coulstone-----	1-6	CBX-SL	GC-GM, GM	A-1, A-2-4	0-55	0-55	45-70	20-55	15-45	5-35	8-18	2-4	
	6-29	CBX-SL, GRX-SL, GRX-CBX-L	GC, GC-GM, GM	A-1, A-2-4	0	0-55	50-70	25-50	15-45	5-35	9-29	2-10	
	29-42	STX-SL, CBX-L, CBX-C	GC, GC-GM, GM	A-2-6, A-6	0-55	0-45	45-65	20-50	15-45	5-40	20-52	5-23	
	42-80	STX-CL, GRV-C, CBX-SCL, GRX-SL	GC, GC-GM, GM	A-2-6, A-6	0-75	0-37	30-60	15-50	10-45	5-40	23-52	7-23	
73327: Topazmill-----	0-7	L	CL-ML, ML, SC-SM, SM	A-4	0	0	90-100	90-100	65-100	40-65	15-25	NP-10	
	7-24	L, CL	CL	A-6	0	0	90-100	90-100	65-100	55-80	25-35	10-15	
	24-80	L, SCL, CL	CL, SC	A-6	0	0	85-100	85-100	60-95	45-70	25-40	10-20	
Coulstone-----	1-6	CBX-SL	GC-GM, GM	A-1, A-2-4	0-55	0-55	45-70	20-55	15-45	5-35	8-18	2-4	
	6-29	CBX-SL, GRX-SL, GRX-CBX-L	GC, GC-GM, GM	A-1, A-2-4	0	0-55	50-70	25-50	15-45	5-35	9-29	2-10	
	29-42	STX-SL, CBX-L, CBX-C	GC, GC-GM, GM	A-2-6, A-6	0-55	0-45	45-65	20-50	15-45	5-40	20-52	5-23	
	42-80	STX-CL, GRV-C, CBX-SCL, GRX-SL	GC, GC-GM, GM	A-2-6, A-6	0-75	0-37	30-60	15-50	10-45	5-40	23-52	7-23	
73328: Scholten-----	0-7	GRV-SIL	GM, CL-ML, GC-GM	A-2, A-4	0-3	0-15	30-80	25-75	20-75	15-70	15-19	2-4	
	7-21	GRV-SIL, CBX-SIL, GRV-SICL	GC-GM, CL, GC, SC	A-4, A-2, A-6	0-4	0-30	30-75	25-65	25-65	25-65	18-32	4-12	
	21-34	GRX-SIL, GRV-SIL, GRX-SICL	CL, GC	A-2, A-4, A-6	0-3	0-30	20-65	20-60	20-60	20-55	22-44	6-18	
	34-80	GR-C, CBV-GRX-C	CH, CL, GC	A-2, A-7	0-10	0-30	20-65	20-60	20-60	15-55	38-77	17-48	

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												
73328:												
Noark-----	0-3	GRV-SIL	GC-GM	A-2-4	0-5	0-15	30-50	25-50	25-50	20-45	15-30	3-10
	3-8	GR-SIL, GRV-SIL	GC-GM	A-2-4	0-5	0-10	30-75	25-75	25-70	20-60	15-30	3-10
	8-16	GRV-SIL, GRV-SICL, GR-SIL	GC	A-4, A-6	0-5	0-20	30-70	25-65	25-60	20-55	25-40	8-20
	16-60	GRV-C, GRX-C	GM	A-7, A-2-7	0-5	0-50	10-50	10-50	10-50	10-45	45-85	20-40
73329:												
Mano-----	0-3	GRV-SIL	GC-GM, GM, GC	A-1, A-2, A-4	0	0-5	30-55	25-50	25-45	15-40	15-25	3-8
	3-13	GRV-SIL, GR-SIL	CL, GC, GM, ML	A-4	0	0-5	30-80	25-75	25-75	15-70	15-25	3-8
	13-33	GRV-SIL, GRV-SICL	GC	A-2, A-6	0	0-5	30-55	25-50	25-45	15-40	20-30	5-15
	33-80	C, GR-C	CH	A-7	0	0	70-95	70-95	65-90	55-85	50-75	30-45
Ocie-----	0-5	GRV-SIL	GC-GM, GC	A-1, A-2, A-4	0	0-15	35-60	30-55	25-50	20-45	0-25	4-10
	5-11	GRV-SIL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-5	0-20	40-60	25-55	20-45	15-35	20-30	5-15
	11-24	GRV-SIL, GRX-SIL, GRV-SICL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	24-56	GR-C, C	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	BR	---	---	---	---	---	---	---	---	---	---
73331:												
Pomme-----	0-7	SIL	CL, CL-ML	A-4	0	0-5	80-100	75-100	70-95	50-90	20-30	6-10
	7-19	SICL, GR-SIL, GR-SICL, SIL	CL	A-4, A-6	0	0-10	70-95	65-90	50-85	50-75	30-40	9-15
	19-57	GRV-SICL, GR-SICL, SICL	CL, GC	A-2, A-6, A-7-6	0	0-10	50-100	45-90	35-85	30-75	30-45	15-25
	57-80	C, GR-C	CL, GC, CH	A-7, A-2, A-6	0	0-10	40-100	35-90	30-85	25-80	37-60	15-30
73332:												
Topazmill-----	0-7	L	CL-ML, ML, SC-SM, SM	A-4	0	0	90-100	90-100	65-100	40-65	15-25	NP-10
	7-24	L, CL	CL	A-6	0	0	90-100	90-100	65-100	55-80	25-35	10-15
	24-80	L, SCL, CL	CL, SC	A-6	0	0	85-100	85-100	60-95	45-70	25-40	10-20
74627:												
Hartville-----	0-7	SIL	CL	A-4, A-6	0	0	95-100	90-100	80-95	70-90	15-30	7-15
	7-11	SIL	CL	A-6	0	0	95-100	90-100	85-98	75-90	15-30	15-25
	11-40	SIC, SICL	CH	A-7	0	0	95-100	85-100	80-98	75-95	50-60	30-40
	40-80	SICL	CL	A-7	0	0	85-95	75-95	65-95	60-90	40-50	25-40
74657:												
Pomme-----	0-7	SIL	CL, CL-ML	A-4, A-6	0	0-5	80-100	75-100	70-95	50-90	21-30	6-11
	7-19	SICL, GR-SIL, GR-SICL	CL	A-4, A-6	0	0-10	70-95	65-90	50-85	50-75	27-40	9-16
	19-57	GRV-SICL, CBV-SICL	GC	A-2, A-6, A-7-6	0	0-30	25-50	25-45	25-45	20-40	32-45	13-25
	57-80	GRX-C, CBV-C	GC, GM	A-2, A-6	0	0-45	20-45	20-45	20-45	15-40	37-61	15-28
74682:												
Zanoni-----	0-7	FSL	CL-ML, ML, SM	A-4	0	0	85-100	75-100	60-85	40-55	14-23	3-6
	7-36	FSL, L, GR-SL, SL	CL-ML, ML, SC-SM, SM	A-4	0	0	85-100	75-100	60-85	40-55	12-29	3-10
	36-50	SL, FSL, GR-SL, L, SCL	CL-ML, ML, SC-SM, SM	A-6, A-4	0	0	60-100	50-95	35-80	20-50	12-32	3-13
	50-80	SR- GRX-LS GR-L	GP-GC, SC-SM, SM	A-2	0	0	20-60	10-75	5-40	5-25	12-30	3-11

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											
74683:												
Cedargap-----	0-14	GR-L	SC	A-4	0	0	90-100	50-75	40-65	30-60	20-40	4-20
	14-24	GRX-SL, SR-GR-CL GRX-SL	GW-GC, GC, CL	A-2, A-4	0	0	35-90	25-75	20-55	10-55	20-45	4-20
	24-49	GRX-SL, SR-GRV-SL GRX-SC	GC, GW-GC	A-1, A-2	0	0-8	35-65	25-50	20-40	10-30	20-45	4-20
	49-80	GRX-SCL, GRX-SC	GW-GC, GC	A-2, A-2-6	0	0-23	25-50	15-25	15-20	5-15	20-65	4-40
Razort-----	0-7	SIL	CL-ML	A-4	0	0	80-100	75-100	70-100	55-90	20-35	5-15
	7-34	SIL, L, CL	CL	A-6	0	0	60-100	60-100	45-100	35-90	30-45	10-20
	34-80	GR-L, L, GRV-L	CL, CL-ML, GC	A-6, A-4	0	0	35-100	30-100	25-95	20-75	20-35	5-15
75381:												
Bearthicket----	0-10	SIL	ML	A-4	0	0	100	95-100	90-100	75-90	25-35	3-10
	10-48	SIL, SICL	CL, CL-ML	A-4, A-6	0	0	100	95-100	90-100	80-90	25-40	5-15
	48-80	SIL, SICL, GR-SICL	CL, CL-ML	A-4, A-6	0	0	60-100	55-100	45-100	40-95	25-40	5-15
75382:												
Cedargap-----	0-8	GR-L	GM, SM, ML	A-4	0	0-5	60-85	50-75	45-70	35-50	25-35	3-9
	8-46	GRV-L, GRV-CL, GR-SIL, GRX-SCL	GM, SM	A-4, A-1, A-2	0	0-15	25-60	20-55	20-50	15-40	25-35	3-9
	46-80	GRV-CL, GRX-L, GRV-L, GRX-SCL	GC, GC-GM	A-2, A-1-b, A-2-4, A-2-6	0-10	0-20	30-60	25-55	20-50	15-40	20-35	5-20
75390:												
Razort-----	0-7	SIL	CL-ML	A-4	0	0	80-100	75-100	70-100	55-90	20-35	5-15
	7-34	SIL, L, CL	CL	A-6	0	0	80-100	75-100	70-95	50-75	30-45	10-20
	34-80	GR-L, GRV-L	CL, CL-ML, GC	A-6, A-4	0	0	35-80	30-75	25-70	20-50	20-35	5-15
75406:												
Racket-----	0-10	L	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-95	60-70	25-40	5-20
	10-30	L, GR-L, SIL	CL, CL-ML	A-4, A-6	0	0	75-100	70-100	60-95	45-85	25-40	5-20
	30-45	L, GR-L, GRV-L	CL, CL-ML	A-4, A-6	0	0	45-100	40-100	35-95	25-70	25-40	5-20
	45-80	SR-GRX-S GR-SL	GM, GP-GM, SM, SP-SM	A-1	0	0	15-90	10-85	5-60	5-35	10-40	2-25
75417:												
Relfe-----	0-6	GRV-SL	GW-GM, GC, GC-GM	A-2-4, A-1-b	0-1	0-10	30-55	25-50	15-35	10-20	10-25	3-9
	6-80	SR-CBX-COS GRV-LS	GC-GM, GW-GM, SP-SM, GW-GC	A-1-b, A-2-4	0-5	0-40	25-60	10-55	5-40	3-15	8-20	2-10
Sandbur-----	0-8	FSL	SC-SM, SM	A-4	0	0	80-100	75-100	60-80	35-50	10-30	NP-10
	8-50	SR-FS SIL	CL-ML, SC-SM, ML, SM	A-4	0	0-5	80-100	75-100	55-95	20-85	10-30	NP-10
	50-80	GRX-LCOS, GRX-COSL, GRV-SL, GR-L	GW-GC, SW-SC	A-2	0-5	0-30	30-60	20-55	10-30	5-20	10-30	NP-10
99001. Water												
99002: Borrow areas----	0-60	VAR	GP	A-1	---	---	---	---	---	---	0-14	---

Table 18.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	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					
70022: Tonti-----	0-8	8-20	60-82	10-20	1.30-1.50	4.00-14.00	0.15-0.20	0.1-2.9	1.0-4.0	.37	.43	4	5	56
	8-20	6-18	47-74	20-35	1.30-1.50	4.00-14.00	0.12-0.18	0.1-2.9	0.1-1.0	.32	.37			
	20-34	10-30	40-75	15-35	1.60-1.90	0.01-0.42	0.02-0.08	0.1-2.9	0.1-0.5	.28	.37			
	34-80	5-15	5-55	40-80	1.20-1.40	0.42-1.40	0.05-0.10	3.0-5.9	0.1-0.5	.24	.32			
70025: Branson-----	0-8	10-30	52-81	9-18	1.25-1.45	4.00-14.00	0.24-0.24	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	8-26	8-22	45-77	15-32	1.25-1.45	4.00-14.00	0.18-0.20	0.0-2.9	0.5-1.0	.37	.37			
	26-40	10-22	43-67	23-35	1.25-1.45	4.00-14.00	0.16-0.20	0.0-2.9	0.1-0.5	.43	.43			
	40-80	8-22	40-72	27-45	1.20-1.40	4.00-14.00	0.05-0.18	3.0-5.9	0.1-0.2	.43	.43			
Splitlimb-----	0-10	11-19	65-77	9-18	1.30-1.50	4.00-14.00	0.23-0.24	0.0-2.9	1.0-3.0	.37	.37	5	5	56
	10-20	9-12	58-74	14-32	1.30-1.65	4.00-14.00	0.20-0.22	3.0-5.9	0.3-1.0	.43	.43			
	20-29	5-18	56-78	15-35	1.50-1.70	4.00-14.00	0.16-0.20	3.0-5.9	0.2-0.5	.32	.32			
	29-80	4-14	54-73	21-37	1.50-1.70	4.00-14.00	0.15-0.19	3.0-5.9	0.1-0.3	.32	.32			
70026: Tonti-----	0-8	8-20	60-82	10-20	1.30-1.50	4.00-14.00	0.15-0.20	0.1-2.9	1.0-3.0	.37	.43	4	5	56
	8-20	6-18	47-74	20-35	1.30-1.50	4.00-14.00	0.12-0.18	0.1-2.9	0.1-1.0	.32	.37			
	20-34	10-30	40-75	15-35	1.60-1.90	0.01-0.42	0.02-0.08	0.1-2.9	0.1-0.5	.28	.37			
	34-80	5-15	5-55	40-80	1.20-1.40	1.40-4.00	0.05-0.10	3.0-5.9	0.1-0.5	.24	.32			
73000: Pomme-----	0-7	10-35	50-80	10-20	1.35-1.45	4.00-14.00	0.16-0.21	0.1-2.9	1.0-4.0	.37	.37	5	5	56
	7-19	5-35	40-77	18-30	1.30-1.45	4.00-14.00	0.14-0.21	0.1-2.9	0.2-1.0	.32	.43			
	19-57	5-35	40-67	28-40	1.30-1.45	4.00-14.00	0.08-0.14	0.1-2.9	0.1-1.0	.28	.43			
	57-80	5-25	10-50	27-70	1.25-1.40	1.40-14.00	0.04-0.14	3.0-5.9	0.1-0.5	.20	.28			
73013: Lowassie-----	0-10	1-10	63-89	10-27	1.30-1.50	4.00-14.00	0.22-0.24	0.1-2.9	1.0-4.0	.37	.37	5	5	56
	10-18	1-10	55-84	15-35	1.30-1.50	4.00-14.00	0.20-0.22	0.1-2.9	0.2-2.0	.43	.43			
	18-36	1-10	25-60	40-65	1.35-1.60	0.42-1.40	0.09-0.15	6.0-8.9	0.2-1.0	.32	.32			
	36-80	1-20	45-91	8-35	1.40-1.65	1.40-4.00	0.18-0.22	0.1-2.9	0.1-0.5	.43	.43			
73017: Bendavis-----	0-3	14-35	50-81	5-15	1.30-1.50	14.00-42.00	0.09-0.12	0.1-2.9	1.0-3.0	.15	.37	2	8	0
	3-14	15-35	50-77	8-18	1.30-1.50	14.00-42.00	0.09-0.17	0.1-2.9	0.5-2.0	.24	.37			
	14-34	12-30	43-78	10-30	1.30-1.50	4.00-14.00	0.10-0.15	0.1-2.9	0.1-0.8	.17	.37			
	34-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Poynor-----	0-4	10-25	55-84	6-20	1.20-1.45	14.00-42.00	0.04-0.12	0.1-2.9	1.0-3.0	.28	.37	3	8	0
	4-10	15-25	45-77	8-15	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.5-2.0	.28	.43			
	10-28	10-30	45-75	15-35	1.40-1.55	4.00-14.00	0.02-0.09	0.1-2.9	0.1-0.8	.28	.43			
	28-80	1-15	5-50	45-80	1.50-1.65	4.00-14.00	0.08-0.12	3.0-5.9	0.1-0.5	.28	.28			
73019: Poynor-----	0-4	15-30	50-80	5-20	1.20-1.45	14.00-42.00	0.04-0.12	0.1-2.9	0.5-1.0	.28	.37	3	8	0
	4-10	5-25	60-90	5-15	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.5-1.0	.28	.43			
	10-28	5-15	50-80	15-35	1.40-1.55	4.00-14.00	0.02-0.09	0.1-2.9	0.1-0.5	.28	.43			
	28-80	2-20	5-53	45-75	1.50-1.65	4.00-14.00	0.08-0.12	3.0-5.9	0.1-0.5	.28	.28			
73021: Poynor-----	0-4	10-25	55-84	6-20	1.20-1.45	14.00-42.00	0.04-0.12	0.1-2.9	2.0-8.0	.28	.37	3	8	0
	4-10	15-25	50-77	8-15	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.5-2.0	.28	.43			
	10-28	10-20	45-75	15-35	1.40-1.55	4.00-14.00	0.02-0.09	0.1-2.9	0.1-0.8	.28	.43			
	28-80	1-15	5-40	40-80	1.50-1.65	4.00-14.00	0.08-0.12	3.0-5.9	0.1-0.5	.28	.28			

Table 18.--Physical Properties of the Soils--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					
73023:														
Mano -----	0-3	20-30	52-75	5-18	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	1.0-4.0	.28	.43	4	8	0
	3-13	20-30	55-75	5-15	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	0.5-2.0	.28	.43			
	13-33	8-20	50-80	12-30	1.30-1.40	4.00-14.00	0.04-0.14	0.1-2.9	0.2-1.0	.28	.43			
	33-80	1-20	5-44	55-75	1.30-1.60	0.42-1.40	0.06-0.12	6.0-8.9	0.1-0.8	.28	.28			
Ocie -----	0-5	10-35	50-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.28	.37	3	8	0
	5-11	10-35	45-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.24	.28			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73024:														
Mano -----	0-3	20-30	52-75	5-18	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	1.0-4.0	.28	.43	4	8	0
	3-13	20-30	55-75	5-15	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	0.5-1.0	.28	.43			
	13-33	8-20	50-80	12-30	1.30-1.40	4.00-14.00	0.04-0.14	0.1-2.9	0.2-1.0	.28	.43			
	33-80	1-20	5-40	55-75	1.30-1.60	0.42-1.40	0.06-0.12	6.0-8.9	0.1-0.8	.24	.28			
Ocie -----	0-5	10-35	50-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.28	.37	3	8	0
	5-11	10-35	50-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.24	.28			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73032:														
Gatewood -----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	2.0-8.0	.28	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.28	.37			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.28			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73033:														
Gatewood -----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	2.0-8.0	.28	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.28			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73051:														
Winnipeg -----	0-6	5-20	60-87	8-20	1.20-1.40	4.00-14.00	0.20-0.22	0.1-2.9	1.0-4.0	.37	.37	5	5	56
	6-16	5-15	58-80	15-30	1.20-1.40	4.00-14.00	0.18-0.22	0.1-2.9	0.5-1.0	.43	.43			
	16-44	5-20	45-70	25-35	1.20-1.50	4.00-14.00	0.16-0.20	3.0-5.9	0.1-0.5	.43	.43			
	44-80	15-25	30-65	27-50	1.30-1.55	4.00-14.00	0.12-0.16	3.0-5.9	0.1-0.5	.28	.32			
73059:														
Pomme -----	0-7	10-35	50-80	10-20	1.35-1.45	4.00-14.00	0.16-0.21	0.1-2.9	1.0-4.0	.32	.37	5	5	56
	7-19	5-35	35-77	18-30	1.30-1.45	4.00-14.00	0.14-0.21	0.1-2.9	0.2-1.0	.32	.43			
	19-57	5-35	25-67	28-40	1.30-1.45	4.00-14.00	0.08-0.14	0.1-2.9	0.1-1.0	.28	.43			
	57-80	5-25	10-50	27-70	1.25-1.40	1.40-14.00	0.04-0.14	3.0-5.9	0.1-1.0	.20	.28			
73063:														
Bendavis -----	0-8	14-35	52-78	8-13	1.30-1.50	14.00-42.00	0.12-0.20	0.0-2.9	1.0-3.0	.15	.37	2	8	0
	8-10	14-35	52-78	8-13	1.30-1.50	14.00-42.00	0.06-0.20	0.0-2.9	0.5-2.0	.24	.37			
	10-31	12-31	40-77	11-29	1.30-1.50	4.00-14.00	0.03-0.14	0.0-2.9	0.2-0.8	.17	.37			
	31-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Poynor -----	0-4	15-30	50-80	5-20	1.20-1.45	14.00-42.00	0.04-0.12	0.1-2.9	1.0-3.0	.28	.37	3	8	0
	4-10	5-25	60-90	5-15	1.25-1.45	14.00-42.00	0.06-0.12	0.1-2.9	0.5-1.0	.28	.43			
	10-28	5-15	50-80	15-35	1.40-1.55	4.00-14.00	0.02-0.09	0.1-2.9	0.1-0.5	.28	.43			
	28-80	2-20	5-40	45-75	1.50-1.65	4.00-14.00	0.08-0.12	3.0-5.9	0.1-0.5	.24	.28			

Table 18.--Physical Properties of the Soils--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	Wind
										Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
73068: Tick-----	0-5	22-45	50-64	8-18	1.20-1.45	14.00-42.00	0.06-0.22	0.0-2.9	1.0-3.0	.28	.37	5	8	0
	5-10	14-45	45-68	9-25	1.25-1.45	14.00-42.00	0.08-0.22	0.0-2.9	0.7-2.0	.28	.43			
	10-18	11-50	32-64	27-40	1.40-1.55	0.42-14.00	0.05-0.20	0.0-2.9	0.2-0.7	.28	.43			
	18-42	1-36	20-50	40-70	1.40-1.55	0.42-4.00	0.04-0.11	3.0-5.9	0.1-0.5	.28	.28			
	42-80	1-27	19-42	40-80	1.50-1.65	0.42-1.40	0.01-0.04	3.0-5.9	0.0-0.5	.28	.28			
73069: Tick-----	0-5	22-45	50-64	8-18	1.20-1.45	14.00-42.00	0.06-0.22	0.0-2.9	1.0-3.0	.28	.37	5	8	0
	5-10	14-45	45-68	9-20	1.25-1.45	14.00-42.00	0.08-0.22	0.0-2.9	0.7-2.0	.28	.43			
	10-18	11-50	32-64	14-40	1.40-1.55	0.42-14.00	0.05-0.20	0.0-2.9	0.2-0.7	.28	.43			
	18-42	1-36	21-49	40-69	1.40-1.55	0.42-4.00	0.04-0.11	3.0-5.9	0.1-0.5	.28	.28			
	42-80	1-27	19-42	40-78	1.50-1.65	0.42-1.40	0.01-0.04	3.0-5.9	0.0-0.5	.28	.28			
73073: Scholten-----	0-7	17-33	54-74	9-13	1.20-1.40	14.00-42.00	0.07-0.19	0.1-2.9	1.0-3.0	.28	.37	4	8	0
	7-21	13-25	47-75	12-28	1.30-1.50	4.00-14.00	0.02-0.11	0.1-2.9	0.2-0.7	.32	.43			
	21-34	11-32	40-72	17-40	1.60-1.90	0.00-0.42	0.01-0.05	0.1-5.9	0.1-0.3	.32	.43			
	34-80	6-40	10-50	35-80	1.30-1.60	4.00-14.00	0.01-0.03	3.0-5.9	0.1-0.3	.20	.28			
Poynor-----	0-4	12-37	50-80	6-15	1.20-1.45	4.00-14.00	0.04-0.12	0.1-2.9	1.0-3.0	.28	.37	3	8	0
	4-10	15-30	50-70	8-16	1.25-1.45	4.00-14.00	0.02-0.09	0.1-2.9	0.2-1.0	.28	.43			
	10-28	5-15	50-80	15-35	1.40-1.55	4.00-14.00	0.02-0.09	0.1-2.9	0.1-1.0	.28	.43			
	28-80	2-40	5-40	45-86	1.50-1.65	1.40-4.00	0.07-0.09	3.0-5.9	0.1-0.9	.28	.28			
73076: Mano-----	0-3	20-30	52-75	5-18	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	1.0-4.0	.28	.43	4	8	0
	3-13	20-30	55-75	5-15	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	0.5-1.0	.28	.43			
	13-33	8-20	50-80	12-30	1.30-1.40	4.00-14.00	0.04-0.14	0.1-2.9	0.3-1.0	.32	.43			
	33-80	1-20	5-40	55-75	1.30-1.60	0.42-1.40	0.06-0.12	6.0-8.9	0.1-0.8	.24	.28			
Ocie-----	0-5	10-35	50-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.28	.37	3	8	0
	5-11	10-35	50-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.24	.28			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73121: Scholten-----	0-7	17-33	54-74	9-13	1.20-1.40	12.00-42.00	0.07-0.19	0.1-2.9	1.0-3.0	.28	.37	4	8	0
	7-21	13-25	47-75	12-28	1.30-1.50	4.00-14.00	0.02-0.11	0.1-2.9	0.2-0.7	.32	.43			
	21-34	11-32	27-72	17-41	1.60-1.90	0.01-0.42	0.01-0.05	0.1-2.9	0.1-0.3	.32	.43			
	34-80	6-40	10-65	29-72	1.30-1.60	4.00-14.00	0.01-0.03	3.0-5.9	0.1-0.3	.20	.28			
Tonti-----	0-8	8-20	60-82	10-20	1.30-1.50	4.00-14.00	0.15-0.20	0.1-2.9	1.0-3.0	.37	.43	4	5	56
	8-20	6-18	47-74	20-35	1.30-1.50	4.00-14.00	0.12-0.18	0.1-2.9	0.1-1.0	.32	.37			
	20-34	10-30	35-75	15-35	1.60-1.90	0.00-0.42	0.02-0.08	0.1-2.9	0.1-0.5	.28	.37			
	34-80	5-15	5-55	40-80	1.20-1.40	1.40-4.00	0.05-0.10	3.0-5.9	0.1-0.5	.32	.32			
73176: Bendavis-----	0-5	10-30	60-80	5-15	1.20-1.40	14.00-42.00	0.09-0.13	0.1-2.9	1.0-3.0	.15	.37	2	8	0
	5-9	10-30	60-80	5-15	1.20-1.40	14.00-42.00	0.09-0.13	0.1-2.9	0.5-2.0	.15	.37			
	9-25	15-35	50-70	15-30	1.20-1.40	4.00-14.00	0.09-0.15	0.1-2.9	0.1-1.0	.15	.37			
	25-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Poynor-----	0-5	15-35	55-75	5-22	1.20-1.45	14.00-42.00	0.09-0.15	0.1-2.9	1.0-3.0	.28	.43	3	8	0
	5-11	15-35	55-75	5-22	1.25-1.45	14.00-42.00	0.08-0.13	0.1-2.9	0.5-1.0	.28	.43			
	11-17	15-30	55-75	18-27	1.40-1.55	4.00-14.00	0.08-0.13	0.1-2.9	0.1-0.8	.28	.43			
	17-80	5-20	10-30	42-70	1.50-1.65	4.00-14.00	0.08-0.10	3.0-5.9	0.1-0.5	.28	.28			

Table 18.--Physical Properties of the Soils--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					
73198: Gressy-----	0-7	15-35	50-76	9-20	1.35-1.45	14.00-42.00	0.19-0.24	0.0-2.9	1.0-4.0	.37	.37	5	5	56
	7-31	15-40	30-71	14-30	1.30-1.45	4.00-14.00	0.12-0.18	0.0-2.9	0.1-0.7	.37	.43			
	31-49	15-45	25-50	27-40	1.30-1.45	4.00-14.00	0.08-0.14	3.0-5.9	0.1-0.5	.28	.43			
	49-80	10-35	10-40	45-75	1.25-1.40	0.42-1.40	0.05-0.12	6.0-8.9	0.0-0.4	.20	.28			
Viraton-----	0-3	5-20	60-80	10-20	1.30-1.50	4.00-14.00	0.20-0.22	0.1-2.9	1.0-4.0	.43	.43	4	5	56
	3-7	5-20	60-80	10-20	1.30-1.50	4.00-14.00	0.18-0.20	0.1-2.9	0.5-2.0	.43	.43			
	7-23	5-20	55-75	18-30	1.30-1.50	4.00-14.00	0.13-0.15	3.0-5.9	0.5-0.8	.28	.43			
	23-48	15-35	50-75	15-25	1.60-1.90	0.00-0.42	0.01-0.05	0.1-2.9	0.1-0.5	.15	.32			
	48-80	5-25	10-35	45-70	1.40-1.60	0.42-4.20	0.06-0.08	6.0-8.9	0.1-0.5	.20	.24			
73199: Moko-----	0-7	10-50	30-50	8-27	1.25-1.50	4.00-14.00	0.08-0.13	0.0-2.9	2.0-10	.24	.37	1	8	0
	7-12	10-50	25-70	10-35	1.25-1.60	4.00-14.00	0.03-0.14	0.0-2.9	1.0-8.0	.28	.43			
	12-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Rock outcrop.														
73220: Poynor-----	0-4	12-37	50-80	6-14	1.20-1.45	4.00-14.00	0.04-0.12	0.1-2.9	0.7-6.0	.28	.37	3	8	0
	4-10	20-31	50-70	8-27	1.25-1.45	4.00-14.00	0.02-0.09	0.1-2.9	0.2-1.0	.28	.43			
	10-28	5-15	50-80	10-35	1.40-1.55	4.00-14.00	0.02-0.09	0.1-2.9	0.1-1.0	.28	.43			
	28-80	2-41	5-40	40-86	1.50-1.65	1.40-4.00	0.08-0.12	3.0-5.9	0.1-0.5	.28	.28			
73222: Splitlimb-----	0-10	11-19	65-77	9-18	1.30-1.50	4.00-14.00	0.23-0.24	0.0-2.9	1.0-4.0	.37	.37	5	5	56
	10-20	9-12	58-74	14-32	1.30-1.65	4.00-14.00	0.20-0.22	3.0-5.9	0.3-1.0	.43	.43			
	20-29	5-18	56-78	15-35	1.50-1.70	1.40-14.00	0.16-0.20	3.0-5.9	0.2-0.5	.32	.32			
	29-80	4-14	54-73	21-37	1.50-1.70	1.40-4.00	0.15-0.19	3.0-5.9	0.1-0.3	.32	.32			
73223: Coulstone-----	0-1	---	---	---	---	42.00-141.00	0.10-0.20	---	35-90	---	---	3	8	0
	1-6	40-70	25-50	5-12	1.20-1.45	14.00-42.00	0.03-0.10	0.1-2.9	1.0-3.0	.28	.37			
	6-29	35-70	25-50	6-24	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.2-1.0	.28	.43			
	29-42	35-60	15-55	14-50	1.40-1.55	1.40-42.00	0.02-0.10	0.1-2.9	0.1-0.3	.28	.43			
	42-80	30-55	8-40	20-55	1.50-1.65	1.40-42.00	0.02-0.11	0.1-5.9	0.1-0.3	.28	.28			
Bender-----	0-1	---	---	---	---	42.00-141.00	0.10-0.20	---	35-90	---	---	2	8	0
	1-5	50-75	15-50	1-8	1.30-1.50	14.00-42.00	0.01-0.09	0.0-2.9	1.5-3.0	.17	.24			
	5-21	45-75	10-55	1-15	1.30-1.50	14.00-42.00	0.01-0.06	0.0-2.9	0.2-1.5	.17	.32			
	21-31	40-85	5-50	2-30	1.30-1.50	14.00-42.00	0.01-0.06	0.0-2.9	0.0-0.5	.17	.32			
	31-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73224: Moko-----	0-7	10-50	25-50	10-27	1.25-1.50	4.00-14.00	0.08-0.13	0.0-2.9	2.0-10	.24	.37	1	8	0
	7-12	10-50	25-70	10-35	1.25-1.60	4.00-14.00	0.03-0.14	0.0-2.9	1.0-8.0	.28	.43			
	12-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Rock outcrop.														
73225: Ocie-----	0-5	10-35	45-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	2.0-12	.32	.37	3	8	0
	5-11	10-35	45-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.32	.32			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	2.0-8.0	.32	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			

Table 18.--Physical Properties of the Soils--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	Wind
										Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
73226: Ocie-----	0-5	10-35	45-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.32	.37	3	8	0
	5-11	10-35	45-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.32	.32			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.32	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73227: Ocie-----	0-5	15-30	52-80	5-18	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.32	.37	3	8	0
	5-11	12-30	55-83	5-15	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	11-24	5-30	35-80	15-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-14	16-43	55-70	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.06-0.12	0.1-2.9	1.0-4.0	.28	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.10	.32			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73228: Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	2.0-8.0	.32	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Moko-----	0-7	10-50	25-70	8-35	1.25-1.50	4.00-14.00	0.08-0.13	0.0-2.9	2.0-10	.24	.37	1	8	0
	7-12	10-50	25-70	8-35	1.25-1.60	4.00-14.00	0.03-0.14	0.0-2.9	1.0-8.0	.28	.43			
	12-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73229: Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	2.0-8.0	.32	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Moko-----	0-7	10-50	25-70	8-35	1.25-1.50	4.00-14.00	0.08-0.13	0.0-2.9	2.0-10	.24	.37	1	8	0
	7-12	10-50	25-70	8-35	1.25-1.60	4.00-14.00	0.03-0.14	0.0-2.9	1.0-8.0	.28	.43			
	12-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73230: Coulstone-----	0-1	---	---	---	---	42.00-141.00	0.10-0.20	---	35-90	---	---	3	8	0
	1-6	40-70	25-55	5-12	1.20-1.45	14.00-42.00	0.03-0.10	0.1-2.9	1.0-3.0	.28	.37			
	6-29	35-70	25-55	6-24	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.2-1.0	.28	.43			
	29-42	35-60	15-55	14-50	1.40-1.55	1.40-42.00	0.02-0.10	0.1-2.9	0.1-0.3	.28	.43			
	42-80	30-55	8-40	18-50	1.50-1.65	1.40-42.00	0.02-0.11	0.1-5.9	0.1-0.3	.28	.28			
Bender-----	0-1	---	---	---	---	42.00-141.00	0.10-0.20	---	35-90	---	---	2	8	0
	1-5	50-75	17-49	1-8	1.30-1.50	14.00-42.00	0.01-0.09	0.0-2.9	1.5-3.0	.17	.24			
	5-21	45-75	10-54	1-15	1.30-1.50	14.00-42.00	0.01-0.06	0.0-2.9	0.2-1.5	.17	.32			
	21-31	40-85	5-48	2-30	1.30-1.50	14.00-42.00	0.01-0.06	0.0-2.9	0.0-0.5	.17	.32			
	31-80	---	---	---	---	0.00-0.11	0.01-0.01	---	---	---	---			
Gatewood-----	0-2	15-30	50-75	10-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.32	.37	2	8	0
	2-5	15-30	50-78	7-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	0.5-2.0	.32	.37			
	5-36	2-20	5-35	60-85	1.10-1.30	0.42-1.40	0.09-0.12	6.0-8.9	0.5-1.0	.24	.32			
	36-80	---	---	---	---	0.00-0.11	---	---	---	---	---			

Table 18.--Physical Properties of the Soils--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					
73231: Wasola-----	0-7	15-30	55-70	10-18	1.35-1.45	4.00-14.00	0.16-0.21	0.0-2.9	1.0-4.0	.32	.37	5	5	56
	7-22	10-25	50-70	18-35	1.30-1.45	4.00-14.00	0.14-0.21	0.0-2.9	0.2-1.0	.32	.43			
	22-30	10-35	35-55	20-35	1.25-1.40	0.42-1.40	0.02-0.08	0.0-2.9	0.1-1.0	.20	.28			
	30-80	10-40	20-55	27-60	1.25-1.40	1.40-4.00	0.04-0.14	6.0-8.9	0.1-1.0	.20	.28			
73236: Scholten-----	0-7	17-33	54-74	9-13	1.20-1.40	12.00-42.00	0.07-0.19	0.1-2.9	1.0-3.0	.28	.37	4	8	0
	7-21	13-25	47-75	12-28	1.30-1.50	4.00-14.00	0.02-0.11	0.1-2.9	0.2-0.7	.32	.43			
	21-34	11-32	27-72	17-41	1.60-1.90	0.01-0.42	0.01-0.05	0.1-2.9	0.1-0.3	.32	.43			
	34-80	6-40	10-65	29-72	1.30-1.60	4.00-14.00	0.01-0.03	3.0-5.9	0.1-0.3	.20	.28			
Poynor-----	0-4	12-37	49-82	6-14	1.20-1.45	14.00-42.00	0.07-0.19	0.1-2.9	1.0-3.0	.28	.37	3	8	0
	4-10	12-37	49-82	6-14	1.25-1.45	14.00-42.00	0.07-0.19	0.1-2.9	0.7-2.0	.28	.43			
	10-28	5-38	27-85	10-35	1.40-1.55	4.00-14.00	0.11-0.18	0.1-2.9	0.2-1.0	.28	.43			
	28-80	2-41	10-50	45-86	1.50-1.65	4.00-14.00	0.08-0.12	3.0-5.9	0.1-0.9	.28	.28			
73237: Clarksville-----	0-3	20-45	55-75	4-27	1.20-1.40	14.00-42.00	0.07-0.12	0.1-2.9	0.5-2.0	.28	.37	3	8	0
	3-14	20-45	55-75	4-27	1.20-1.40	14.00-42.00	0.07-0.12	0.1-2.9	0.5-1.0	.37	.43			
	14-45	35-60	25-40	7-35	1.30-1.50	14.00-42.00	0.05-0.10	0.1-2.9	0.1-0.5	.32	.43			
	45-80	15-35	15-45	40-80	1.20-1.40	4.00-14.00	0.02-0.05	6.0-8.9	0.1-0.5	.20	.32			
73242: Fanchon-----	0-5	20-40	50-70	5-15	1.35-1.45	4.00-14.00	0.18-0.24	0.0-2.9	1.0-3.0	.32	.37	5	5	56
	5-10	20-40	50-70	5-15	1.35-1.45	4.00-14.00	0.16-0.22	0.0-2.9	0.5-1.0	.32	.37			
	10-28	20-40	40-65	14-30	1.30-1.45	4.00-14.00	0.14-0.21	0.0-2.9	0.1-0.5	.32	.43			
	28-47	20-35	35-55	22-40	1.30-1.45	4.00-14.00	0.08-0.14	0.0-2.9	0.1-0.5	.28	.43			
	47-80	5-35	15-40	40-75	1.25-1.40	4.00-14.00	0.10-0.14	3.0-5.9	0.1-0.5	.20	.28			
Tonti-----	0-6	8-45	48-82	10-17	1.30-1.50	14.00-42.00	0.19-0.22	0.0-2.9	1.0-3.0	.37	.43	4	5	56
	6-22	8-40	23-77	15-37	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.3-1.0	.32	.37			
	22-35	10-50	20-78	12-30	1.60-1.90	0.01-0.42	0.02-0.04	0.0-2.9	0.1-0.4	.28	.37			
	35-80	2-25	5-60	38-75	1.20-1.40	4.00-14.00	0.03-0.11	3.0-5.9	0.0-0.4	.32	.32			
73243: Topazmill-----	0-9	35-52	28-50	6-18	1.40-1.50	4.00-14.00	0.14-0.22	0.0-2.9	1.0-4.0	.32	.32	5	5	56
	9-31	20-52	28-50	15-30	1.50-1.60	4.00-14.00	0.17-0.21	0.0-2.9	0.0-0.5	.43	.43			
	31-80	20-60	20-50	18-35	1.50-1.60	4.00-14.00	0.16-0.20	0.0-2.9	0.0-0.5	.37	.37			
73300: Macedonia-----	0-4	12-38	40-78	10-22	1.20-1.50	14.00-42.00	0.17-0.22	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	4-9	10-35	25-72	18-40	1.30-1.50	14.00-42.00	0.16-0.20	3.0-5.9	0.5-2.0	.37	.37			
	9-18	6-18	27-59	35-55	1.10-1.40	4.00-14.00	0.09-0.14	3.0-5.9	0.3-0.8	.37	.37			
	18-80	2-18	10-53	45-87	1.10-1.40	4.00-14.00	0.02-0.10	3.0-5.9	0.1-0.7	---	---			
73311: Scholten-----	0-7	15-35	50-75	5-15	1.20-1.40	14.00-42.00	0.07-0.19	0.1-2.9	1.0-3.0	.28	.37	4	8	0
	7-21	10-25	50-75	12-30	1.30-1.50	4.00-14.00	0.02-0.11	0.1-2.9	0.2-0.7	.32	.43			
	21-34	10-35	25-75	17-40	1.60-1.90	0.01-0.42	0.01-0.05	0.1-2.9	0.1-0.3	.32	.43			
	34-80	5-40	10-65	35-75	1.30-1.60	4.00-14.00	0.01-0.03	3.0-5.9	0.1-0.3	.20	.28			
Bendavis-----	0-5	10-30	60-80	5-15	1.20-1.40	14.00-42.00	0.09-0.13	0.1-2.9	1.0-3.0	.15	.37	2	8	0
	5-9	10-30	60-80	5-15	1.20-1.40	14.00-42.00	0.09-0.13	0.1-2.9	0.5-2.0	.15	.37			
	9-25	15-35	50-70	15-30	1.20-1.40	4.00-14.00	0.09-0.15	0.1-2.9	0.1-1.0	.15	.37			
	25-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
Poynor-----	0-4	10-40	50-80	5-15	1.20-1.45	14.00-42.00	0.04-0.12	0.1-2.9	1.0-3.0	.28	.37	3	8	0
	4-10	10-40	50-80	8-27	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.2-1.0	.28	.43			
	10-28	5-40	50-80	8-35	1.40-1.55	4.00-14.00	0.02-0.09	0.1-2.9	0.1-1.0	.28	.43			
	28-80	2-40	5-60	45-85	1.50-1.65	4.00-14.00	0.08-0.12	3.0-5.9	0.1-0.9	.28	.28			

Table 18.--Physical Properties of the Soils--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	Wind
										Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
73325: Clarksville-----	0-1	---	---	---	0.02-0.20	42.00-141.00	0.10-0.20	---	35-90	---	---	3	8	0
	1-5	13-37	52-75	6-16	1.20-1.45	14.00-42.00	0.07-0.20	0.0-2.9	1.0-3.0	.28	.37			
	5-11	14-36	55-70	7-16	1.20-1.45	14.00-42.00	0.10-0.17	0.1-2.9	0.5-2.0	.28	.43			
	11-42	12-32	40-60	13-35	1.20-1.45	4.00-14.00	0.06-0.11	0.1-2.9	0.3-0.8	.28	.43			
	42-80	5-30	20-55	37-70	1.30-1.55	4.00-10.00	0.04-0.10	0.1-2.9	0.1-0.3	.28	.28			
73326: Topazmill-----	0-7	35-52	28-50	6-18	1.40-1.50	4.00-14.00	0.14-0.18	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	7-24	20-52	28-50	15-30	1.50-1.60	4.00-14.00	0.17-0.21	3.0-5.9	0.0-0.5	.43	.43			
	24-80	20-60	20-50	18-35	1.50-1.60	4.00-14.00	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
Coulstone-----	0-1	---	---	---	---	42.00-141.00	0.10-0.20	---	35-90	---	---	3	8	0
	1-6	40-70	25-55	5-12	1.20-1.45	14.00-42.00	0.03-0.10	0.1-2.9	1.0-3.0	.28	.37			
	6-29	35-70	25-55	6-24	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.2-1.0	.28	.43			
	29-42	35-60	15-55	14-50	1.40-1.55	1.40-42.00	0.02-0.10	0.1-2.9	0.1-0.3	.28	.43			
	42-80	30-55	8-40	18-50	1.50-1.65	1.40-42.00	0.02-0.11	0.1-5.9	0.1-0.3	.28	.28			
73327: Topazmill-----	0-7	35-52	28-50	6-18	1.40-1.50	4.00-14.00	0.14-0.18	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	7-24	20-52	28-50	15-30	1.50-1.60	4.00-14.00	0.17-0.21	3.0-5.9	0.0-0.5	.43	.43			
	24-80	20-60	20-50	18-35	1.50-1.60	4.00-14.00	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
Coulstone-----	0-1	---	---	---	---	42.00-141.00	0.10-0.20	---	35-90	---	---	3	8	0
	1-6	40-70	25-55	5-12	1.20-1.45	14.00-42.00	0.03-0.10	0.1-2.9	1.0-3.0	.28	.37			
	6-29	35-70	25-55	6-24	1.25-1.45	14.00-42.00	0.02-0.09	0.1-2.9	0.2-1.0	.28	.43			
	29-42	35-60	15-55	14-50	1.40-1.55	1.40-42.00	0.02-0.10	0.1-2.9	0.1-0.3	.28	.43			
	42-80	30-55	8-40	18-50	1.50-1.65	1.40-42.00	0.02-0.11	0.1-5.9	0.1-0.3	.28	.28			
73328: Scholten-----	0-7	17-33	54-74	9-13	1.20-1.40	12.00-42.00	0.07-0.19	0.1-2.9	1.0-3.0	.28	.37	4	8	0
	7-21	13-25	47-75	12-28	1.30-1.50	4.00-14.00	0.02-0.11	0.1-2.9	0.2-0.7	.32	.43			
	21-34	11-32	27-72	17-41	1.60-1.90	0.01-0.42	0.01-0.05	0.1-2.9	0.1-0.3	.32	.43			
	34-80	6-40	10-65	29-72	1.30-1.60	4.00-14.00	0.01-0.03	3.0-5.9	0.1-0.3	.20	.28			
Noark-----	0-3	5-15	72-88	10-25	1.20-1.40	4.00-14.00	0.10-0.12	0.0-2.9	1.0-7.0	.10	.43	3	8	0
	3-8	5-15	50-80	10-25	1.25-1.45	4.00-14.00	0.10-0.16	0.0-2.9	1.0-3.0	.15	.43			
	8-16	5-15	40-80	20-40	1.30-1.50	4.00-14.00	0.10-0.14	0.0-2.9	0.5-1.0	.17	.37			
	16-60	1-15	5-40	45-85	1.35-1.55	4.00-14.00	0.03-0.18	3.0-5.9	0.0-0.5	.10	.32			
73329: Mano-----	0-3	20-30	52-75	5-18	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	1.0-4.0	.28	.43	4	8	0
	3-13	20-30	55-75	5-15	1.20-1.40	4.00-14.00	0.13-0.18	0.1-2.9	0.5-1.0	.28	.43			
	13-33	8-20	50-80	12-30	1.30-1.40	4.00-14.00	0.04-0.14	0.1-2.9	0.2-1.0	.28	.43			
	33-80	1-20	5-44	55-75	1.30-1.60	0.42-1.40	0.06-0.12	6.0-8.9	0.1-0.8	.28	.28			
Ocie-----	0-5	10-35	45-85	5-20	1.10-1.40	4.00-14.00	0.12-0.17	0.1-2.9	1.0-4.0	.32	.37	3	8	0
	5-11	10-35	45-85	5-20	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.5-2.0	.32	.43			
	11-24	5-25	40-75	20-35	1.10-1.35	4.00-14.00	0.12-0.15	0.1-2.9	0.1-1.0	.32	.43			
	24-56	2-10	4-33	65-86	1.10-1.30	0.42-1.40	0.07-0.10	6.0-8.9	0.1-1.0	.32	.32			
	56-80	---	---	---	---	0.00-0.11	---	---	---	---	---			
73331: Pomme-----	0-7	10-35	50-80	10-20	1.35-1.45	4.00-14.00	0.16-0.21	0.1-2.9	1.0-4.0	.32	.37	5	5	56
	7-19	5-35	35-77	18-30	1.30-1.45	4.00-14.00	0.14-0.21	0.1-2.9	0.2-1.0	.32	.43			
	19-57	5-35	25-67	28-40	1.30-1.45	4.00-14.00	0.08-0.14	0.1-2.9	0.1-1.0	.28	.43			
	57-80	5-25	10-50	27-70	1.25-1.40	1.40-14.00	0.04-0.14	3.0-5.9	0.1-1.0	.20	.28			
73332: Topazmill-----	0-7	35-52	28-50	6-18	1.40-1.50	4.00-14.00	0.14-0.18	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	7-24	20-52	28-50	15-30	1.50-1.60	4.00-14.00	0.17-0.21	3.0-5.9	0.0-0.5	.43	.43			
	24-80	20-60	20-50	18-35	1.50-1.60	4.00-14.00	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			

Table 19.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
70022:				
Tonti-----	0-8	5.0-15	4.0-10	5.0-6.5
	8-20	12-22	10-25	3.6-6.0
	20-34	5.0-14	5.0-15	3.6-5.0
	34-80	12-22	10-20	3.6-5.0
70025:				
Branson-----	0-8	6.0-11	4.0-8.0	4.5-6.5
	8-26	7.0-14	4.0-12	4.5-6.5
	26-40	8.0-17	7.0-14	4.5-6.5
	40-80	8.0-17	7.0-14	4.5-5.5
Splitlimb-----	0-10	8.0-12	4.0-12	5.1-6.5
	10-20	8.0-17	5.0-14	4.5-6.5
	20-29	7.0-17	4.0-13	4.5-6.5
	29-80	7.0-16	4.0-12	4.5-5.5
70026:				
Tonti-----	0-8	5.0-15	4.0-10	4.5-6.5
	8-20	6.0-15	4.0-12	3.5-6.0
	20-34	5.0-14	5.0-15	3.5-5.5
	34-80	12-22	10-20	3.5-5.5
73000:				
Pomme-----	0-7	5.0-12	2.0-15	4.5-6.5
	7-19	8.0-16	3.0-15	4.5-6.5
	19-57	8.0-16	3.0-15	4.5-6.5
	57-80	10-30	5.0-20	4.5-7.3
73013:				
Lowassie-----	0-10	5.0-12	4.0-10	4.5-6.5
	10-18	5.0-15	5.0-11	4.5-6.0
	18-36	12-35	5.0-25	3.5-5.5
	36-80	8.0-31	6.0-32	3.5-5.5
73017:				
Bendavis-----	0-3	4.0-13	2.0-6.0	3.5-6.0
	3-14	4.0-15	2.0-7.0	4.5-6.0
	14-34	8.0-16	1.0-9.0	3.5-5.5
	34-80	---	---	---
Poynor-----	0-4	5.0-12	2.0-8.0	4.5-6.5
	4-10	2.0-8.0	2.0-8.0	4.5-6.0
	10-28	3.0-10	3.0-12	3.5-6.0
	28-80	15-25	12-25	3.5-5.5
73019:				
Poynor-----	0-4	8.0-18	3.0-9.0	3.5-6.5
	4-10	4.0-10	3.0-10	3.5-6.0
	10-28	5.0-15	3.0-12	3.5-6.0
	28-80	15-25	10-20	3.5-5.0
73021:				
Poynor-----	0-4	5.0-12	2.0-8.0	3.5-6.5
	4-10	2.0-8.0	2.0-8.0	3.5-6.0
	10-28	3.0-10	3.0-12	3.5-6.0
	28-80	15-25	12-25	3.5-5.0

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil reaction
		exchange capacity	cation- exchange capacity	
	Inches	meq/100 g	meq/100 g	pH
73023:				
Mano -----	0-3	5.0-15	4.0-9.0	4.5-6.5
	3-13	4.0-13	2.0-8.0	4.5-7.3
	13-33	5.0-12	3.0-10	4.5-6.5
	33-80	18-30	15-30	4.5-7.3
Ocie -----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	6.6-7.8
	56-80	---	---	---
73024:				
Mano -----	0-3	5.0-15	4.0-9.0	4.5-6.5
	3-13	4.0-13	2.0-8.0	4.5-7.3
	13-33	5.0-12	3.0-10	4.5-6.5
	33-80	18-30	15-30	4.5-7.3
Ocie -----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	6.6-7.8
	56-80	---	---	---
73032:				
Gatewood -----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-7.3
	5-36	20-38	15-35	4.5-7.3
	36-80	---	---	---
73033:				
Gatewood -----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-7.3
	5-36	20-38	15-35	4.5-7.3
	36-80	---	---	---
73051:				
Winnipeg -----	0-6	7.0-14	5.0-15	5.1-7.3
	6-16	5.0-14	4.0-10	4.5-7.3
	16-44	10-18	6.0-12	4.5-7.3
	44-80	10-20	6.0-12	4.5-7.3
73059:				
Pomme -----	0-7	5.0-12	2.0-15	4.5-6.5
	7-19	8.0-16	3.0-15	4.5-6.5
	19-57	8.0-16	3.0-15	4.5-6.5
	57-80	10-30	5.0-20	4.5-7.3
73063:				
Bendavis -----	0-8	4.0-11	2.0-5.0	4.5-5.5
	8-10	4.0-10	1.0-8.0	4.5-5.5
	10-31	4.0-10	1.0-8.0	3.5-5.5
	31-80	---	---	---
Poynor -----	0-4	8.0-18	3.0-9.0	3.5-6.5
	4-10	4.0-10	3.0-10	3.5-6.0
	10-28	5.0-15	3.0-12	3.5-6.0
	28-80	15-25	10-20	3.5-5.0

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil reaction
		exchange capacity	cation- exchange capacity	
	Inches	meq/100 g	meq/100 g	pH
73068:				
Tick-----	0-5	5.5-11	1.7-4.6	4.5-6.5
	5-10	4.0-5.9	1.7-2.9	3.5-5.5
	10-18	4.4-8.5	3.5-7.9	3.5-5.5
	18-42	4.9-19	3.8-15	3.5-5.5
	42-80	3.1-15	2.2-12	3.5-5.5
73069:				
Tick-----	0-5	5.5-11	1.7-4.6	4.5-6.5
	5-10	4.0-5.9	1.7-2.9	4.5-5.5
	10-18	4.4-8.5	3.5-7.9	4.5-5.5
	18-42	4.9-19	3.8-15	4.5-5.5
	42-80	3.1-15	2.2-12	4.5-5.5
73073:				
Scholten-----	0-7	4.3-8.8	2.0-4.0	4.5-6.5
	7-21	4.6-10	2.5-7.1	4.5-5.5
	21-34	6.1-11	3.9-7.5	4.5-5.5
	34-80	6.8-21	6.1-16	3.5-5.5
Poynor-----	0-4	3.0-10	3.0-8.0	4.5-6.5
	4-10	3.0-10	3.0-8.0	4.5-6.5
	10-28	3.0-10	3.0-8.0	4.5-6.5
	28-80	15-25	10-20	3.5-5.5
73076:				
Mano-----	0-3	5.0-15	4.0-9.0	4.5-6.5
	3-13	4.0-13	2.0-8.0	4.5-7.3
	13-33	5.0-12	3.0-10	4.5-6.5
	33-80	18-30	15-30	4.5-7.3
Ocie-----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	6.6-7.8
	56-80	---	---	---
73121:				
Scholten-----	0-7	4.3-8.8	2.0-4.0	4.5-6.5
	7-21	4.6-10	2.5-7.1	4.5-5.5
	21-34	6.1-11	3.9-7.5	4.5-5.5
	34-80	6.8-21	6.1-16	3.5-5.5
Tonti-----	0-8	5.0-15	4.0-10	4.5-6.5
	8-20	6.0-15	4.0-12	3.5-5.5
	20-34	5.0-14	5.0-15	3.5-5.5
	34-80	12-22	12-24	3.5-5.5
73176:				
Bendavis-----	0-5	3.0-10	2.0-8.0	4.5-6.0
	5-9	3.0-10	2.0-8.0	4.5-6.0
	9-25	8.0-16	3.0-12	3.5-5.5
	25-80	---	---	---
Poynor-----	0-5	3.0-12	3.0-10	4.5-6.5
	5-11	4.0-12	3.0-10	4.5-6.0
	11-17	7.0-15	5.0-15	3.5-6.0
	17-80	20-35	15-30	3.5-5.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil reaction
		exchange capacity	cation- exchange capacity	
	Inches	meq/100 g	meq/100 g	pH
73198:				
Gressy-----	0-7	5.0-12	3.0-7.0	5.1-7.3
	7-31	5.0-12	3.0-8.0	5.1-7.3
	31-49	5.0-12	4.0-13	4.5-6.0
	49-80	12-20	8.0-17	4.5-6.5
Viraton-----	0-3	5.0-15	3.0-10	4.5-7.3
	3-7	5.0-15	3.0-10	4.5-5.5
	7-23	10-20	8.0-18	3.5-5.5
	23-48	5.0-15	3.0-12	3.5-5.5
	48-80	10-20	8.0-18	3.5-5.5
73199:				
Moko-----	0-7	15-30	12-25	6.6-7.8
	7-12	15-30	12-25	6.6-7.8
	12-80	---	---	---
Rock outcrop.				
73220:				
Poynor-----	0-4	8.0-18	3.0-9.0	4.5-7.3
	4-10	4.0-10	3.0-10	4.5-6.5
	10-28	5.0-15	3.0-12	4.5-6.5
	28-80	15-25	10-20	4.5-6.5
73222:				
Splitlimb-----	0-10	8.0-12	4.0-12	4.5-6.5
	10-20	8.0-17	5.0-14	4.5-6.5
	20-29	7.0-17	4.0-13	4.5-5.5
	29-80	7.0-16	4.0-12	3.5-5.5
73223:				
Coulstone-----	0-1	10-40	5.0-30	3.5-6.5
	1-6	3.0-12	2.0-9.0	4.5-6.0
	6-29	2.0-10	1.0-5.0	4.5-6.0
	29-42	3.0-18	1.0-9.0	4.5-6.0
	42-80	4.0-18	1.0-9.0	3.5-5.5
Bender-----	0-1	10-40	5.0-30	3.5-6.5
	1-5	4.0-18	2.0-8.0	4.5-6.0
	5-21	2.0-8.0	1.0-5.0	4.5-6.0
	21-31	2.0-15	1.0-10	3.5-6.0
	31-80	---	---	---
73224:				
Moko-----	0-7	15-30	12-25	6.6-7.8
	7-12	15-30	12-25	6.6-7.8
	12-80	---	---	---
Rock outcrop.				
73225:				
Ocie-----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	5.1-7.3
	56-80	---	---	---
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-7.3
	5-36	20-38	15-35	4.5-7.3
	36-80	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil reaction
		exchange capacity	cation- exchange capacity	
	Inches	meq/100 g	meq/100 g	pH
73226:				
Ocie-----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	6.6-7.8
	56-80	---	---	---
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-7.3
	5-36	20-38	15-35	6.6-7.8
	36-80	---	---	---
73227:				
Ocie-----	0-5	5.0-20	3.0-12	5.1-7.3
	5-11	4.0-12	1.0-6.0	5.1-7.3
	11-24	5.0-12	3.0-10	4.5-6.0
	24-56	20-30	15-30	6.6-7.8
	56-80	---	---	---
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-6.5
	5-36	20-38	15-35	6.6-7.8
	36-80	---	---	---
73228:				
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-7.3
	5-36	20-38	15-35	4.5-7.3
	36-80	---	---	---
Moko-----	0-7	15-30	12-25	6.6-7.8
	7-12	15-30	12-25	6.6-7.8
	12-80	---	---	---
73229:				
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-7.3
	5-36	20-38	15-35	4.5-7.3
	36-80	---	---	---
Moko-----	0-7	15-30	12-25	6.6-7.8
	7-12	15-30	12-25	6.6-7.8
	12-80	---	---	---
73230:				
Coulstone-----	0-1	10-40	5.0-30	3.5-6.5
	1-6	3.0-12	2.0-9.0	4.5-6.0
	6-29	2.0-10	1.0-5.0	4.5-6.0
	29-42	3.0-18	1.0-9.0	4.5-6.0
	42-80	4.0-18	1.0-9.0	3.5-5.5
Bender-----	0-1	10-40	5.0-30	3.5-6.5
	1-5	4.0-18	2.0-8.0	4.5-6.0
	5-21	2.0-5.0	1.0-15	4.5-6.0
	21-31	1.0-7.0	1.0-9.0	3.5-6.0
	31-80	---	---	---
Gatewood-----	0-2	8.0-18	4.0-15	5.1-7.3
	2-5	3.0-10	4.0-12	5.1-7.3
	5-36	20-38	15-35	6.6-7.8
	36-80	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil reaction
		exchange capacity	cation- exchange capacity	
	Inches	meq/100 g	meq/100 g	pH
73231:				
Wasola-----	0-7	5.0-12	2.0-15	4.5-6.5
	7-22	8.0-16	3.0-15	4.5-6.5
	22-30	8.0-24	3.0-15	4.5-6.5
	30-80	10-30	5.0-20	4.5-7.3
73236:				
Scholten-----	0-7	4.3-8.8	2.0-4.0	4.5-6.5
	7-21	4.6-10	2.5-7.1	4.5-5.5
	21-34	6.1-11	3.9-7.5	4.5-5.5
	34-80	6.8-21	6.1-16	3.5-5.5
Poynor-----	0-4	3.3-10	1.3-9.0	4.5-6.5
	4-10	3.3-10	1.3-9.0	4.5-6.5
	10-28	3.0-10	1.9-9.0	4.5-6.5
	28-80	7.4-28	5.0-23	3.5-5.5
73237:				
Clarksville-----	0-3	2.0-11	1.0-8.0	3.5-6.0
	3-14	4.0-10	1.0-6.0	3.5-6.0
	14-45	2.0-12	1.0-10	3.5-6.0
	45-80	10-32	7.0-29	5.5-6.5
73242:				
Fanchon-----	0-5	4.0-12	3.0-8.0	4.5-6.5
	5-10	4.0-12	3.0-12	4.5-6.5
	10-28	6.0-16	3.0-12	4.5-6.5
	28-47	8.0-16	5.0-15	4.5-6.5
	47-80	10-30	10-15	3.5-5.5
Tonti-----	0-6	5.0-9.0	3.0-8.0	4.5-6.5
	6-22	6.0-15	4.0-12	4.5-6.5
	22-35	5.0-18	4.0-12	4.5-5.5
	35-80	11-20	8.0-16	3.5-5.5
73243:				
Topazmill-----	0-9	5.0-15	3.0-12	5.6-7.3
	9-31	0.5-10	3.0-8.0	5.1-7.3
	31-80	0.5-10	3.0-8.0	4.5-5.5
73300:				
Macedonia-----	0-4	5.0-12	2.0-6.0	4.5-6.5
	4-9	5.0-14	2.0-6.0	4.5-5.5
	9-18	7.0-19	5.0-13	4.5-5.5
	18-80	12-30	10-22	3.5-5.5
73311:				
Scholten-----	0-7	4.3-8.8	2.0-4.0	4.5-6.5
	7-21	4.6-10	2.5-7.1	4.5-5.5
	21-34	6.1-11	3.9-7.5	4.5-5.5
	34-80	6.8-21	6.1-16	3.5-5.5
Bendavis-----	0-5	3.0-10	2.0-8.0	4.5-6.0
	5-9	3.0-10	2.0-8.0	4.5-6.0
	9-25	3.0-10	3.0-8.0	3.5-5.5
	25-80	---	---	---
Poynor-----	0-4	8.0-18	3.0-9.0	4.5-6.5
	4-10	4.0-10	3.0-10	4.5-6.5
	10-28	5.0-15	3.0-12	4.5-6.5
	28-80	15-25	10-20	3.5-5.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil reaction
		exchange capacity	cation- exchange capacity	
	Inches	meq/100 g	meq/100 g	pH
73325:				
Clarksville-----	0-1	10-40	5.0-30	3.5-6.5
	1-5	8.0-17	3.0-13	4.5-6.5
	5-11	4.0-7.0	2.0-6.0	4.5-6.0
	11-42	5.0-9.0	2.0-7.0	4.5-6.0
	42-80	10-20	7.0-20	3.5-5.5
73326:				
Topazmill-----	0-7	5.0-15	---	5.6-7.3
	7-24	10-15	---	5.1-7.3
	24-80	10-15	---	3.5-5.5
Coulstone-----	0-1	10-40	5.0-30	3.5-6.5
	1-6	3.0-12	2.0-9.0	4.5-6.0
	6-29	2.0-10	1.0-5.0	4.5-6.0
	29-42	3.0-18	1.0-9.0	4.5-6.0
	42-80	4.0-18	1.0-9.0	3.5-5.5
73327:				
Topazmill-----	0-7	5.0-15	---	5.6-7.3
	7-24	10-15	---	5.1-7.3
	24-80	10-15	---	3.5-5.5
Coulstone-----	0-1	10-40	5.0-30	3.5-6.5
	1-6	3.0-12	2.0-9.0	4.5-6.0
	6-29	2.0-10	1.0-5.0	4.5-6.0
	29-42	3.0-18	1.0-9.0	4.5-6.0
	42-80	4.0-18	1.0-9.0	3.5-5.5
73328:				
Scholten-----	0-7	4.3-8.8	2.0-4.0	4.5-6.5
	7-21	4.6-10	2.5-7.1	4.5-5.5
	21-34	6.1-11	3.9-7.5	4.5-5.5
	34-80	6.8-21	6.1-16	3.5-5.5
Noark-----	0-3	---	10-30	4.5-6.5
	3-8	---	5.0-20	4.5-6.5
	8-16	---	5.0-20	3.6-5.5
	16-60	---	20-40	3.6-5.5
73329:				
Mano-----	0-3	5.0-15	4.0-9.0	4.5-6.5
	3-13	4.0-13	2.0-8.0	4.5-7.3
	13-33	5.0-12	3.0-10	4.5-6.5
	33-80	18-30	15-30	4.5-7.3
Ocie-----	0-5	10-18	4.0-12	4.5-6.5
	5-11	4.0-10	1.0-6.0	4.5-6.0
	11-24	6.0-12	3.0-10	4.5-6.0
	24-56	28-42	20-40	6.6-7.8
	56-80	---	---	---
73331:				
Pomme-----	0-7	5.0-12	2.0-15	4.5-6.5
	7-19	8.0-16	3.0-15	4.5-6.5
	19-57	8.0-16	3.0-15	4.5-6.5
	57-80	10-30	5.0-20	4.5-7.3

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
73332:				
Topazmill-----	0-7	5.0-15	---	5.6-7.3
	7-24	10-15	---	5.1-7.3
	24-80	10-15	---	3.5-5.5
74627:				
Hartville-----	0-7	8.0-16	4.0-10	5.6-7.3
	7-11	8.0-16	5.0-12	5.6-7.3
	11-40	18-30	15-24	5.6-6.5
	40-80	12-25	10-25	5.6-6.5
74657:				
Pomme-----	0-7	5.0-12	2.0-15	5.6-7.3
	7-19	8.0-16	3.0-15	5.6-7.3
	19-57	8.0-16	3.0-15	5.1-7.3
	57-80	10-30	5.0-20	4.5-7.3
74682:				
Zanoni-----	0-7	3.0-12	0.0-10	4.5-7.3
	7-36	2.0-10	0.0-8.0	5.1-7.3
	36-50	2.0-10	0.0-8.0	5.1-7.3
	50-80	2.0-12	0.0-8.0	5.1-7.3
74683:				
Cedargap-----	0-14	6.0-22	0.0-17	5.1-7.3
	14-24	5.0-25	0.0-20	5.1-7.3
	24-49	5.0-25	0.0-20	5.1-7.3
	49-80	4.0-23	0.0-19	6.6-7.8
Razort-----	0-7	6.0-25	6.0-27	6.1-7.3
	7-34	5.0-20	5.0-20	5.6-7.3
	34-80	5.0-20	5.0-20	5.6-7.3
75381:				
Bearthicket-----	0-10	5.0-12	3.0-12	5.1-7.3
	10-48	5.0-12	4.0-10	5.1-7.3
	48-80	7.0-12	4.0-10	5.1-6.5
75382:				
Cedargap-----	0-8	8.0-22	3.0-20	5.6-7.8
	8-46	8.0-16	5.0-15	5.6-7.8
	46-80	8.0-20	7.0-20	5.6-7.8
75390:				
Razort-----	0-7	6.0-25	6.0-27	6.1-7.3
	7-34	5.0-20	5.0-20	5.6-7.3
	34-80	5.0-20	5.0-20	5.6-7.3
75406:				
Racket-----	0-10	13-17	8.0-14	6.1-7.3
	10-30	11-16	8.0-16	6.1-7.8
	30-45	9.0-14	8.0-16	6.1-7.8
	45-80	2.0-8.0	3.0-10	5.6-7.8

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil reaction
		exchange capacity	cation- exchange capacity	
	Inches	meq/100 g	meq/100 g	pH
75417:				
Relfe-----	0-6	6.4-12	3.9-10	5.1-7.3
	6-80	1.5-6.3	0.5-4.3	5.1-7.3
Sandbur-----	0-8	4.0-10	2.0-10	5.6-7.3
	8-50	5.0-8.0	2.0-8.0	5.6-7.3
	50-80	2.0-10	0.5-5.0	5.1-6.5
99001. Water				
99002. Borrow areas				

Table 20.--Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
70022: Tonti-----	C	Medium	January	1.5-2.5	2.0-3.0	---	---	None	---	None
			February	1.5-2.5	2.0-3.0	---	---	None	---	None
			March	1.5-2.5	2.0-3.0	---	---	None	---	None
			April	1.5-2.5	2.0-3.0	---	---	None	---	None
			December	1.5-2.5	2.0-3.0	---	---	None	---	None
70025: Branson-----	B	Very low	Jan-Dec	---	---	---	---	None	---	None
Splitlimb-----	B	Negligible	January	1.0-2.5	3.0-5.0	---	---	None	---	None
			February	1.0-2.5	3.0-5.0	---	---	None	---	None
			March	1.0-2.5	3.0-5.0	---	---	None	---	None
			April	1.0-2.5	3.0-5.0	---	---	None	---	None
			December	1.0-2.5	3.0-5.0	---	---	None	---	None
70026: Tonti-----	C	Low	January	1.5-2.5	2.5-3.5	---	---	None	---	None
			February	1.5-2.5	2.5-3.5	---	---	None	---	None
			March	1.5-2.5	2.5-3.5	---	---	None	---	None
			April	1.5-2.5	2.5-3.5	---	---	None	---	None
			December	1.5-2.5	2.5-3.5	---	---	None	---	None
73000: Pomme-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
73013: Lowassie-----	D	Negligible	January	0.0	4.0-6.0	0.0-0.5	Brief	Frequent	---	None
			February	0.0	4.0-6.0	0.0-0.5	Brief	Frequent	---	None
			March	0.0	4.0-6.0	0.0-0.5	Brief	Frequent	---	None
			April	0.0	4.0-6.0	0.0-0.5	Brief	Frequent	---	None
			May	---	---	0.0-0.5	Brief	Frequent	---	None
			June	---	---	0.0-0.5	Very brief	Occasional	---	None
			July	---	---	0.0-0.5	Very brief	Rare	---	None
			August	---	---	0.0-0.5	Very brief	Rare	---	None
			September	---	---	0.0-0.5	Very brief	Rare	---	None
			October	---	---	0.0-0.5	Very brief	Occasional	---	None
			November	0.0	4.0-6.0	0.0-0.5	Brief	Frequent	---	None
			December	0.0	4.0-6.0	0.0-0.5	Brief	Frequent	---	None
73017: Bendavis-----	C	Very high	January	2.0-3.0	2.3-3.4	---	---	None	---	None
			February	2.0-3.0	2.3-3.4	---	---	None	---	None
			December	2.0-3.0	2.3-3.4	---	---	None	---	None
Poynor-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
73019: Poynor-----	B	Medium	Jan-Dec	---	---	---	---	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				
73021: Poynor-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
73023: Mano-----	C	Medium	January	2.0-3.0	>6.0	---	---	None	---	None
			February	2.0-3.0	>6.0	---	---	None	---	None
			March	2.0-3.0	>6.0	---	---	None	---	None
			April	2.0-3.0	>6.0	---	---	None	---	None
			December	2.0-3.0	>6.0	---	---	None	---	None
Ocie-----	C	Medium	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			April	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
73024: Mano-----	C	High	January	2.0-3.0	>6.0	---	---	None	---	None
			February	2.0-3.0	>6.0	---	---	None	---	None
			March	2.0-3.0	>6.0	---	---	None	---	None
			April	2.0-3.0	>6.0	---	---	None	---	None
			December	2.0-3.0	>6.0	---	---	None	---	None
Ocie-----	C	High	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			April	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
73032: Gatewood-----	C	Very high	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	5.9-5.9	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
73033: Gatewood-----	C	Very high	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	5.9-5.9	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
73051: Winnipeg-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
73059: Pomme-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
73063: Bendavis-----	C	Medium	January	2.0-3.0	2.3-3.4	---	---	None	---	None
			February	2.0-3.0	2.3-3.4	---	---	None	---	None
			December	2.0-3.0	2.3-3.4	---	---	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				
73063: Poynor-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
73068: Tick-----	C	High	Jan-Dec	---	---	---	---	None	---	None
73069: Tick-----	C	Very high	Jan-Dec	---	---	---	---	None	---	None
73073: Scholten-----	C	High	January	1.3-2.2	1.5-2.3	---	---	None	---	None
			February	1.3-2.2	1.5-2.3	---	---	None	---	None
			March	1.3-2.2	1.5-2.3	---	---	None	---	None
			April	1.3-2.2	1.5-2.3	---	---	None	---	None
			December	1.3-2.2	1.5-2.3	---	---	None	---	None
Poynor-----	B	High	Jan-Dec	---	---	---	---	None	---	None
73076: Mano-----	C	Very high	January	2.0-3.0	>6.0	---	---	None	---	None
			February	2.0-3.0	>6.0	---	---	None	---	None
			March	2.0-3.0	>6.0	---	---	None	---	None
			April	2.0-3.0	>6.0	---	---	None	---	None
			December	2.0-3.0	>6.0	---	---	None	---	None
Ocie-----	C	Very high	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			April	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
73121: Scholten-----	C	Medium	January	1.3-2.2	1.5-2.3	---	---	None	---	None
			February	1.3-2.2	1.5-2.3	---	---	None	---	None
			March	1.3-2.2	1.5-2.3	---	---	None	---	None
			April	1.3-2.2	1.5-2.3	---	---	None	---	None
			December	1.3-2.2	1.5-2.3	---	---	None	---	None
Tonti-----	C	Medium	January	1.5-2.5	2.5-3.5	---	---	None	---	None
			February	1.5-2.5	2.5-3.5	---	---	None	---	None
			March	1.5-2.5	2.5-3.5	---	---	None	---	None
			April	1.5-2.5	2.5-3.5	---	---	None	---	None
			December	1.5-2.5	2.5-3.5	---	---	None	---	None
73176: Bendavis-----	C	High	January	2.0-3.0	2.3-3.4	---	---	None	---	None
			February	2.0-3.0	2.3-3.4	---	---	None	---	None
			December	2.0-3.0	2.3-3.4	---	---	None	---	None
Poynor-----	B	High	Jan-Dec	---	---	---	---	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				
73198: Gressy-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Viraton-----	C	Medium	January	1.5-2.5	2.5-3.5	---	---	None	---	None
			February	1.5-2.5	2.5-3.5	---	---	None	---	None
			March	1.5-2.5	2.5-3.5	---	---	None	---	None
			April	1.5-2.5	2.5-3.5	---	---	None	---	None
			December	1.5-2.5	2.5-3.5	---	---	None	---	None
73199: Moko-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop.										
73220: Poynor-----	B	High	Jan-Dec	---	---	---	---	None	---	None
73222: Splitlimb-----	C	Negligible	January	1.0-1.7	>6.0	0.0-0.5	Brief	Frequent	---	None
			February	1.0-1.7	>6.0	0.0-0.5	Brief	Frequent	---	None
			March	1.0-1.7	>6.0	0.0-0.5	Brief	Frequent	---	None
			April	1.0-1.7	>6.0	0.0-0.5	Brief	Frequent	---	None
			May	---	---	0.0-0.5	Brief	Frequent	---	None
			June	---	---	0.0-0.5	Very brief	Occasional	---	None
			July	---	---	0.0-0.5	Very brief	Rare	---	None
			August	---	---	0.0-0.5	Very brief	Rare	---	None
			September	---	---	0.0-0.5	Very brief	Rare	---	None
			October	---	---	0.0-0.5	Very brief	Occasional	---	None
			November	---	---	0.0-0.5	Brief	Frequent	---	None
			December	1.0-1.7	>6.0	0.0-0.5	Brief	Frequent	---	None
73223: Coulstone-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
Bender-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
73224: Moko-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop.										
73225: Ocie-----	C	High	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
Gatewood-----	C	High	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	5.9-5.9	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	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				
73226: Ocie-----	C	High	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			April	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
Gatewood-----	C	Very high	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	1.7-3.3	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
73227: Ocie-----	C	Very high	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			April	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
Gatewood-----	C	Very high	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	1.7-3.3	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
73228: Gatewood-----	C	High	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	5.9-5.9	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
Moko-----	D	High	Jan-Dec	---	---	---	---	None	---	None
73229: Gatewood-----	C	Very high	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	5.9-5.9	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
Moko-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
73230: Coulstone-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
Bender-----	B	Very high	Jan-Dec	---	---	---	---	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				
73230: Gatewood-----	C	Very high	January	1.5-3.0	1.7-3.3	---	---	None	---	None
			February	1.5-3.0	1.7-3.3	---	---	None	---	None
			March	1.5-3.0	1.7-3.3	---	---	None	---	None
			April	1.5-3.0	1.7-3.3	---	---	None	---	None
			December	1.5-3.0	1.7-3.3	---	---	None	---	None
73231: Wasola-----	B	Medium	January	1.5-2.5	>6.0	---	---	None	---	None
			February	1.5-2.5	>6.0	---	---	None	---	None
			March	1.5-2.5	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
73236: Scholten-----	C	Medium	January	1.3-2.2	1.5-2.3	---	---	None	---	None
			February	1.3-2.2	1.5-2.3	---	---	None	---	None
			March	1.3-2.2	1.5-2.3	---	---	None	---	None
			April	1.3-2.2	1.5-2.3	---	---	None	---	None
			December	1.3-2.2	1.5-2.3	---	---	None	---	None
Poynor-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
73237: Clarksville-----	B	High	Jan-Dec	---	---	---	---	None	---	None
73242: Fanchon-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Tonti-----	C	Medium	January	1.1-2.3	1.3-2.5	---	---	None	---	None
			February	1.1-2.3	1.3-2.5	---	---	None	---	None
			March	1.1-2.3	1.3-2.5	---	---	None	---	None
			April	1.1-2.3	1.3-2.5	---	---	None	---	None
			December	1.1-2.3	1.3-2.5	---	---	None	---	None
73243: Topazmill-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
73300: Macedonia-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
73311: Scholten-----	C	High	January	1.3-2.2	1.5-2.3	---	---	None	---	None
			February	1.3-2.2	1.5-2.3	---	---	None	---	None
			March	1.3-2.2	1.5-2.3	---	---	None	---	None
			April	1.3-2.2	1.5-2.3	---	---	None	---	None
			December	1.3-2.2	1.5-2.3	---	---	None	---	None
Bendavis-----	C	High	January	2.0-3.0	2.3-3.4	---	---	None	---	None
			February	2.0-3.0	2.3-3.4	---	---	None	---	None
			December	2.0-3.0	2.3-3.4	---	---	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				
73311: Poynor-----	B	High	Jan-Dec	---	---	---	---	None	---	None
73325: Clarksville-----	B	High	Jan-Dec	---	---	---	---	None	---	None
73326: Topazmill-----	B	High	Jan-Dec	---	---	---	---	None	---	None
Coulstone-----	B	High	Jan-Dec	---	---	---	---	None	---	None
73327: Topazmill-----	B	Very high	Jan-Dec	---	---	---	---	None	---	None
Coulstone-----	B	Very high								
73328: Scholten-----	C	Medium	January	1.3-2.2	1.5-2.3	---	---	None	---	None
			February	1.3-2.2	1.5-2.3	---	---	None	---	None
			March	1.3-2.2	1.5-2.3	---	---	None	---	None
			April	1.3-2.2	1.5-2.3	---	---	None	---	None
			December	1.3-2.2	1.5-2.3	---	---	None	---	None
Noark-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
73329: Mano-----	C	High	January	2.0-3.0	>6.0	---	---	None	---	None
			February	2.0-3.0	>6.0	---	---	None	---	None
			March	2.0-3.0	>6.0	---	---	None	---	None
			April	2.0-3.0	>6.0	---	---	None	---	None
			December	2.0-3.0	>6.0	---	---	None	---	None
Ocie-----	C	High	January	2.0-3.0	3.3-5.0	---	---	None	---	None
			February	2.0-3.0	3.3-5.0	---	---	None	---	None
			March	2.0-3.0	3.3-5.0	---	---	None	---	None
			April	2.0-3.0	3.3-5.0	---	---	None	---	None
			December	2.0-3.0	3.3-5.0	---	---	None	---	None
73331: Pomme-----	B	High	Jan-Dec	---	---	---	---	None	---	None
73332: Topazmill-----	B	High	Jan-Dec	---	---	---	---	None	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Surface water depth	Ponding		Flooding	
				Upper limit	Lower limit		Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
74627: Hartville-----	C	Very low	January	1.0-2.5	>6.0	---	---	None	Very brief	Rare
			February	1.0-2.5	>6.0	---	---	None	Very brief	Rare
			March	1.0-2.5	>6.0	---	---	None	Very brief	Rare
			April	1.0-2.5	>6.0	---	---	None	Very brief	Rare
			May	1.0-2.5	>6.0	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	1.0-2.5	>6.0	---	---	None	Very brief	Rare
			December	1.0-2.5	>6.0	---	---	None	Very brief	Rare
74657: Pomme-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
74682: Zanoni-----	B	Low	January	---	---	---	---	None	Very brief	Occasional
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Occasional
			December	---	---	---	---	None	Very brief	Occasional
74683: Cedargap-----	B	Very low	January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Occasional
			December	---	---	---	---	None	Very brief	Frequent
Razort-----	B	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

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				
75381: Bearthicket-----	B	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
75382: Cedargap-----	B	Negligible	January	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
			February	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
			March	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
			December	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
75390: Razort-----	B	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
75406: Racket-----	B	Negligible	January	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
			February	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
			March	4.0-6.0	>6.0	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
			December	4.0-6.0	>6.0	---	---	None	Very brief	Frequent

Table 21.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
70022: Tonti-----	Fragipan	16-28	10-25	Noncemented	Moderate	High	High
70025: Branson-----	---	---	---	---	High	Moderate	Moderate
Splitlimb-----	---	---	---	---	High	High	Moderate
70026: Tonti-----	Fragipan	13-25	10-36	Noncemented	Moderate	High	High
73000: Pomme-----	---	---	---	---	Moderate	Moderate	Moderate
73013: Lowassie-----	---	---	---	---	High	High	High
73017: Bendavis-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73019: Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73021: Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
Ocie-----	Strongly contrasting textural stratification	15-39	---	Noncemented	Moderate	High	Moderate
	Bedrock (lithic)	40-60	---	Indurated			
73024: Mano-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	High	Moderate
Ocie-----	Strongly contrasting textural stratification	15-39	---	Noncemented	Moderate	High	Moderate
	Bedrock (lithic)	40-60	---	Indurated			
73032: Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
73033: Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
73051: Winnipeg-----	---	---	---	---	High	Moderate	Moderate
73059: Pomme-----	---	---	---	---	Moderate	Moderate	Moderate
73063: Bendavis-----	Bedrock (lithic)	20-40	41-60	Indurated	Moderate	Moderate	High
Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73068: Tick-----	Dense material	22-66	14-58	Noncemented	Moderate	High	High
73069: Tick-----	Dense material	22-66	14-58	Noncemented	Moderate	High	High
73073: Scholten-----	Fragipan	7-31	6-29	Noncemented	Moderate	High	High
Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73076: Mano-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	High	Moderate
Ocie-----	Strongly contrasting textural stratification Bedrock (lithic)	15-39 40-60	---	Noncemented Indurated	Moderate	High	Moderate
73121: Scholten-----	Fragipan	7-31	6-29	Noncemented	Moderate	High	High
Tonti-----	Fragipan	16-28	10-25	Noncemented	Moderate	High	High
73176: Bendavis-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73198: Gressy-----	---	---	---	---	Moderate	Moderate	Moderate
Viraton-----	Fragipan	16-41	10-30	Noncemented	Moderate	High	Moderate
73199: Moko-----	Bedrock (lithic)	6-20	60-76	Indurated	Moderate	Low	Low
Rock outcrop.							

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
73220: Poynor-----	Strongly contrasting textural stratification	In 15-39	In 41-65	Noncemented	Moderate	Moderate	High
73222: Splitlimb-----	---	---	---	---	High	High	Moderate
73223: Coulstone-----	---	---	---	---	Moderate	Low	High
Bender-----	Bedrock (lithic)	20-40	41-61	Indurated	Moderate	Low	High
73224: Moko-----	Bedrock (lithic)	6-20	60-76	Indurated	Moderate	Low	Low
Rock outcrop.							
73225: Ocie-----	Strongly contrasting textural stratification Bedrock (lithic)	15-39 40-60	--- ---	Noncemented Indurated	Moderate	High	Moderate
Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
73226: Ocie-----	Bedrock (lithic)	40-60	---	Indurated	Moderate	High	Moderate
Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
73227: Ocie-----	Strongly contrasting textural stratification Bedrock (lithic)	15-39 40-60	--- ---	Noncemented Indurated	Moderate	High	Moderate
Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
73228: Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
Moko-----	Bedrock (lithic)	6-20	60-76	Indurated	Moderate	Low	Low
73229: Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
Moko-----	Bedrock (lithic)	6-20	60-76	Indurated	Moderate	Low	Low
73230: Coulstone-----	---	---	---	---	Moderate	Low	High
Bender-----	Bedrock (lithic)	20-40	41-61	Indurated	Moderate	Low	High
Gatewood-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
73231: Wasola-----	---	---	---	---	Moderate	High	Moderate

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
73236: Scholten-----	Fragipan	17-31	6-29	Noncemented	Moderate	High	High
Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73237: Clarksville-----	---	---	---	---	Moderate	Moderate	High
73242: Fanchon-----	---	---	---	---	Moderate	Moderate	Moderate
Tonti-----	Fragipan	16-28	10-25	Noncemented	Moderate	High	High
73243: Topazmill-----	---	---	---	---	Moderate	Moderate	High
73300: Macedonia-----	---	---	---	---	Moderate	High	High
73311: Scholten-----	Fragipan	7-31	6-29	Noncemented	Moderate	High	High
Bendavis-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
Poynor-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73325: Clarksville-----	---	---	---	---	Moderate	Moderate	High
73326: Topazmill-----	---	---	---	---	Moderate	Moderate	High
Coulstone-----	---	---	---	---	Moderate	Low	High
73327: Topazmill-----	---	---	---	---	Moderate	Moderate	High
Coulstone-----	---	---	---	---	Moderate	Low	High
73328: Scholten-----	Fragipan	7-31	6-29	Noncemented	Moderate	High	High
Noark-----	---	---	---	---	Moderate	Moderate	High
73329: Mano-----	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	High	Moderate
Ocie-----	Strongly contrasting textural stratification	15-39	---	Noncemented	Moderate	High	Moderate
	Bedrock (lithic)	40-60	---	Indurated			
73331: Pomme-----	---	---	---	---	Moderate	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	Thickness		Hardness	Uncoated steel	Concrete
73332: Topazmill-----	---	In	In	---	Moderate	Moderate	High
74627: Hartville-----	---	---	---	---	Moderate	High	Moderate
74657: Pomme-----	---	---	---	---	Moderate	Moderate	Moderate
74682: Zanoni-----	---	---	---	---	Moderate	Low	Low
74683: Cedargap-----	---	---	---	---	Moderate	Low	Low
Razort-----	---	---	---	---	Moderate	Low	Low
75381: Bearthicket-----	---	---	---	---	High	Moderate	Moderate
75382: Cedargap-----	---	---	---	---	Moderate	Low	Low
75390: Razort-----	---	---	---	---	Moderate	Low	Low
75406: Racket-----	---	---	---	---	Moderate	Low	Low
75417: Relfe-----	---	---	---	---	Low	Low	Moderate
Sandbur-----	---	---	---	---	Moderate	Low	Low
99001. Water							
99002. Borrow areas							

Table 22.--Classification of the Soils

Soil name	Family or higher taxonomic class
Bearthicket-----	Fine-silty, mixed, active, mesic Ultic Hapludalfs
Bendavis-----	Loamy-skeletal, siliceous, active, mesic Typic Hapludults
Bender-----	Loamy-skeletal, siliceous, active, mesic Typic Hapludults
Branson-----	Fine-silty, mixed, active, mesic Typic Paleudults
Cedargap-----	Loamy-skeletal, mixed, superactive, mesic Cumulic Hapludolls
Clarksville-----	Loamy-skeletal, siliceous, semiactive, mesic Typic Paleudults
Coulstone-----	Loamy-skeletal, siliceous, semiactive, mesic Typic Paleudults
Fanchon-----	Fine-loamy, siliceous, semiactive, mesic Typic Paleudults
Gatewood-----	Very fine, mixed, active, mesic Oxyaquic Hapludalfs
Gressy-----	Fine-loamy, siliceous, semiactive, mesic Typic Paleudalfs
Hartville-----	Fine, mixed, active, mesic Aquic Hapludalfs
Lowassie-----	Fine, smectitic, mesic Vertic Epiaquults
Macedonia-----	Fine, mixed, semiactive, mesic Typic Paleudults
Mano-----	Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs
Moko-----	Loamy-skeletal, mixed, superactive, mesic Lithic Hapludolls
Noark-----	Clayey-skeletal, mixed, semiactive, mesic Typic Paleudults
Ocie-----	Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs
Pomme-----	Fine-loamy, mixed, semiactive, mesic Typic Paleudalfs
Poynor-----	Loamy-skeletal over clayey, siliceous, semiactive, mesic Typic Paleudults
Racket-----	Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls
Razort-----	Fine-loamy, mixed, active, mesic Mollic Hapludalfs
Relfe-----	Sandy-skeletal, siliceous, mesic Mollic Udifluvents
Sandbur-----	Coarse-loamy, siliceous, superactive, nonacid, mesic Mollic Udifluvents
Scholten-----	Loamy-skeletal, siliceous, active, mesic Typic Fragiudults
Splitlimb-----	Fine-silty, mixed, active, mesic Aquic Paleudults
Tick-----	Fine, mixed, subactive, mesic Typic Hapludults
Tonti-----	Fine-loamy, mixed, active, mesic Typic Fragiudults
Topazmill-----	Fine-loamy, siliceous, semiactive, mesic Typic Paleudults
Viraton-----	Fine-loamy, siliceous, active, mesic Oxyaquic Fragiudalfs
Wasola-----	Fine-loamy, siliceous, active, mesic Fragiaquic Hapludalfs
Winnipeg-----	Fine-silty, mixed, active, mesic Typic Paleudalfs
Zanoni-----	Coarse-loamy, siliceous, active, mesic Ultic Hapludalfs