United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
Crawford County Soil and
Water Conservation District,
Missouri Department of
Natural Resources, Missouri
Agricultural Experiment
Station, and Missouri
Department of Conservation

Soil Survey of Crawford County, Missouri

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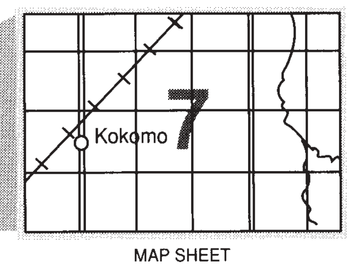
How To Use This Soil Survey

General Soil Map

The general soil map, which is the color map preceding the detailed soil maps, 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.

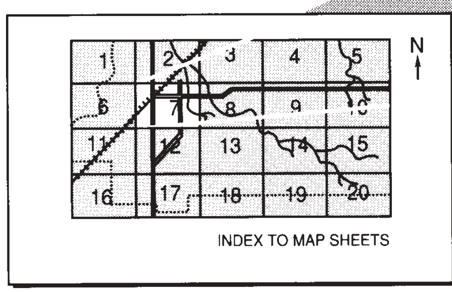


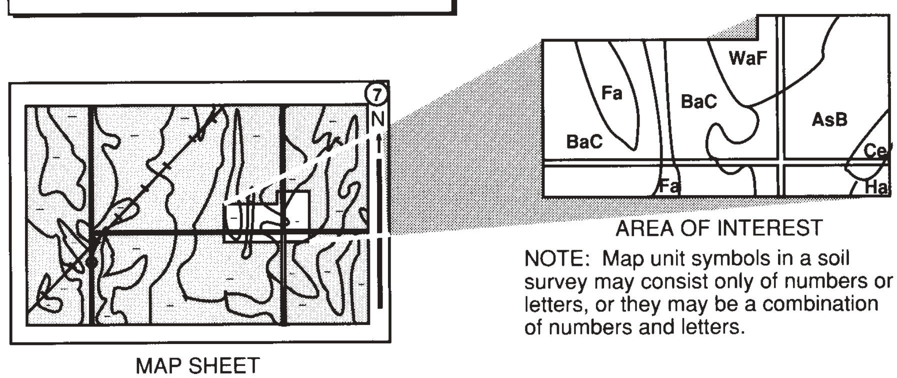
Detailed Soil Maps

The detailed soil maps follow the general soil map. These 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**, which precedes the soil maps. Note the number of the map sheet and turn to that sheet.

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





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

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

Major fieldwork for this soil survey was completed in 2001. Soil names and descriptions were approved in 2002. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2001. This survey was made cooperatively by the Natural Resources Conservation Service, the Missouri Agricultural Experiment Station, and the Missouri Department of Conservation. The Missouri Department of Natural Resources provided soil scientists to assist with the fieldwork. The survey is part of the technical assistance furnished to the Crawford County Soil and Water Conservation District.

Cover: Historic Dillard Mill, along Huzzah Creek, in southeast Crawford 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 (click on "Technical Resources").

Contents

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

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

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

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

Roger A. Hansen
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Crawford County, Missouri

By Scott E. Larsen and Michael A. Cook, Natural Resources Conservation Service

Fieldwork by Michael W. Burney, Scott E. Larsen, Alan Peer, and David W. Wolf, Natural Resources Conservation Service; and Gregory D. Caldwell, John Fraga, Wyn Kelley, Dennis Meinert, and Jerry Smith, Missouri Department of Natural Resources

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with
Crawford County Soil and Water Conservation District, Missouri Department of Natural Resources, Missouri Agricultural Experiment Station, and Missouri Department of Conservation

Crawford County is in the east-central part of Missouri in the Ozark region (fig. 1). The county has a land area of 475,542 acres, or about 743 square miles.

Crawford County is bordered on the north by Franklin and Gasconade Counties, on the east by Iron and Washington Counties, on the south by Dent and Iron Counties, and on the west by Gasconade, Dent, and Phelps Counties. The county seat is Steelville, which had a population of 1,429 in 2000. The population of the county in 2000 was 22,804 (State of Missouri, 2000).

Farming is an important enterprise in Crawford County. Cash receipts from livestock totaled almost 6.6 million dollars in 1999. Receipts from farm crops totaled almost 1 million dollars (Missouri Agricultural Statistics Service, 2000).

Figure 1.—Location of Crawford County in Missouri.

General Nature of the County

This section describes climate, water supply, water quality, history and development, and geology.

Climate

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

In winter, the average temperature is 31.3 degrees F and the average daily minimum temperature is 18.8 degrees. The lowest temperature on record, which occurred on January 17, 1977, is -31 degrees. In summer, the average temperature is 73.9 degrees and the average daily maximum temperature is 87.7 degrees. The highest recorded temperature, which occurred on July 20, 1980, is 111 degrees.

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

The total annual precipitation is about 39.33 inches. Of this, 18.7 inches, or 47 percent, usually falls in April through September. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 4.81 inches on August 12, 1993. Thunderstorms occur on about 46 days each year, and most occur between May and August.

The average seasonal snowfall is about 15.6 inches. The greatest snow depth at any one time during the period of record was 15 inches. On the average, 18 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 59 percent. Humidity is higher at night, and the average at dawn is about 83 percent. The sun shines 67 percent of the time possible in summer and 49 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 11 miles per hour, from January to April.

Water Supply

Many of the upland soils in Crawford County are suitable for the construction of ponds and small reservoirs. Most livestock in the county get water from these sources, as well as from small creeks and springs. Most rural households have individual wells. Surface and ground-water quality is variable, and this survey will be an important tool in the maintenance and improvement of overall water quality. The Meramec River, Courtois Creek, and Huzzah Creek are the largest streams in the county.

Water Quality

Where developed, springs furnish a convenient water supply. The quality is determined by surface conditions where infiltrating water enters the underground network and by the effectiveness of the soil and vegetation in filtering out contaminants. The soil survey is an essential tool in planning and implementing protection of ground-water resources.

Surface water quality is dependent upon management conditions on the soil surface. Concentration of livestock results in large amounts of animal waste on the surface of the soil that flush with runoff water into streams and rivers after intensive rainfall. Filter strips, rotational grazing, restriction of livestock from streams, and other management practices help to protect surface water from degradation by animal waste.

Chemical contamination of surface water usually occurs as a result of soil erosion when soil particles have contaminants attached to them. Soil conservation is imperative not only to keep productive soil in place, but also to keep pollutants out of surface water bodies.

History and Development

Serenia M. Cook, Earth Team volunteer, prepared this section.

The first inhabitants of the area were Native Americans of various tribes, such as Cherokee, Osage, Seminoles, and Shawnee. In 1673, French explorers came into what is now Crawford County. The region became Spanish territory in 1762 by a secret treaty between France and Spain. It remained under Spanish control until Spain transferred the Louisiana Territory to France in 1800. Napoleon Bonaparte sold the Louisiana Territory to Thomas Jefferson in 1804. The first permanent white settlers in Crawford County are said to be William Harrison and Jo Reeves in 1821. Crawford County was established on August 21, 1813 (Goodspeed Publishing Company, 1888).

Early settlers were drawn to Crawford County because of the abundant mineral resources. Lead, iron ore, zinc, and silver have been mined in Crawford County. The first iron furnace in Crawford County was built by Harrison and Reeves in 1818. The Meramec Iron Works was established in 1828. There are no active mining operations at this time (Goodspeed Publishing Company, 1888).

Geology

Donald L. Williams, geologist, Natural Resources Conservation Service, helped prepare this section.

Most of Crawford County is situated in part of the Interior Highlands Division, Ozark Plateau Province, Springfield-Salem plateaus section (Gamble and others, 1997). There is only one small reported exposure of Precambrian age rock in Crawford County, that being a very small outcrop of granite near Huzzah Creek in the southeast part of the county. Otherwise, the oldest rocks exposed in the county are very limited exposures of Cambrian age dolomites and shales of the Bonneterre, Davis, and Derby-Doe

Run Formations. These occur in the vicinity of the outcrop of granite near Huzzah Creek and in the center of the highly disturbed Crooked Creek structure (described below). Other than these small exposures, the oldest bedrock is the Potosi Dolomite.

The Potosi Dolomite is typically dolostone with locally abundant quartz druse, chalcedony, chert, and barite. This formation is the principal host-rock for the extensive barite mineralization in Washington County. Thickness varies from 220 to 370 feet. The underlying Eminence Dolomite consists of non-cherty dolostone with minor clay and shale seams. The upper part of the formation is thin-bedded and sandy with shale interbeds. The contact with the overlying Ordovician strata is unconformable. Thickness ranges from 120 to 200 feet.

The Ordovician age Gasconade Dolomite is typically cherty dolostone with oolites and reef structures. The basal portion of the formation is known as the Gunter Sandstone Member. A widespread marker bed and aquifer, it is often poorly developed and inconspicuous in this area. The formation is separated into informal upper and lower units. The upper unit is typically a 40 to 80 feet thick dolostone with minor sand and chert lenses. The lower unit is commonly 160 to 200 feet thick with an increased amount of chert lenses and interbeds. Total thickness is approximately 250 feet.

The Roubidoux Formation consists of interbedded quartz sandstone, dolostone, and chert with minor oolites. Sandstone beds typically have cross bedding, ripple marks, and mudcrack fillings. This formation is not fully exposed in the county, but thickness can be up to 200 feet.

The Jefferson City Dolomite consists of cherty gray to brown silty dolomite with occasional orthoquartzite sandstone beds. This formation is mostly exposed on uplands in the north and western third of the county in a structural area known as the Cuba Graben. The youngest bedrock is exposures of Pennsylvanian age sandstones, shales, and fireclays. These occur on the high drainage divides mostly to the north of Interstate 44.

While Missouri is not noted for its structural geology, Crawford County is well represented by the Palmer fault complex and the Crooked Creek structure. The Palmer Fault System extends east to west across the southern portion of the county from Washington County to the Crooked Creek structure in the southwest part of the county. The fault zone consists of high angle faults with displacements from 400 feet in the east to about 200 feet in the west. The Crooked Creek disturbed area is an approximately circular four-by-three-mile diameter area of highly deformed beds and faults. The center of the structure has exposures of Cambrian age dolomites and shales, with younger sediments in faulted strata around the central structure. These faults are geologically old and inactive and are not considered a seismic risk.

Deep, long-term weathering has left behind a very uneven bedrock surface. The depth to the top of bedrock ranges from near surface exposures on glades and rocky slopes to over 100 feet in areas of severe bedrock weathering.

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.

Table 1.--Temperature and Precipitation

(Recorded in the period 1961-90 at Steelville, Missouri)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snow-fall
	^{o}F	^{o}F	^{o}F	^{o}F	^{o}F	Units	In	In	In		In
January-----	41.0	15.8	28.4	72	-16	5	1.87	0.71	2.95	4	4.8
February----	46.1	19.9	33.0	77	-13	11	2.24	1.01	3.29	4	4.2
March-------	57.4	29.5	43.4	85	1	68	3.41	2.02	4.65	7	2.4
April-------	69.8	39.8	54.8	92	17	212	3.77	2.18	5.19	6	0.1
May---------	78.0	48.8	63.4	92	27	416	4.48	2.44	6.28	7	0.0
June--------	84.7	57.3	71.0	97	38	622	3.51	1.86	5.19	6	0.0
July--------	90.2	62.5	76.4	102	45	812	3.64	1.59	5.38	5	0.0
August------	88.2	60.5	74.3	103	43	754	3.55	1.92	4.99	5	0.0
September---	80.4	52.6	66.5	96	30	499	3.48	1.53	5.15	5	0.0
October-----	69.6	39.8	54.7	89	19	206	3.28	1.85	4.55	5	0.0
November----	57.5	30.9	44.2	81	7	64	3.33	1.42	4.95	5	0.7
December----	44.3	20.6	32.5	73	-12	12	2.77	1.13	4.15	5	3.3
Yearly:											
Average----	67.3	39.8	53.5	---	---	---	---	---	---	---	---
Extreme----	111	-31	---	104	-21	---	---	---	---	---	---
Total------	---	---	---	---	---	3,681	39.33	22.57	48.41	64	15.6

* 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 Steelville, Missouri)

Probability	Temperature: 24 °F or lower	Temperature: 28 °F or lower	Temperature: 32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	April 23	May 6	May 21
2 years in 10 later than--	April 18	May 1	May 16
5 years in 10 later than--	April 9	April 21	May 5
First freezing temperature in fall:			
1 year in 10 earlier than--	October 5	September 26	September 18
2 years in 10 earlier than--	October 12	October 1	September 23
5 years in 10 earlier than--	October 24	October 11	October 3

Table 3.--Growing Season

(Recorded in the period 1961-90 at Steelville, Missouri)

Probability	Daily minimum temperature during growing season: Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	170	148	127
8 years in 10	179	156	135
5 years in 10	196	171	149
2 years in 10	213	187	164
1 year in 10	222	195	172

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 association differ from place to place in slope, depth, drainage, and other characteristics that affect management.

The descriptions, names, and delineations of the

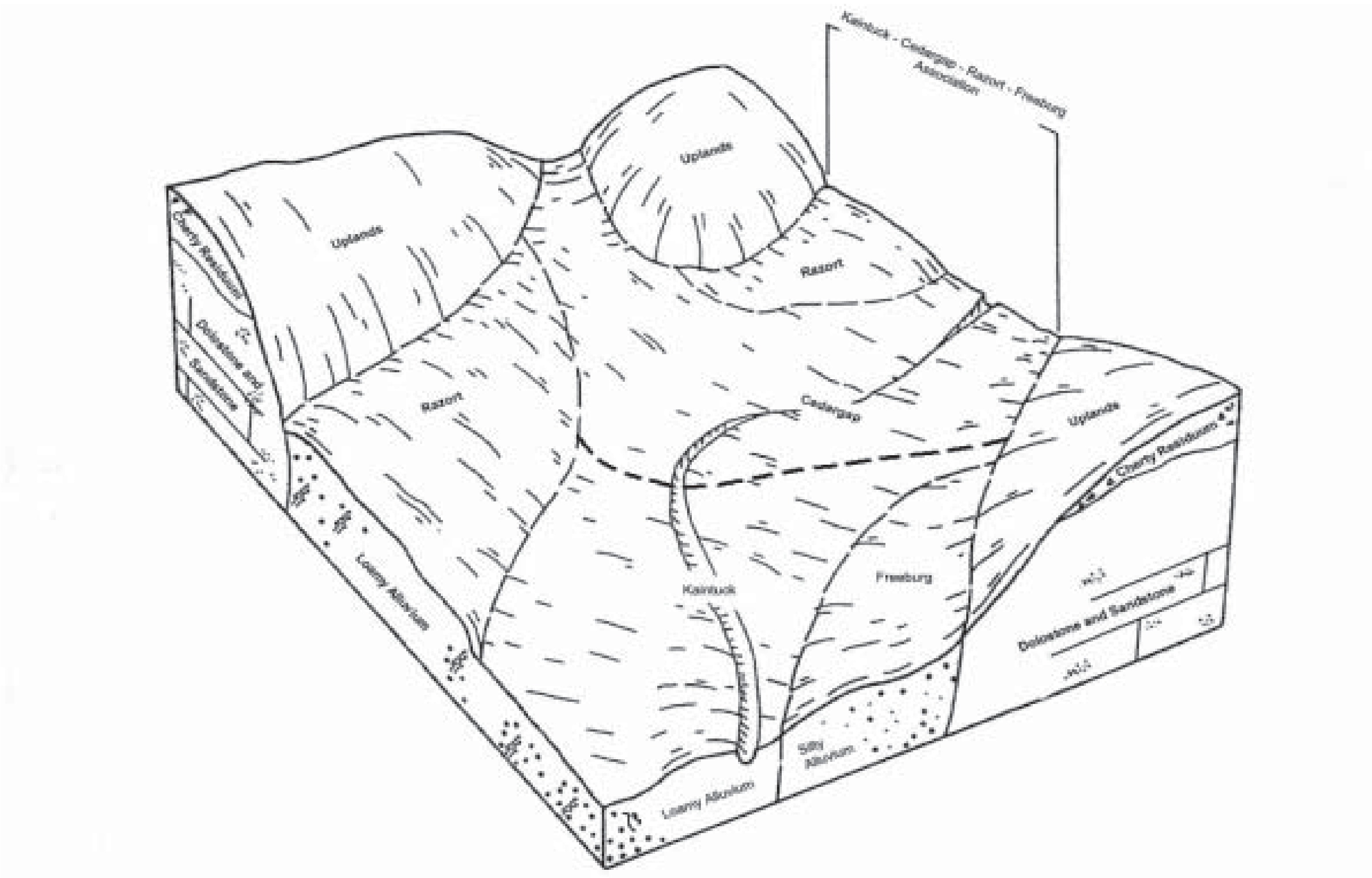


Figure 2.—Typical pattern of soils and parent material in the Kaintuck-Cedargap-Razort-Freeburg association.

soils in this survey area do not fully agree with those on the general soil map of surveys of adjacent counties published at a different date. Differences may be the result of additional soil data, variations in the intensity of mapping, and correlation decisions that reflect local conditions.

Soil Descriptions

1. Kaintuck-Cedargap-Razort- Freeburg Association

Extent of the association in the survey area:
13 percent of the survey area

Composition:
Kaintuck and similar soils—33 percent
Cedargap and similar soils—25 percent
Razort and similar soils—21 percent
Freeburg and similar soils—10 percent
Minor soils—11 percent (Deible, Gabriel, and Racoon)

Landscape:
Kaintuck—flood plains
Cedargap—flood plains
Razort—stream terraces
Freeburg—stream terraces (fig. 2)

Parent materials:
Alluvium

Slope gradient:
0 to 5 percent

Slope configuration:
Linear and simple

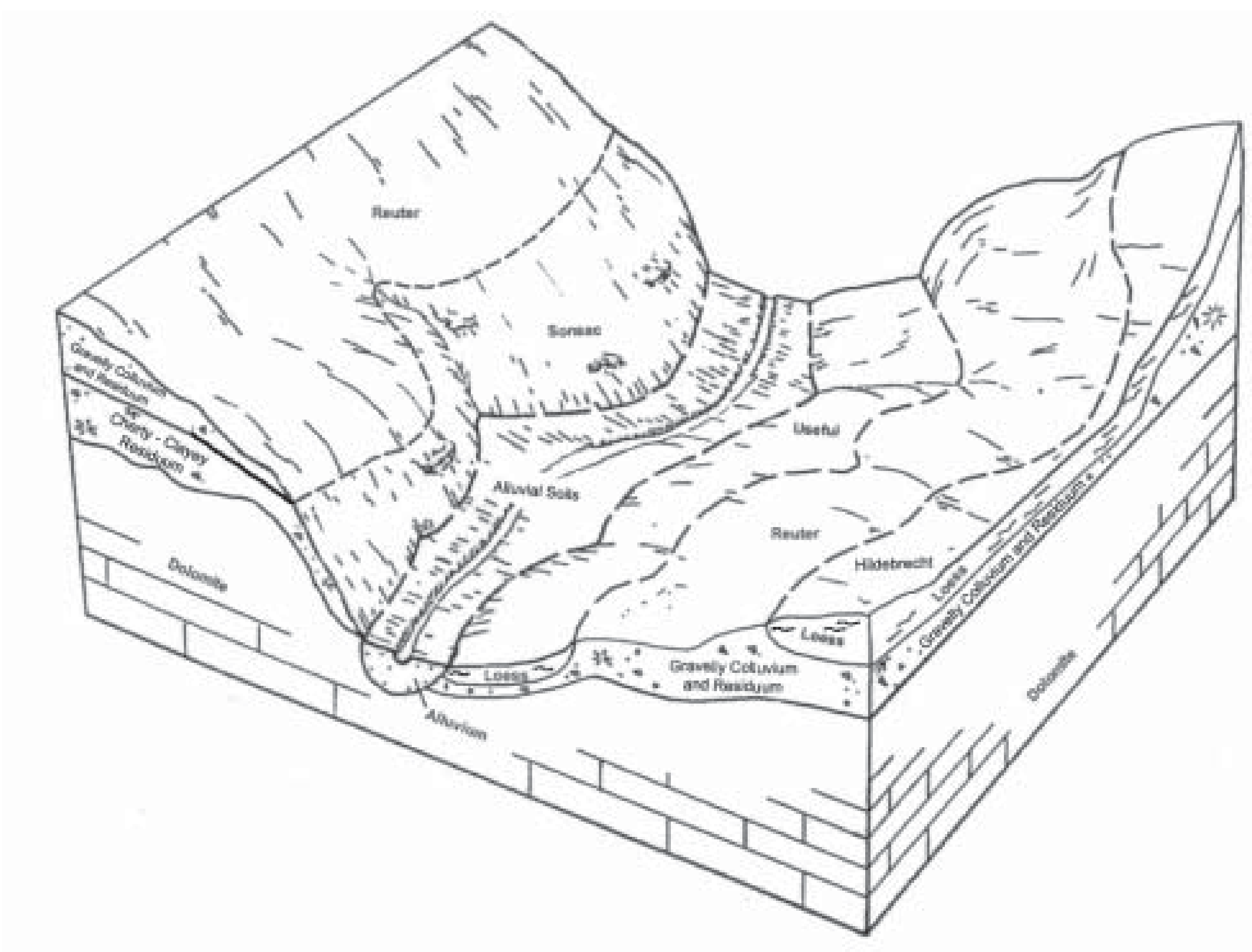


Figure 3.—Typical pattern of soils and parent material in the Rueter-Sonsac-Hildebrecht association.

2. Rueter-Sonsac-Hildebrecht Association

Extent of the association in the survey area:
40 percent of the survey area

Composition:
Rueter and similar soils—75 percent
Sonsac and similar soils—12 percent
Hildebrecht and similar soils—7 percent
Minor soils—6 percent (Cedargap, Moko, and Useful)

Landscape:
Rueter—ridgetops and upper side slopes
Sonsac—step down ridges and lower side slopes
Hildebrecht—ridgetops (fig. 3)

Parent materials:
Loess, colluvium, and residuum

Slope gradient:
3 to 65 percent

Slope configuration:
Convex and complex

3. Goss-Gravois Association

Extent of the association in the survey area:
6 percent of the survey area

Composition:
Goss and similar soils—73 percent
Gravois and similar soils—18 percent
Minor soils—9 percent (Moko and Sonsac)

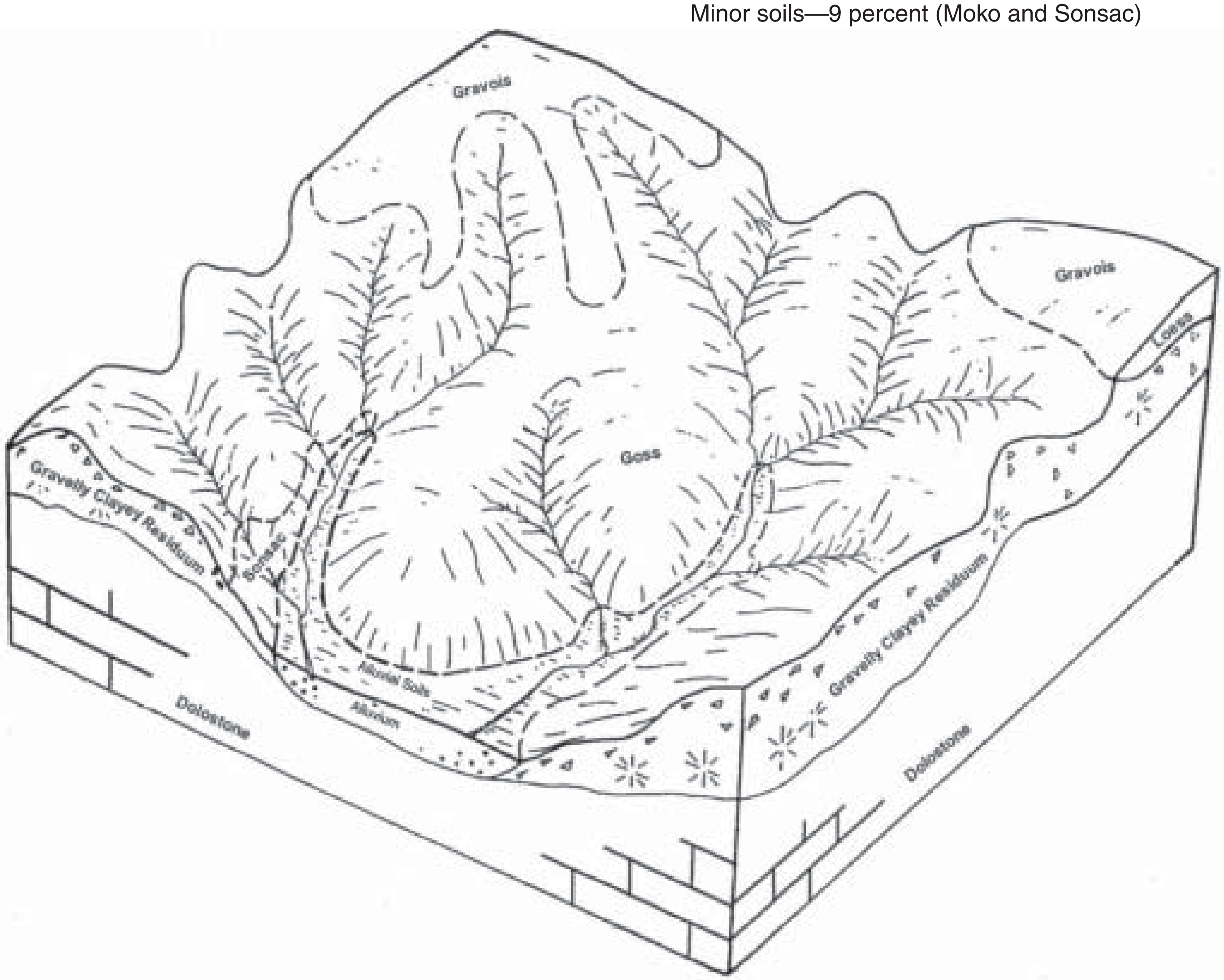


Figure 4.—Typical pattern of soils and parent material in the Goss-Gravois association.

Landscape:
Goss—ridgetops and side slopes
Gravois—ridgetops (fig. 4)

Parent materials:
Loess and residuum

Slope gradient:
3 to 50 percent

Slope configuration:
Convex and complex

4. Bender-Coulstone-Yelton Association

Extent of the association in the survey area:
23 percent of the survey area

Composition:
Bender and similar soils—63 percent
Coulstone and similar soils—17 percent
Yelton and similar soils—16 percent
Minor soils—4 percent (Lecoma and Viburnum)

Landscape:
Bender—ridgetops and side slopes
Coulstone—side slopes
Yelton—ridgetops (fig. 5)

Parent materials:
Loess, colluvium, and Roubidoux sandstone residuum

Slope gradient:
3 to 35 percent slopes

Slope configuration:
Convex and complex

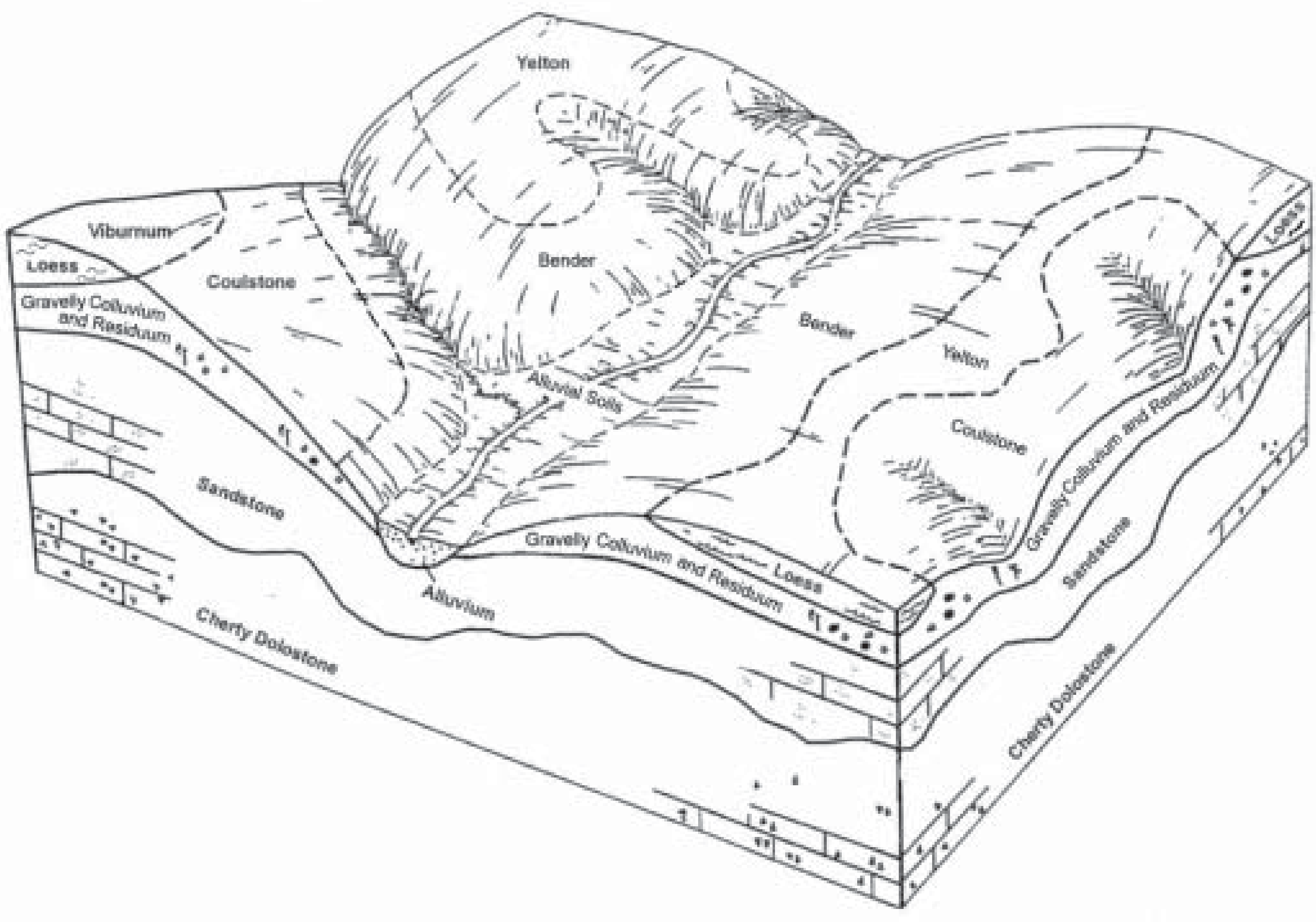


Figure 5.—Typical pattern of soils and parent material in the Bender-Coulstone-Yelton association.

5. Union-Beemont-Gatewood Association

Extent of the association in the survey area:
18 percent of the survey area

Composition:
Union and similar soils—53 percent
Beemont and similar soils—29 percent
Gatewood and similar soils—13 percent
Minor soils—5 percent (Hartville, Lily, and Moko)

Landscape:
Union—ridgetops
Beemont—side slopes
Gatewood—side slopes (fig. 6)

Parent materials:
Loess, colluvium, and residuum

Slope gradient:
1 to 35 percent slopes

Slope configuration:
Convex and complex

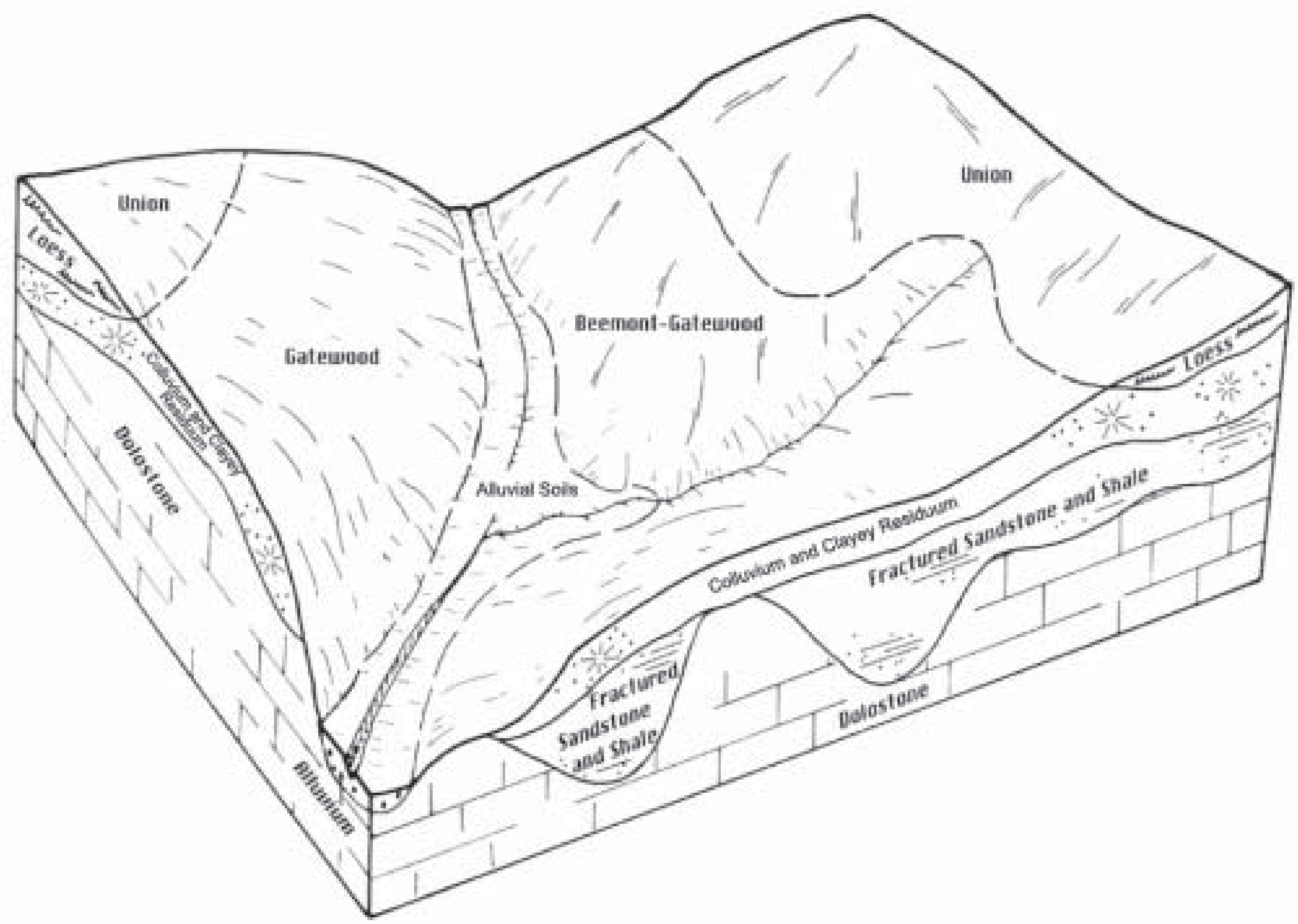


Figure 6.—Typical pattern of soils and parent material in the Union-Beemont-Gatewood association.

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, Gravois silt loam, 3 to 8 percent slopes, is a phase of the Gravois 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. Gravois-Goss complex, 3 to 15 percent slopes, stony, is an example.

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

Table 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.

Soil Descriptions

66014—Haymond silt loam, 0 to 3 percent slopes, frequently flooded

Setting

Landform: Flood plain
Position on the landform: Flood plain
Parent material: Coarse-silty alluvium
Slope shape: Linear

Composition

Haymond and similar soils—90 percent
Minor components—10 percent
  Kaintuck and similar soils—adjacent to stream channels
  Sturkie and similar soils—backwater areas

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Low
Flooding: Frequent
Water table: None
Drainage class: Well drained

Typical Profile

A—0 to 6 inches; silt loam
Bw—6 to 41 inches; silt loam
2C—41 to 80 inches; fine sandy loam

70028—Moko-Rock outcrop complex, 3 to 15 percent slopes, very stony

Setting

Landform: Hill
Position on the landform: Moko—backslope and summit; Rock outcrop—backslope
Parent material: Moko—residuum weathered from dolostone; Rock outcrop—no data
Slope shape: Convex

Composition

Moko and similar soils—80 percent
Rock outcrop—15 percent
Minor components—5 percent
  Caneyville and similar soils—north aspects and more stable areas
  Sonsac and similar soils—saddles and more stable areas
  Useful and similar soils—more stable areas

Soil Properties and Qualities

Depth to bedrock: Moko—very shallow and shallow (4 to 20 inches); Rock outcrop—no data
Runoff: Very high
Percent area covered by surface coarse fragments: Moko—0.10 to 3.0 (subrounded stones); Rock outcrop—no data
Depth to restrictive feature (bedrock (lithic): Moko—4 to 20 inches; Rock outcrop—no data
Flooding: None
Water table: None
Drainage class: Moko—well drained; Rock outcrop—no data

Typical Profile

Moko

A1—0 to 3 inches; gravelly loam
A2—3 to 8 inches; very gravelly loam
R—8 to 60 inches; bedrock

73012—Gravois silt loam, 3 to 8 percent slopes

Setting

Landform: Ridge
Position on the landform: Shoulder and summit
Parent material: Fine-silty loess over residuum weathered from dolostone
Slope shape: Convex

Composition

Gravois and similar soils—90 percent
Minor components—10 percent
  Crider and similar soils—ridge ends and convex areas
  Goss and similar soils—shoulders and narrow ridges

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Depth to restrictive feature (dense material): 18 to 40 inches
Flooding: None
Water table: 18 to 36 inches
Drainage class: Moderately well drained

Typical Profile

Ap—0 to 6 inches; silt loam
Bt—6 to 25 inches; silty clay loam
2Btx—25 to 35 inches; silty clay loam
3Bt1—35 to 50 inches; very gravelly silty clay loam
4Bt2—50 to 80 inches; very cobbly clay

73032—Gatewood very gravelly silt loam, 3 to 15 percent slopes, stony

Setting

Landform: Hill
Position on the landform: Backslope, summit, and shoulder
Parent material: Gravelly colluvium over residuum weathered from dolostone
Slope shape: Convex

Composition

Gatewood and similar soils—90 percent
Minor components—10 percent
Moko and similar soils—slope breaks
Useful and similar soils—lower backslopes

Soil Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)
Runoff: Very high
Percent area covered by surface coarse fragments: 0.01 to 0.10 (subrounded stones)
Depth to restrictive feature (bedrock (lithic): 20 to 40 inches
Flooding: None
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 10 inches; very gravelly silt loam
2Bt—10 to 28 inches; clay
2R—28 to 60 inches; unweathered bedrock

73035—Gravois silt loam, 8 to 15 percent slopes

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Fine-silty loess over residuum weathered from dolostone
Slope shape: Convex

Composition

Gravois and similar soils—90 percent
Minor components—10 percent
Goss and similar soils—shoulders and along drains

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Depth to restrictive feature (dense material): 18 to 40 inches
Flooding: None
Water table: 18 to 36 inches
Drainage class: Moderately well drained

Typical Profile

Ap—0 to 6 inches; silt loam
Bt—6 to 25 inches; silty clay loam
2Btx—25 to 35 inches; silty clay loam
3Bt1—35 to 50 inches; very gravelly silty clay loam
4Bt2—50 to 80 inches; very cobbly clay

73039—Glensted silt loam, 1 to 3 percent slopes

Setting

Landform: Ridge
Position on the landform: Summit
Parent material: Loess over residuum weathered from cherty dolostone
Slope shape: Linear

Composition

Glensted and similar soils—90 percent
Minor components—10 percent
Gravois and similar soils—convex areas
Plato and similar soils—concave areas

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Depth to restrictive feature (abrupt textural change): 6 to 19 inches
Flooding: None
Water table: 6 to 18 inches
Drainage class: Poorly drained

Typical Profile

Ap—0 to 9 inches; silt loam
Btg1—9 to 14 inches; silty clay
2Btg2—14 to 33 inches; silty clay
2Cg—33 to 60 inches; silty clay loam

73053—Lily-Bender complex, 3 to 15 percent slopes

Setting

Landform: Hill
Position on the landform: Summit and backslope
Parent material: Lily—fine-loamy residuum weathered from sandstone; Bender—residuum weathered from sandstone
Slope shape: Convex

Composition

Lily and similar soils—45 percent
Bender and similar soils—40 percent
Minor components—15 percent
Coulstone and similar soils—shoulders and north aspects
Yelton and similar soils—center of wider ridges

Soil Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)
Runoff: High
Percent area covered by surface coarse fragments: Lily—0; Bender—0.01 to 0.10 (subrounded stones)
Depth to restrictive feature (bedrock (lithic): 20 to 40 inches
Flooding: None
Water table: None
Drainage class: Lily—well drained; Bender—somewhat excessively drained

Typical Profile

Lily

Ap—0 to 3 inches; loam
Bt1—3 to 15 inches; loam
Bt2—15 to 21 inches; gravelly loam
2R—21 to 60 inches; bedrock

Bender

Ap—0 to 4 inches; very cobbly fine sandy loam
Bt1—4 to 12 inches; very cobbly fine sandy loam
Bt2—12 to 23 inches; extremely gravelly sandy loam
2R—23 to 60 inches; bedrock

73066—Bender very cobbly fine sandy loam, 3 to 15 percent slopes, stony

Setting

Landform: Ridge
Position on the landform: Summit and shoulder
Parent material: Residuum weathered from sandstone
Slope shape: Convex

Composition

Bender and similar soils—85 percent
Minor components—15 percent
Coulstone and similar soils—shoulders and knobs
Lily and similar soils—saddles
Tonti and similar soils—center of wider ridges
Yelton and similar soils—center of wider ridges

Soil Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)
Runoff: Very high
Percent area covered by surface coarse fragments: 0.01 to 0.10 (subrounded stones)
Depth to restrictive feature (bedrock (lithic): 20 to 40 inches
Flooding: None
Water table: None
Drainage class: Somewhat excessively drained

Typical Profile

A—0 to 4 inches; very cobbly fine sandy loam
BE—4 to 12 inches; very cobbly fine sandy loam
Bt—12 to 23 inches; extremely gravelly sandy loam
2R—23 to 60 inches; bedrock

73067—Bender-Rock outcrop complex, 15 to 35 percent slopes, very stony

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Bender—residuum weathered from sandstone; Rock outcrop—no data
Slope shape: Convex

Composition

Bender and similar soils—70 percent
Rock outcrop—10 percent
Minor components—20 percent
Coulstone and similar soils—lower backslopes
Lily and similar soils—north slopes

Soil Properties and Qualities

Depth to bedrock: Bender—moderately deep (20 to 40 inches); Rock outcrop—no data
Runoff: Very high
Percent area covered by surface coarse fragments: Bender—0.10 to 3.0 (subrounded stones); Rock outcrop—no data

Depth to restrictive feature (bedrock (lithic): Bender—20 to 40 inches; Rock outcrop—no data
Flooding: None
Water table: None
Drainage class: Bender—somewhat excessively drained; Rock outcrop—no data

Typical Profile

Bender

A—0 to 4 inches; very cobbly fine sandy loam
BE—4 to 12 inches; very cobbly fine sandy loam
Bt—12 to 23 inches; extremely gravelly sandy loam
2R—23 to 60 inches; bedrock

73089—Rueter very gravelly silt loam, 15 to 35 percent slopes, very stony

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Gravelly colluvium over residuum weathered from dolostone
Slope shape: Convex

Composition

Rueter and similar soils—85 percent
Minor components—15 percent
Bender and similar soils—lower backslopes
Gravois and similar soils—north slopes

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Medium
Percent area covered by surface coarse fragments: 0.10 to 3.0 (subrounded stones)
Flooding: None
Water table: None
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

73094—Gatewood very gravelly silt loam, 15 to 35 percent slopes, stony

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Gravelly colluvium over clayey residuum weathered from dolostone
Slope shape: Convex

Composition

Gatewood and similar soils—85 percent
Minor components—15 percent
Moko and similar soils—slope breaks
Useful and similar soils—lower backslopes

Soil Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)
Runoff: Very high
Percent area covered by surface coarse fragments: 0.01 to 0.10 (subrounded stones)
Depth to restrictive feature (bedrock (lithic): 20 to 40 inches
Flooding: None
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 10 inches; very gravelly silt loam
2Bt—10 to 28 inches; clay
2R—28 to 60 inches; unweathered bedrock

73098—Plato silt loam, 1 to 3 percent slopes

Setting

Landform: Ridge
Position on the landform: Summit
Parent material: Loess over clayey residuum weathered from dolostone
Slope shape: Convex

Composition

Plato and similar soils—90 percent
Minor components—10 percent
Union and similar soils—convex areas

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Depth to restrictive feature (fragipan): 20 to 36 inches
Flooding: None
Water table: 12 to 24 inches
Drainage class: Somewhat poorly drained

Typical Profile

Ap—0 to 8 inches; silt loam
Bt—8 to 20 inches; silty clay

2Btx—20 to 48 inches; extremely gravelly silt loam
3Bt—48 to 60 inches; clay

73135—Union silt loam, 3 to 8 percent slopes

Setting

Landform: Ridge
Position on the landform: Summit
Parent material: Loess over residuum weathered from dolostone
Slope shape: Convex

Composition

Union and similar soils—90 percent
Minor components—10 percent
Plato and similar soils—concave areas

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Very high
Depth to restrictive feature (fragipan): 18 to 36 inches
Flooding: None
Water table: 18 to 36 inches
Drainage class: Moderately well drained

Typical Profile

Ap—0 to 9 inches; silt loam
Bt—9 to 30 inches; silty clay loam
2Btx—30 to 53 inches; extremely gravelly silt loam
3Bt—53 to 80 inches; clay

73136—Union silt loam, 1 to 3 percent slopes

Setting

Landform: Ridge
Position on the landform: Summit
Parent material: Loess over residuum weathered from dolostone
Slope shape: Convex

Composition

Union and similar soils—90 percent
Minor components—10 percent
Plato and similar soils—concave areas

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Depth to restrictive feature (fragipan): 18 to 36 inches
Flooding: None
Water table: 18 to 36 inches
Drainage class: Moderately well drained

Typical Profile

Ap—0 to 9 inches; silt loam
Bt—9 to 30 inches; silty clay loam
2Btx—30 to 53 inches; extremely gravelly silt loam
3Bt—53 to 80 inches; clay

73159—Yelton silt loam, 3 to 8 percent slopes

Setting

Landform: Ridge
Position on the landform: Shoulder and summit
Parent material: Loess over colluvium derived from sandstone
Slope shape: Convex

Composition

Yelton and similar soils—90 percent
Minor components—10 percent
Bender and similar soils—shoulders on south aspects
Coulstone and similar soils—shoulders on north aspects and knobs
Lily and similar soils—saddles and narrow ridge ends

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Medium
Depth to restrictive feature (fragipan): 18 to 27 inches
Flooding: None
Water table: 18 to 24 inches
Drainage class: Moderately well drained

Typical Profile

Ap—0 to 3 inches; silt loam
E—3 to 8 inches; silt loam
Bt—8 to 19 inches; silty clay loam
2Btx—19 to 38 inches; loam
3Bt—38 to 65 inches; loam

73162—Alred-Rueter complex, 15 to 35 percent slopes, very stony

Setting

Landform: Hill
Position on the landform: Backslope

Parent material: Gravelly colluvium over residuum weathered from dolostone
Slope shape: Convex

Composition

Alred and similar soils—50 percent
Rueter and similar soils—35 percent
Minor components—15 percent
Gravois and similar soils—north aspects
Sonsac and similar soils—lower backslopes

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Alred—very high; Rueter—medium
Percent area covered by surface coarse fragments: 0.10 to 3.0 (subrounded stones)
Depth to restrictive feature (strongly contrasting textural stratification): Alred—15 to 39 inches; Rueter—none
Flooding: None
Water table: None
Drainage class: Alred—well drained; Rueter—somewhat excessively drained

Typical Profile

Alred

A—0 to 7 inches; very gravelly loam
E—7 to 15 inches; very gravelly loam
Bt1—15 to 21 inches; very gravelly loam
2Bt2—21 to 80 inches; cobbly clay

Rueter

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

73164—Bender-Rock outcrop complex, 35 to 65 percent slopes, extremely stony

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Bender—loamy residuum weathered from sandstone; Rock outcrop—no data
Slope shape: Convex

Composition

Bender and similar soils—70 percent
Rock outcrop—10 percent
Minor components—20 percent
Lily and similar soils—less sloping areas
Soils less than 20 inches to bedrock—near rock outcrops

Soil Properties and Qualities

Depth to bedrock: Bender—moderately deep (20 to 40 inches); Rock outcrop—no data
Runoff: Very high
Percent area covered by surface coarse fragments: Bender—3 to 15 (subrounded stones); Rock outcrop—no data
Depth to restrictive feature (bedrock (lithic): Bender—20 to 40 inches; Rock outcrop—no data
Flooding: None
Water table: None
Drainage class: Bender—somewhat excessively drained; Rock outcrop—none

Typical Profile

Bender

A—0 to 4 inches; very cobbly fine sandy loam
BE—4 to 12 inches; very cobbly fine sandy loam
Bt—12 to 23 inches; extremely gravelly sandy loam
2R—23 to 60 inches; unweathered bedrock

The Bender soil in this map unit is a taxadjunct to the Bender series. It does not have enough of a clay increase for an argillic horizon. This difference does not affect the use and management of the soil.

73166—Viburnum-Tonti complex, 1 to 8 percent slopes

Setting

Landform: Ridge
Position on the landform: Viburnum—summit; Tonti—shoulder
Parent material: Viburnum—loess over residuum weathered from dolostone; Tonti—colluvium over residuum weathered from dolostone
Slope shape: Viburnum—linear; Tonti—convex

Composition

Viburnum and similar soils—50 percent
Tonti and similar soils—35 percent
Minor components—15 percent
Hildebrecht and similar soils—center of wider ridges
Rueter and similar soils—knobs and shoulders

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Very high
Depth to restrictive feature (fragipan): Viburnum—none; Tonti—18 to 25 inches
Flooding: None
Water table: Viburnum—18 to 30 inches; Tonti—18 to 24 inches
Drainage class: Viburnum—somewhat poorly drained; Tonti—moderately well drained

Typical Profile

Viburnum

A—0 to 4 inches; silt loam
BE—4 to 7 inches; silt loam
Bt1—7 to 13 inches; silty clay loam
2Bt2—13 to 20 inches; gravelly silty clay loam
3Bt3—20 to 80 inches; gravelly clay

Tonti

A—0 to 3 inches; silt loam
BE—3 to 9 inches; silt loam
Bt—9 to 23 inches; silty clay loam
2Btx—23 to 44 inches; extremely gravelly silt loam
3Bt—44 to 61 inches; very gravelly clay

73168—Swiss gravelly silt loam, 3 to 15 percent slopes, stony

Setting

Landform: Hill
Position on the landform: Backslope and shoulder
Parent material: Clayey residuum
Slope shape: Convex

Composition

Swiss and similar soils—85 percent
Minor components—15 percent
Gatewood and similar soils—slope breaks
Useful and similar soils—lower backslopes

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Very high
Percent area covered by surface coarse fragments: 0.01 to 0.10 (subrounded stones)
Depth to restrictive feature (dense material): 40 to 80 inches
Flooding: None
Water table: 24 to 36 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 3 inches; gravelly silt loam
E—3 to 9 inches; gravelly silt loam
2Bt—9 to 40 inches; clay
2Cd—40 to 80 inches; clay loam

73169—Beemont-Gatewood complex, 15 to 35 percent slopes, stony

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Gravelly colluvium over clayey residuum weathered from dolostone
Slope shape: Convex

Composition

Beemont and similar soils—45 percent
Gatewood and similar soils—40 percent
Minor components—15 percent
Swiss and similar soils—similar landforms as Beemont

Soil Properties and Qualities

Depth to bedrock: Beemont—deep (40 to 60 inches); Gatewood—moderately deep (20 to 40 inches)
Runoff: Very high
Percent area covered by surface coarse fragments: 0.01 to 0.10 (subrounded stones)
Depth to restrictive feature (bedrock (lithic): Beemont—40 to 60 inches; Gatewood—20 to 40 inches
Flooding: None
Water table: Beemont—24 to 36 inches; Gatewood—18 to 36 inches
Drainage class: Moderately well drained

Typical Profile

Beemont

A—0 to 3 inches; gravelly silt loam
E—3 to 11 inches; gravelly silt loam
2Bt—11 to 59 inches; clay
2R—59 to 80 inches; unweathered bedrock

Gatewood

A—0 to 2 inches; very gravelly silt loam
E—2 to 10 inches; very gravelly silt loam
2Bt—10 to 28 inches; clay
2R—28 to 60 inches; unweathered bedrock

73170—Beemont-Gatewood complex, 3 to 15 percent slopes, stony

Setting

Landform: Hill
Position on the landform: Summit and shoulder
Parent material: Gravelly colluvium over clayey residuum weathered from dolostone
Slope shape: Convex

Composition

Beemont and similar soils—40 percent
Gatewood and similar soils—40 percent
Minor components—20 percent
Union and similar soils—less sloping areas
Useful and similar soils—nose slopes

Soil Properties and Qualities

Depth to bedrock: Beemont—deep (40 to 60 inches); Gatewood—moderately deep (20 to 40 inches)
Runoff: Very high
Percent area covered by surface coarse fragments: 0.01 to 0.10 (subrounded stones)
Depth to restrictive feature (bedrock (lithic): Beemont—40 to 60 inches; Gatewood—20 to 40 inches
Flooding: None
Water table: Beemont—24 to 36 inches; Gatewood—18 to 36 inches
Drainage class: Moderately well drained

Typical Profile

Beemont

A—0 to 3 inches; gravelly silt loam
E—3 to 11 inches; gravelly silt loam
2Bt—11 to 59 inches; clay
2R—59 to 80 inches; unweathered bedrock

Gatewood

A—0 to 2 inches; very gravelly silt loam
E—2 to 10 inches; very gravelly silt loam
2Bt—10 to 28 inches; clay
2R—28 to 60 inches; unweathered bedrock

73171—Plato silty clay loam, 3 to 8 percent slopes, eroded

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Loess over clayey residuum weathered from dolostone
Slope shape: Concave

Composition

Plato and similar soils—90 percent
Minor components—10 percent
Beemont and similar soils—more sloping areas
Hartville and similar soils—concave lower backslopes

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Very high
Depth to restrictive feature (fragipan): 20 to 36 inches
Flooding: None
Water table: 12 to 24 inches
Drainage class: Somewhat poorly drained

Typical Profile

Ap—0 to 7 inches; silty clay loam
Bt—7 to 23 inches; silty clay
2Btx—23 to 40 inches; gravelly loam
3Bt—40 to 80 inches; gravelly clay

73172—Rosati silt loam, 1 to 5 percent slopes

Setting

Landform: Ridge
Position on the landform: Summit
Parent material: Loess over residuum weathered from dolostone
Slope shape: Linear

Composition

Rosati and similar soils—90 percent
Minor components—10 percent
Glensted and similar soils—level to slightly concave areas
Plato and similar soils—more sloping areas

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Depth to restrictive feature (fragipan): 20 to 35 inches
Flooding: None
Water table: 12 to 24 inches
Drainage class: Somewhat poorly drained

Typical Profile

Ap—0 to 9 inches; silt loam
Bt—9 to 29 inches; silty clay
2Btx—29 to 41 inches; silt loam
3Bt—41 to 80 inches; silty clay loam

73173—Lily-Yelton complex, 3 to 8 percent slopes

Setting

Landform: Ridge
Position on the landform: Shoulder and summit
Parent material: Lily—fine-loamy residuum weathered from sandstone; Yelton—loess over colluvium derived from sandstone
Slope shape: Convex

Composition

Lily and similar soils—40 percent
Yelton and similar soils—40 percent
Minor components—20 percent
Bender and similar soils—similar landforms
Coulstone and similar soils—shoulders and heads of drains

Soil Properties and Qualities

Depth to bedrock: Lily—moderately deep (20 to 40 inches); Yelton—very deep (more than 60 inches)
Runoff: Very high
Depth to restrictive feature: Lily—20 to 40 inches (bedrock (lithic); Yelton—18 to 27 inches (fragipan)
Flooding: None
Water table: Lily—none; Yelton—18 to 24 inches
Drainage class: Lily—well drained; Yelton—moderately well drained

Typical Profile

Lily

A—0 to 3 inches; fine sandy loam
E—3 to 8 inches; loam
Bt1—8 to 15 inches; loam
Bt2—15 to 21 inches; gravelly loam
C—21 to 23 inches; gravelly loam
R—23 to 60 inches; bedrock

Yelton

Ap—0 to 3 inches; silt loam
E—3 to 8 inches; silt loam
Bt—8 to 19 inches; silty clay loam
2Btx—19 to 38 inches; loam
3Bt—38 to 65 inches; loam

73174—Lily-Yelton complex, 8 to 15 percent slopes

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Lily—fine-loamy residuum weathered from sandstone; Yelton—loess over colluvium derived from sandstone
Slope shape: Convex

Composition

Lily and similar soils—40 percent
Yelton and similar soils—40 percent
Minor components—20 percent
Bender and similar soils—south shoulders and heads of drains
Coulstone and similar soils—north shoulders

Soil Properties and Qualities

Depth to bedrock: Lily—moderately deep (20 to 40 inches); Yelton—very deep (more than 60 inches)
Runoff: Very high
Depth to restrictive feature: Lily—20 to 40 inches (bedrock (lithic); Yelton—18 to 27 inches (fragipan)
Flooding: None
Water table: Lily—none; Yelton—18 to 24 inches
Drainage class: Lily—well drained; Yelton—moderately well drained

Typical Profile

Lily

A—0 to 3 inches; fine sandy loam
E—3 to 8 inches; loam
Bt1—8 to 15 inches; loam
Bt2—15 to 21 inches; gravelly loam
C—21 to 23 inches; gravelly loam
R—23 to 60 inches; bedrock

Yelton

Ap—0 to 3 inches; silt loam
E—3 to 8 inches; silt loam
Bt—8 to 19 inches; silty clay loam
2Btx—19 to 38 inches; loam
3Bt—38 to 65 inches; loam

73175—Poynor-Bendavis complex, 1 to 8 percent slopes

Setting

Landform: Ridge
Position on the landform: Poynor—shoulder; Bendavis—summit
Parent material: Poynor—residuum weathered from dolostone; Bendavis—gravelly colluvium
Slope shape: Convex

Composition

Poynor and similar soils—55 percent
Bendavis and similar soils—30 percent
Minor components—15 percent
Tonti and similar soils—summits and shoulders

Soil Properties and Qualities

Depth to bedrock: Poynor—very deep (more than 60 inches); Bendavis—moderately deep (20 to 40 inches)
Runoff: Poynor—medium; Bendavis—very high
Depth to restrictive feature: Poynor—15 to 39 inches (strongly contrasting textural stratification); Bendavis—20 to 40 inches (bedrock (lithic)
Flooding: None
Water table: Poynor—none; Bendavis—24 to 36 inches
Drainage class: Poynor—well drained; Bendavis—moderately well drained

Typical Profile

Poynor

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 60 inches; clay

Bendavis

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 60 inches; unweathered bedrock

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

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Bendavis—gravelly colluvium; Poynor—residuum weathered from dolostone
Slope shape: Convex

Composition

Bendavis and similar soils—50 percent
Poynor and similar soils—30 percent
Minor components—20 percent
Lily and similar soils—lower slope breaks
Yelton and similar soils—small benches

Soil Properties and Qualities

Depth to bedrock: Bendavis—moderately deep (20 to 40 inches); Poynor—very deep (more than 60 inches)
Runoff: High
Percent area covered by surface coarse fragments: 0.01 to 0.10 (subrounded stones)
Depth to restrictive feature: Bendavis—20 to 40 inches (bedrock (lithic); Poynor—15 to 39 inches (strongly contrasting textural stratification)
Flooding: None
Water table: Bendavis—24 to 36 inches; Poynor—none
Drainage class: Bendavis—moderately well drained; Poynor—well drained

Typical Profile

Bendavis

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

Poynor

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

73181—Useful-Gatewood complex, 8 to 15 percent slopes

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Useful—loess over clayey residuum weathered from dolostone; Gatewood—gravelly colluvium over clayey residuum weathered from dolostone
Slope shape: Convex

Composition

Useful and similar soils—45 percent
Gatewood and similar soils—30 percent
Minor components—25 percent
Beemont and similar soils—similar landforms as Useful
Rock outcrop—slope breaks

Soil Properties and Qualities

Depth to bedrock: Useful—deep (40 to 60 inches); Gatewood—moderately deep (20 to 40 inches)
Runoff: Useful—high; Gatewood—very high

Percent area covered by surface coarse fragments: Useful—0; Gatewood—0.01 to 0.10 (subrounded stones)
Depth to restrictive feature (bedrock (lithic): Useful—40 to 60 inches; Gatewood—20 to 40 inches
Flooding: None
Water table: Useful—24 to 42 inches; Gatewood—18 to 36 inches
Drainage class: Moderately well drained

Typical Profile

Useful

Ap—0 to 7 inches; silt loam
Bt1—7 to 31 inches; silty clay
2Bt2—31 to 45 inches; silty clay
2Bt3/2CR—45 to 53 inches; silty clay loam
2R—53 to 60 inches; unweathered bedrock

Gatewood

A—0 to 2 inches; very gravelly silt loam
E—2 to 10 inches; very gravelly silt loam
2Bt—10 to 28 inches; clay
2R—28 to 60 inches; unweathered bedrock

73200—Sonsac gravelly silt loam, 3 to 15 percent slopes, very stony

Setting

Landform: Hill
Position on the landform: Summit
Parent material: Gravelly colluvium over residuum weathered from cherty dolostone
Slope shape: Convex

Composition

Sonsac and similar soils—80 percent
Minor components—20 percent
Caneyville and similar soils—north aspects
Goss and similar soils—upper backslopes
Moko and similar soils—south aspects and steeper areas adjacent to streams
Useful and similar soils—north aspects

Soil Properties and Qualities

Depth to bedrock: Moderately deep (20 to 40 inches)
Runoff: Very high
Percent area covered by surface coarse fragments: 0.10 to 3.0 (subrounded stones)
Depth to restrictive feature (bedrock (lithic): 20 to 40 inches
Flooding: None
Water table: None
Drainage class: Well drained

Typical Profile

A—0 to 3 inches; gravelly silt loam
E—3 to 8 inches; very gravelly silt loam
Bt1—8 to 11 inches; very gravelly silt loam
2Bt2—11 to 32 inches; very gravelly clay
2R—32 to 60 inches; bedrock

73210—Goss very cobbly silt loam, 15 to 50 percent slopes, extremely stony

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Gravelly colluvium over residuum weathered from cherty dolostone
Slope shape: Convex

Composition

Goss and similar soils—80 percent
Minor components—20 percent
Crider and similar soils—north aspects
Sonsac and similar soils—lower backslopes and steeper areas adjacent to streams

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Percent area covered by surface coarse fragments: 3 to 15 (subangular stones)
Flooding: None
Water table: None
Drainage class: Well drained

Typical Profile

A—0 to 3 inches; very cobbly silt loam
E—3 to 9 inches; very gravelly silt loam
2Bt—9 to 80 inches; very cobbly clay

73214—Moko-Rock outcrop complex, 15 to 50 percent slopes, extremely stony

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Moko—residuum weathered from dolostone; Rock outcrop—no data
Slope shape: Convex

Composition

Moko and similar soils—60 percent
Rock outcrop—25 percent
Minor components—15 percent
Caneyville and similar soils—north aspects
Sonsac and similar soils—upper backslopes
Useful and similar soils—north aspects

Soil Properties and Qualities

Depth to bedrock: Moko—very shallow and shallow (4 to 20 inches); Rock outcrop—no data
Runoff: Very high
Percent area covered by surface coarse fragments: Moko—3 to 15 (subrounded stones); Rock outcrop—no data
Depth to restrictive feature (bedrock (lithic): Moko—4 to 20 inches; Rock outcrop—no data
Flooding: None
Water table: None
Drainage class: Moko—well drained; Rock outcrop—none

Typical Profile

Moko

A1—0 to 5 inches; gravelly loam
A2—5 to 10 inches; extremely channery silt loam
R—10 to 60 inches; bedrock

73215—Crider silt loam, 3 to 8 percent slopes

Setting

Landform: Hill
Position on the landform: Summit
Parent material: Fine-silty loess over residuum
Slope shape: Convex

Composition

Crider and similar soils—85 percent
Minor components—15 percent
Goss and similar soils—shoulders and knobs
Gravois and similar soils—wider ridges

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Medium
Flooding: None
Water table: None
Drainage class: Well drained

Typical Profile

Ap—0 to 11 inches; silt loam
Bt1—11 to 37 inches; silty clay loam
2Bt2—37 to 60 inches; silty clay

73271—Moko-Rock outcrop complex, 50 to 90 percent slopes, extremely stony

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Moko—residuum weathered from dolostone; Rock outcrop—no data
Slope shape: Convex

Composition

Moko and similar soils—70 percent
Rock outcrop—15 percent
Minor components—15 percent
Sonsac and similar soils—between rock ledges
Useful and similar soils—north aspects
Very deep soils—lower backslopes

Soil Properties and Qualities

Depth to bedrock: Moko—very shallow and shallow (4 to 20 inches)
Runoff: Very high
Percent area covered by surface coarse fragments: Moko—3 to 15 (subrounded stones); Rock outcrop—no data
Depth to restrictive feature (bedrock (lithic): Moko—4 to 20 inches; Rock outcrop—no data
Flooding: None
Water table: None
Drainage class: Moko—well drained; Rock outcrop—none

Typical Profile

Moko

A—0 to 13 inches; very gravelly sandy loam
R—13 to 60 inches; bedrock

73272—Hildebrecht silt loam, 3 to 8 percent slopes

Setting

Landform: Ridge
Position on the landform: Shoulder and summit
Parent material: Fine-silty loess over residuum weathered from dolostone
Slope shape: Convex

Composition

Hildebrecht and similar soils—90 percent
Minor components—10 percent
Rueter and similar soils—shoulders and knobs
Useful and similar soils—narrower ridge ends

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Depth to restrictive feature (fragipan): 24 to 36 inches
Flooding: None
Water table: 18 to 24 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 4 inches; silt loam
E—4 to 9 inches; silt loam
Bt—9 to 26 inches; silty clay loam
2Btx—26 to 40 inches; extremely gravelly silt loam
3Bt—40 to 80 inches; extremely gravelly clay

73273—Coulstone-Bender complex, 15 to 35 percent slopes, extremely stony

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Coulstone—gravelly colluvium over sandy residuum weathered from sandstone; Bender—residuum weathered from sandstone
Slope shape: Convex

Composition

Coulstone and similar soils—55 percent
Bender and similar soils—35 percent
Minor components—10 percent
Lily and similar soils—north aspects
Lithic soils—south aspects and steeper areas adjacent to streams

Soil Properties and Qualities

Depth to bedrock: Coulstone—very deep (more than 60 inches); Bender—moderately deep (20 to 40 inches)
Runoff: Very high
Percent area covered by surface coarse fragments: 3 to 15 (subangular stones)
Depth to restrictive feature (bedrock (lithic): Coulstone—61 to 80 inches; Bender—20 to 40 inches
Flooding: None
Water table: None
Drainage class: Somewhat excessively drained

Typical Profile

Coulstone

A—0 to 4 inches; very gravelly fine sandy loam
E—4 to 24 inches; extremely gravelly sandy loam and very gravelly fine sandy loam
Bt1—24 to 39 inches; very stony sandy loam
2Bt2—39 to 61 inches; gravelly sandy clay loam
2R—61 to 80 inches; bedrock

Bender

A—0 to 2 inches; very gravelly sandy loam
E—2 to 14 inches; extremely gravelly fine sandy loam
Bt—14 to 27 inches; very gravelly sandy loam
2R—27 to 80 inches; bedrock

73274—Scholten very gravelly silt loam, 3 to 15 percent slopes

Setting

Landform: Ridge
Position on the landform: Shoulder and summit
Parent material: Colluvium over residuum weathered from dolostone
Slope shape: Convex

Composition

Scholten and similar soils—90 percent
Minor components—10 percent
Gravois and similar soils—wider more stable areas
Rueter and similar soils—steeper heads of drains

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Very high
Depth to restrictive feature (fragipan): 18 to 27 inches
Flooding: None
Water table: 18 to 24 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 7 inches; very gravelly silt loam
Bt—7 to 21 inches; extremely gravelly silt loam
2Btx—21 to 33 inches; extremely gravelly silt loam and gravelly clay loam
3Bt—33 to 63 inches; very gravelly clay and extremely gravelly clay

73275—Gravois-Goss complex, 3 to 15 percent slopes, stony

Setting

Landform: Hill
Position on the landform: Summit and shoulder
Parent material: Gravois—fine-silty loess over residuum weathered from dolostone; Goss—gravelly colluvium over residuum weathered from cherty dolostone
Slope shape: Convex

Composition

Gravois and similar soils—50 percent
Goss and similar soils—40 percent
Minor components—10 percent
Crider and similar soils—similar landforms
Hildebrecht and similar soils—similar landforms

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Percent area covered by surface coarse fragments: Gravois—0; Goss—0.01 to 0.10 (subrounded stones)
Depth to restrictive feature (dense material): Gravois—18 to 40 inches; Goss—none
Flooding: None
Water table: Gravois—18 to 36 inches; Goss—none
Drainage class: Gravois—moderately well drained; Goss—well drained

Typical Profile

Gravois

Ap—0 to 6 inches; silt loam
Bt—6 to 25 inches; silty clay loam
2Btx—25 to 35 inches; silty clay loam
3Bt1—35 to 50 inches; very gravelly silty clay loam
4Bt2—50 to 80 inches; very cobbly clay

Goss

A—0 to 3 inches; gravelly silt loam
E—3 to 18 inches; very gravelly silt loam
2Bt—18 to 80 inches; extremely gravelly clay

73276—Rueter-Hildebrecht complex, 3 to 15 percent slopes, stony

Setting

Landform: Ridge
Position on the landform: Rueter—shoulder and summit; Hildebrecht—summit
Parent material: Rueter—gravelly colluvium over residuum weathered from dolostone; Hildebrecht—fine-silty loess over residuum weathered from dolostone
Slope shape: Convex

Composition

Rueter and similar soils—50 percent
Hildebrecht and similar soils—40 percent
Minor components—10 percent
Crider and similar soils—ridge ends
Gravois and similar soils—similar landforms

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Rueter—medium; Hildebrecht—high
Percent area covered by surface coarse fragments: Rueter—0.01 to 0.10 (subrounded stones); Hildebrecht—0
Depth to restrictive feature (fragipan): Rueter—none; Hildebrecht—24 to 36 inches
Flooding: None
Water table: Rueter—none; Hildebrecht—18 to 24 inches
Drainage class: Rueter—somewhat excessively drained; Hildebrecht—moderately well drained

Typical Profile

Rueter

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

Hildebrecht

A—0 to 5 inches; silt loam
Bt—5 to 25 inches; silty clay loam
2Btx—25 to 39 inches; extremely gravelly silt loam
3Bt—39 to 80 inches; very gravelly clay

73277—Goss gravelly silt loam, 3 to 15 percent slopes, stony

Setting

Landform: Hill
Position on the landform: Shoulder, summit, and backslope
Parent material: Gravelly colluvium over residuum weathered from cherty dolostone
Slope shape: Convex

Composition

Goss and similar soils—80 percent

Minor components—20 percent
Hildebrecht and similar soils—wider linear ridges
Sonsac and similar soils—south-facing shoulders, saddles, and heads of drains

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Percent area covered by surface coarse fragments: 0.01 to 0.10 (subrounded stones)
Flooding: None
Water table: None
Drainage class: Well drained

Typical Profile

A—0 to 3 inches; gravelly silt loam
E—3 to 18 inches; very gravelly silt loam
2Bt—18 to 80 inches; extremely gravelly clay

73278—Rueter very gravelly silt loam, 35 to 65 percent slopes, very stony

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Gravelly colluvium over residuum weathered from dolostone
Slope shape: Convex

Composition

Rueter and similar soils—90 percent
Minor components—10 percent
Non-skeletal soils—north aspects

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Medium
Percent area covered by surface coarse fragments: 0.10 to 3.0 (subrounded stones)
Flooding: None
Water table: None
Drainage class: Somewhat excessively drained

Typical Profile

A—0 to 3 inches; very gravelly silt loam
E—3 to 23 inches; very gravelly silt loam
Bt1—23 to 50 inches; very gravelly silt loam
2Bt2—50 to 80 inches; gravelly clay loam

73279—Sonsac-Moko-Rock outcrop complex, 15 to 50 percent slopes, extremely stony

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Sonsac—gravelly colluvium over residuum weathered from cherty dolostone; Moko—residuum weathered from dolostone; Rock outcrop—no data
Slope shape: Convex

Composition

Sonsac and similar soils—45 percent
Moko and similar soils—30 percent
Rock outcrop—15 percent
Minor components—10 percent
Alred and similar soils—upper backslopes
Caneyville and similar soils—north aspects

Soil Properties and Qualities

Depth to bedrock: Sonsac—moderately deep (20 to 40 inches); Moko—very shallow and shallow (4 to 20 inches); Rock outcrop—no data
Runoff: Very high
Percent area covered by surface coarse fragments: Sonsac—3 to 15 (subangular stones); Moko—3 to 15 (subrounded stones); Rock outcrop—no data
Depth to restrictive feature (bedrock (lithic): Sonsac—20 to 40 inches; Moko—4 to 20 inches; Rock outcrop—no data
Flooding: None
Water table: None
Drainage class: Sonsac and Moko—well drained; Rock outcrop—none

Typical Profile

Sonsac

A—0 to 3 inches; extremely gravelly silt loam
E—3 to 6 inches; extremely gravelly silt loam
Bt1—6 to 10 inches; very gravelly silty clay loam
2Bt2—10 to 32 inches; very gravelly clay
2R—32 to 60 inches; bedrock

Moko

A1—0 to 8 inches; very gravelly clay loam
A2—8 to 14 inches; extremely gravelly silt loam
R—14 to 60 inches; bedrock

73280—Alred very gravelly silt loam, 3 to 15 percent slopes, very stony

Setting

Landform: Ridge
Position on the landform: Summit and shoulder
Parent material: Gravelly colluvium over residuum weathered from dolostone
Slope shape: Convex

Composition

Alred and similar soils—90 percent
Minor components—10 percent
Gravois and similar soils—wider linear ridges
Sonsac and similar soils—step down ridge ends

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Percent area covered by surface coarse fragments: 0.10 to 3.0 (subrounded stones)
Depth to restrictive feature (strongly contrasting textural stratification): 15 to 39 inches
Flooding: None
Water table: None
Drainage class: Well drained

Typical Profile

A—0 to 3 inches; very gravelly silt loam
E—3 to 15 inches; very gravelly silt loam
Bt1—15 to 21 inches; very gravelly silt loam
2Bt2—21 to 80 inches; clay and gravelly clay

73281—Hobson silt loam, 3 to 15 percent slopes

Setting

Landform: Hill
Position on the landform: Backslope, shoulder, and summit
Parent material: Fine-loamy colluvium over residuum
Slope shape: Convex

Composition

Hobson and similar soils—90 percent
Minor components—10 percent
Alred and similar soils—lower backslopes
Bender and similar soils—in drains
Lily and similar soils—slope breaks

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Depth to restrictive feature: 18 to 27 inches (fragipan); 61 to 80 inches (bedrock (lithic)
Flooding: None
Water table: 18 to 24 inches
Drainage class: Moderately well drained

Typical Profile

A—0 to 2 inches; silt loam
E—2 to 7 inches; silt loam
Bt—7 to 26 inches; silty clay loam
2Btx—26 to 45 inches; extremely gravelly loam
3Bt—45 to 64 inches; very cobbly clay
3R—64 to 80 inches; bedrock

73282—Alred-Sonsac complex, 15 to 35 percent slopes, very stony, very rocky

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Alred—gravelly colluvium over residuum weathered from dolostone; Sonsac—gravelly colluvium over residuum weathered from cherty dolostone
Slope shape: Convex

Composition

Alred and similar soils—45 percent
Sonsac and similar soils—40 percent
Rock outcrop—5 percent
Minor components—10 percent
Gravois and similar soils—north aspects
Moko and similar soils—steeper areas adjacent to streams
Useful and similar soils—north aspects

Soil Properties and Qualities

Depth to bedrock: Alred—very deep (more than 60 inches); Sonsac—moderately deep (20 to 40 inches)
Runoff: Very high
Percent area covered by surface coarse fragments: 0.10 to 3.0 (subrounded stones)
Depth to restrictive feature: Alred—15 to 39 inches (strongly contrasting textural stratification); Sonsac—20 to 40 inches (bedrock (lithic)
Flooding: None
Water table: None
Drainage class: Well drained

Typical Profile

Alred

A—0 to 3 inches; very gravelly silt loam
E—3 to 15 inches; very gravelly silt loam
Bt1—15 to 21 inches; very gravelly silt loam
2Bt2—21 to 80 inches; clay and gravelly clay

Sonsac

A—0 to 3 inches; gravelly silt loam
E—3 to 8 inches; very gravelly silt loam
Bt1—8 to 11 inches; very gravelly silt loam
2Bt2—11 to 32 inches; very gravelly clay
2R—32 to 60 inches; bedrock

73283—Courtois silt loam, 3 to 8 percent slopes, eroded

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Loess over residuum weathered from dolostone
Slope shape: Convex

Composition

Courtois and similar soils—90 percent
Minor components—10 percent
Caneyville and similar soils—lower backslopes adjacent to streams
Gravois and similar soils—wider linear areas
Hartville and similar soils—concave lower backslopes

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Low
Flooding: None
Water table: None
Drainage class: Well drained

Typical Profile

Ap—0 to 4 inches; silt loam
Bt1—4 to 13 inches; silty clay loam
2Bt2—13 to 80 inches; silty clay loam

73284—Courtois-Goss complex, 8 to 15 percent slopes

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Courtois—loess over residuum weathered from dolostone; Goss—gravelly colluvium over residuum weathered from cherty dolostone
Slope shape: Convex

Composition

Courtois and similar soils—50 percent
Goss and similar soils—40 percent
Minor components—10 percent
Gravois and similar soils—wider linear ridges
Sonsac and similar soils—steeper areas adjacent to streams

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Courtois—low; Goss—medium
Flooding: None
Water table: None
Drainage class: Well drained

Typical Profile

Courtois

Ap—0 to 4 inches; silt loam
BE—4 to 8 inches; silt loam
Bt1—8 to 24 inches; silty clay loam
2Bt2—24 to 80 inches; gravelly clay

Goss

A—0 to 3 inches; gravelly silt loam
E—3 to 18 inches; very gravelly silt loam
2Bt—18 to 80 inches; extremely gravelly clay

73285—Useful-Courtois complex, 3 to 8 percent slopes

Setting

Landform: Hill
Position on the landform: Summit
Parent material: Loess over residuum weathered from dolostone
Slope shape: Convex

Composition

Useful and similar soils—50 percent
Courtois and similar soils—40 percent
Minor components—10 percent
Caneyville and similar soils—south aspects and steeper heads of drains
Sonsac and similar soils—narrow ridges and knobs

Soil Properties and Qualities

Depth to bedrock: Useful—deep (40 to 60 inches); Courtois—very deep (more than 60 inches)
Runoff: Useful—high; Courtois—low
Depth to restrictive feature (bedrock (lithic): Useful—40 to 59 inches; Courtois—none
Flooding: None
Water table: Useful—24 to 42 inches; Courtois—none
Drainage class: Useful—moderately well drained; Courtois—well drained

Typical Profile

Useful

Ap—0 to 8 inches; silt loam
Bt1—8 to 13 inches; silt loam
2Bt2—13 to 47 inches; clay
2R—47 to 80 inches; bedrock

Courtois

Ap—0 to 6 inches; silt loam
Bt1—6 to 24 inches; silty clay loam
2Bt2—24 to 80 inches; gravelly clay

73286—Useful-Courtois complex, 8 to 15 percent slopes, eroded

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Loess over residuum weathered from dolostone
Slope shape: Convex

Composition

Useful and similar soils—50 percent
Courtois and similar soils—40 percent
Minor components—10 percent
Caneyville and similar soils—south aspects and concave areas
Sonsac and similar soils—ridge ends and knobs
Moko and similar soils—steeper areas adjacent to streams

Soil Properties and Qualities

Depth to bedrock: Useful—deep (40 to 60 inches); Courtois—very deep (more than 60 inches)
Runoff: High
Depth to restrictive feature (bedrock (lithic): Useful—40 to 59 inches; Courtois—none
Flooding: None
Water table: Useful—24 to 42 inches; Courtois—none
Drainage class: Useful—moderately well drained; Courtois—well drained

Typical Profile

Useful

Ap—0 to 6 inches; silt loam
Bt1—6 to 12 inches; silty clay loam
2Bt2—12 to 59 inches; silty clay
2R—59 to 80 inches; bedrock

Courtois

Ap—0 to 6 inches; silt loam
Bt1—6 to 25 inches; silty clay loam
2Bt2—25 to 80 inches; clay

73287—Useful-Sonsac complex, 15 to 35 percent slopes, eroded

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Useful—loess over residuum weathered from dolostone; Sonsac—gravelly colluvium over residuum weathered from cherty dolostone
Slope shape: Convex

Composition

Useful and similar soils—50 percent
Sonsac and similar soils—40 percent
Minor components—10 percent
Caneyville and similar soils—heads of drains with north aspects
Courtois and similar soils—lower less sloping backslopes
Moko and similar soils—steeper areas adjacent to streams

Soil Properties and Qualities

Depth to bedrock: Useful—deep (40 to 60 inches); Sonsac—moderately deep (20 to 40 inches)
Runoff: Very high
Percent area covered by surface coarse fragments: Useful—0; Sonsac—0.01 to 0.10 (subrounded stones)
Depth to restrictive feature (bedrock (lithic): Useful—40 to 59 inches; Sonsac—20 to 40 inches
Flooding: None
Water table: Useful—24 to 42 inches; Sonsac—none
Drainage class: Useful—moderately well drained; Sonsac—well drained

Typical Profile

Useful

Ap—0 to 6 inches; silt loam
Bt1—6 to 12 inches; silty clay loam
2Bt2—12 to 59 inches; silty clay
2R—59 to 80 inches; bedrock

Sonsac

A—0 to 4 inches; silty clay loam
2Bt2—4 to 38 inches; very gravelly clay
2R—38 to 60 inches; bedrock

73288—Caneyville-Rock outcrop complex, 8 to 15 percent slopes

Setting

Landform: Hill
Position on the landform: Backslope
Parent material: Caneyville—loess over residuum weathered from dolostone; Rock outcrop—no data
Slope shape: Convex

Composition

Caneyville and similar soils—65 percent
Rock outcrop—15 percent
Minor components—20 percent
Moko and similar soils—lower steeper areas and shoulders
Sonsac and similar soil—areas adjacent to drainageways
Useful and similar soils—wider ridges and north aspects

Soil Properties and Qualities

Depth to bedrock: Caneyville—moderately deep (20 to 40 inches); Rock outcrop—no data
Runoff: Caneyville—high; Rock outcrop—very high
Depth to restrictive feature (bedrock (lithic): Caneyville—20 to 40 inches; Rock outcrop—no data
Flooding: None
Water table: None
Drainage class: Caneyville—well drained; Rock outcrop—none

Typical Profile

Caneyville

Ap—0 to 6 inches; silt loam
BE—6 to 11 inches; silt loam
2Bt1—11 to 17 inches; silty clay loam
2Bt2—17 to 30 inches; silty clay
2R—30 to 60 inches; bedrock

73289—Fourche silt loam, 3 to 15 percent slopes

Setting

Landform: Hill
Position on the landform: Footslope
Parent material: Fine-silty loess over residuum weathered from dolostone
Slope shape: Convex

Composition

Fourche and similar soils—85 percent
Minor components—15 percent
Alred and similar soils—upper edges of units
Gravois and similar soils—less sloping linear areas
Lecoma and similar soils—below sandstone units
Sonsac and similar soils—steeper areas adjacent to streams
Useful and similar soils—steeper areas
Waben and similar soils—alluvial fans

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: High
Flooding: None
Water table: 18 to 36 inches
Drainage class: Moderately well drained

Typical Profile

Ap—0 to 8 inches; silt loam
Bt—8 to 20 inches; silty clay loam
2Bt/E—20 to 27 inches; silty clay loam (2Bt) and silt loam (E)
2Bt—27 to 80 inches; silty clay loam

74634—Hartville silt loam, 3 to 8 percent slopes

Setting

Landform: Hill
Position on the landform: Footslope
Parent material: Clayey colluvium
Slope shape: Concave

Composition

Hartville and similar soils—90 percent

Minor components—10 percent
- Deible and similar soils—less sloping wider areas
- Fourche and similar soils—along perimeter of map units
- Gravois and similar soils—smaller ridges and undulating areas

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Very high
Flooding: None
Water table: 12 to 24 inches
Drainage class: Somewhat poorly drained

Typical Profile

Ap—0 to 7 inches; silt loam
BE—7 to 12 inches; silt loam
Bt1—12 to 48 inches; silty clay loam
2Bt2—48 to 80 inches; silty clay loam

74650—Higdon silt loam, 0 to 3 percent slopes, occasionally flooded

Setting

Landform: Stream terrace
Position on the landform: Tread
Parent material: Fine-silty alluvium
Slope shape: Linear

Composition

Higdon and similar soils—90 percent
Minor components—10 percent
- Cedargap and similar soils—adjacent to stream channels
- Gabriel and similar soils—concave areas
- Razort and similar soils—convex areas and steeper areas

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Low
Flooding: Occasional
Water table: 12 to 30 inches
Drainage class: Somewhat poorly drained

Typical Profile

Ap—0 to 10 inches; silt loam
E—10 to 19 inches; silt loam
Bt—19 to 80 inches; silty clay loam

74652—Lecoma silt loam, 1 to 8 percent slopes

Setting

Landform: Hill
Position on the landform: Footslope
Parent material: Fine-loamy colluvium
Slope shape: Linear

Composition

Lecoma and similar soils—85 percent
Minor components—15 percent
- Coulstone and similar soils—upper edges of units
- Fourche and similar soils—linear areas
- Higdon and similar soils—less sloping concave areas

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Medium
Flooding: None
Water table: None
Drainage class: Well drained

Typical Profile

Ap—0 to 9 inches; silt loam
Bt1—9 to 31 inches; silt loam
2Bt2—31 to 60 inches; loam

74653—Racoon-Freeburg complex, 0 to 3 percent slopes, occasionally flooded

Setting

Landform: Stream terrace
Position on the landform: Tread
Parent material: Fine-silty alluvium
Slope shape: Linear

Composition

Racoon and similar soils—45 percent
Freeburg and similar soils—40 percent
Minor components—15 percent
- Gabriel and similar soils—concave areas
- Haymond and similar soils—adjacent to stream channels
- Horsecreek and similar soils—steeper convex areas of map unit

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Racoon—high; Freeburg—medium

Flooding: Occasional
Water table: Racoon—at the surface; Freeburg—12 to 30 inches
Drainage class: Racoon—poorly drained; Freeburg—somewhat poorly drained

Typical Profile

Racoon

Ap—0 to 6 inches; silt loam
Eg—6 to 26 inches; silt loam
Btg—26 to 60 inches; silty clay loam

Freeburg

Ap—0 to 9 inches; silt loam
BA—9 to 13 inches; silt loam
Bt—13 to 52 inches; silt loam
2BCg—52 to 80 inches; silty clay loam

74656—Deible silt loam, 1 to 5 percent slopes, rarely flooded

Setting

Landform: Stream terrace
Position on the landform: Tread
Parent material: Colluvium over alluvium
Slope shape: Concave

Composition

Deible and similar soils—85 percent
Minor components—15 percent
  Gabriel and similar soils—concave areas
  Hartville and similar soils—steeper convex areas
  Higdon and similar soils—along edges of map unit

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Very high
Depth to restrictive feature (abrupt textural change): 11 to 22 inches
Flooding: Rare
Water table: 0 to 12 inches
Drainage class: Poorly drained

Typical Profile

Ap—0 to 10 inches; silt loam
E—10 to 15 inches; silt loam
Btg1—15 to 37 inches; silty clay
2Btg2—37 to 80 inches; silty clay loam

74661—Waben gravelly loam, 3 to 8 percent slopes

Setting

Landform: Hill
Position on the landform: Footslope and alluvial fan
Parent material: Gravelly colluvium
Slope shape: Convex

Composition

Waben and similar soils—85 percent
Minor components—15 percent
  Bloomsdale and similar soils—along stream channels
  Fourche and similar soils—areas adjacent to side slopes
  Lecoma and similar soils—areas adjacent to side slopes

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Low
Flooding: None
Water table: None
Drainage class: Well drained

Typical Profile

Ap—0 to 6 inches; gravelly loam
Bt1—6 to 36 inches; very gravelly loam
Bt2—36 to 80 inches; loam

74662—Higdon silt loam, 2 to 5 percent slopes

Setting

Landform: Hill
Position on the landform: Footslope
Parent material: Fine-silty alluvium
Slope shape: Concave

Composition

Higdon and similar soils—90 percent
Minor components—10 percent
  Deible and similar soils—less sloping areas and concave areas
  Hartville and similar soils—wider linear areas
  Waben and similar soils—upper edges of map unit and below upland drainageways

Soil Properties and Qualities

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

Flooding: None
Water table: 12 to 30 inches
Drainage class: Somewhat poorly drained

Typical Profile

Ap—0 to 6 inches; silt loam
E—6 to 14 inches; silt loam
Bt1—14 to 26 inches; silty clay loam
2Bt2—26 to 80 inches; silty clay loam

75376—Cedargap gravelly silt loam, 0 to 3 percent slopes, frequently flooded

Setting

Landform: Flood plain
Position on the landform: Flood plain
Parent material: Gravelly alluvium
Slope shape: Linear

Composition

Cedargap and similar soils—90 percent
Minor components—10 percent
Bloomsdale and similar soils—upper edges of map units
Huzzah and similar soils—higher convex areas

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Low
Flooding: Frequent
Water table: 42 to 60 inches
Drainage class: Well drained

Typical Profile

Ap—0 to 9 inches; gravelly silt loam
A—9 to 18 inches; very gravelly loam
Bw1—18 to 49 inches; very gravelly sandy clay loam
2Bw2—49 to 60 inches; clay

75388—Kaintuck-Relfe complex, 0 to 3 percent slopes, frequently flooded

Setting

Landform: Flood plain
Position on the landform: Flood plain
Parent material: Kaintuck—coarse-loamy alluvium; Relfe—gravelly alluvium
Slope shape: Linear

Composition

Kaintuck and similar soils—45 percent
Relfe and similar soils—40 percent
Minor components—15 percent
Cedargap and similar soils—adjacent to main channels
Huzzah and similar soils—higher convex areas

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Very low
Flooding: Frequent
Water table: None
Drainage class: Kaintuck—well drained; Relfe—excessively drained

Typical Profile

Kaintuck

Ap—0 to 6 inches; fine sandy loam
C—6 to 80 inches; stratified silt loam to fine sand

Relfe

Ap—0 to 6 inches; very gravelly sandy loam
C—6 to 60 inches; extremely gravelly loamy coarse sand

75398—Kaintuck fine sandy loam, 0 to 3 percent slopes, frequently flooded

Setting

Landform: Flood plain
Position on the landform: Flood plain
Parent material: Coarse-loamy alluvium
Slope shape: Linear

Composition

Kaintuck and similar soils—85 percent
Minor components—15 percent
Haymond and similar soils—higher areas
Horsecreek and similar soils—stream terraces
Relfe and similar soils—along stream channels
Sturkie and similar soils—stream terraces

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Very low
Flooding: Frequent
Water table: None
Drainage class: Well drained

Typical Profile

Ap—0 to 6 inches; fine sandy loam
C—6 to 80 inches; stratified silt loam to fine sand

75412—Razort silt loam, 0 to 3 percent slopes, occasionally flooded

Setting

Landform: Stream terrace
Position on the landform: Tread
Parent material: Loamy alluvium
Slope shape: Convex

Composition

Razort and similar soils—90 percent
Minor components—10 percent
Cedargap and similar soils—along stream channels
Higdon and similar soils—higher linear terraces

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Low
Flooding: Occasional
Water table: None
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

75413—Relfe very gravelly sandy loam, 0 to 3 percent slopes, frequently flooded

Setting

Landform: Flood plain
Position on the landform: Flood plain
Parent material: Gravelly alluvium
Slope shape: Linear

Composition

Relfe and similar soils—90 percent
Minor components—10 percent
Kaintuck and similar soils—similar landforms
Sand and gravel bars—areas adjacent to streams

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Very low
Flooding: Frequent
Water table: None
Drainage class: Excessively drained

Typical Profile

Ap—0 to 6 inches; very gravelly sandy loam
C—6 to 60 inches; extremely gravelly loamy coarse sand

75427—Gabriel silt loam, 0 to 3 percent slopes, occasionally flooded, gravelly substratum phase

Setting

Landform: Stream terrace
Position on the landform: Tread
Parent material: Fine-silty alluvium
Slope shape: Concave

Composition

Gabriel and similar soils—85 percent
Minor components—15 percent
Freeburg and similar soils—convex areas
Horsecreek and similar soils—convex steeper areas on perimeter of map units
Racoon and similar soils—similar landforms

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Medium
Flooding: Occasional
Water table: 12 to 30 inches
Drainage class: Poorly drained

Typical Profile

Ap—0 to 9 inches; silt loam
Btg1—9 to 42 inches; silty clay loam
2Btg2—42 to 62 inches; clay loam
2Btg3—62 to 80 inches; very gravelly clay loam

75450—Bloomsdale silt loam, 0 to 3 percent slopes, frequently flooded

Setting

Landform: Flood plain
Position on the landform: Flood plain
Parent material: Gravelly alluvium
Slope shape: Linear

Composition

Bloomsdale and similar soils—85 percent
Minor components—15 percent
Higdon and similar soils—higher concave stream terraces

Razort and similar soils—higher convex stream terraces
Waben and similar soils—upper drainageways and alluvial fans

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Low
Flooding: Frequent
Water table: None
Drainage class: Well drained

Typical Profile

A—0 to 20 inches; silt loam
2Bw—20 to 32 inches; stratified very gravelly coarse sandy loam to very gravelly loam to very gravelly clay loam
3Bt—32 to 80 inches; extremely gravelly clay loam

75453—Sturkie silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Stream terrace
Position on the landform: Tread
Parent material: Fine-silty alluvium
Slope shape: Linear

Composition

Sturkie and similar soils—90 percent
Minor components—10 percent
Freeburg and similar soils—concave areas
Haymond and similar soils—along stream channels and edges of map units
Huzzah and similar soils—along stream channels and edges of map units
Kaintuck and similar soils—along stream channels

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Low
Flooding: Occasional
Water table: None
Drainage class: Well drained

Typical Profile

Ap—0 to 8 inches; silt loam
A—8 to 28 inches; silt loam
Bw—28 to 80 inches; silt loam

75459—Huzzah silt loam, 0 to 3 percent slopes, frequently flooded

Setting

Landform: Flood plain
Position on the landform: Flood plain
Parent material: Coarse-loamy alluvium
Slope shape: Linear

Composition

Huzzah and similar soils—90 percent
Minor components—10 percent
Cedargap and similar soils—along small stream channels
Kaintuck and similar soils—similar landforms
Relfe and similar soils— along stream channels

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Low
Flooding: Frequent
Water table: None
Drainage class: Well drained

Typical Profile

A—0 to 38 inches; silt loam
Bw—38 to 80 inches; fine sandy loam

75460—Horsecreek silt loam, 0 to 3 percent slopes, occasionally flooded, wet substratum phase

Setting

Landform: Stream terrace
Position on the landform: Tread
Parent material: Fine-silty alluvium
Slope shape: Linear

Composition

Horsecreek and similar soils—88 percent
Minor components—12 percent
Freeburg and similar soils—linear areas
Haymond and similar soils—along stream channels
Racoon and similar soils—concave areas

Soil Properties and Qualities

Depth to bedrock: Very deep (more than 60 inches)
Runoff: Low
Flooding: Occasional
Water table: 48 to 72 inches
Drainage class: Well drained

Typical Profile

Ap—0 to 8 inches; silt loam
Bt—8 to 60 inches; silt loam

99000—Pits, quarries

Composition

Pits, quarries—95 percent
Minor components—5 percent
Processed/stockpiled stone

99001—Water

Setting

Landform: Ponds, lakes, and streams

99003—Miscellaneous water

Composition

Miscellaneous sewage lagoons—100 percent

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
66014	Haymond silt loam, 0 to 3 percent slopes, frequently flooded	1,821	0.4
70028	Moko-Rock outcrop complex, 3 to 15 percent slopes, very stony	264	*
73012	Gravois silt loam, 3 to 8 percent slopes	2,391	0.5
73032	Gatewood very gravelly silt loam, 3 to 15 percent slopes, stony	750	0.2
73035	Gravois silt loam, 8 to 15 percent slopes	8,031	1.7
73039	Glensted silt loam, 1 to 3 percent slopes	677	0.1
73053	Lily-Bender complex, 3 to 15 percent slopes	23,280	4.9
73066	Bender very cobbly fine sandy loam, 3 to 15 percent slopes, stony	13,137	2.8
73067	Bender-Rock outcrop complex, 15 to 35 percent slopes, very stony	8,185	1.7
73089	Rueter very gravelly silt loam, 15 to 35 percent slopes, very stony	30,035	6.3
73094	Gatewood very gravelly silt loam, 15 to 35 percent slopes, stony	988	0.2
73098	Plato silt loam, 1 to 3 percent slopes	3,413	0.7
73135	Union silt loam, 3 to 8 percent slopes	29,479	6.2
73136	Union silt loam, 1 to 3 percent slopes	938	0.2
73159	Yelton silt loam, 3 to 8 percent slopes	269	*
73162	Alred-Rueter complex, 15 to 35 percent slopes, very stony	46,785	9.8
73164	Bender-Rock outcrop complex, 35 to 65 percent slopes, extremely stony	610	0.1
73166	Viburnum-Tonti complex, 1 to 8 percent slopes	3,896	0.8
73168	Swiss gravelly silt loam, 3 to 15 percent slopes, stony	12,469	2.6
73169	Beemont-Gatewood complex, 15 to 35 percent slopes, stony	5,692	1.2
73170	Beemont-Gatewood complex, 3 to 15 percent slopes, stony	16,179	3.4
73171	Plato silty clay loam, 3 to 8 percent slopes, eroded	3,924	0.8
73172	Rosati silt loam, 1 to 5 percent slopes	509	0.1
73173	Lily-Yelton complex, 3 to 8 percent slopes	22,464	4.7
73174	Lily-Yelton complex, 8 to 15 percent slopes	3,956	0.8
73175	Poynor-Bendavis complex, 1 to 8 percent slopes	353	*
73176	Bendavis-Poynor complex, 8 to 15 percent slopes, stony	372	*
73181	Useful-Gatewood complex, 8 to 15 percent slopes	1,748	0.4
73200	Sonsac gravelly silt loam, 3 to 15 percent slopes, very stony	1,933	0.4
73210	Goss very cobbly silt loam, 15 to 50 percent slopes, extremely stony	13,029	2.7
73214	Moko-Rock outcrop complex, 15 to 50 percent slopes, extremely stony	1,486	0.3
73215	Crider silt loam, 3 to 8 percent slopes	114	*
73271	Moko-Rock outcrop complex, 50 to 90 percent slopes, extremely stony	1,443	0.3
73272	Hildebrecht silt loam, 3 to 8 percent slopes	3,767	0.8
73273	Coulstone-Bender complex, 15 to 35 percent slopes, extremely stony	23,457	4.9
73274	Scholten very gravelly silt loam, 3 to 15 percent slopes	494	0.1
73275	Gravois-Goss complex, 3 to 15 percent slopes, stony	14,299	3.0
73276	Rueter-Hildebrecht complex, 3 to 15 percent slopes, stony	15,494	3.3
73277	Goss gravelly silt loam, 3 to 15 percent slopes, stony	12,861	2.7
73278	Rueter very gravelly silt loam, 35 to 65 percent slopes, very stony	2,565	0.5
73279	Sonsac-Moko-Rock outcrop complex, 15 to 50 percent slopes, extremely stony	6,124	1.3
73280	Alred very gravelly silt loam, 3 to 15 percent slopes, very stony	14,419	3.0
73281	Hobson silt loam, 3 to 15 percent slopes	4,597	1.0
73282	Alred-Sonsac complex, 15 to 35 percent slopes, very stony, very rocky	34,357	7.2
73283	Courtois silt loam, 3 to 8 percent slopes, eroded	178	*
73284	Courtois-Goss complex, 8 to 15 percent slopes	1,422	0.3
73285	Useful-Courtois complex, 3 to 8 percent slopes	888	0.2
73286	Useful-Courtois complex, 8 to 15 percent slopes, eroded	4,140	0.9
73287	Useful-Sonsac complex, 15 to 35 percent slopes, eroded	683	0.1
73288	Caneyville-Rock outcrop complex, 8 to 15 percent slopes	734	0.2
73289	Fourche silt loam, 3 to 15 percent slopes	6,438	1.4
74634	Hartville silt loam, 3 to 8 percent slopes	3,144	0.7
74650	Higdon silt loam, 0 to 3 percent slopes, occasionally flooded	413	*
74652	Lecoma silt loam, 1 to 8 percent slopes	3,004	0.6
74653	Racoon-Freeburg complex, 0 to 3 percent slopes, occasionally flooded	5,187	1.1
74656	Deible silt loam, 1 to 5 percent slopes, rarely flooded	941	0.2
74661	Waben gravelly loam, 3 to 8 percent slopes	937	0.2
74662	Higdon silt loam, 2 to 5 percent slopes	1,067	0.2
75376	Cedargap gravelly silt loam, 0 to 3 percent slopes, frequently flooded	12,261	2.6
75388	Kaintuck-Relfe complex, 0 to 3 percent slopes, frequently flooded	19,544	4.1
75398	Kaintuck fine sandy loam, 0 to 3 percent slopes, frequently flooded	888	0.2

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
75412	Razort silt loam, 0 to 3 percent slopes, occasionally flooded	8,102	1.7
75413	Relfe very gravelly sandy loam, 0 to 3 percent slopes, frequently flooded	535	0.1
75427	Gabriel silt loam, 0 to 3 percent slopes, occasionally flooded, gravelly substratum phase	462	*
75450	Bloomsdale silt loam, 0 to 3 percent slopes, frequently flooded	1,614	0.3
75453	Sturkie silt loam, 0 to 2 percent slopes, occasionally flooded	863	0.2
75459	Huzzah silt loam, 0 to 3 percent slopes, frequently flooded	5,133	1.1
75460	Horsecreek silt loam, 0 to 3 percent slopes, occasionally flooded, wet substratum phase	2,246	0.5
99000	Pits, quarries	110	*
99001	Water	1,879	0.4
99003	Miscellaneous water	5	*
	Total	475,872	100.0

* Less than 0.1 percent.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. 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 24,940 acres in the survey area, or nearly 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 at the back of this publication. 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 Crawford County are:

66014 Haymond silt loam, 0 to 3 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
73039 Glensted silt loam, 1 to 3 percent slopes (where drained)
73098 Plato silt loam, 1 to 3 percent slopes
73136 Union silt loam, 1 to 3 percent slopes
73172 Rosati silt loam, 1 to 5 percent slopes
74650 Higdon silt loam, 0 to 3 percent slopes, occasionally flooded
74653 Racoon-Freeburg complex, 0 to 3 percent slopes, occasionally flooded (where drained)
74656 Deible silt loam, 1 to 5 percent slopes, rarely flooded (where drained)
74662 Higdon silt loam, 2 to 5 percent slopes
75398 Kaintuck fine sandy loam, 0 to 3 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
75412 Razort silt loam, 0 to 3 percent slopes, occasionally flooded

75427 Gabriel silt loam, 0 to 3 percent slopes, occasionally flooded, gravelly substratum phase (where drained)
75450 Bloomsdale silt loam, 0 to 3 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
75453 Sturkie silt loam, 0 to 2 percent slopes, occasionally flooded
75459 Huzzah silt loam, 0 to 3 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
75460 Horsecreek silt loam, 0 to 3 percent slopes, occasionally flooded, wet substratum phase

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 rangeland and woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; 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 in all or part of the survey area. 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 sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

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

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited 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 materials.

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

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; the system of land capability classification used by the Natural Resources Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

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 1992, approximately 105,265 acres in Crawford County was used as grassland. About 366,343 acres was used as woodland (Missouri Resource Assessment Partnership, 1992). About 5 percent (24,940 acres) of the county is prime farmland. Of that, less than 1 percent is used for cultivated cropland. An additional 31 percent (146,853 acres) is less than prime, but still of statewide importance.

Field crops are not extensive in Crawford County (Missouri Agricultural Statistics Service, 2000). Many areas are used for grass-legume pasture and hay. Production can be increased by use of the latest agricultural technology. This survey can facilitate the application of such technology. About 24,940 acres in the county occurs as level to very gently sloping soils that are not frequently flooded and that may be suitable for intensive cultivation. Trees have been cleared from most of this acreage.

Cropland Erosion

Soil erosion is the major hazard on nearly all sloping cropland and overgrazed pastureland in Crawford County. All soils that have slopes greater than 2 percent are susceptible to damage from erosion.

Soil erosion results in the gradual loss of the surface layer, which reduces productivity. Erosion is especially damaging in areas of soils that have a clayey subsoil that becomes mixed with the plow layer. Good seedbed preparation and germination rates become increasingly difficult to achieve. Courtois, Glensted, Hartville, Plato, and Union soils are erodible and have a clayey subsoil. Clayey areas resulting from erosion make tillage and seedbed preparation difficult. Erosion also reduces the productivity of soils that have a restricted rooting depth caused by dense layers in the subsoil or by bedrock. Bendavis, Bender, Gatewood, Gravois, Lily, Moko, Plato, Sonsac, Union, and Yelton soils are examples. Erosion in areas of these soils effectively reduces the volume of soil available to supply water and nutrients for plants.

Erosion also removes valuable slow-release nutrients in the topsoil. The nutrients in one ton of topsoil are worth about $5 or $6 (1990 value). At that rate, unprotected upland crop fields can lose $200 to $240 worth of nutrients each year.

Soil erosion on farmland results in the sedimentation of streams, lakes, ponds, and road ditches (fig. 7). Controlling this erosion minimizes the pollution of streams by sediment and collateral pesticides and thus improves the quality of water for municipal use, recreation, and fish and wildlife. Minimizing the sedimentation also prolongs the useful life of ponds, lakes, and roadside ditches.

Erosion-Control Practices

Erosion control practices provide protective surface cover, reduce runoff, and increase the rate of water infiltration. A cropping system that keeps vegetative cover or residue on the soil surface can hold erosion losses to amounts that will not reduce the productive capacity of the soil. Growing grasses and legumes for pasture and hay is very effective in controlling erosion. Including grasses and legumes in the crop rotation also improves tilth and provide nitrogen for the following crop.

Significant reductions in soil loss can be accomplished by basic management techniques. Farming on the contour reduces soil loss by as much as 50 percent. Conservation tillage is a management practice in which the amount of tillage is reduced or changed so that at least 30 percent of the soil surface is covered with residue after the crop is planted. The residue controls erosion by buffering the impact of raindrops, which can dislodge unprotected topsoil. Also, reducing the runoff rate minimizes the removal of soil particles from the field. The effectiveness of this system increases as larger amounts of residue on the soil surface. Conservation tillage is well suited to all of the upland soils that are commonly used for row crops. No-till farming is a practice that eliminates tillage operations entirely and leaves nearly all the crop residue on the soil surface. For some farmers in the county, this practice has become a cornerstone of their conservation efforts. Other benefits of no-till farming include less expenditure for equipment, less soil compaction, timesaving at planting time, conservation of soil moisture, and fuel savings.

The large amounts of residue left on the surface when no-till farming is practiced also shield the soil from sunshine and thus reduce the evaporation rate. This reduction is an asset in the summer during droughty periods, but it tends to delay warming and drying of the soil in the spring. For this reason, no-till farming is best suited to deep or very deep,

Figure 7.—Without proper erosion-control practices, erosion is a hazard on many soils in Crawford County, such as this area of Courtois silt loam, 3 to 8 percent slopes, eroded.

moderately well drained or well drained soils that are not frequently flooded, such as Courtois, Crider, Horsecreek, Razort, and Union soils.

Contour stripcropping reduces the hazard of erosion because it involves the maintenance of contoured strips of permanent vegetation. The strips of grasses or legumes are usually used as hayland. The areas between the strips are cultivated, and row crops are planted on the contour. The strips of grasses or legumes minimize erosion and help to filter the sediment from runoff that would otherwise leave the field.

Terraces reduce the length of slopes and thus reduce the rate of runoff and the hazard of erosion. Broad-base terraces are most practical on uneroded upland soils that have smooth slopes less than 8 percent. Construction of grassed backslope or narrow-base terraces reduces the steepness of the slope because construction cuts are made from the downslope side. Construction of broad-base terraces actually increases the slope and makes additional erosion-control practices crucial. In areas of soils that have a clayey subsoil, such as Courtois, Glensted, Hartville, Plato, and Union soils, topsoiling may be required if terracing exposes the subsoil. Gravois and Hildebrect soils have similar intensive management needs because of a dense layer in the subsoil.

Vegetative buffer strips alongside drainageways and streams are effective in filtering sediment and pollutants from surface water before the flow becomes concentrated. These strips help to keep soil loss localized and thus reduce the damage and pollution associated with sedimentation. As a result, the quality of water is enhanced and protected.

Grade-stabilization structures are small water bodies of water that cover up gullied areas and prevent further uphill encroachment. These structures provide a stable place into which tile terrace outlets or grassed waterways can empty runoff from terraced fields. These structures can be used for livestock water and fire protection. They also trap sediment and thereby protect road ditches and water supplies.

Streambank erosion is a challenging problem on most streams and rivers in Crawford County. Smaller banks can often be stabilized by installation of revetments constructed from treetops. The process has proven to be effective in some cases, but is very labor-intensive. Riprap can be used with some success on larger banks, but is very expensive. Larger rivers require wing dams and other structures to control the force of the stream current. These modifications are extremely expensive and ordinarily require broad public support and funding.

Soil Wetness

Wetness and/or flood control are management concerns on about 72,707 acres in the county. Deible, Gabriel, and Racoon soils are naturally so wet that planting or harvesting is delayed or crop production is reduced in most years. Land grading or surface drainage may be needed on these soils.

In the past, drainage of wetland areas was unregulated and therefore occurred at the discretion of individual landowners. In recent years, however, legislation has been enacted recognizing the importance of wetlands to the total environment. The intent of these laws is to protect most existing wetlands from further degradation and to encourage redevelopment of areas that were formerly wetlands. Before any area that might be considered a wetland is altered, land users should make sure they are in compliance with existing laws. The Natural Resources Conservation Service can provide assistance in evaluating such compliance.

Flooding is a hazard in areas of Bloomsdale, Cedargap, Deible, Freeburg, Gabriel, Haymond, Higdon, Horsecreek, Huzzah, Kaintuck, Racoon, Razort, Relfe, and Sturkie soils (fig. 8).

Soil Fertility

Soil fertility is naturally low in most of the eroded and shallow soils in the survey area. All of the soils, however, need additional plant nutrients for maximum production. Excessive nutrient levels can adversely affect ground water and surface water quality. Knowledgeable expertise can help formulate nutrient management plans that optimize crop growth while protecting water quality.

Because most of the soils are naturally acidic in the upper part of the rooting zone, applications of lime are required to raise the pH and calcium level sufficiently for optimum growth of legumes. On all of the soils, additions of lime and fertilizer should be based on the results of soil tests, on the needs of the crop, and on the production level desired. The Cooperative Extension Service can help in determining these values. This soil survey can be a useful tool for identifying the location of contrasting soils for sampling.

Soil Tilth

Soil tilth affects seedbed preparation, seed germination, and water infiltration. Soils that have good tilth are granular and porous. Regular additions of organic matter help to maintain good tilth.

Most of the cultivated soils in the county have a surface layer of silt loam that is low or moderate in content of organic matter. If these soils are frequently cultivated, soil structure becomes weak and intense rainfall can cause the formation of a crust on the surface. The crust hardens when it dries. As a result, the rate of water infiltration is reduced, the runoff rate is increased, and inhibiting seedling emerges. Returning crop residue to the soil or regularly adding other organic material improves fertility, minimizes crusting, and increases the rate of water infiltration.

The bearing weight of machinery as it travels over the soil surface tends to compact the surface if the soil is moist or wet. This compaction reduces infiltration of water into the soil and makes the resulting seedbed less favorable for root penetration. Using machinery only during periods of optimum soil moisture minimizes the effects of compaction. Periodic deep tillage can improve existing compacted areas.

In times past, fall tillage was common. This practice provided tilth for spring planting, but the cultivation of the more sloping soils in the uplands resulted in serious soil losses. Such losses can be catastrophic when intense spring rains follow partial thawing of the bare, frozen surface layer. Planting winter cover crops and maintaining a cover crop residue on the surface can reduce the hazard of erosion and improve tilth.

Pasture and Hayland

A combination of different kinds of grasses and legumes is necessary to obtain maximum forage production for the climate in Crawford County. Cool temperatures in the spring and fall are favorable for the production of cool-season grasses. The hot summer months are more favorable for production of warm-season grasses. Both kinds of grasses are suitable for many of the soils of the survey area. Legumes are suitable for some of the soils in the county. A management system that includes cool-season grasses, warm-season grasses, and legumes takes advantage of the entire growing season for forage production.

Figure 8.—Flooding is a hazard in many areas of Crawford County, such as this area of Cedargap gravelly silt loam, 0 to 3 percent slopes, frequently flooded.

Cool-Season Grasses

Tall fescue is the most commonly grown cool-season grass in Crawford County. A limited acreage of orchardgrass, timothy, smooth bromegrass, reed canarygrass, and Kentucky bluegrass also is grown. All of these grasses are commonly grown on upland soils, except for reed canarygrass, which is planted primarily on wetter sites in areas of bottomland. These cool-season grasses can provide top production only when properly managed. Rotational grazing systems help to keep forage crops at an optimum height for the highest production. Supplemental fertilization and timely weed control are also essential for top production.

Cool-season grasses grow vigorously when temperatures are cool (between 50 and 85 degrees F.). These grasses generally start growing in late March and can be grazed by late April. Timothy and bromegrass will not produce tillers unless a seedhead is allowed to develop. Therefore, overgrazing or haying too early in the growing season can reduce the total production of these forage crops. Orchardgrass will regrow vigorously with or without development of a seedhead, so the timing of grazing or haying is less critical. Bluegrass is generally less productive than the other cool-season grasses but can better withstand overgrazing and poor management. Fescue can also withstand abuse and severe site conditions, but endophyte-infested stands are widespread and produce less-than-optimum weight gains, especially during summer months. The reestablishment of existing stands with endophyte-free seed is an option some managers are selecting. Careful grazing management and interseeding of legumes can minimize the effects and reduce the spread of the infestation. Some stands of fescue are also poorly palatable to livestock. Reed canarygrass is moderately palatable and is highly productive in areas that would be too wet for other grasses or row crops.

Because of increasing temperatures and day length, cool-season grass production decreases significantly by mid-June. As fall brings cooler temperatures and shorter days, growth increases accordingly. Production continues until the first killing frost occurs, usually in late October. One exception to this growth pattern is tall fescue, which continues growth until sometime in December.

Warm-Season Grasses

Warm-season grasses that are commonly grown in Crawford County include big bluestem, indiangrass, switchgrass, and little bluestem. Gammagrass is grown on some small acreages. This species requires a high or very high available water capacity. This soil survey can help in locating areas of suitable soils.

Warm-season grasses were native to small areas of the county before the arrival of early pioneers. These grasses are adapted to the soils and climate of the county. Their suitability for the climate is vividly demonstrated during the hot summer months of June, July, and August. As their name implies, the production of these grasses reaches a peak when the temperature reaches 90 degrees F. Growth slows when temperatures fall below 70 degrees F. Warm-season grasses need only 40 percent as much water as cool-season grasses to produce the same amount of forage.

Strict management techniques are necessary for optimum production and longevity of warm-season grasses. Rotational grazing patterns are needed so that these grasses can be utilized when they are growing vigorously and to prevent overgrazing during periods when growth is dormant. Minimum grazing height guidelines and prescribed burn plans must be followed (fig. 9). Supplemental fertilizer needs for warm-season grasses are small compared to cool-season grasses. Generally, nitrogen is the only supplement necessary for top production.

Legumes

Legumes are included in many forage systems in Crawford County. They improve the overall quality and quantity of forage. When included with grasses in a seeding mixture, legumes stimulate growth of the grasses because of nitrogen fixation by bacteria on the roots of the legumes.

Pure legume stands provide sources of high protein forage. Some legumes, such as alfalfa and ladino clover, can cause bloating if unrestricted grazing is allowed; therefore, most pure legume stands are used as hay. Alfalfa is the legume most commonly used for hay production. Other legumes, such as red clover, birdsfoot trefoil, and ladino clover, are used in pasture mixes. Crownvetch is used to stabilize steep banks and critically eroding areas.

Use and management of legumes involves selecting soils that are compatible with the growth characteristics of the various plants. For healthy, productive stands of some legumes, such as alfalfa, well drained or moderately well drained, very deep soils that have a high or very high available water capacity are needed. Courtois, Crider, Horsecreek, and Razort soils have such characteristics. Some legumes, such as alsike clover, can tolerate wetter soils. This soil survey can help in selecting the most productive forage crops.

Legumes do not need supplemental nitrogen because of the natural fixation that occurs in the root system. When used for hay, legumes often require large amounts of phosphorus and potassium. Heavy applications of limestone are also needed for optimum production on most soils.

Balanced Management

The production of cool-season grasses, warm-season grasses, and legumes peaks at different periods of the growing season. Management plans that include all three kinds of forage make optimum use of the entire season. A system that includes rotational grazing or haying of these different crops can increase production and profit while protecting the topsoil with permanent cover of vegetation.

Certain management practices are needed on all soils in the survey area. Timely mowing or chemical weed control minimizes competition from undesirable plants and encourages uniform grazing. Overgrazing reduces production of grasses and legumes and increases weed growth. Grazing when the soil is too wet causes surface compaction, poor tilth, and excessive runoff. Proper stocking rates, pasture

Figure 9.—Burning enhances the growth of warm-season grasses in this area of Plato silty clay loam, 3 to 8 percent slopes, eroded.

rotation, timely deferment of grazing, and restricted use during wet periods help to keep the pasture and soil in good condition.

An important element of any efficient grazing system is easy access to clean water. Access can be achieved by constructing ponds with freeze-proof livestock watering devices that are fed by buried pipe through the dam. Such arrangements provide abundant clean water throughout the year but allow fencing of the pond dam and pool area in order to protect the water supply. Streams can be used for watering if access is localized in order to protect the stream from pollution. Filter strips along streams help to filter water entering the stream and help to stabilize channel areas. They also provide habitat for wildlife.

Numerous small springs were historically viewed as bothersome seepy areas. With minimal development, these areas can be easily developed as water sources for livestock. Buried drainage pipes remove water from the wet areas and feed livestock watering tanks, which are often constructed from used heavy equipment tires. Overflow from each facility can be used to feed similar facilities farther downslope. This method results in an extensive system that helps to evenly distribute grazing of livestock.

Specialty Crops

Vineyards, orchards, and Christmas tree farms produce specialty crops in Crawford County. These crops require special equipment, management, and propagation techniques. This soil survey can help identify areas that are suitable for these and other crops if specific soil-related requirements are known.

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 the table 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 rangeland, for forestland, or for engineering purposes.

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

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

Class 1 soils have slight limitations that restrict their use.

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

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

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

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

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

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

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

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

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

Pasture and Hayland Suitability Groups

The soils in Crawford 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 for pasture and hayland management for each group are described in the following paragraphs.

Group WLB—Wet Loamy Bottom. A seasonal high water table and flooding are the main management concerns. Plants should be selected accordingly. A seedbed can be easily prepared. A drainage system can improve the growth of deep-rooted species. The hazard of flooding should be considered when a grazing system is designed.

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 WLO—Wet Loamy Overflow. Wetness and flooding are the main management concerns. A seedbed can be easily prepared. A drainage system can improve the growth of deep-rooted species. The hazard of flooding should be considered when a grazing system is designed.

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 WtP—Wet Pan. The species that are tolerant of wetness grow best. 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 the main concern. 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 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

Douglas Wallace, staff forester, Natural Resources Conservation Service, helped prepare this section.

A forest is more than a group of trees. The trees, the soil, and associated plants and animals form a forest ecosystem with many valuable properties. Wood fiber, water quality, wildlife habitat, and recreational activities, such as hunting and hiking, are useful products from a productive forest ecosystem.

Approximately 77 percent (366,343 acres) of Crawford County is forested (Missouri Resource Assessment Partnership, 1992). Oak-hickory, oak-pine, and eastern redcedar communities cover forested uplands in Crawford County (fig. 10). White oak, red oak, mockernut hickory, and black oak grow on the better sites. Post oak, blackjack oak, shortleaf pine, eastern redcedar, and shagbark hickory are dominant on the shallower, more acidic, or droughty soils. Areas that are very shallow or shallow to bedrock are dominated by eastern redcedar, blackjack oak, and prairie grasses. These areas are commonly referred to as “glades” or “cedar breaks.” Flood plain sites commonly support black walnut, American elm, silver maple, sycamore, bur oak, hackberry, green ash, and black willow. The variations in tree species and growth on both uplands and bottomlands are dependent on the interaction of site characteristics, soil properties, and management activities.

Site characteristics that have a strong affect on tree growth include aspect (the direction the slope is facing) and slope position. These site characteristics influence the amount of available sunlight, air drainage, soil temperature, soil moisture, and relative humidity. Typically, north and east aspects and the lower slope positions, which are cooler and have better moisture conditions, are more productive than the south and west aspects and the upper slope positions of the same or similar soil types. Alred, Beemont, Goss, and Rueter soils exhibit productivity and species responses to aspect and slope position. Finally, bottomland sites are generally more productive than upland sites.

Soil properties are fundamentally important for woodland production and management considerations. A quarter or more of a tree’s mass is located in the soil, which serves as a reservoir for moisture, provides an anchor for roots, and supplies essential plant nutrients. In Crawford County, important soil properties include soil wetness, soil slope, soil clay content, and soil depth.

Soil wetness is the result of a high water table, flooding, poor drainage, or ponding. It causes seedling mortality, limits the use of equipment, and increases the windthrow hazard by restricting the rooting depth of some trees. Ruts form easily if wheeled skidders are used when these soils are wet. Deep ruts tend to restrict lateral drainage, result in damage to tree roots, and alter soil structure. Flooding and/or surface wetness can be a problem on many soils in Crawford County. These soils include Bloomsdale, Deible, Freeburg, Gravois, Haymond, Hartville, Higdon, Hildebrecht, Horsecreek, Huzzah, Kaintuck, Plato, Racoon, Relfe, Useful, and Viburnum soils. On all of these soils, equipment should be used only during dry periods or when the ground is frozen.

The slope can limit the use of forestry equipment. A slope of 15 percent or greater limits the use of equipment in logging areas, on skid roads, in yarding areas, and on logging roads. Soil erosion is a hazard in these disturbed areas. Steep slopes limit the use of equipment and are highly susceptible to erosion. This includes many areas of Alred, Beemont, Bender, Coulstone, Gatewood, Goss, Rueter, Sonsac, and Useful soils. Special erosion-control measures, such as water bars or dips, can reduce the hazard of erosion. Also, the design of logging roads and trails minimizes the steepness and length of slopes. Moderately steep to very steep slopes indicate a safety hazard and limit the use of equipment. In these areas, equipment should be operated on the contour when possible. Severely sloping sites require moving logs uphill to skid trails and yarding areas.

Figure 10.—An area of Coulstone-Bender complex, 15 to 35 percent slopes, extremely stony, used as woodland.

The content of clay in the topsoil or subsoil can affect equipment use and seedling mortality. Traction is reduced in areas of clayey soils. The seedling mortality rate is moderate or high in these areas, and the soils can easily become compacted when they are wet. Ruts form easily on unsurfaced roads and skid trails, which may be impassable during rainy periods. Soils that have a high content of clay in the subsoil include Beemont, Caneyville, Gatewood, Hartville, Poynor, Swiss, and Useful soils. In areas of these soils, activities should be restricted to dry periods or to surfaced areas. Seedling establishment can be increased with mechanical or chemical weed control, mulching, or supplemental water.

Soil depth favorable to rooting is usually one of the most significant soil properties affecting woodland productivity. Soil horizons that are favorable for root development allow a tree to anchor its roots and provide volume for available water and nutrients. Very shallow and shallow Moko soils limit rooting depth, rooting volume, restrict the use of equipment, and hinder the construction of logging roads. Carefully planning the location of proposed logging roads could minimize most of these limitations. Trees in areas of these soils are prone to water stress during dry years or dry seasons and are susceptible to windthrow during high winds. The effective rooting depth is also restricted to varying degrees on some of the soils in the survey area because of root restricting subsoil layers. These soils include Hildebrecht, Hobson, Plato, Union, and Yelton soils.

Management activities can influence woodland productivity and should be aimed at eliminating factors causing tree stress. Generally, proper management involves controlling erosion, thinning overstocked young stands, planting trees where natural regeneration is deficient, harvesting mature trees, and eliminating destructive fire and grazing.

To maximize forestry investment inputs, management activities should concentrate on sites with productive soils and on areas with high-value timber species. The more productive soils in Crawford County include Courtois, Crider, Fourche, Gravois, Lecoma, and Useful soils on uplands and Haymond, Horsecreek, Kaintuck, Razort, and Sturkie soils on bottomlands.

Fire and grazing have very negative impacts on forest growth and quality. More than 30 percent of the woodland is still subject to moderate to heavy grazing. Grazing destroys the leaf layer on the surface, compacts the soil, and eliminates or damages tree seedlings. Fire damage to forests is a major concern throughout the Ozarks. Not only are trees damaged by fire, resulting in reduced wood quality and growth, but damage is also caused to soil, water quality, and wildlife habitat. Woodland sites that are protected from grazing and burning have the highest potential for optimum timber, wildlife, and recreational production.

The tables in this section can help forest owners or managers plan the use of soils for wood crops. Potential productivity of the soils for wood crops is provided in table 7. Interpretive ratings are provided for various aspects of forest management in tables 8a and 8b.

Forest Productivity

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

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important trees. 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 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 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.

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 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 *harvest 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 harvest 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

Douglas C. Wallace, staff forester, Natural Resources Conservation Service, helped prepare this section.

Living plants play an important role in supporting our life and improving its condition. When properly used and maintained, plants help to provide positive solutions to many problems existing in our contemporary environment. In Crawford County, windbreaks and environmental plantings can be utilized throughout the landscape to meet a variety of engineering, climatological, and aesthetic needs.

Windbreaks can be grown successively in many areas of Crawford County. Several specific aspects of management should be considered when farmstead and feedlot windbreaks are planned. These include design and layout, species selection, site preparation, seedling handling, weed management, irrigation, and protection from diseases, insects, and livestock.

Farmstead windbreaks make the farmstead area a more comfortable place to live and work, reduce energy costs, increase garden and fruit tree yields, enhance wildlife populations, buffer noises, and raise property values.

Feedlot windbreaks can be used to protect livestock from wind and snow. These windbreaks significantly reduce calf losses, make feeding operations easier, and enable livestock to maintain optimum weight with less feed (Scholten, 1988).

Farmstead and feedlot windbreaks are generally three or more rows wide and dense, and at least two of the rows consist of evergreen tree species. In addition, the windbreaks should be established on the windward side of the area to be protected and as perpendicular as possible to the prevailing winds (Brandle and others, 1988). Well designed farmstead and feedlot windbreaks exist throughout Crawford County.

Environmental plantings can be used for beautification, as visual screens, for flood management, and for control of acoustical, pollution, and climatological problems around buildings and other living spaces. Care should be given to selecting plants that exhibit proper height, shape, form, color, and texture and that are compatible with the surrounding area, structures, and desired use. Establishing trees and shrubs is easy in most areas of Crawford County, but adequate site preparation prior to planting and control of competition from weeds after planting are necessary.

In the nearly level Kaintuck-Cedargap-Razort-Freeburg soil association in the bottomlands, special use of linear riparian woody buffers, called waterbreaks, is needed. Waterbreaks are intended to moderate floodwater problems associated with flood plains. When properly designed, waterbreaks trap debris, reduce sand deposition and scouring, protect levee systems, and reduce damage to roads and ditches. A typical waterbreak system should include primary waterbreaks that parallel stream courses in widths of 50 to 300 feet. Secondary or interior waterbreaks that are 25 to 100 feet in width should be established perpendicular to anticipated flooding along field borders or every half-mile (Wallace and others, 2000).

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

Aaron Jeffries, area wildlife services biologist, Missouri Department of Conservation, helped prepare this section.

Crawford County affords abundant opportunities for people to interact with a rich diversity of plant and animal communities. Rivers and streams constitute some of the premier natural resources in Crawford County (fig. 11). The Meramec River, Huzzah Creek, and Courtois Creek flow through the county. Fishing, gigging, and floating are popular water activities, and the Missouri Department of Conservation has developed several river accesses in Crawford County. Along with river fishing, Crawford County has numerous farm ponds and small lakes that provide opportunities for fishing. Most are stocked with largemouth bass, channel catfish, and bluegill.

A variety of public use areas offer a wide array of outdoor activities in Crawford County. The Missouri Department of Conservation manages 11 properties in Crawford County. The Huzzah Conservation Area (6,225 acres) is the largest conservation area in Crawford County and is located along the Meramec River, Huzzah Creek, and Courtois Creek. The United States Forest Service manages the Mark Twain National Forest lands in the southeast corner of the county. Trail hiking, primitive camping, hunting, fishing,

Figure 11.—Many clear-running streams, such as the Meramec River, cross Crawford County and offer recreational opportunities.

bird watching, and nature studies are permitted on most Missouri Department of Conservation areas and United States Forest Service lands; however, special regulations may apply on some areas.

The Missouri Department of Natural Resources also operates three properties in Crawford County—Onondaga Cave State Park, Dillard Mill State Historic Site, and Meramec State Park (most of the park is located in Franklin County). These properties provide visitors with a wide array of outdoor interests.

The soils of the survey area are rated in table 10 according to limitations that affect their suitability for recreational use. 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, 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

Aaron Jeffries, area wildlife services biologist, Missouri Department of Conservation, helped prepare this section.

Crawford County is in the Ozark Highland natural division of Missouri (Thom and Wilson, 1983, as cited in Yatskievych, 1999). Prior to European settlement, Crawford County was a mixture of oak-hickory woodlands, pine-oak woodlands, oak savannas, glades, and scattered prairie grasslands. These vegetative cover types dictate wildlife populations within the county.

There are approximately 391 fish and wildlife species known to occur in Crawford County. The federally endangered gray bat and Indiana bat have been observed in the county. Species on the state's rare and endangered list that are known to occur in Crawford County include the eastern hellbender, sharp-shinned hawk, cerulean warbler, long-tailed weasel, and plains-spotted skunk.

Soil types generally dictate land use and thus the vegetation and cover for wildlife. The diversity and abundance of wildlife in Crawford County are further dependent on the type and kind of vegetation and the interspersion or mixing of different types of cover. Most of the habitat types in Crawford County are intermixed together; however, large unbroken tracts of woodland exist. These large unbroken tracts of deciduous forest provide important nesting habitat for many neotropical birds including whippoorwill, wood thrush, scarlet tanager, and worm-eating warbler.

The place where two habitat types meet is called edge. Common edge species include the northern bobwhite quail, eastern cottontail rabbit, indigo bunting, and northern cardinal. An important wildlife management opportunity exists in all soil associations through edge development. Creating a better transition between cover types benefits most wildlife better than a clear, defined break. For example, if walking from timber to grassland, good habitat would consist of tall trees in the timber, transitioning into thick shrubby growth at the border, and finally feathering out into the grassland. It is the thick, shrubby edge from which most wildlife benefit.

Wildlife managers try to create an edge with different vegetative heights and types, the goal being to create a transition zone rich in plant diversity. The habitat quality of most of the edge in Crawford County is poor—mainly because the vegetation is currently a single species of grass or row crop, or the edge is an abrupt change between grassland, cropland, or woodland, without a transition zone. The easiest way to improve poor edge habitat is to thin the trees along the transition zone. This allows more sunlight to reach the ground, which results in shrubby growth. Shrubs and other plants beneficial to wildlife can also be planted along the edge to create this transition zone.

Timbered areas are abundant in Crawford County, and offer excellent opportunities for wildlife habitat management. Examples of woodland wildlife include white-tailed deer, eastern wild turkey, and squirrels (fig. 12). Other species found in woodlands are the great horned owl, spotted salamander, northern cardinal, blue jay, and broad-winged hawk. The ruffed grouse is also known to occur in Crawford County and benefits from timber harvest activities, if conducted with them in mind. Timber management is an important tool for enhancing wildlife habitat. Important woodland wildlife management minimizes woodland grazing, maximizes tree species diversity, preserves old second growth tree communities, develops small interior forest openings, and improves edge on the borders of different habitat.

The Bender-Coulstone-Yelton, Rueter-Sonsac-Hildebrect, and Goss-Gravois soil associations are over 50 percent woodland cover type with grass as the second most prevalent cover type. Oak-hickory upland forests are common in Crawford County; however, shortleaf pine-oak woodlands are scattered throughout the southeast corner of the county.

The Kaintuck-Cedargap-Razort-Freeburg soil association was predominately bottomland forest. Many of these sites have been cleared and are presently in other land uses, such as cool-season pastures or annual row crops. Many soil conservation measures can enhance wildlife habitat in cropland settings, including leaving some crop standing for food plots, the use of conservation tillage, and developing edge for wildlife.

Most remaining bottomland forest sites exist as riparian corridors or wooded areas along the stream banks. Remaining riparian habitat should be protected and improved on sites that have been degraded. Two commonly used methods of restoring riparian sites are tree plantings and natural regeneration. Riparian areas also offer timber management opportunities and provide critical wildlife habitat for belted kingfishers, great blue herons, barred owls, prothonotary warbler, wood ducks, and many other

Figure 12.—This wooded area of Rueter-Hildebrecht complex, 3 to 15 percent slopes, stony, supports abundant wildlife, such as deer.

terrestrial wildlife species. Riparian areas are also crucial as a contributing habitat for the fishery resource.

Prior to European settlement, a portion of the county was a grass-brush-timber mixture referred to as savanna (Beilmann and Brenner, 1951). Oak savannas were transition zones between forest and prairie. Fire played a significant role in maintaining the open canopy characteristics of savanna. Wildlife species found in savanna are similar to those in edge habitat. Suppression of fire and overgrazing has led to woody invasion and degradation of most savannas. Some areas may be managed or restored to savanna. Savanna management should include prescribed burning, limited livestock access, and removal of overstocked woody species.

The Union-Beemont-Gatewood and Bender-Coulstone-Yelton soil associations have numerous rock outcroppings and are referred to as glades. Glades typically have shallow soils, sparse woody vegetation, high forb diversity, and are located on slopes with a southern or western exposure. Wildlife species found on glades are similar to those found in edge habitat. Key management considerations are similar to savannas and include prescribed burning, limited livestock access, and removal of invasive woody cover.

Prairies generally occurred on broad upland summits in the northwest portion of the county. Today, many of these sites have been converted to cool-season grass pastures or woody species have invaded.

A very important wildlife habitat consideration for open-land wildlife is the type of grass in which pastures and hay fields are established. Because of its vigor under almost any grazing situation, tall fescue is the most common forage species in the county (fig. 13). Unfortunately, it generally provides poor wildlife habitat. Intensive management of grazing systems, including introduction of legumes, the use of different species of grass, implementing rotational grazing systems, and prescribed burning, is needed if habitat improvement is an objective in open-land wildlife areas.

Where remnants of native warm-season grasses and native forbs exist, restoration of these natural communities is preferable to reintroduction. Restoration is generally easier and cheaper to accomplish. Restoration may include the use of prescribed fire, herbicide treatments, removal of invasive trees, edge development and management, and implementation of rotational grazing systems.

River and streams are also abundant in Crawford County. The Meramec River, Huzzah Creek, and

Figure 13.—This area of Union silt loam, 3 to 8 percent slopes, supports fescue grass, which is the most common species of cool-season grass grown in Crawford County.

Courtois Creek are among the better-known streams for fishing and floating. Species like smallmouth bass, largemouth bass, rock bass, and redhorse sucker are quite common and provide sport for anglers. Rainbow trout and brown trout are also found in the Meramec River below Maramec Spring, Blue Springs Creek, and numerous spring branches where habitat conditions are favorable. Important management considerations for stream habitat include following proper gravel removal techniques, maintaining and enhancing riparian corridors, and limiting livestock access to avoid streambank erosion and sedimentation.

In addition to the many permanent streams, Crawford County has numerous small lakes and hundreds of ponds that provide opportunities for fishing. Most have been stocked with largemouth bass, channel catfish, and bluegill. Many small ponds also provide the opportunity to manage for amphibians, which require fishless ponds in forested areas to successfully breed. Spotted and marbled salamander, central newt, pickerel frog, and gray tree frogs occur in these sites.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. 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. Contact the local office of the Missouri Department of Conservation or Natural Resources Conservation Service for more assistance.

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

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 are also 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 are also 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, bottomlands, marshes, or backwater areas of 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, previously cropped areas, and marginal areas associated with cropland and wetlands. These areas may be ponded for some period of time during the year. These areas 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.

Rating class terms, as follows, are used to indicate the extent to which the soils are limited by soil features that affect their use as a source for roadfill, sand, gravel, 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 probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of 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

The soils of the survey area are rated in table 15 according to limitations that affect their suitability for water management. Soils are rated for pond reservoir areas, drainage, irrigation, terraces and diversions, and grassed waterways. Restrictive features that affect each soil for the specified use are also listed in the table.

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.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water 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.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil, 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.

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	Corn	Grain sorghum	Orchardgrass-red clover	Soybeans	Tall fescue	Warm-season grasses	Winter wheat
	Bu	Bu	Tons	Bu	Tons	Tons	Bu	
66014:								
Haymond-------	2w	---	---	7.45	---	6.75	9.20	---
70028:								
Moko----------	6s	---	---	---	---	1.35	2.10	---
Rock outcrop--	8s	---	---	---	---	---	---	---
73012:								
Gravois-------	3e	73.00	66.00	4.80	27.00	5.00	5.75	30.00
73032:								
Gatewood------	6e	---	---	5.85	---	5.35	6.75	---
73035:								
Gravois-------	4e	65.00	58.00	4.80	20.00	5.00	5.75	23.00
73039:								
Glensted------	2e	96.00	89.00	7.45	32.00	8.25	9.50	38.00
73053:								
Lily----------	4e	---	---	5.85	---	5.35	6.75	---
Bender--------	6e	---	---	5.85	---	5.35	6.75	---
73066:								
Bender--------	6e	---	---	5.85	---	5.35	6.75	---
73067:								
Bender--------	7e	---	---	5.85	---	5.35	6.75	---
Rock outcrop--	8s	---	---	---	---	---	---	---
73089:								
Rueter--------	7e	---	---	5.85	---	5.35	6.75	---
73094:								
Gatewood------	7e	---	---	5.85	---	5.35	6.75	---
73098:								
Plato---------	2e	75.00	66.00	5.00	28.00	7.30	8.25	31.00
73135:								
Union---------	3e	70.00	63.00	4.80	24.00	5.00	5.75	28.00
73136:								
Union---------	2e	80.00	73.00	4.80	30.00	5.00	5.75	35.00
73159:								
Yelton--------	3e	---	---	4.80	---	5.00	5.75	36.00
73162:								
Alred---------	7e	---	---	5.85	---	5.35	6.75	---
Rueter--------	7e	---	---	5.85	---	5.35	6.75	---
73164:								
Bender--------	7e	---	---	---	---	---	---	---
Rock outcrop--	8s	---	---	---	---	---	---	---

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Grain sorghum	Orchardgrass-red clover	Soybeans	Tall fescue	Warm-season grasses	Winter wheat
		Bu	Bu	Tons	Bu	Tons	Tons	Bu
73166:								
Viburnum------	3e	---	---	7.50	---	7.00	7.50	30.00
Tonti---------	3e	---	---	4.80	---	5.00	5.75	---
73168:								
Swiss---------	6e	---	---	5.85	---	5.35	6.75	---
73169:								
Beemont-------	7e	---	---	5.85	---	5.35	6.75	---
Gatewood------	7e	---	---	5.85	---	5.35	6.75	---
73170:								
Beemont-------	6e	---	---	5.85	---	5.35	6.75	---
Gatewood------	6e	---	---	5.85	---	5.35	6.75	---
73171:								
Plato---------	4e	---	---	5.00	---	7.30	8.25	28.00
73172:								
Rosati--------	2e	83.00	73.00	5.00	30.00	7.30	8.25	32.00
73173:								
Lily----------	3e	---	---	5.85	---	5.35	6.75	---
Yelton--------	3e	---	---	4.80	---	5.00	5.75	---
73174:								
Lily----------	4e	---	---	5.85	---	5.35	6.75	---
Yelton--------	4e	---	---	4.80	---	5.00	5.75	---
73175:								
Poynor--------	4e	---	---	5.85	---	5.35	6.75	---
Bendavis------	3e	---	---	5.85	---	5.35	6.75	---
73176:								
Bendavis------	6e	---	---	5.85	---	5.35	6.75	---
Poynor--------	6e	---	---	5.85	---	5.35	6.75	---
73181:								
Useful--------	4e	---	---	7.50	---	7.00	7.50	28.00
Gatewood------	6e	---	---	5.85	---	5.35	6.75	---
73200:								
Sonsac--------	6s	---	---	5.85	---	5.35	6.75	---
73210:								
Goss----------	7e	---	---	---	---	---	---	---
73214:								
Moko----------	7s	---	---	---	---	---	---	---
Rock outcrop--	8s	---	---	---	---	---	---	---
73215:								
Crider--------	3e	100.00	88.00	7.45	39.00	6.65	8.00	41.00

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Grain sorghum	Orchardgrass-red clover	Soybeans	Tall fescue	Warm-season grasses	Winter wheat
	Bu	Bu	Tons	Bu	Tons	Tons	Bu	
73271:								
Moko----------	7s	---	---	---	---	---	---	---
Rock outcrop--	8s	---	---	---	---	---	---	---
73272:								
Hildebrecht---	3e	---	---	4.80	---	5.00	5.75	---
73273:								
Coulstone-----	7e	---	---	5.85	---	5.35	6.75	---
Bender--------	7e	---	---	5.85	---	5.35	6.75	---
73274:								
Scholten------	6s	---	---	1.10	---	2.25	2.65	---
73275:								
Gravois-------	3e	---	---	4.80	---	5.00	5.75	---
Goss----------	6e	---	---	5.85	---	5.35	6.75	---
73276:								
Rueter--------	4s	---	---	5.85	---	5.35	6.75	---
Hildebrecht---	4e	---	---	4.80	---	5.00	5.75	---
73277:								
Goss----------	6e	---	---	5.85	---	5.35	6.75	---
73278:								
Rueter--------	7e	---	---	---	---	---	---	---
73279:								
Sonsac--------	7e	---	---	4.40	---	4.00	4.60	---
Moko----------	7s	---	---	---	---	1.00	1.40	---
Rock outcrop--	8s	---	---	---	---	---	---	---
73280:								
Alred---------	6s	---	---	5.85	---	5.35	6.75	---
73281:								
Hobson--------	4e	---	---	4.80	---	5.00	5.75	---
73282:								
Alred---------	7e	---	---	5.85	---	5.35	6.75	---
Sonsac--------	7e	---	---	5.85	---	5.35	6.75	---
73283:								
Courtois------	3e	95.00	85.00	7.50	35.00	7.00	7.50	---
73284:								
Courtois------	4e	---	---	7.50	---	7.00	7.50	---
Goss----------	6e	---	---	5.85	---	5.35	6.75	---
73285:								
Useful--------	3e	---	---	7.50	---	7.00	7.50	---
Courtois------	3e	---	---	7.50	---	7.00	7.50	---

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Grain sorghum	Orchardgrass-red clover	Soybeans	Tall fescue	Warm-season grasses	Winter wheat
		Bu	Bu	Tons	Bu	Tons	Tons	Bu
73286:								
Useful	4e	---	---	7.50	---	7.00	7.50	---
Courtois	4e	---	---	7.50	---	7.00	7.50	---
73287:								
Useful	6e	---	---	7.50	---	7.00	7.50	---
Sonsac	7e	---	---	5.85	---	5.35	6.75	---
73288:								
Caneyville	4e	---	---	5.85	---	5.35	6.75	---
Rock outcrop	8s	---	---	---	---	---	---	---
73289:								
Fourche	4e	100.00	88.00	7.45	39.00	6.65	8.00	---
74634:								
Hartville	3e	91.00	81.00	7.45	34.00	8.25	9.50	37.00
74650:								
Higdon	2w	95.00	85.00	8.50	35.00	8.00	9.50	---
74652:								
Lecoma	3e	85.00	75.00	7.45	32.00	6.65	8.00	35.00
74653:								
Racoon	2w	91.00	81.00	7.10	28.00	8.10	9.50	37.00
Freeburg	2w	108.00	94.00	8.50	40.00	8.00	9.50	44.00
74656:								
Deible	2e	91.00	81.00	7.10	34.00	8.00	9.25	37.00
74661:								
Waben	3e	---	---	5.85	---	5.35	6.75	---
74662:								
Higdon	2e	100.00	90.00	7.45	40.00	6.65	8.00	---
75376:								
Cedargap	3w	---	---	1.20	---	2.65	3.65	22.00
75388:								
Kaintuck	3w	---	---	7.45	---	6.75	9.20	---
Relfe	4s	---	---	3.20	---	3.20	3.35	---
75398:								
Kaintuck	3w	---	---	7.45	---	6.75	9.20	---
75412:								
Razort	2w	95.00	85.00	7.45	35.00	6.75	9.20	37.00
75413:								
Relfe	4s	---	---	3.20	---	3.20	3.35	---
75427:								
Gabriel	2w	109.00	102.00	7.10	36.00	8.10	9.50	44.00
75450:								
Bloomsdale	4w	---	---	1.20	---	2.65	3.65	---

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Grain sorghum	Orchardgrass-red clover	Soybeans	Tall fescue	Warm-season grasses	Winter wheat
		Bu	Bu	Tons	Bu	Tons	Tons	Bu
75453:								
Sturkie-------	2w	115.00	100.00	7.45	40.00	6.75	9.20	40.00
75459:								
Huzzah--------	2w	---	---	7.45	---	6.75	9.20	---
75460:								
Horsecreek----	2w	110.00	88.00	7.45	37.00	6.75	9.20	44.00
99000. Pits, quarries								
99001. Water								
99003. Miscellaneous water								

Table 6.--Pasture and Hayland Suitability Groups

Map symbol	Soil name	Component name	Pasture and hayland suitability group
66014	Haymond silt loam, 0 to 3 percent slopes, frequently flooded	Haymond	LyO
70028	Moko-Rock outcrop complex, 3 to 15 percent slopes, very stony	Moko	ShU
		Rock outcrop	GNS
73012	Gravois silt loam, 3 to 8 percent slopes	Gravois	LyP
73032	Gatewood very gravelly silt loam, 3 to 15 percent slopes, stony	Gatewood	MDU
73035	Gravois silt loam, 8 to 15 percent slopes	Gravois	LyP
73039	Glensted silt loam, 1 to 3 percent slopes	Glensted	WCU
73053	Lily-Bender complex, 3 to 15 percent slopes	Lily	MDU
		Bender	MDU
73066	Bender very cobbly fine sandy loam, 3 to 15 percent slopes, stony	Bender	MDU
73067	Bender-Rock outcrop complex, 15 to 35 percent slopes, very stony	Bender	MDU
		Rock outcrop	GNS
73089	Rueter very gravelly silt loam, 15 to 35 percent slopes, very stony	Rueter	GrU
73094	Gatewood very gravelly silt loam, 15 to 35 percent slopes, stony	Gatewood	MDU
73098	Plato silt loam, 1 to 3 percent slopes	Plato	WtP
73135	Union silt loam, 3 to 8 percent slopes	Union	LyP
73136	Union silt loam, 1 to 3 percent slopes	Union	LyP
73159	Yelton silt loam, 3 to 8 percent slopes	Yelton	LyP
73162	Alred-Rueter complex, 15 to 35 percent slopes, very stony	Alred	GrU
		Rueter	GrU
73164	Bender-Rock outcrop complex, 35 to 65 percent slopes, extremely stony	Bender	GNS
		Rock outcrop	GNS
73166	Viburnum-Tonti complex, 1 to 8 percent slopes	Viburnum	CyU
		Tonti	LyP
73168	Swiss gravelly silt loam, 3 to 15 percent slopes, stony	Swiss	GrU
73169	Beemont-Gatewood complex, 15 to 35 percent slopes, stony	Beemont	GrU
		Gatewood	MDU
73170	Beemont-Gatewood complex, 3 to 15 percent slopes, stony	Gatewood	MDU
		Beemont	GrU
73171	Plato silty clay loam, 3 to 8 percent slopes, eroded	Plato	WtP
73172	Rosati silt loam, 1 to 5 percent slopes	Rosati	WtP
73173	Lily-Yelton complex, 3 to 8 percent slopes	Lily	MDU
		Yelton	LyP
73174	Lily-Yelton complex, 8 to 15 percent slopes	Lily	MDU
		Yelton	LyP
73175	Poynor-Bendavis complex, 1 to 8 percent slopes	Poynor	GrU
		Bendavis	MDU
73176	Bendavis-Poynor complex, 8 to 15 percent slopes, stony	Bendavis	MDU
		Poynor	GrU
73181	Useful-Gatewood complex, 8 to 15 percent slopes	Useful	CyU
		Gatewood	MDU
73200	Sonsac gravelly silt loam, 3 to 15 percent slopes, very stony	Sonsac	MDU
73210	Goss very cobbly silt loam, 15 to 50 percent slopes, extremely stony	Goss	GNS
73214	Moko-Rock outcrop complex, 15 to 50 percent slopes, extremely stony	Moko	GNS
		Rock outcrop	GNS
73215	Crider silt loam, 3 to 8 percent slopes	Crider	LyU
73271	Moko-Rock outcrop complex, 50 to 90 percent slopes, extremely stony	Moko	GNS
		Rock outcrop	GNS
73272	Hildebrecht silt loam, 3 to 8 percent slopes	Hildebrecht	LyP
73273	Coulstone-Bender complex, 15 to 35 percent slopes, extremely stony	Coulstone	GrU
		Bender	MDU
73274	Scholten very gravelly silt loam, 3 to 15 percent slopes	Scholten	GrP
73275	Gravois-Goss complex, 3 to 15 percent slopes, stony	Gravois	LyP
		Goss	GrU
73276	Rueter-Hildebrecht complex, 3 to 15 percent slopes, stony	Rueter	GrU
		Hildebrecht	LyP
73277	Goss gravelly silt loam, 3 to 15 percent slopes, stony	Goss	GrU
73278	Rueter very gravelly silt loam, 35 to 65 percent slopes, very stony	Rueter	GNS

Table 6.--Pasture and Hayland Suitability Groups--Continued

Map symbol	Soil name	Component name	Pasture and hayland suitability group
73279	Sonsac-Moko-Rock outcrop complex, 15 to 50 percent slopes, extremely stony	Sonsac	GNS
		Moko	GNS
		Rock outcrop	GNS
73280	Alred very gravelly silt loam, 3 to 15 percent slopes, very stony	Alred	GrU
73281	Hobson silt loam, 3 to 15 percent slopes	Hobson	LyP
73282	Alred-Sonsac complex, 15 to 35 percent slopes, very stony, very rocky	Alred	GrU
		Sonsac	MDU
73283	Courtois silt loam, 3 to 8 percent slopes, eroded	Courtois	CyU
73284	Courtois-Goss complex, 8 to 15 percent slopes	Courtois	CyU
		Goss	GrU
73285	Useful-Courtois complex, 3 to 8 percent slopes	Useful	CyU
		Courtois	CyU
73286	Useful-Courtois complex, 8 to 15 percent slopes, eroded	Useful	CyU
		Courtois	CyU
73287	Useful-Sonsac complex, 15 to 35 percent slopes, eroded	Useful	CyU
		Sonsac	MDU
73288	Caneyville-Rock outcrop complex, 8 to 15 percent slopes	Caneyville	MDU
		Rock outcrop	GNS
73289	Fourche silt loam, 3 to 15 percent slopes	Fourche	LyU
74634	Hartville silt loam, 3 to 8 percent slopes	Hartville	WCU
74650	Higdon silt loam, 0 to 3 percent slopes, occasionally flooded	Higdon	WLO
74652	Lecoma silt loam, 1 to 8 percent slopes	Lecoma	LyU
74653	Racoon-Freeburg complex, 0 to 3 percent slopes, occasionally flooded	Racoon	WLB
		Freeburg	WLO
74656	Deible silt loam, 1 to 5 percent slopes, rarely flooded	Deible	WCB
74661	Waben gravelly loam, 3 to 8 percent slopes	Waben	GrU
74662	Higdon silt loam, 2 to 5 percent slopes	Higdon	LyU
75376	Cedargap gravelly silt loam, 0 to 3 percent slopes, frequently flooded	Cedargap	GrO
75388	Kaintuck-Relfe complex, 0 to 3 percent slopes, frequently flooded	Kaintuck	LyO
		Relfe	SyO
75398	Kaintuck fine sandy loam, 0 to 3 percent slopes, frequently flooded	Kaintuck	LyO
75412	Razort silt loam, 0 to 3 percent slopes, occasionally flooded	Razort	LyO
75413	Relfe very gravelly sandy loam, 0 to 3 percent slopes, frequently flooded	Relfe	SyO
75427	Gabriel silt loam, 0 to 3 percent slopes, occasionally flooded, gravelly, substratum phase	Gabriel	WLB
75450	Bloomsdale silt loam, 0 to 3 percent slopes, frequently flooded	Bloomsdale	GrO
75453	Sturkie silt loam, 0 to 2 percent slopes, occasionally flooded	Sturkie	LyO
75459	Huzzah silt loam, 0 to 3 percent slopes, frequently flooded	Huzzah	LyO
75460	Horsecreek silt loam, 0 to 3 percent slopes, occasionally flooded, wet substratum phase	Horsecreek	LyO
99000	Pits, quarries	Pits, quarries	---
99001	Water	Water	GNS
99003	Miscellaneous water	Miscellaneous water	---

Table 7.--Forest Productivity

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available.)

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
66014:				
Haymond	American sycamore	---	---	black walnut, northern red oak, white ash, white oak
	black walnut	70	---	
	white oak	90	72	
70028:				
Moko	eastern redcedar	30	29	eastern redcedar
Rock outcrop.				
73012:				
Gravois	black oak	60	43	black oak, northern red oak, white oak
	northern red oak	60	43	
	white oak	57	43	
73032:				
Gatewood	black oak	42	29	eastern redcedar, shortleaf pine
	eastern redcedar	40	43	
	post oak	43	29	
	white oak	45	29	
73035:				
Gravois	black oak	60	43	northern red oak, white oak
	northern red oak	60	43	
	white oak	57	43	
73053:				
Lily	black oak	---	---	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak	54	---	
	scarlet oak	---	---	
	shortleaf pine	58	43	
	white oak	45	29	
Bender	black oak	52	29	black oak, scarlet oak, shortleaf pine
	scarlet oak	---	---	
	shortleaf pine	53	71	
	white oak	50	29	
73066:				
Bender	black oak	52	29	black oak, scarlet oak, shortleaf pine
	scarlet oak	---	---	
	shortleaf pine	53	71	
	white oak	50	29	
73067:				
Bender	black oak	52	29	black oak, scarlet oak, shortleaf pine
	scarlet oak	---	---	
	shortleaf pine	53	71	
	white oak	50	29	
Rock outcrop.				
73089:				
Rueter	black oak	53	43	black oak, shortleaf pine
	hickory	---	---	
	post oak	45	29	

Table 7.--Forest Productivity—-Continued

Map symbol and soil name	Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
73094:				
Gatewood	black oak	42	29	eastern redcedar, shortleaf pine
	eastern redcedar	40	43	
	post oak	43	29	
	white oak	45	29	
73098:				
Plato	black oak	60	43	black oak, post oak, shortleaf pine
	post oak	---	---	
	white oak	55	43	
73135:				
Union	black oak	58	43	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak	62	43	
	white oak	50	43	
73136:				
Union	black oak	58	43	northern red oak, shortleaf pine, white oak
	northern red oak	62	43	
	white oak	50	43	
73159:				
Yelton	black oak	60	43	black oak, shortleaf pine
	white oak	55	43	
73162:				
Alred	black oak	60	43	black oak, shortleaf pine, white oak
	shortleaf pine	60	86	
	white oak	56	43	
Rueter	black oak	53	43	black oak, shortleaf pine
	hickory	---	---	
	post oak	45	29	
73164:				
Bender	black oak	59	43	black oak, scarlet oak, shortleaf pine
	scarlet oak	---	---	
	shortleaf pine	55	72	
	white oak	---	---	
Rock outcrop.				
73166:				
Viburnum	black oak	58	43	black oak, scarlet oak, shortleaf pine
	blackjack oak	---	---	
	hickory	---	---	
	post oak	---	---	
	scarlet oak	---	---	
Tonti	black oak	60	43	black oak, shortleaf pine
	post oak	---	---	
	shortleaf pine	53	71	
73168:				
Swiss	eastern redcedar	---	---	eastern redcedar, northern red oak, shortleaf pine
	northern red oak	61	43	
	post oak	---	---	
	white oak	48	29	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
73169, 73170:				
Beemont	eastern redcedar	---	---	eastern redcedar, northern red oak, shortleaf pine
	northern red oak	61	43	
	post oak	---	---	
	white oak	48	29	
Gatewood	black oak	42	29	eastern redcedar, shortleaf pine
	eastern redcedar	40	43	
	post oak	43	29	
	white oak	45	29	
73171:				
Plato	black oak	60	43	black oak, post oak, shortleaf pine
	shortleaf pine	---	---	
	white oak	55	43	
73173:				
Lily	black oak	---	---	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak	54	---	
	scarlet oak	---	---	
	shortleaf pine	58	43	
	white oak	45	29	
Yelton	black oak	60	43	black oak, shortleaf pine
	white oak	55	43	
73174:				
Lily	black oak	---	---	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak	54	---	
	scarlet oak	---	---	
	shortleaf pine	58	43	
	white oak	45	29	
Yelton	black oak	60	43	black oak, shortleaf pine
	white oak	55	43	
73175:				
Poynor	black oak	53	72	shortleaf pine, white oak
	shortleaf pine	55	72	
	white oak	48	29	
Bendavis	black oak	48	29	shortleaf pine
	post oak	45	29	
	shortleaf pine	---	0	
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	
73181:				
Useful	black oak	---	---	green ash, northern red oak, white oak
	northern red oak	---	---	
	post oak	---	---	
	sugar maple	---	---	
	white oak	61	43	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
73181:				
Gatewood	black oak	42	29	eastern redcedar, shortleaf pine
	eastern redcedar	40	43	
	post oak	43	29	
	white oak	45	29	
73200:				
Sonsac	black oak	54	43	black oak, eastern redcedar, post oak
	post oak	45	29	
	white oak	42	29	
73210:				
Goss	black oak	56	43	black oak, shortleaf pine, white oak
	northern red oak	54	43	
	white oak	54	43	
73214:				
Moko	eastern redcedar	27	29	eastern redcedar
Rock outcrop.				
73215:				
Crider	black oak	87	72	black walnut, northern red oak, white ash, white oak
	black walnut	80	0	
	hickory	---	0	
	northern red oak	84	72	
	sugar maple	---	0	
	white ash	---	0	
	white oak	72	57	
73271:				
Moko	eastern redcedar	30	29	eastern redcedar
Rock outcrop.				
73272:				
Hildebrecht	black oak	60	43	black oak, shortleaf pine, white oak
	white oak	55	43	
73273:				
Coulstone	black oak	56	43	black oak, scarlet oak, shortleaf pine
	scarlet oak	---	---	
	shortleaf pine	57	86	
	white oak	55	43	
Bender	black oak	52	29	black oak, scarlet oak, shortleaf pine
	scarlet oak	---	---	
	shortleaf pine	53	71	
	white oak	50	29	
73274:				
Scholten	black oak	50	29	black oak, eastern redcedar, shortleaf pine
	post oak	45	29	
73275:				
Gravois	black oak	60	43	black oak, northern red oak, white oak
	northern red oak	60	43	
	white oak	57	43	
Goss	black oak	56	43	black oak, northern red oak, white oak
	northern red oak	54	43	
	white oak	54	43	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
73276:				
Rueter	black oak	53	43	black oak, shortleaf pine
	hickory	---	---	
	post oak	45	29	
Hildebrecht	black oak	60	43	black oak, shortleaf pine, white oak
	white oak	55	43	
73277:				
Goss	black oak	56	43	black oak, northern red oak, white oak
	northern red oak	54	43	
	white oak	54	43	
73278:				
Rueter	black oak	53	43	black oak, shortleaf pine
	hickory	---	---	
	post oak	45	29	
73279:				
Sonsac	black oak	54	43	black oak, eastern redcedar, post oak
	post oak	45	29	
	white oak	42	29	
Moko	eastern redcedar	30	29	eastern redcedar
Rock outcrop.				
73280:				
Alred	black oak	60	43	black oak, shortleaf pine, white oak
	shortleaf pine	60	86	
	white oak	56	43	
73281:				
Hobson	black oak	60	43	black oak, shortleaf pine, white oak
	white oak	55	43	
73282:				
Alred	black oak	60	43	black oak, shortleaf pine, white oak
	shortleaf pine	60	86	
	white oak	56	43	
Sonsac	black oak	54	43	black oak, eastern redcedar, post oak
	post oak	45	29	
	white oak	42	29	
73283:				
Courtois	northern red oak	---	---	northern red oak, white oak
	shortleaf pine	65	100	
	white oak	60	43	
73284:				
Courtois	northern red oak	---	---	northern red oak, white oak
	shortleaf pine	65	100	
	white oak	60	43	
Goss	black oak	56	43	black oak, northern red oak, white oak
	northern red oak	54	43	
	white oak	54	43	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
73285, 73286:				
Useful	black oak	56	56	black oak, scarlet oak
	northern red oak	---	---	
	post oak	---	---	
	white oak	54	43	
Courtois	northern red oak	---	---	northern red oak, white oak
	shortleaf pine	65	100	
	white oak	60	43	
73287:				
Useful	black oak	56	56	black oak, scarlet oak
	northern red oak	---	---	
	post oak	---	---	
	white oak	54	43	
Sonsac	black oak	54	43	black oak, eastern redcedar, post oak
	post oak	45	29	
	white oak	42	29	
73288:				
Caneyville	black oak	56	43	black oak, eastern redcedar, scarlet oak
	chinkapin oak	51	29	
	eastern redcedar	36	43	
	hickory	---	---	
	scarlet oak	53	43	
	white oak	---	---	
Rock outcrop.				
73289:				
Fourche	black oak	---	---	black oak, northern red oak, white ash, white oak
	northern red oak	---	---	
	white ash	---	---	
	white oak	62	43	
74634:				
Hartville	green ash	---	---	green ash, pin oak, white oak
	pin oak	---	---	
	white oak	55	43	
74650:				
Higdon	American sycamore	---	---	black walnut, green ash, pecan, white oak
	black walnut	---	---	
	green ash	---	---	
	white oak	65	43	
74652:				
Lecoma	black oak	65	43	northern red oak, white oak
	northern red oak	65	43	
	white oak	60	43	
74653:				
Racoon	green ash	---	---	green ash, pin oak
	pin oak	80	57	
	white oak	---	---	
Freeburg	black walnut	---	---	eastern cottonwood, green ash, northern red oak, pecan, white oak
	green ash	---	---	
	white oak	65	43	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
74656:				
Deible	green ash	---	---	eastern cottonwood, green ash, pin oak, silver maple
	northern red oak	---	---	
	pin oak	76	57	
	silver maple	---	---	
74661:				
Waben	black oak	---	---	eastern redcedar, shortleaf pine
	eastern redcedar	40	43	
	post oak	---	---	
	shortleaf pine	---	---	
74662:				
Higdon	American sycamore	---	---	black walnut, green ash, pecan, white oak
	black walnut	---	---	
	green ash	---	---	
	white oak	65	43	
75376:				
Cedargap	black oak	66	43	black walnut, Shumard's oak, white oak
	black walnut	---	---	
	green ash	---	---	
	Shumard's oak	---	---	
75388:				
Kaintuck	American basswood	---	---	American sycamore, black walnut, green ash
	American sycamore	90	100	
	black walnut	---	---	
	green ash	---	---	
Relfe	American sycamore	---	---	black oak, shortleaf pine
	black oak	60	43	
	shortleaf pine	---	---	
	white oak	55	43	
75398:				
Kaintuck	American basswood	---	---	American sycamore, black walnut, green ash
	American sycamore	90	100	
	black walnut	---	---	
	green ash	---	---	
75412:				
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	
75413:				
Relfe	American sycamore	60	43	shortleaf pine, white oak
	shortleaf pine	---	---	
	white oak	55	43	
75450:				
Bloomsdale	American sycamore	---	---	American sycamore, eastern cottonwood, northern red oak, white oak
	black oak	---	---	
	eastern cottonwood	94	114	
	northern red oak	68	57	
	white oak	---	---	

Table 7.--Forest Productivity—-Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
75453:				
Sturkie	American sycamore	80	86	American sycamore, black walnut, eastern cottonwood, northern red oak, white oak
	eastern cottonwood	100	129	
	northern red oak	80	57	
	white oak	70	57	
75459:				
Huzzah	American sycamore	---	---	black walnut, northern red oak, white ash, white oak
	black walnut	70	---	
	white oak	90	72	
75460:				
Horsecreek	American sycamore	---	---	black walnut, eastern cottonwood, white ash
	common hackberry	---	---	
	pin oak	94	57	
	red maple	---	---	
	Shumard's oak	93	57	

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 0.00 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: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
66014:										
Haymond	Not limited		Not limited		Moderately limited		Not limited		Very limited	
					~low strength (moderately limited)	0.50			~flooding (very limited)	1.00
									~low strength (moderately limited)	0.50
70028:										
Moko	Slightly limited		Very limited		Not limited		Very limited		Moderately limited	
	~small stones (slightly limited)	0.13	~restrictive layer (very limited)	1.00			~restrictive layer (very limited)	1.00	~slippage potential (moderately limited)	0.50
			~surface stones (moderately limited)	0.45					~slope (moderately limited)	0.45
			~slope (moderately limited)	0.34						
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73012:										
Gravois	Not limited		Slightly limited		Moderately limited		Slightly limited		Moderately limited	
			~slope (slightly limited)	0.10	~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
73032:										
Gatewood	Moderately limited		Moderately limited		Slightly limited		Moderately limited		Moderately limited	
	~small stones (moderately limited)	0.60	~small stones (moderately limited)	0.60	~seasonal wetness (slightly limited)	0.15	~small stones (moderately limited)	0.60	~slope (moderately limited)	0.45
			~slope (moderately limited)	0.34			~seasonal wetness (slightly limited)	0.15	~seasonal wetness (slightly limited)	0.15
			~surface stones (slightly limited)	0.02						
73035:										
Gravois	Not limited		Moderately limited		Moderately limited		Slightly limited		Limited	
			~slope (moderately limited)	0.43	~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.26	~slope (limited)	0.68
					~seasonal wetness (slightly limited)	0.26			~low strength (moderately limited)	0.50
									~seasonal wetness (slightly limited)	0.26

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
73039:										
Glensted-------	Moderately limited		Moderately limited		Limited		Limited		Limited	
	~seasonal wetness (moderately limited)	0.60	~seasonal wetness (moderately limited)	0.60	~seasonal wetness (limited)	0.76	~seasonal wetness (limited)	0.76	~seasonal wetness (limited)	0.76
					~low strength (moderately limited)	0.50			~low strength (moderately limited)	0.50
73053:										
Lily-----------	Not limited		Slightly limited		Moderately limited		Not limited		Moderately limited	
			~slope (slightly limited)	0.30	~low strength (moderately limited)	0.50			~low strength (moderately limited)	0.50
									~slope (moderately limited)	0.30
Bender---------	Slightly limited		Moderately limited		Not limited		Slightly limited		Moderately limited	
	~large stones (slightly limited)	0.17	~large stones (moderately limited)	0.45			~large stones (slightly limited)	0.17	~slope (moderately limited)	0.30
			~slope (slightly limited)	0.30						
			~surface stones (slightly limited)	0.02						
73066:										
Bender---------	Slightly limited		Moderately limited		Not limited		Slightly limited		Moderately limited	
	~large stones (slightly limited)	0.17	~large stones (moderately limited)	0.45			~large stones (slightly limited)	0.17	~slope (moderately limited)	0.30
			~slope (slightly limited)	0.30						
			~surface stones (slightly limited)	0.02						
73067:										
Bender---------	Slightly limited		Very limited		Limited		Limited		Very limited	
	~slope (slightly limited)	0.25	~slope (very limited)	1.00	~slope (limited)	0.91	~slope (limited)	0.91	~slope (very limited)	1.00
	~large stones (slightly limited)	0.17	~large stones (moderately limited)	0.45			~large stones (slightly limited)	0.17		
			~surface stones (slightly limited)	0.30						
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
73089:										
Rueter	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~small stones (moderately limited)	0.53	~slope (limited)	0.99	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60	~slope (very limited)	1.00
	~slope (slightly limited)	0.14	~small stones (moderately limited)	0.53			~small stones (moderately limited)	0.49	~slippage potential (moderately limited)	0.50
			~surface stones (moderately limited)	0.45						
73094:										
Gatewood	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~small stones (moderately limited)	0.60	~slope (limited)	0.99	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60	~slope (very limited)	1.00
	~slope (slightly limited)	0.14	~small stones (moderately limited)	0.60	~seasonal wetness (slightly limited)	0.15	~small stones (moderately limited)	0.60	~seasonal wetness (slightly limited)	0.15
			~surface stones (slightly limited)	0.02			~seasonal wetness (slightly limited)	0.15		
73098:										
Plato	Not limited		Not limited		Moderately limited		Moderately limited		Moderately limited	
					~seasonal wetness (moderately limited)	0.56	~seasonal wetness (moderately limited)	0.56	~seasonal wetness (moderately limited)	0.56
					~low strength (moderately limited)	0.50			~low strength (moderately limited)	0.50
73135:										
Union	Not limited		Slightly limited		Moderately limited		Slightly limited		Moderately limited	
			~slope (slightly limited)	0.10	~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.28	~low strength (moderately limited)	0.50
					~seasonal wetness (slightly limited)	0.28			~seasonal wetness (slightly limited)	0.28
73136:										
Union	Not limited		Not limited		Moderately limited		Slightly limited		Moderately limited	
					~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.28	~low strength (moderately limited)	0.50
					~seasonal wetness (slightly limited)	0.28			~seasonal wetness (slightly limited)	0.28
73159:										
Yelton	Not limited		Not limited		Moderately limited		Slightly limited		Moderately limited	
					~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.28	~low strength (moderately limited)	0.50
					~seasonal wetness (slightly limited)	0.28			~seasonal wetness (slightly limited)	0.28

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
73162:										
Alred	Slightly limited		Limited		Moderately limited		Moderately limited		Very limited	
	~slope (slightly limited)	0.14	~slope (limited)	0.99	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60	~slope (very limited)	1.00
			~surface stones (moderately limited)	0.45						
Rueter	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~small stones (moderately limited)	0.53	~slope (limited)	0.99	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60	~slope (very limited)	1.00
	~slope (slightly limited)	0.14	~small stones (moderately limited)	0.53			~small stones (moderately limited)	0.49	~slippage potential (moderately limited)	0.50
			~surface stones (moderately limited)	0.45						
73164:										
Bender	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~slope (moderately limited)	0.60	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~surface stones (slightly limited)	0.30	~surface stones (limited)	0.66	~large surface stones (slightly limited)	0.30	~large surface stones (slightly limited)	0.30	~large surface stones (slightly limited)	0.30
	~large stones (slightly limited)	0.17	~large stones (moderately limited)	0.45			~large stones (slightly limited)	0.17	~surface stones (slightly limited)	0.30
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73166:										
Viburnum	Slightly limited		Slightly limited		Moderately limited		Slightly limited		Moderately limited	
	~small stones (slightly limited)	0.11	~small stones (slightly limited)	0.11	~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
Tonti	Limited		Limited		Moderately limited		Limited		Moderately limited	
	~small stones (limited)	0.65	~small stones (limited)	0.65	~low strength (moderately limited)	0.50	~small stones (limited)	0.65	~low strength (moderately limited)	0.50
					~seasonal wetness (slightly limited)	0.26	~seasonal wetness (slightly limited)	0.26	~seasonal wetness (slightly limited)	0.26
73168:										
Swiss	Slightly limited		Moderately limited		Moderately limited		Not limited		Moderately limited	
	~small stones (slightly limited)	0.03	~slope (moderately limited)	0.39	~low strength (moderately limited)	0.50			~slope (moderately limited)	0.60
			~small stones (slightly limited)	0.03					~low strength (moderately limited)	0.50
			~surface stones (slightly limited)	0.02						

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
73169:										
Beemont--------	Slightly limited		Limited		Moderately limited		Moderately limited		Very limited	
	~small stones	0.17	~slope	0.99	~slope	0.60	~slope	0.60	~slope	1.00
	(slightly limited)		(limited)		(moderately limited)		(moderately limited)		(very limited)	
	~slope	0.14	~small stones	0.17	~low strength	0.50	~seasonal wetness	0.10	~low strength	0.50
	(slightly limited)		(slightly limited)		(moderately limited)		(slightly limited)		(moderately limited)	
			~surface stones	0.02	~seasonal wetness	0.10			~seasonal wetness	0.10
			(slightly limited)		(slightly limited)				(slightly limited)	
Gatewood-------	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~small stones	0.60	~slope	0.99	~slope	0.60	~slope	0.60	~slope	1.00
	(moderately limited)		(limited)		(moderately limited)		(moderately limited)		(very limited)	
	~slope	0.14	~small stones	0.60	~seasonal wetness	0.15	~small stones	0.60	~seasonal wetness	0.15
	(slightly limited)		(moderately limited)		(slightly limited)		(moderately limited)		(slightly limited)	
			~surface stones	0.02			~seasonal wetness	0.15		
			(slightly limited)				(slightly limited)			
73170:										
Beemont--------	Slightly limited		Moderately limited		Moderately limited		Slightly limited		Moderately limited	
	~small stones	0.17	~slope	0.34	~low strength	0.50	~seasonal wetness	0.10	~low strength	0.50
	(slightly limited)		(moderately limited)		(moderately limited)		(slightly limited)		(moderately limited)	
			~small stones	0.17	~seasonal wetness	0.10			~slope	0.45
			(slightly limited)		(slightly limited)				(moderately limited)	
			~surface stones	0.02					~seasonal wetness	0.10
			(slightly limited)						(slightly limited)	
Gatewood-------	Moderately limited		Moderately limited		Slightly limited		Moderately limited		Moderately limited	
	~small stones	0.60	~small stones	0.60	~seasonal wetness	0.15	~small stones	0.60	~slope	0.45
	(moderately limited)		(moderately limited)		(slightly limited)		(moderately limited)		(moderately limited)	
			~slope	0.34			~seasonal wetness	0.15	~seasonal wetness	0.15
			(moderately limited)				(slightly limited)		(slightly limited)	
			~surface stones	0.02						
			(slightly limited)							
73171:										
Plato----------	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Moderately limited	
	~stickiness (surface)	0.50	~stickiness (surface)	0.50	~seasonal wetness	0.56	~seasonal wetness	0.56	~seasonal wetness	0.56
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
			~slope	0.10	~low strength	0.50	~stickiness (surface)	0.50	~low strength	0.50
			(slightly limited)		(moderately limited)		(moderately limited)		(moderately limited)	
					~stickiness (surface)	0.50			~stickiness (surface)	0.50
					(moderately limited)				(moderately limited)	

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
73172:										
Rosati	Not limited		Not limited		Moderately limited		Moderately limited		Moderately limited	
					~low strength (moderately limited)	0.50	~seasonal wetness (moderately limited)	0.49	~low strength (moderately limited)	0.50
					~seasonal wetness (moderately limited)	0.49			~seasonal wetness (moderately limited)	0.49
73173:										
Lily	Not limited		Slightly limited		Not limited		Not limited		Not Limited	
			~slope (slightly limited)	0.10						
Yelton	Not limited		Not limited		Moderately limited		Slightly limited		Moderately limited	
					~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.28	~low strength (moderately limited)	0.50
					~seasonal wetness (slightly limited)	0.28			~seasonal wetness (slightly limited)	0.28
73174:										
Lily	Not limited		Moderately limited		Not limited		Not limited		Limited	
			~slope (moderately limited)	0.47					~slope (limited)	0.76
Yelton	Not limited		Moderately limited		Moderately limited		Slightly limited		Limited	
			~slope (moderately limited)	0.47	~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.28	~slope (limited)	0.76
					~seasonal wetness (slightly limited)	0.28			~low strength (moderately limited)	0.50
									~seasonal wetness (slightly limited)	0.28
73175:										
Poynor	Slightly limited		Slightly limited		Not limited		Slightly limited		Not Limited	
	~small stones (slightly limited)	0.24	~small stones (slightly limited)	0.24			~small stones (slightly limited)	0.01		
Bendavis	Moderately limited		Moderately limited		Slightly limited		Moderately limited		Slightly limited	
	~small stones (moderately limited)	0.60	~small stones (moderately limited)	0.60	~seasonal wetness (slightly limited)	0.10	~small stones (moderately limited)	0.60	~seasonal wetness (slightly limited)	0.10
							~seasonal wetness (slightly limited)	0.10		

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
73176:										
Bendavis-------	Moderately limited		Moderately limited		Slightly limited		Moderately limited		Limited	
	~small stones (moderately limited)	0.60	~small stones (moderately limited)	0.60	~seasonal wetness (slightly limited)	0.10	~small stones (moderately limited)	0.60	~slope (limited)	0.76
			~slope (moderately limited)	0.47			~seasonal wetness (slightly limited)	0.10	~seasonal wetness (slightly limited)	0.10
			~surface stones (slightly limited)	0.02						
Poynor---------	Slightly limited		Moderately limited		Not limited		Slightly limited		Limited	
	~small stones (slightly limited)	0.24	~slope (moderately limited)	0.47			~small stones (slightly limited)	0.01	~slope (limited)	0.76
			~small stones (slightly limited)	0.24						
			~surface stones (slightly limited)	0.02						
73181:										
Useful---------	Not limited		Moderately limited		Moderately limited		Not limited		Limited	
			~slope (moderately limited)	0.47	~low strength (moderately limited)	0.50			~slope (limited)	0.76
									~low strength (moderately limited)	0.50
Gatewood-------	Moderately limited		Moderately limited		Slightly limited		Moderately limited		Limited	
	~small stones (moderately limited)	0.60	~small stones (moderately limited)	0.60	~seasonal wetness (slightly limited)	0.15	~small stones (moderately limited)	0.60	~slope (limited)	0.76
			~slope (moderately limited)	0.47			~seasonal wetness (slightly limited)	0.15	~seasonal wetness (slightly limited)	0.15
			~surface stones (slightly limited)	0.02						
73200:										
Sonsac---------	Slightly limited		Moderately limited		Moderately limited		Not limited		Moderately limited	
	~small stones (slightly limited)	0.03	~surface stones (moderately limited)	0.45	~low strength (moderately limited)	0.50			~low strength (moderately limited)	0.50
			~slope (slightly limited)	0.30					~slope (moderately limited)	0.30
			~small stones (slightly limited)	0.03						

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
73210:										
Goss-----------	Moderately limited		Very limited		Limited		Limited		Very limited	
	~surface stones (moderately limited)	0.42	~slope (very limited)	1.00	~slope (limited)	0.87	~slope (limited)	0.87	~slope (very limited)	1.00
	~slope (slightly limited)	0.23	~surface stones (limited)	0.79	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60
	~large stones (slightly limited)	0.17	~large stones (moderately limited)	0.45			~large stones (slightly limited)	0.17	~surface stones (moderately limited)	0.42
73214:										
Moko-----------	Moderately limited		Very limited		Limited		Limited		Very limited	
	~surface stones (moderately limited)	0.42	~slope (very limited)	1.00	~slope (limited)	0.87	~slope (limited)	0.87	~slope (very limited)	1.00
	~slope (slightly limited)	0.23	~surface stones (limited)	0.79	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60
	~small stones (slightly limited)	0.03	~small stones (slightly limited)	0.03					~slippage potential (moderately limited)	0.50
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73215:										
Crider---------	Not limited		Slightly limited		Moderately limited		Not limited		Moderately limited	
			~slope (slightly limited)	0.10	~low strength (moderately limited)	0.50			~low strength (moderately limited)	0.50
73271:										
Moko-----------	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	~slope (very limited)	1.00
	~very sandy (surface) (moderately limited)	0.50	~surface stones (limited)	0.79	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60
	~surface stones (moderately limited)	0.42	~very sandy (surface) (moderately limited)	0.50	~very sandy (surface) (moderately limited)	0.50	~small stones (slightly limited)	0.30	~very sandy (surface) (moderately limited)	0.50
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73272:										
Hildebrecht----	Not limited		Not limited		Moderately limited		Slightly limited		Moderately limited	
					~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.28	~low strength (moderately limited)	0.50
					~seasonal wetness (slightly limited)	0.28			~seasonal wetness (slightly limited)	0.28

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
73273:										
Coulstone------	Moderately limited		Very limited		Limited		Limited		Very limited	
	~surface stones (moderately limited)	0.42	~slope (very limited)	1.00	~slope (limited)	0.87	~slope (limited)	0.87	~slope (very limited)	1.00
	~slope (slightly limited)	0.23	~surface stones (limited)	0.79	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60
					~seasonal wetness (slightly limited)	0.28	~seasonal wetness (slightly limited)	0.28	~surface stones (moderately limited)	0.42
Bender---------	Moderately limited		Very limited		Limited		Limited		Very limited	
	~surface stones (moderately limited)	0.42	~slope (very limited)	1.00	~slope (limited)	0.87	~slope (limited)	0.87	~slope (very limited)	1.00
	~slope (slightly limited)	0.23	~surface stones (limited)	0.79	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60
									~surface stones (moderately limited)	0.42
73274:										
Scholten-------	Moderately limited		Moderately limited		Slightly limited		Slightly limited		Moderately limited	
	~small stones (moderately limited)	0.32	~slope (moderately limited)	0.34	~seasonal wetness (slightly limited)	0.26	~seasonal wetness (slightly limited)	0.26	~slippage potential (moderately limited)	0.50
			~small stones (moderately limited)	0.32			~small stones (slightly limited)	0.14	~slope (moderately limited)	0.45
									~seasonal wetness (slightly limited)	0.26
73275:										
Gravois--------	Not limited		Slightly limited		Moderately limited		Slightly limited		Moderately limited	
			~slope (slightly limited)	0.10	~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
Goss-----------	Slightly limited		Moderately limited		Moderately limited		Not limited		Limited	
	~small stones (slightly limited)	0.13	~slope (moderately limited)	0.47	~low strength (moderately limited)	0.50			~slope (limited)	0.76
			~small stones (slightly limited)	0.13					~low strength (moderately limited)	0.50
			~surface stones (slightly limited)	0.02						

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
73276:										
Rueter	Moderately limited		Moderately limited		Not limited		Moderately limited		Moderately limited	
	~small stones (moderately limited)	0.53	~small stones (moderately limited)	0.53			~small stones (moderately limited)	0.49	~slippage potential (moderately limited)	0.50
			~slope (slightly limited)	0.20					~slope (slightly limited)	0.15
			~surface stones (slightly limited)	0.02						
Hildebrecht	Not limited		Not limited		Moderately limited		Slightly limited		Moderately limited	
					~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.28	~low strength (moderately limited)	0.50
					~seasonal wetness (slightly limited)	0.28			~seasonal wetness (slightly limited)	0.28
73277:										
Goss	Slightly limited		Moderately limited		Moderately limited		Not limited		Limited	
	~small stones (slightly limited)	0.13	~slope (moderately limited)	0.47	~low strength (moderately limited)	0.50			~slope (limited)	0.76
			~small stones (slightly limited)	0.13					~low strength (moderately limited)	0.50
			~surface stones (slightly limited)	0.02						
73278:										
Rueter	Moderately limited		Very limited		Very limited		Very limited		Very limited	
	~slope (moderately limited)	0.37	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~small stones (slightly limited)	0.13	~surface stones (moderately limited)	0.45					~slippage potential (moderately limited)	0.50
			~large stones (slightly limited)	0.15						
73279:										
Sonsac	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~surface stones (moderately limited)	0.42	~slope (limited)	0.80	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60	~slope (very limited)	1.00
	~small stones (slightly limited)	0.15	~surface stones (limited)	0.79	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~large surface stones (moderately limited)	0.60
	~slope (slightly limited)	0.07	~large stones (slightly limited)	0.21					~surface stones (moderately limited)	0.42

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
73279:										
Moko	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~small stones	0.60	~slope	0.95	~large surface stones	0.60	~large surface stones	0.60	~slope	1.00
	(moderately limited)		(limited)		(moderately limited)		(moderately limited)		(very limited)	
	~stickiness (surface)	0.50	~surface stones	0.79	~slope	0.54	~small stones	0.60	~large surface stones	0.60
	(moderately limited)		(limited)		(moderately limited)		(moderately limited)		(moderately limited)	
	~surface stones	0.42	~small stones	0.60	~stickiness (surface)	0.50	~slope	0.54	~slippage potential	0.50
	(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73280:										
Alred	Slightly limited		Moderately limited		Not limited		Slightly limited		Moderately limited	
	~small stones	0.28	~surface stones	0.45			~small stones	0.07	~slope	0.30
	(slightly limited)		(moderately limited)				(slightly limited)		(moderately limited)	
			~slope	0.30						
			(slightly limited)							
			~small stones	0.28						
			(slightly limited)							
73281:										
Hobson	Not limited		Moderately limited		Moderately limited		Slightly limited		Limited	
			~slope	0.51	~low strength	0.50	~seasonal wetness	0.23	~slope	0.83
			(moderately limited)		(moderately limited)		(slightly limited)		(limited)	
					~seasonal wetness	0.23			~low strength	0.50
					(slightly limited)				(moderately limited)	
									~seasonal wetness	0.23
									(slightly limited)	
73282:										
Alred	Slightly limited		Limited		Moderately limited		Moderately limited		Very limited	
	~small stones	0.28	~slope	0.87	~slope	0.42	~slope	0.42	~slope	1.00
	(slightly limited)		(limited)		(moderately limited)		(moderately limited)		(very limited)	
	~slope	0.10	~surface stones	0.45			~small stones	0.07		
	(slightly limited)		(moderately limited)				(slightly limited)			
			~small stones	0.28						
			(slightly limited)							
Sonsac	Slightly limited		Moderately limited		Moderately limited		Slightly limited		Limited	
	~small stones	0.03	~slope	0.60	~low strength	0.50	~slope	0.05	~slope	0.99
	(slightly limited)		(moderately limited)		(moderately limited)		(slightly limited)		(limited)	
	~slope	0.01	~surface stones	0.45	~slope	0.05			~low strength	0.50
	(slightly limited)		(moderately limited)		(slightly limited)				(moderately limited)	
			~small stones	0.03						
			(slightly limited)							

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
73283:										
Courtois-------	Not limited		Slightly limited ~slope (slightly limited)	 0.10	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	 0.50 0.28	Slightly limited ~seasonal wetness (slightly limited)	 0.28	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	 0.50 0.28
73284:										
Courtois-------	Not limited		Moderately limited ~slope (moderately limited)	 0.34	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	 0.50 0.28	Slightly limited ~seasonal wetness (slightly limited)	 0.28	Moderately limited ~low strength (moderately limited) ~slope (moderately limited) ~seasonal wetness (slightly limited)	 0.50 0.45 0.28
Goss-----------	Slightly limited ~small stones (slightly limited)	 0.13	Moderately limited ~slope (moderately limited) ~small stones (slightly limited)	 0.43 0.13	Moderately limited ~low strength (moderately limited)	 0.50	Not limited		Limited ~slope (limited) ~low strength (moderately limited)	 0.68 0.50
73285:										
Useful---------	Not limited		Not limited		Moderately limited ~low strength (moderately limited)	 0.50	Not limited		Moderately limited ~low strength (moderately limited)	 0.50
Courtois-------	Not limited		Slightly limited ~slope (slightly limited)	 0.20	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	 0.50 0.28	Slightly limited ~seasonal wetness (slightly limited)	 0.28	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited) ~slope (slightly limited)	 0.50 0.28 0.15
73286:										
Useful---------	Not limited		Moderately limited ~slope (moderately limited)	 0.34	Moderately limited ~low strength (moderately limited)	 0.50	Not limited		Moderately limited ~low strength (moderately limited) ~slope (moderately limited)	 0.50 0.45

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
73286:										
Courtois	Not limited		Moderately limited		Moderately limited		Slightly limited		Moderately limited	
			~slope (moderately limited)	0.39	~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.28	~slope (moderately limited)	0.60
					~seasonal wetness (slightly limited)	0.28			~low strength (moderately limited)	0.50
									~seasonal wetness (slightly limited)	0.28
73287:										
Useful	Slightly limited		Limited		Moderately limited		Moderately limited		Very limited	
	~slope (slightly limited)	0.14	~slope (limited)	0.99	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60	~slope (very limited)	1.00
					~low strength (moderately limited)	0.50			~low strength (moderately limited)	0.50
Sonsac	Slightly limited		Limited		Moderately limited		Moderately limited		Very limited	
	~slope (slightly limited)	0.07	~slope (limited)	0.80	~low strength (moderately limited)	0.50	~slope (moderately limited)	0.30	~slope (very limited)	1.00
			~surface stones (slightly limited)	0.02	~slope (moderately limited)	0.30			~low strength (moderately limited)	0.50
73288:										
Caneyville	Not limited		Moderately limited		Moderately limited		Slightly limited		Moderately limited	
			~slope (moderately limited)	0.34	~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.28	~low strength (moderately limited)	0.50
					~seasonal wetness (slightly limited)	0.28			~slope (moderately limited)	0.45
									~seasonal wetness (slightly limited)	0.28
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73289:										
Fourche	Not limited		Not limited		Moderately limited		Slightly limited		Moderately limited	
					~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.15	~low strength (moderately limited)	0.50
					~seasonal wetness (slightly limited)	0.15			~seasonal wetness (slightly limited)	0.15
74634:										
Hartville	Not limited		Slightly limited		Moderately limited		Slightly limited		Moderately limited	
			~slope (slightly limited)	0.10	~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.29	~low strength (moderately limited)	0.50
					~seasonal wetness (slightly limited)	0.29			~seasonal wetness (slightly limited)	0.29

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Value	Mechanical planting: Rating class and limiting features	Value	Use of harvesting equipment: Rating class and limiting features	Value	Mechanical site preparation (surface): Rating class and limiting features	Value	Roads (natural surface): Rating class and limiting features	Value
74650:										
Higdon	Not limited		Not limited		Moderately limited		Slightly limited		Moderately limited	
					~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.25	~flooding (moderately limited)	0.60
					~seasonal wetness (slightly limited)	0.25			~low strength (moderately limited)	0.50
									~seasonal wetness (slightly limited)	0.25
74652:										
Lecoma	Not limited		Slightly limited		Moderately limited		Not limited		Moderately limited	
			~slope (slightly limited)	0.10	~low strength (moderately limited)	0.50			~low strength (moderately limited)	0.50
74653:										
Racoon	Moderately limited		Moderately limited		Very limited		Very limited		Very limited	
	~seasonal wetness (moderately limited)	0.60	~seasonal wetness (moderately limited)	0.60	~seasonal wetness (very limited)	1.00	~seasonal wetness (very limited)	1.00	~seasonal wetness (very limited)	1.00
					~low strength (moderately limited)	0.50			~flooding (moderately limited)	0.60
									~low strength (moderately limited)	0.50
Freeburg	Not limited		Not limited		Moderately limited		Slightly limited		Moderately limited	
					~low strength (moderately limited)	0.50	~seasonal wetness (slightly limited)	0.25	~flooding (moderately limited)	0.60
					~seasonal wetness (slightly limited)	0.25			~low strength (moderately limited)	0.50
									~seasonal wetness (slightly limited)	0.25
74656:										
Deible	Moderately limited		Moderately limited		Limited		Limited		Limited	
	~seasonal wetness (moderately limited)	0.60	~seasonal wetness (moderately limited)	0.60	~seasonal wetness (limited)	0.91	~seasonal wetness (limited)	0.91	~seasonal wetness (limited)	0.91
					~low strength (moderately limited)	0.50			~low strength (moderately limited)	0.50
74661:										
Waben	Moderately limited		Moderately limited		Not limited		Slightly limited		Not Limited	
	~small stones (moderately limited)	0.42	~small stones (moderately limited)	0.42			~small stones (slightly limited)	0.30		
			~slope (slightly limited)	0.10						

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Hand planting: Value	Mechanical planting: Rating class and limiting features	Mechanical planting: Value	Use of harvesting equipment: Rating class and limiting features	Use of harvesting equipment: Value	Mechanical site preparation (surface): Rating class and limiting features	Mechanical site preparation (surface): Value	Roads (natural surface): Rating class and limiting features	Roads (natural surface): Value
74662: Higdon	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
75376: Cedargap	Slightly limited ~small stones (slightly limited)	 0.03	Slightly limited ~small stones (slightly limited)	 0.03	Moderately limited ~low strength (moderately limited)	 0.50	Not limited		Very limited ~flooding (very limited) ~low strength (moderately limited)	 1.00 0.50
75388: Kaintuck	Not limited		Not limited		Not limited		Not limited		Very limited ~flooding (very limited)	 1.00
Relfe	Limited ~small stones (limited) ~very sandy (surface) (moderately limited)	 0.73 0.50	Limited ~small stones (limited) ~very sandy (surface) (moderately limited)	 0.73 0.50	Moderately limited ~very sandy (surface) (moderately limited)	 0.50	Limited ~small stones (limited)	 0.73	Very limited ~flooding (very limited) ~very sandy (surface) (moderately limited)	 1.00 0.50
75398: Kaintuck	Not limited		Not limited		Not limited		Not limited		Very limited ~flooding (very limited)	 1.00
75412: Razort	Not limited		Not limited		Moderately limited ~low strength (moderately limited)	 0.50	Not limited		Moderately limited ~flooding (moderately limited) ~low strength (moderately limited)	 0.60 0.50
75413: Relfe	Limited ~small stones (limited) ~very sandy (surface) (moderately limited)	 0.73 0.50	Limited ~small stones (limited) ~very sandy (surface) (moderately limited)	 0.73 0.50	Moderately limited ~very sandy (surface) (moderately limited)	 0.50	Limited ~small stones (limited)	 0.73	Very limited ~flooding (very limited) ~very sandy (surface) (moderately limited)	 1.00 0.50

Table 8a.--Forest Management--Continued

Map symbol and soil name	Hand planting: Rating class and limiting features	Hand planting: Value	Mechanical planting: Rating class and limiting features	Mechanical planting: Value	Use of harvesting equipment: Rating class and limiting features	Use of harvesting equipment: Value	Mechanical site preparation (surface): Rating class and limiting features	Mechanical site preparation (surface): Value	Roads (natural surface): Rating class and limiting features	Roads (natural surface): Value
75427:										
Gabriel--------	Not limited		Not limited		Moderately limited		Moderately limited		Moderately limited	
					~low strength	0.50	~seasonal wetness	0.49	~flooding	0.60
					(moderately limited)		(moderately limited)		(moderately limited)	
					~seasonal wetness	0.49			~low strength	0.50
					(moderately limited)				(moderately limited)	
									~seasonal wetness	0.49
									(moderately limited)	
75450:										
Bloomsdale-----	Not limited		Not limited		Moderately limited		Not limited		Very limited	
					~low strength	0.50			~flooding	1.00
					(moderately limited)				(very limited)	
									~low strength	0.50
									(moderately limited)	
75453:										
Sturkie--------	Not limited		Not limited		Moderately limited		Not limited		Moderately limited	
					~low strength	0.50			~flooding	0.60
					(moderately limited)				(moderately limited)	
									~low strength	0.50
									(moderately limited)	
75459:										
Huzzah---------	Not limited		Not limited		Moderately limited		Not limited		Very limited	
					~low strength	0.50			~flooding	1.00
					(moderately limited)				(very limited)	
									~low strength	0.50
									(moderately limited)	
75460:										
Horsecreek-----	Not limited		Not limited		Moderately limited		Not limited		Moderately limited	
					~low strength	0.50			~flooding	0.60
					(moderately limited)				(moderately limited)	
									~low strength	0.50
									(moderately limited)	
99000:										
Pits, quarries------	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water----------	Not rated		Not rated		Not rated		Not rated		Not rated	
99003:										
Miscellaneous water---------	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 0.00 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
66014:										
Haymond--------	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
70028:										
Moko-----------	Very limited ~slope/erodibility (very limited)	 1.00	Slightly limited ~slope/erodibility (slightly limited)	 0.18	Moderately limited ~low strength (moderately limited)	 0.50	Moderately limited ~slippage potential (moderately limited) ~slope (moderately limited)	 0.50 0.45	Very limited ~droughty (very limited)	 1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73012:										
Gravois--------	Limited ~slope/erodibility (limited)	 0.67	Slightly limited ~slope/erodibility (slightly limited)	 0.15	Limited ~low strength (limited) ~seasonal wetness (slightly limited)	 0.80 0.26	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	 0.50 0.26	Not limited	
73032:										
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	
73035:										
Gravois--------	Very limited ~slope/erodibility (very limited)	 1.00	Slightly limited ~slope/erodibility (slightly limited)	 0.27	Limited ~low strength (limited) ~seasonal wetness (slightly limited)	 0.80 0.26	Limited ~slope (limited) ~low strength (moderately limited) ~seasonal wetness (slightly limited)	 0.68 0.50 0.26	Not limited	

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
73039:										
Glensted	Slightly limited		Slightly limited		Limited		Limited		Limited	
	~slope/erodibility (slightly limited)	0.22	~slope/erodibility (slightly limited)	0.04	~low strength (limited)	0.80	~seasonal wetness (limited)	0.76	~seasonal wetness (limited)	0.76
					~seasonal wetness (limited)	0.76	~low strength (moderately limited)	0.50		
73053:										
Lily	Limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (limited)	0.89	~slope/erodibility (slightly limited)	0.16	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
							~slope (moderately limited)	0.30		
Bender	Moderately limited		Slightly limited		Not limited		Moderately limited		Moderately limited	
	~slope/erodibility (moderately limited)	0.31	~slope/erodibility (slightly limited)	0.16			~slope (moderately limited)	0.30	~droughty (moderately limited)	0.45
73066:										
Bender	Moderately limited		Slightly limited		Not limited		Moderately limited		Moderately limited	
	~slope/erodibility (moderately limited)	0.31	~slope/erodibility (slightly limited)	0.16			~slope (moderately limited)	0.30	~droughty (moderately limited)	0.45
73067:										
Bender	Very limited		Limited		Not limited		Very limited		Moderately limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (limited)	0.65			~slope (very limited)	1.00	~droughty (moderately limited)	0.45
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73089:										
Rueter	Very limited		Moderately limited		Not limited		Very limited		Slightly limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (moderately limited)	0.49			~slope (very limited)	1.00	~droughty (slightly limited)	0.19
							~slippage potential (moderately limited)	0.50	~soil reaction (slightly limited)	0.18
73094:										
Gatewood	Very limited		Moderately limited		Slightly limited		Very limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (moderately limited)	0.49	~seasonal wetness (slightly limited)	0.15	~slope (very limited)	1.00		
							~seasonal wetness (slightly limited)	0.15		

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
73098:										
Plato----------	Slightly limited		Slightly limited		Limited		Moderately limited		Moderately limited	
	~slope/erodibility	0.22	~slope/erodibility	0.05	~low strength	0.80	~seasonal wetness	0.56	~seasonal wetness	0.51
	(slightly limited)		(slightly limited)		(limited)		(moderately limited)		(moderately limited)	
					~seasonal wetness	0.56	~low strength	0.50		
					(moderately limited)		(moderately limited)			
73135:										
Union----------	Limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility	0.67	~slope/erodibility	0.15	~low strength	0.80	~low strength	0.50		
	(limited)		(slightly limited)		(limited)		(moderately limited)			
					~seasonal wetness	0.28	~seasonal wetness	0.28		
					(slightly limited)		(slightly limited)			
73136:										
Union----------	Slightly limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility	0.22	~slope/erodibility	0.05	~low strength	0.80	~low strength	0.50		
	(slightly limited)		(slightly limited)		(limited)		(moderately limited)			
					~seasonal wetness	0.28	~seasonal wetness	0.28		
					(slightly limited)		(slightly limited)			
73159:										
Yelton---------	Moderately limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility	0.56	~slope/erodibility	0.12	~low strength	0.80	~low strength	0.50		
	(moderately limited)		(slightly limited)		(limited)		(moderately limited)			
					~seasonal wetness	0.28	~seasonal wetness	0.28		
					(slightly limited)		(slightly limited)			
73162:										
Alred----------	Very limited		Moderately limited		Not limited		Very limited		Slightly limited	
	~slope/erodibility	1.00	~slope/erodibility	0.49			~slope	1.00	~droughty	0.08
	(very limited)		(moderately limited)				(very limited)		(slightly limited)	
Rueter---------	Very limited		Moderately limited		Not limited		Very limited		Slightly limited	
	~slope/erodibility	1.00	~slope/erodibility	0.49			~slope	1.00	~droughty	0.19
	(very limited)		(moderately limited)				(very limited)		(slightly limited)	
							~slippage potential	0.50	~soil reaction	0.18
							(moderately limited)		(slightly limited)	

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
73164:										
Bender	Very limited		Limited		Not limited		Very limited		Moderately limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (limited)	0.98			~slope (very limited)	1.00	~droughty (moderately limited)	0.45
							~large surface stones (slightly limited)	0.30		
							~surface stones (slightly limited)	0.30		
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73166:										
Viburnum	Moderately limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (moderately limited)	0.56	~slope/erodibility (slightly limited)	0.12	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
					~seasonal wetness (slightly limited)	0.26	~seasonal wetness (slightly limited)	0.26		
Tonti	Moderately limited		Slightly limited		Limited		Moderately limited		Slightly limited	
	~slope/erodibility (moderately limited)	0.56	~slope/erodibility (slightly limited)	0.12	~low strength (limited)	0.80	~low strength (moderately limited)	0.50	~soil reaction (slightly limited)	0.06
					~seasonal wetness (slightly limited)	0.26	~seasonal wetness (slightly limited)	0.26		
73168:										
Swiss	Very limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (slightly limited)	0.20	~low strength (limited)	0.80	~slope (moderately limited)	0.60		
							~low strength (moderately limited)	0.50		
73169:										
Beemont	Very limited		Moderately limited		Limited		Very limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (moderately limited)	0.49	~low strength (limited)	0.80	~slope (very limited)	1.00		
					~seasonal wetness (slightly limited)	0.10	~low strength (moderately limited)	0.50		
							~seasonal wetness (slightly limited)	0.10		
Gatewood	Very limited		Moderately limited		Slightly limited		Very limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (moderately limited)	0.49	~seasonal wetness (slightly limited)	0.15	~slope (very limited)	1.00		
							~seasonal wetness (slightly limited)	0.15		

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
73170:										
Beemont	Moderately limited ~slope/erodibility (moderately limited)	 0.56	Slightly limited ~slope/erodibility (slightly limited)	 0.18	Limited ~low strength (limited) ~seasonal wetness (slightly limited)	 0.80 0.10	Moderately limited ~low strength (moderately limited) ~slope (moderately limited) ~seasonal wetness (slightly limited)	 0.50 0.45 0.10	Not limited	
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	
73171:										
Plato	Limited ~slope/erodibility (limited)	 0.67	Slightly limited ~slope/erodibility (slightly limited)	 0.15	Limited ~low strength (limited) ~seasonal wetness (moderately limited)	 0.80 0.56	Moderately limited ~seasonal wetness (moderately limited) ~low strength (moderately limited) ~stickiness (surface) (moderately limited)	 0.56 0.50 0.50	Moderately limited ~seasonal wetness (moderately limited) ~soil reaction (slightly limited)	 0.51 0.06
73172:										
Rosati	Moderately limited ~slope/erodibility (moderately limited)	 0.33	Slightly limited ~slope/erodibility (slightly limited)	 0.07	Limited ~low strength (limited) ~seasonal wetness (moderately limited)	 0.80 0.49	Moderately limited ~low strength (moderately limited) ~seasonal wetness (moderately limited)	 0.50 0.49	Moderately limited ~seasonal wetness (moderately limited)	 0.39
73173:										
Lily	Limited ~slope/erodibility (limited)	 0.67	Slightly limited ~slope/erodibility (slightly limited)	 0.12	Moderately limited ~low strength (moderately limited)	 0.50	Not limited		Not limited	
Yelton	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 0.28	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	 0.50 0.28	Not limited	
73174:										
Lily	Very limited ~slope/erodibility (very limited)	 1.00	Slightly limited ~slope/erodibility (slightly limited)	 0.24	Moderately limited ~low strength (moderately limited)	 0.50	Limited ~slope (limited)	 0.76	Not limited	

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
73174:										
Yelton	Very limited		Slightly limited		Limited		Limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (slightly limited)	0.29	~low strength (limited)	0.80	~slope (limited)	0.76		
					~seasonal wetness (slightly limited)	0.28	~low strength (moderately limited)	0.50		
							~seasonal wetness (slightly limited)	0.28		
73175:										
Poynor	Moderately limited		Slightly limited		Not limited		Not limited		Not limited	
	~slope/erodibility (moderately limited)	0.56	~slope/erodibility (slightly limited)	0.10						
Bendavis	Moderately limited		Slightly limited		Slightly limited		Slightly limited		Not limited	
	~slope/erodibility (moderately limited)	0.31	~slope/erodibility (slightly limited)	0.10	~seasonal wetness (slightly limited)	0.10	~seasonal wetness (slightly limited)	0.10		
73176:										
Bendavis	Limited		Slightly limited		Slightly limited		Limited		Not limited	
	~slope/erodibility (limited)	0.75	~slope/erodibility (slightly limited)	0.24	~seasonal wetness (slightly limited)	0.10	~slope (limited)	0.76		
							~seasonal wetness (slightly limited)	0.10		
Poynor	Very limited		Slightly limited		Not limited		Limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (slightly limited)	0.24			~slope (limited)	0.76		
73181:										
Useful	Very limited		Slightly limited		Limited		Limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (slightly limited)	0.29	~low strength (limited)	0.80	~slope (limited)	0.76		
							~low strength (moderately limited)	0.50		
Gatewood	Very limited		Slightly limited		Slightly limited		Limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (slightly limited)	0.24	~seasonal wetness (slightly limited)	0.15	~slope (limited)	0.76		
							~seasonal wetness (slightly limited)	0.15		

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
73200: Sonsac	Limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (limited)	0.89	~slope/erodibility (slightly limited)	0.16	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
							~slope (moderately limited)	0.30		
73210: Goss	Very limited		Limited		Not limited		Very limited		Moderately limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (limited)	0.63			~slope (very limited)	1.00	~droughty (moderately limited)	0.31
							~large surface stones (moderately limited)	0.60		
							~surface stones (moderately limited)	0.42		
73214: Moko	Very limited		Limited		Moderately limited		Very limited		Limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (limited)	0.63	~low strength (moderately limited)	0.50	~slope (very limited)	1.00	~droughty (limited)	0.95
							~large surface stones (moderately limited)	0.60		
							~slippage potential (moderately limited)	0.50		
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73215: Crider	Limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (limited)	0.67	~slope/erodibility (slightly limited)	0.12	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
73271: Moko	Very limited		Very limited		Not limited		Very limited		Limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (very limited)	1.00			~slope (very limited)	1.00	~droughty (limited)	0.79
							~large surface stones (moderately limited)	0.60		
							~slippage potential (moderately limited)	0.50		
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: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
73272:										
Hildebrecht----	Moderately limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (moderately limited)	0.56	~slope/erodibility (slightly limited)	0.10	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
					~seasonal wetness (slightly limited)	0.28	~seasonal wetness (slightly limited)	0.28		
73273:										
Coulstone------	Very limited		Limited		Slightly limited		Very limited		Limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (limited)	0.63	~seasonal wetness (slightly limited)	0.28	~slope (very limited)	1.00	~droughty (limited)	0.99
							~large surface stones (moderately limited)	0.60	~soil reaction (slightly limited)	0.24
							~surface stones (moderately limited)	0.42		
Bender---------	Very limited		Limited		Not limited		Very limited		Limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (limited)	0.63			~slope (very limited)	1.00	~droughty (limited)	0.86
							~large surface stones (moderately limited)	0.60	~soil reaction (slightly limited)	0.12
							~surface stones (moderately limited)	0.42		
73274:										
Scholten-------	Moderately limited		Slightly limited		Slightly limited		Moderately limited		Not limited	
	~slope/erodibility (moderately limited)	0.56	~slope/erodibility (slightly limited)	0.18	~seasonal wetness (slightly limited)	0.26	~slippage potential (moderately limited)	0.50		
							~slope (moderately limited)	0.45		
							~seasonal wetness (slightly limited)	0.26		
73275:										
Gravois--------	Limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (limited)	0.67	~slope/erodibility (slightly limited)	0.15	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
					~seasonal wetness (slightly limited)	0.26	~seasonal wetness (slightly limited)	0.26		
Goss-----------	Very limited		Slightly limited		Limited		Limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (slightly limited)	0.24	~low strength (limited)	0.80	~slope (limited)	0.76		
							~low strength (moderately limited)	0.50		

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
73276:										
Rueter	Limited		Slightly limited		Not limited		Moderately limited		Slightly limited	
	~slope/erodibility (limited)	0.78	~slope/erodibility (slightly limited)	0.14			~slippage potential (moderately limited)	0.50	~droughty (slightly limited)	0.19
							~slope (slightly limited)	0.15	~soil reaction (slightly limited)	0.18
Hildebrecht	Moderately limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (moderately limited)	0.56	~slope/erodibility (slightly limited)	0.10	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
					~seasonal wetness (slightly limited)	0.28	~seasonal wetness (slightly limited)	0.28		
73277:										
Goss	Very limited		Slightly limited		Limited		Limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (slightly limited)	0.24	~low strength (limited)	0.80	~slope (limited)	0.76		
							~low strength (moderately limited)	0.50		
73278:										
Rueter	Very limited		Limited		Not limited		Very limited		Slightly limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (limited)	0.78			~slope (very limited)	1.00	~soil reaction (slightly limited)	0.30
							~slippage potential (moderately limited)	0.50	~droughty (slightly limited)	0.08
73279:										
Sonsac	Very limited		Moderately limited		Not limited		Very limited		Limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (moderately limited)	0.39			~slope (very limited)	1.00	~droughty (limited)	0.67
							~large surface stones (moderately limited)	0.60		
							~surface stones (moderately limited)	0.42		
Moko	Very limited		Moderately limited		Not limited		Very limited		Limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (moderately limited)	0.47			~slope (very limited)	1.00	~droughty (limited)	0.89
							~large surface stones (moderately limited)	0.60		
							~slippage potential (moderately limited)	0.50		
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
73280:										
Alred	Moderately limited ~slope/erodibility (moderately limited)	 0.50	Slightly limited ~slope/erodibility (slightly limited)	 0.16	Not limited		Moderately limited ~slope (moderately limited)	 0.30	Slightly limited	
73281:										
Hobson	Very limited ~slope/erodibility (very limited)	 1.00	Moderately limited ~slope/erodibility (moderately limited)	 0.32	Limited ~low strength (limited) ~seasonal wetness (slightly limited)	 0.80 0.23	Limited ~slope (limited) ~low strength (moderately limited) ~seasonal wetness (slightly limited)	 0.83 0.50 0.23	Not limited	
73282:										
Alred	Very limited ~slope/erodibility (very limited)	 1.00	Moderately limited ~slope/erodibility (moderately limited)	 0.43	Not limited		Very limited ~slope (very limited)	 1.00	Slightly limited	
Sonsac	Very limited ~slope/erodibility (very limited)	 1.00	Slightly limited ~slope/erodibility (slightly limited)	 0.29	Limited ~low strength (limited)	 0.80	Limited ~slope (limited) ~low strength (moderately limited)	 0.99 0.50	Not limited	
73283:										
Courtois	Limited ~slope/erodibility (limited)	 0.67	Slightly limited ~slope/erodibility (slightly limited)	 0.15	Limited ~low strength (limited) ~seasonal wetness (slightly limited)	 0.80 0.28	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	 0.50 0.28	Not limited	
73284:										
Courtois	Very limited ~slope/erodibility (very limited)	 1.00	Slightly limited ~slope/erodibility (slightly limited)	 0.22	Limited ~low strength (limited) ~seasonal wetness (slightly limited)	 0.80 0.28	Moderately limited ~low strength (moderately limited) ~slope (moderately limited) ~seasonal wetness (slightly limited)	 0.50 0.45 0.28	Not limited	
Goss	Very limited ~slope/erodibility (very limited)	 1.00	Slightly limited ~slope/erodibility (slightly limited)	 0.22	Limited ~low strength (limited)	 0.80	Limited ~slope (limited) ~low strength (moderately limited)	 0.68 0.50	Not limited	

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
73285:										
Useful	Moderately limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (moderately limited)	0.33	~slope/erodibility (slightly limited)	0.07	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
Courtois	Limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (limited)	0.78	~slope/erodibility (slightly limited)	0.17	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
					~seasonal wetness (slightly limited)	0.28	~seasonal wetness (slightly limited)	0.28		
							~slope (slightly limited)	0.15		
73286:										
Useful	Very limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (slightly limited)	0.22	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
							~slope (moderately limited)	0.45		
Courtois	Very limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (slightly limited)	0.24	~low strength (limited)	0.80	~slope (moderately limited)	0.60		
					~seasonal wetness (slightly limited)	0.28	~low strength (moderately limited)	0.50		
							~seasonal wetness (slightly limited)	0.28		
73287:										
Useful	Very limited		Limited		Limited		Very limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (limited)	0.61	~low strength (limited)	0.80	~slope (very limited)	1.00		
							~low strength (moderately limited)	0.50		
Sonsac	Very limited		Moderately limited		Limited		Very limited		Slightly limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (moderately limited)	0.39	~low strength (limited)	0.80	~slope (very limited)	1.00	~droughty (slightly limited)	0.15
							~low strength (moderately limited)	0.50		

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
73288:										
Caneyville-----	Very limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (very limited)	1.00	~slope/erodibility (slightly limited)	0.22	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
					~seasonal wetness (slightly limited)	0.28	~slope (moderately limited)	0.45		
							~seasonal wetness (slightly limited)	0.28		
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73289:										
Fourche--------	Moderately limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (moderately limited)	0.56	~slope/erodibility (slightly limited)	0.12	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
					~seasonal wetness (slightly limited)	0.15	~seasonal wetness (slightly limited)	0.15		
74634:										
Hartville------	Limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (limited)	0.67	~slope/erodibility (slightly limited)	0.15	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		
					~seasonal wetness (slightly limited)	0.29	~seasonal wetness (slightly limited)	0.29		
74650:										
Higdon---------	Slightly limited		Slightly limited		Limited		Moderately limited		Moderately limited	
	~slope/erodibility (slightly limited)	0.11	~slope/erodibility (slightly limited)	0.02	~low strength (limited)	0.80	~flooding (moderately limited)	0.60	~flooding (moderately limited)	0.60
					~seasonal wetness (slightly limited)	0.25	~low strength (moderately limited)	0.50		
							~seasonal wetness (slightly limited)	0.25		
74652:										
Lecoma---------	Limited		Slightly limited		Limited		Moderately limited		Not limited	
	~slope/erodibility (limited)	0.67	~slope/erodibility (slightly limited)	0.15	~low strength (limited)	0.80	~low strength (moderately limited)	0.50		

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
74653:										
Racoon----------	Slightly limited ~slope/erodibility (slightly limited)	 0.22	Slightly limited ~slope/erodibility (slightly limited)	 0.05	Very limited ~seasonal wetness (very limited) ~low strength (limited)	 1.00 0.80	Very limited ~seasonal wetness (very limited) ~flooding (moderately limited) ~low strength (moderately limited)	 1.00 0.60 0.50	Very limited ~seasonal wetness (very limited) ~flooding (moderately limited)	 1.00 0.60
Freeburg--------	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 ~flooding (moderately limited) ~low strength (moderately limited) ~seasonal wetness (slightly limited)	 0.60 0.50 0.25	Moderately limited ~flooding (moderately limited)	 0.60
74656:										
Deible----------	Slightly limited ~slope/erodibility (slightly limited)	 0.22	Slightly limited ~slope/erodibility (slightly limited)	 0.05	Limited ~seasonal wetness (limited) ~low strength (limited)	 0.91 0.80	Limited ~seasonal wetness (limited) ~low strength (moderately limited)	 0.91 0.50	Limited ~seasonal wetness (limited)	 0.91
74661:										
Waben-----------	Limited ~slope/erodibility (limited)	 0.67	Slightly limited ~slope/erodibility (slightly limited)	 0.12	Moderately limited ~low strength (moderately limited)	 0.50	Not limited		Not limited	
74662:										
Higdon----------	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 0.25	Moderately limited ~low strength (moderately limited) ~seasonal wetness (slightly limited)	 0.50 0.25	Not limited	
75376:										
Cedargap--------	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

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
75388:										
Kaintuck	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
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
75398:										
Kaintuck	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
75412:										
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 ~flooding (moderately limited) ~low strength (moderately limited)	 0.60 0.50	Moderately limited ~flooding (moderately limited)	 0.60
75413:										
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
75427:										
Gabriel	Slightly limited ~slope/erodibility (slightly limited)	 0.11	Slightly limited ~slope/erodibility (slightly limited)	 0.02	Limited ~low strength (limited) ~seasonal wetness (moderately limited)	 0.80 0.49	Moderately limited ~flooding (moderately limited) ~low strength (moderately limited) ~seasonal wetness (moderately limited)	 0.60 0.50 0.49	Moderately limited ~flooding (moderately limited) ~seasonal wetness (moderately limited)	 0.60 0.39
75450:										
Bloomsdale	Slightly limited ~slope/erodibility (slightly limited)	 0.22	Slightly limited ~slope/erodibility (slightly limited)	 0.04	Limited ~low strength (limited)	 0.80	Very limited ~flooding (very limited) ~low strength (moderately limited)	 1.00 0.50	Limited ~flooding (limited)	 0.90

Table 8b.--Forest Management--Continued

Map symbol and soil name	Erosion on roads and trails: Rating class and limiting features	Value	Off-road or off-trail erosion: Rating class and limiting features	Value	Soil rutting: Rating class and limiting features	Value	Log landings: Rating class and limiting features	Value	Seedling survival: Rating class and limiting features	Value
75453: Sturkie	Slightly limited ~slope/erodibility (slightly limited)	 0.11	Slightly limited ~slope/erodibility (slightly limited)	 0.02	Limited ~low strength (limited)	 0.80	Moderately limited ~flooding (moderately limited) ~low strength (moderately limited)	 0.60 0.50	Moderately limited ~flooding (moderately limited)	 0.60
75459: Huzzah	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
75460: Horsecreek	Slightly limited ~slope/erodibility (slightly limited)	 0.11	Slightly limited ~slope/erodibility (slightly limited)	 0.02	Limited ~low strength (limited)	 0.80	Moderately limited ~flooding (moderately limited) ~low strength (moderately limited)	 0.60 0.50	Moderately limited ~flooding (moderately limited)	 0.60
99000: Pits, quarries	Not rated		Not rated		Not rated		Not rated		Not rated	
99001: Water	Not rated		Not rated		Not rated		Not rated		Not rated	
99003: Miscellaneous water	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 9.--Windbreaks and Environmental Plantings

(Only the soils suitable for windbreaks and environmental plantings are listed. 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
66014:					
Haymond	fragrant sumac; American plum	blackhaw; gray dogwood	nannyberry; Washington hawthorn; eastern redcedar	sweetgum; green ash; white fir	pin oak; eastern white pine
73012, 73035:					
Gravois	common lilac; fragrant sumac	American plum; gray dogwood	common hackberry; eastern redcedar	eastern white pine; green ash; honeylocust; Norway spruce; pin oak	---
73039:					
Glensted	American plum; redosier dogwood	common chokecherry	common hackberry; eastern redcedar	golden willow; green ash; honeylocust; northern red oak; Norway spruce; silver maple	eastern cottonwood
73053:					
Lily	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	---
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	---
73066:					
Bender	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash	---	---
73067:					
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	---
Rock outcrop.					
73089:					
Rueter	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash; honeylocust	shortleaf pine	---
73098:					
Plato	fragrant sumac; ninebark	Amur maple; gray dogwood; possumhaw	eastern redcedar	Austrian pine; common hackberry; honeylocust; Norway spruce; 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
73135:					
Union	American plum; common lilac; fragrant sumac	Amur maple; gray dogwood; Washington hawthorn	Austrian pine; common hackberry; eastern redcedar; honeylocust; Virginia pine	---	---
73136:					
Union	American plum; common lilac; fragrant sumac	Amur maple; gray dogwood; Washington hawthorn	Austrian pine; common hackberry; eastern redcedar; honeylocust; Virginia pine	shortleaf pine	---
73159:					
Yelton	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	---
73162:					
Alred	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash	---	---
Rueter	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash; honeylocust	shortleaf pine	---
73164:					
Bender	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash	---	---
Rock outcrop.					
73166:					
Viburnum	fragrant sumac; ninebark	American plum; gray dogwood; possumhaw	Austrian pine; common hackberry; eastern redcedar	Norway spruce; pin oak	---
Tonti	fragrant sumac	gray dogwood	Austrian pine; common hackberry; eastern redcedar; green ash; Manchurian crabapple	---	---
73168:					
Swiss	fragrant sumac; ninebark	Amur maple; gray dogwood; possumhaw	eastern redcedar	Austrian pine; common hackberry; honeylocust; Norway spruce; pin oak	---
73171:					
Plato	fragrant sumac; ninebark	Amur maple; gray dogwood; possumhaw	eastern redcedar	Austrian pine; common hackberry; honeylocust; Norway spruce; 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
73172:					
Rosati	American plum; common lilac; fragrant sumac	Amur maple; gray dogwood; Washington hawthorn	Austrian pine; common hackberry; eastern redcedar; honeylocust; Virginia pine	---	---
73173, 73174:					
Lily	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	---
Yelton	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; common hackberry; eastern redcedar; green ash; Manchurian crabapple	---	---
73175:					
Poynor.					
Bendavis	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash; honeylocust	---	---
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	---
73200:					
Sonsac	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	---
73210:					
Goss	fragrant sumac	American plum; gray dogwood; southern arrowwood	eastern redbud; eastern redcedar; Washington hawthorn	green ash; northern red oak	---
73272:					
Hildebrecht	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; common hackberry; eastern redcedar; green ash; Manchurian crabapple	---	---

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
73273:					
Coulstone	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash	---	---
Bender	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash	---	---
73274:					
Scholten	American plum; common lilac; fragrant sumac	Amur maple; gray dogwood; Washington hawthorn	Austrian pine; common hackberry; eastern redcedar; honeylocust; Virginia pine	---	---
73275:					
Gravois	common lilac; fragrant sumac	Amur maple; gray dogwood	common hackberry; eastern redcedar	eastern white pine; green ash; honeylocust; Norway spruce; pin oak	---
Goss	fragrant sumac	American plum; gray dogwood; southern arrowwood	eastern redbud; eastern redcedar; Washington hawthorn	green ash; northern red oak	---
73276:					
Rueter	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash; honeylocust	shortleaf pine	---
Hildebrecht	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; common hackberry; eastern redcedar; green ash; Manchurian crabapple	---	---
73277:					
Goss	fragrant sumac	American plum; gray dogwood; southern arrowwood	eastern redbud; eastern redcedar; Washington hawthorn	green ash; northern red oak	---
73278:					
Rueter	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash; honeylocust	shortleaf pine	---
73280:					
Alred	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green 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
73281:					
Hobson	common lilac; fragrant sumac	Amur maple; gray dogwood	Austrian pine; common hackberry; eastern redcedar; green ash; Manchurian crabapple	---	---
73282:					
Alred	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash	---	---
Sonsac	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash	---	---
73283:					
Courtois	common lilac; fragrant sumac	American plum; gray dogwood	common hackberry; eastern redcedar	eastern white pine; green ash; honeylocust; Norway spruce; pin oak	---
73284:					
Courtois	common lilac; fragrant sumac	American plum; gray dogwood	common hackberry; eastern redcedar	eastern white pine; green ash; honeylocust; Norway spruce; pin oak	---
Goss	fragrant sumac	American plum; gray dogwood; southern arrowwood	eastern redbud; eastern redcedar; Washington hawthorn	green ash; northern red oak	---
73285, 73286:					
Useful	fragrant sumac; ninebark	American plum; gray dogwood; possumhaw	Austrian pine; common hackberry; eastern redcedar	Norway spruce; pin oak	---
Courtois	common lilac; fragrant sumac	American plum; gray dogwood	common hackberry; eastern redcedar	eastern white pine; green ash; honeylocust; Norway spruce; pin oak	---
73287:					
Useful	fragrant sumac; ninebark	American plum; gray dogwood; possumhaw	Austrian pine; common hackberry; eastern redcedar	Norway spruce; pin oak	---
Sonsac	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash	---	---
73288:					
Caneyville	fragrant sumac; ninebark	American plum; gray dogwood; possumhaw	Austrian pine; common hackberry; eastern redcedar	Norway spruce; pin oak	---
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
73289:					
Fourche-------	common lilac; fragrant sumac	American plum; gray dogwood	common hackberry; eastern redcedar	eastern white pine; green ash; honeylocust; Norway spruce; pin oak	---
74634:					
Hartville-----	fragrant sumac; ninebark	American plum; gray dogwood; possumhaw	Austrian pine; common hackberry; eastern redcedar	Norway spruce; pin oak	---
74650:					
Higdon--------	American plum; fragrant sumac	blackhaw; gray dogwood	eastern redcedar; nannyberry; Washington hawthorn	baldcypress; green ash; sweetgum	eastern white pine; pin oak
74652:					
Lecoma--------	common lilac; fragrant sumac	American plum; gray dogwood	common hackberry; eastern redcedar	eastern white pine; green ash; honeylocust; Norway spruce; pin oak	---
74653:					
Racoon--------	buttonbush	possumhaw	eastern arborvitae; eastern redcedar; nannyberry	baldcypress; common hackberry; pin oak	eastern cottonwood
Freeburg------	American plum; fragrant sumac	blackhaw; gray dogwood	eastern redcedar; nannyberry; Washington hawthorn	baldcypress; green ash; sweetgum	eastern white pine; pin oak
74656:					
Deible--------	buttonbush	possumhaw	eastern arborvitae; eastern redcedar; nannyberry	baldcypress; common hackberry; pin oak	eastern cottonwood
74661:					
Waben---------	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash; honeylocust	shortleaf pine	---
74662:					
Higdon--------	American plum; fragrant sumac	blackhaw; gray dogwood	eastern redcedar; nannyberry; Washington hawthorn	baldcypress; green ash; sweetgum	eastern white pine; pin oak
75376:					
Cedargap------	common lilac; fragrant sumac	American plum; gray dogwood	Austrian pine; bur oak; common hackberry; eastern redcedar; green ash; honeylocust	shortleaf pine	---
75388:					
Kaintuck------	American hazelnut; American plum; fragrant sumac; ninebark; wild hydrangea	American plum; blackhaw; blue spruce; gray dogwood	eastern redcedar; nannyberry; Washington hawthorn	baldcypress; green ash; sweetgum	eastern white pine; 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
75388: Relfe	coralberry; fragrant sumac; ninebark	eastern redbud; eastern redcedar; gray dogwood	common serviceberry; persimmon	black oak	---
75398: Kaintuck	American plum; fragrant sumac	blackhaw; gray dogwood	eastern redcedar; nannyberry; Washington hawthorn	baldcypress; green ash; sweetgum	eastern white pine; pin oak
75412: Razort	silky dogwood	blackhaw; gray dogwood	eastern redcedar; nannyberry; Washington hawthorn	baldcypress; common hackberry; green ash; pin oak; sweetgum	eastern cottonwood; eastern white pine
75413: Relfe	American plum; fragrant sumac	blackhaw; gray dogwood	eastern redcedar; nannyberry; Washington hawthorn	baldcypress; green ash; sweetgum	eastern white pine; pin oak
75427: Gabriel	buttonbush	possumhaw	eastern arborvitae; eastern redcedar; nannyberry	baldcypress; common hackberry; pin oak	eastern cottonwood
75450: Bloomsdale	American plum; fragrant sumac	blackhaw; gray dogwood	eastern redcedar; nannyberry; Washington hawthorn	baldcypress; green ash; sweetgum	eastern white pine; pin oak
75453: Sturkie	American plum; fragrant sumac	blackhaw; gray dogwood	eastern redcedar; nannyberry; Washington hawthorn	baldcypress; green ash; sweetgum	eastern white pine; pin oak
75459: Huzzah	fragrant sumac; American plum	blackhaw; gray dogwood	nannyberry; Washington hawthorn; eastern redcedar	sweetgum; green ash; white fir	pin oak; eastern white pine
75460: Horsecreek	silky dogwood	blackhaw; gray dogwood	eastern redcedar; nannyberry; Washington hawthorn	baldcypress; common hackberry; green ash; pin oak; sweetgum	eastern cottonwood; eastern white pine

Table 10.--Recreation

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 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: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
66014:								
Haymond	Very limited		Moderately limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
70028:								
Moko	Limited		Limited		Very limited		Limited	
	~shallow to bedrock (limited)	0.90	~shallow to bedrock (limited)	0.90	~shallow to bedrock (very limited)	1.00	~large surface stones (limited)	0.79
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~small stones (very limited)	1.00		
	~small stones (limited)	0.64	~small stones (limited)	0.64	~slope (very limited)	1.00		
Rock outcrop	Not rated		Not rated		Not rated		Not rated	
73012:								
Gravois	Limited		Moderately limited		Limited		Moderately limited	
	~wetness (limited)	0.81	~wetness (moderately limited)	0.49	~slope (limited)	0.98	~wetness (moderately limited)	0.49
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~wetness (limited)	0.81		
					~percs slowly (moderately limited)	0.39		
73032:								
Gatewood	Very limited		Very limited		Very limited		Moderately limited	
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.60
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~slope (very limited)	1.00	~large surface stones (slightly limited)	0.13
	~wetness (moderately limited)	0.35	~large surface stones (slightly limited)	0.13	~depth to bedrock (moderately limited)	0.42	~wetness (slightly limited)	0.13
73035:								
Gravois	Limited		Moderately limited		Very limited		Very limited	
	~wetness (limited)	0.81	~wetness (moderately limited)	0.49	~slope (very limited)	1.00	~erodes easily (very limited)	1.00
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~wetness (limited)	0.81	~wetness (moderately limited)	0.49
	~slope (moderately limited)	0.37	~slope (moderately limited)	0.37	~percs slowly (moderately limited)	0.39		

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
73039:								
Glensted----------	Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39		
73053:								
Lily---------------	Moderately limited		Moderately limited		Very limited		Not limited	
	~percs slowly (moderately limited)	0.57	~percs slowly (moderately limited)	0.57	~slope (very limited)	1.00		
					~depth to bedrock (limited)	0.76		
					~percs slowly (moderately limited)	0.57		
Bender-------------	Slightly limited		Slightly limited		Very limited		Slightly limited	
	~too acid (slightly limited)	0.18	~too acid (slightly limited)	0.18	~large stones >25% (very limited)	1.00	~large stones (slightly limited)	0.17
	~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17	~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 (limited)	0.76		
73066:								
Bender-------------	Slightly limited		Slightly limited		Very limited		Slightly limited	
	~too acid (slightly limited)	0.18	~too acid (slightly limited)	0.18	~large stones >25% (very limited)	1.00	~large stones (slightly limited)	0.17
	~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17	~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 (limited)	0.76		
73067:								
Bender-------------	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
	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60	~large stones >25% (very limited)	1.00	~large surface stones (moderately limited)	0.60
	~too acid (slightly limited)	0.18	~too acid (slightly limited)	0.18	~depth to bedrock (limited)	0.76	~large stones (slightly limited)	0.17
Rock outcrop-------	Not rated		Not rated		Not rated		Not rated	

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
73089:								
Rueter	Very limited		Very limited		Very limited		Limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~small stones (very limited)	1.00	~slope (limited)	0.92
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~slope (very limited)	1.00	~large surface stones (limited)	0.79
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~too acid (limited)	0.71	~small stones (moderately limited)	0.49
73094:								
Gatewood	Very limited		Very limited		Very limited		Limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~small stones (very limited)	1.00	~slope (limited)	0.92
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~slope (very limited)	1.00	~small stones (moderately limited)	0.60
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~depth to bedrock (moderately limited)	0.42	~large surface stones (slightly limited)	0.13
73098:								
Plato	Very limited		Very limited		Very limited		Limited	
	~wetness (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.94
	~percs slowly (very limited)	1.00	~wetness (limited)	0.94	~percs slowly (very limited)	1.00		
73135:								
Union	Limited		Moderately limited		Limited		Moderately limited	
	~wetness (limited)	0.90	~wetness (moderately limited)	0.56	~slope (limited)	0.98	~wetness (moderately limited)	0.56
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~wetness (limited)	0.90		
					~percs slowly (moderately limited)	0.39		
73136:								
Union	Limited		Moderately limited		Limited		Moderately limited	
	~wetness (limited)	0.90	~wetness (moderately limited)	0.56	~wetness (limited)	0.90	~wetness (moderately limited)	0.56
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39		

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
73159:								
Yelton	Limited		Moderately limited		Limited		Moderately limited	
	~wetness (limited)	0.90	~wetness (moderately limited)	0.56	~wetness (limited)	0.90	~wetness (moderately limited)	0.56
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~slope (limited)	0.78		
					~percs slowly (moderately limited)	0.39		
73162:								
Alred	Very limited		Very limited		Very limited		Limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.92
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~small stones (limited)	0.80	~large surface stones (limited)	0.79
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40		
Rueter	Very limited		Very limited		Very limited		Limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~small stones (very limited)	1.00	~slope (limited)	0.92
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~slope (very limited)	1.00	~large surface stones (limited)	0.79
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~too acid (limited)	0.71	~small stones (moderately limited)	0.49
73164:								
Bender	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
	~large surface stones (very limited)	1.00	~large surface stones (very limited)	1.00	~large stones >25% (very limited)	1.00	~large surface stones (very limited)	1.00
	~too acid (slightly limited)	0.18	~too acid (slightly limited)	0.18	~depth to bedrock (limited)	0.76	~large stones (slightly limited)	0.17
Rock outcrop	Not rated		Not rated		Not rated		Not rated	
73166:								
Viburnum	Limited		Moderately limited		Very limited		Moderately limited	
	~wetness (limited)	0.81	~small stones (moderately limited)	0.57	~small stones (very limited)	1.00	~wetness (moderately limited)	0.49
	~small stones (moderately limited)	0.57	~wetness (moderately limited)	0.49	~wetness (limited)	0.81		
	~too acid (slightly limited)	0.18	~too acid (slightly limited)	0.18	~slope (limited)	0.78		

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
73166:								
Tonti	Very limited		Very limited		Very limited		Limited	
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (limited)	0.65
	~wetness (limited)	0.81	~wetness (moderately limited)	0.49	~wetness (limited)	0.81	~wetness (moderately limited)	0.49
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~slope (limited)	0.78		
73168:								
Swiss	Very limited		Very limited		Very limited		Slightly limited	
	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~large surface stones (slightly limited)	0.13
	~small stones (moderately limited)	0.30	~small stones (moderately limited)	0.30	~small stones (very limited)	1.00		
	~slope (slightly limited)	0.16	~slope (slightly limited)	0.16	~slope (very limited)	1.00		
73169:								
Beemont	Very limited		Very limited		Very limited		Limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.92
	~small stones (limited)	0.82	~small stones (limited)	0.82	~small stones (very limited)	1.00	~large surface stones (slightly limited)	0.13
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40		
Gatewood	Very limited		Very limited		Very limited		Limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~small stones (very limited)	1.00	~slope (limited)	0.92
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~slope (very limited)	1.00	~small stones (moderately limited)	0.60
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~depth to bedrock (moderately limited)	0.42	~large surface stones (slightly limited)	0.13
73170:								
Beemont	Limited		Limited		Very limited		Slightly limited	
	~small stones (limited)	0.82	~small stones (limited)	0.82	~small stones (very limited)	1.00	~large surface stones (slightly limited)	0.13
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~slope (very limited)	1.00		
	~large surface stones (slightly limited)	0.13	~large surface stones (slightly limited)	0.13	~percs slowly (moderately limited)	0.40		

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value	Paths and trails: Rating class and limiting features	Value
73170:								
Gatewood-----------	Very limited		Very limited		Very limited		Moderately limited	
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.60
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~slope (very limited)	1.00	~large surface stones (slightly limited)	0.13
	~wetness (moderately limited)	0.35	~large surface stones (slightly limited)	0.13	~depth to bedrock (moderately limited)	0.42	~wetness (slightly limited)	0.13
73171:								
Plato--------------	Very limited		Very limited		Very limited		Limited	
	~wetness (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.94
	~percs slowly (very limited)	1.00	~wetness (limited)	0.94	~percs slowly (very limited)	1.00	~too clayey (moderately limited)	0.60
	~too clayey (moderately limited)	0.60	~too clayey (moderately limited)	0.60	~slope (limited)	0.98		
73172:								
Rosati-------------	Very limited		Very limited		Very limited		Limited	
	~wetness (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.86
	~percs slowly (very limited)	1.00	~wetness (limited)	0.86	~percs slowly (very limited)	1.00		
					~slope (slightly limited)	0.10		
73173:								
Lily---------------	Not limited		Not limited		Limited		Not limited	
					~slope (limited)	0.98		
					~depth to bedrock (limited)	0.76		
Yelton-------------	Limited		Moderately limited		Limited		Moderately limited	
	~wetness (limited)	0.90	~wetness (moderately limited)	0.56	~wetness (limited)	0.90	~wetness (moderately limited)	0.56
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~slope (limited)	0.78		
					~percs slowly (moderately limited)	0.39		

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value	Paths and trails: Rating class and limiting features	Value
73174:								
Lily	Limited		Limited		Very limited		Not limited	
	~slope (limited)	0.63	~slope (limited)	0.63	~slope (very limited)	1.00		
					~depth to bedrock (limited)	0.76		
Yelton	Limited		Limited		Very limited		Very limited	
	~wetness (limited)	0.90	~slope (limited)	0.63	~slope (very limited)	1.00	~erodes easily (very limited)	1.00
	~slope (limited)	0.63	~wetness (moderately limited)	0.56	~wetness (limited)	0.90	~wetness (moderately limited)	0.56
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39		
73175:								
Poynor	Very limited		Very limited		Very limited		Slightly limited	
	~small stones (limited)	1.00	~small stones (limited)	1.00	~small stones (very limited)	1.00	~small stones (slightly limited)	0.01
					~slope (limited)	0.78		
Bendavis	Very limited		Very limited		Very limited		Moderately limited	
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.60
					~slope (limited)	0.78		
					~depth to bedrock (moderately limited)	0.58		
73176:								
Bendavis	Very limited		Very limited		Very limited		Moderately limited	
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~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		Very limited		Very limited		Slightly limited	
	~small stones (limited)	1.00	~small stones (limited)	1.00	~small stones (very limited)	1.00	~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.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
73181:								
Useful	Limited		Limited		Very limited		Very limited	
	~slope (limited)	0.63	~slope (limited)	0.63	~slope (very limited)	1.00	~erodes easily (very limited)	1.00
	~percs slowly (slightly limited)	0.13	~percs slowly (slightly limited)	0.13	~percs slowly (slightly limited)	0.13		
Gatewood	Very limited		Very limited		Very limited		Moderately limited	
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~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
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~depth to bedrock (moderately limited)	0.42	~wetness (slightly limited)	0.13
73200:								
Sonsac	Limited		Limited		Very limited		Limited	
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~small stones (very limited)	1.00	~large surface stones (limited)	0.79
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~slope (very limited)	1.00		
	~small stones (moderately limited)	0.30	~small stones (moderately limited)	0.30	~percs slowly (moderately limited)	0.40		
73210:								
Goss	Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (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 stones >25% (very limited)	1.00	~slope (very limited)	1.00
	~small stones (moderately limited)	0.37	~small stones (moderately limited)	0.37	~small stones (very limited)	1.00	~large stones (slightly limited)	0.17
73214:								
Moko	Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (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	~shallow to bedrock (very limited)	1.00	~slope (very limited)	1.00
	~shallow to bedrock (limited)	0.90	~shallow to bedrock (limited)	0.90	~small stones (very limited)	1.00		
Rock outcrop	Not rated		Not rated		Not rated		Not rated	
73215:								
Crider	Not limited		Not limited		Limited		Not limited	
					~slope (limited)	0.98		

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
73271:								
Moko	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
	~large surface stones (very limited)	1.00	~large surface stones (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~large surface stones (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
Rock outcrop	Not rated		Not rated		Not rated		Not rated	
73272:								
Hildebrecht	Limited		Moderately limited		Limited		Moderately limited	
	~wetness (limited)	0.90	~wetness (moderately limited)	0.56	~wetness (limited)	0.90	~wetness (moderately limited)	0.56
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~slope (limited)	0.78		
					~percs slowly (moderately limited)	0.39		
73273:								
Coulstone	Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (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	~small stones (limited)	1.00	~slope (very limited)	1.00
	~wetness (limited)	0.90	~too acid (limited)	0.85	~wetness (limited)	0.90	~wetness (moderately limited)	0.56
Bender	Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (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	~depth to bedrock (moderately limited)	0.46	~slope (very limited)	1.00
	~too acid (slightly limited)	0.24	~too acid (slightly limited)	0.24	~too acid (slightly limited)	0.24		
73274:								
Scholten	Very limited		Very limited		Very limited		Moderately limited	
	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~small stones (very limited)	1.00	~wetness (moderately limited)	0.49
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~percs slowly (very limited)	1.00	~small stones (slightly limited)	0.14
	~wetness (limited)	0.81	~wetness (moderately limited)	0.49	~slope (very limited)	1.00		

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
73275:								
Gravois	Limited		Moderately limited		Limited		Moderately limited	
	~wetness (limited)	0.81	~wetness (moderately limited)	0.49	~slope (limited)	0.98	~wetness (moderately limited)	0.49
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~wetness (limited)	0.81		
					~percs slowly (moderately limited)	0.39		
Goss	Limited		Limited		Very limited		Slightly limited	
	~small stones (limited)	0.64	~small stones (limited)	0.64	~small stones (very limited)	1.00	~large surface stones (slightly limited)	0.13
	~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				
73276:								
Rueter	Very limited		Very limited		Very limited		Moderately limited	
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.49
	~too acid (limited)	0.71	~too acid (limited)	0.71	~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	~too acid (limited)	0.71		
Hildebrecht	Limited		Moderately limited		Limited		Moderately limited	
	~wetness (limited)	0.90	~wetness (moderately limited)	0.56	~wetness (limited)	0.90	~wetness (moderately limited)	0.56
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~slope (limited)	0.78		
	~too acid (slightly limited)	0.18	~too acid (slightly limited)	0.18	~percs slowly (moderately limited)	0.39		
73277:								
Goss	Limited		Limited		Very limited		Slightly limited	
	~small stones (limited)	0.64	~small stones (limited)	0.64	~small stones (very limited)	1.00	~large surface stones (slightly limited)	0.13
	~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				

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value	Paths and trails: Rating class and limiting features	Value
73278:								
Rueter	Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~small stones (very limited)	1.00	~slope (very limited)	1.00
	~too acid (very limited)	0.99	~too acid (very limited)	0.99	~slope (very limited)	1.00	~large surface stones (limited)	0.79
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~too acid (very limited)	0.99		
73279:								
Sonsac	Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~small 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	~slope (very limited)	1.00	~slope (moderately limited)	0.50
	~small stones (limited)	0.74	~small stones (limited)	0.74	~large stones (limited)	0.87		
Moko	Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~small 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	~slope (very limited)	1.00	~too clayey (very limited)	0.84
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~slope (limited)	0.83
Rock outcrop	Not rated		Not rated		Not rated		Not rated	
73280:								
Alred	Very limited		Very limited		Very limited		Limited	
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~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 (slightly limited)	0.07
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40		
73281:								
Hobson	Limited		Limited		Very limited		Very limited	
	~slope (limited)	0.84	~slope (limited)	0.84	~slope (very limited)	1.00	~erodes easily (very limited)	1.00
	~wetness (limited)	0.65	~percs slowly (moderately limited)	0.39	~wetness (limited)	0.65	~wetness (moderately limited)	0.39
	~percs slowly (moderately limited)	0.39	~wetness (moderately limited)	0.39	~percs slowly (moderately limited)	0.39		

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value	Paths and trails: Rating class and limiting features	Value
73282:								
Alred	Very limited		Very limited		Very limited		Limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~small stones (very limited)	1.00	~large surface stones (limited)	0.79
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.67
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~percs slowly (moderately limited)	0.40	~small stones (slightly limited)	0.07
Sonsac	Very limited		Very limited		Very limited		Limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~large surface stones (limited)	0.79
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~small stones (very limited)	1.00	~slope (slightly limited)	0.08
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40		
73283:								
Courtois	Limited		Moderately limited		Limited		Moderately limited	
	~wetness (limited)	0.90	~wetness (moderately limited)	0.56	~slope (limited)	0.98	~wetness (moderately limited)	0.56
					~wetness (limited)	0.90		
73284:								
Courtois	Limited		Moderately limited		Very limited		Very limited	
	~wetness (limited)	0.90	~wetness (moderately limited)	0.56	~slope (very limited)	1.00	~erodes easily (very limited)	1.00
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~wetness (limited)	0.90	~wetness (moderately limited)	0.56
	~slope (slightly limited)	0.04	~slope (slightly limited)	0.04	~percs slowly (moderately limited)	0.40		
Goss	Limited		Limited		Very limited		Not limited	
	~small stones (limited)	0.64	~small stones (limited)	0.64	~small stones (very limited)	1.00		
	~slope (moderately limited)	0.37	~slope (moderately limited)	0.37	~slope (very limited)	1.00		
73285:								
Useful	Slightly limited		Slightly limited		Slightly limited		Not limited	
	~percs slowly (slightly limited)	0.15	~percs slowly (slightly limited)	0.15	~percs slowly (slightly limited)	0.15		
					~slope (slightly limited)	0.10		

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
73285:								
Courtois	Limited ~wetness (limited) ~percs slowly (moderately limited)	 0.90 0.40	Moderately limited ~wetness (moderately limited) ~percs slowly (moderately limited)	 0.56 0.40	Very limited ~slope (very limited) ~wetness (limited) ~percs slowly (moderately limited)	 1.00 0.90 0.40	Moderately limited ~wetness (moderately limited)	 0.56
73286:								
Useful	Slightly limited ~percs slowly (slightly limited) ~slope (slightly limited)	 0.15 0.04	Slightly limited ~percs slowly (slightly limited) ~slope (slightly limited)	 0.15 0.04	Very limited ~slope (very limited) ~percs slowly (slightly limited)	 1.00 0.15	Very limited ~erodes easily (very limited)	 1.00
Courtois	Limited ~wetness (limited) ~percs slowly (moderately limited) ~slope (slightly limited)	 0.90 0.40 0.16	Moderately limited ~wetness (moderately limited) ~percs slowly (moderately limited) ~slope (slightly limited)	 0.56 0.40 0.16	Very limited ~slope (very limited) ~wetness (limited) ~percs slowly (moderately limited)	 1.00 0.90 0.40	Very limited ~erodes easily (very limited) ~wetness (moderately limited)	 1.00 0.56
73287:								
Useful	Very limited ~slope (very limited) ~percs slowly (slightly limited)	 1.00 0.15	Very limited ~slope (very limited) ~percs slowly (slightly limited)	 1.00 0.15	Very limited ~slope (very limited) ~percs slowly (slightly limited)	 1.00 0.15	Very limited ~erodes easily (very limited) ~slope (limited)	 1.00 0.92
Sonsac	Very limited ~slope (very limited) ~too clayey (moderately limited) ~percs slowly (moderately limited)	 1.00 0.48 0.40	Very limited ~slope (very limited) ~too clayey (moderately limited) ~percs slowly (moderately limited)	 1.00 0.48 0.40	Very limited ~slope (very limited) ~too clayey (moderately limited) ~percs slowly (moderately limited)	 1.00 0.48 0.40	Moderately limited ~slope (moderately limited) ~too clayey (moderately limited) ~large surface stones (slightly limited)	 0.50 0.48 0.13
73288:								
Caneyville	Limited ~wetness (limited) ~percs slowly (slightly limited) ~slope (slightly limited)	 0.90 0.13 0.04	Moderately limited ~wetness (moderately limited) ~percs slowly (slightly limited) ~slope (slightly limited)	 0.56 0.13 0.04	Very limited ~slope (very limited) ~wetness (limited) ~depth to bedrock (slightly limited)	 1.00 0.90 0.30	Very limited ~erodes easily (very limited) ~wetness (moderately limited)	 1.00 0.56

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
73288:								
Rock outcrop-------	Not rated		Not rated		Not rated		Not rated	
73289:								
Fourche------------	Moderately limited		Slightly limited		Limited		Slightly limited	
	~wetness (moderately limited)	0.35	~percs slowly (slightly limited)	0.15	~slope (limited)	0.78	~wetness (slightly limited)	0.13
	~percs slowly (slightly limited)	0.15	~wetness (slightly limited)	0.13	~wetness (moderately limited)	0.35		
					~percs slowly (slightly limited)	0.15		
74634:								
Hartville----------	Limited		Limited		Limited		Limited	
	~wetness (limited)	0.96	~wetness (limited)	0.60	~slope (limited)	0.98	~wetness (limited)	0.60
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~wetness (limited)	0.96		
					~percs slowly (moderately limited)	0.39		
74650:								
Higdon-------------	Very limited		Moderately limited		Limited		Moderately limited	
	~flooding (very limited)	1.00	~wetness (moderately limited)	0.45	~wetness (limited)	0.75	~wetness (moderately limited)	0.45
	~wetness (limited)	0.75	~percs slowly (slightly limited)	0.15	~flooding (moderately limited)	0.60		
	~percs slowly (slightly limited)	0.15	~too acid (slightly limited)	0.06	~percs slowly (slightly limited)	0.15		
74652:								
Lecoma-------------	Not limited		Not limited		Limited		Not limited	
					~slope (limited)	0.98		
74653:								
Racoon-------------	Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~wetness (very limited)	1.00	~percs slowly (moderately limited)	0.39	~flooding (moderately limited)	0.60		
	~percs slowly (moderately limited)	0.39			~percs slowly (moderately limited)	0.39		

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
74653:								
Freeburg	Very limited		Moderately limited		Limited		Moderately limited	
	~flooding (very limited)	1.00	~wetness (moderately limited)	0.45	~wetness (limited)	0.75	~wetness (moderately limited)	0.45
	~wetness (limited)	0.75	~percs slowly (slightly limited)	0.13	~flooding (moderately limited)	0.60		
	~percs slowly (slightly limited)	0.13			~percs slowly (slightly limited)	0.13		
74656:								
Deible	Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00		
	~flooding (rare) (limited)	0.90						
74661:								
Waben	Very limited		Very limited		Very limited		Slightly limited	
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (slightly limited)	0.30
					~slope (limited)	0.98		
74662:								
Higdon	Limited		Moderately limited		Limited		Moderately limited	
	~wetness (limited)	0.75	~wetness (moderately limited)	0.45	~wetness (limited)	0.75	~wetness (moderately limited)	0.45
	~percs slowly (slightly limited)	0.15	~percs slowly (slightly limited)	0.15	~slope (moderately limited)	0.40		
					~percs slowly (slightly limited)	0.15		
75376:								
Cedargap	Very limited		Moderately limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
	~small stones (slightly limited)	0.27	~small stones (slightly limited)	0.27	~small stones (very limited)	1.00		
					~large stones (slightly limited)	0.01		
75388:								
Kaintuck	Very limited		Moderately limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
75388:								
Relfe	Very limited		Very limited		Very limited		Limited	
	~flooding (very limited)	1.00	~small stones (very limited)	1.00	~flooding (very limited)	1.00	~small stones (limited)	0.73
	~small stones (very limited)	1.00	~flooding (moderately limited)	0.60	~small stones (very limited)	1.00	~flooding (moderately limited)	0.60
75398:								
Kaintuck	Very limited		Moderately limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
75412:								
Razort	Very limited		Not limited		Moderately limited		Not limited	
	~flooding (very limited)	1.00			~flooding (moderately limited)	0.60		
75413:								
Relfe	Very limited		Very limited		Very limited		Limited	
	~flooding (very limited)	1.00	~small stones (very limited)	1.00	~flooding (very limited)	1.00	~small stones (limited)	0.73
	~small stones (very limited)	1.00	~flooding (moderately limited)	0.60	~small stones (very limited)	1.00	~flooding (moderately limited)	0.60
75427:								
Gabriel	Very limited		Limited		Very limited		Limited	
	~flooding (very limited)	1.00	~wetness (limited)	0.86	~wetness (very limited)	1.00	~wetness (limited)	0.86
	~wetness (very limited)	1.00	~percs slowly (slightly limited)	0.13	~flooding (moderately limited)	0.60		
	~percs slowly (slightly limited)	0.13			~percs slowly (slightly limited)	0.13		
75450:								
Bloomsdale	Very limited		Moderately limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
75453:								
Sturkie	Very limited		Not limited		Moderately limited		Not limited	
	~flooding (very limited)	1.00			~flooding (moderately limited)	0.60		

Table 10.--Recreation--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and trails: Rating class and limiting features	Paths and trails: Value
75459:								
Huzzah	Very limited		Moderately limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
75460:								
Horsecreek	Very limited		Not limited		Moderately limited		Not limited	
	~flooding (very limited)	1.00			~flooding (moderately limited)	0.60		
99000:								
Pits, quarries	Not rated		Not rated		Not rated		Not rated	
99001:								
Water	Not rated		Not rated		Not rated		Not rated	
99003:								
Miscellaneous water	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 0.00 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
66014:										
Haymond	Limited		Limited		Not limited		Not limited		Not limited	
	~flooding (limited)	0.90	~flooding (limited)	0.90						
70028:										
Moko	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~shallow to bedrock (very limited)	1.00
	~shallow to bedrock (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~small stones (slightly limited)	0.13	~shallow to bedrock (very limited)	1.00	~droughty (very limited)	1.00
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80						
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73012:										
Gravois	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Limited	
	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55	~wetness (limited)	0.85
	~moderate erodibility (moderately limited)	0.50	~moderate erodibility (moderately limited)	0.50						
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39						
73032:										
Gatewood	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.60	~small stones (moderately limited)	0.60	~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)	0.42	~depth to bedrock (moderately limited)	0.42
	~high erodibility (limited)	0.80	~depth to bedrock (moderately limited)	0.42	~droughty (slightly limited)	0.22	~wetness (moderately limited)	0.36	~droughty (slightly limited)	0.22

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover): Rating class and limiting features	Value	Domestic grasses and legumes (for use as food and cover): Rating class and limiting features	Value	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Upland deciduous trees: Rating class and limiting features	Value
73035:										
Gravois	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55	~wetness (limited)	0.85
	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55						
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39						
73039:										
Glensted	Very limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~moderate erodibility (moderately limited)	0.50	~moderate erodibility (moderately limited)	0.50						
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39						
73053:										
Lily	Very limited		Limited		Moderately limited		Limited		Limited	
	~droughty (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (moderately limited)	0.48	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76
	~high erodibility (limited)	0.80	~depth to bedrock (limited)	0.76			~droughty (moderately limited)	0.48	~droughty (moderately limited)	0.48
	~depth to bedrock (limited)	0.76	~percs slowly (moderately limited)	0.57						
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~large stones (slightly limited)	0.17	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76
	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76			~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17
73066:										
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~large stones (slightly limited)	0.17	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76
	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76			~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover): Rating class and limiting features	Value	Domestic grasses and legumes (for use as food and cover): Rating class and limiting features	Value	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Upland deciduous trees: Rating class and limiting features	Value
73067:										
Bender---------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00
	~slope (limited)	0.91	~slope (limited)	0.91	~large stones (slightly limited)	0.17	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80			~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73089:										
Rueter---------	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.53	~small stones (moderately limited)	0.49	~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	~slope (moderately limited)	0.60						
73094:										
Gatewood-------	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.60	~small stones (moderately limited)	0.60	~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)	0.42	~depth to bedrock (moderately limited)	0.42
	~high erodibility (limited)	0.80	~slope (moderately limited)	0.60	~droughty (slightly limited)	0.22	~wetness (moderately limited)	0.36	~droughty (slightly limited)	0.22
73098:										
Plato----------	Very limited		Very limited		Limited		Limited		Very limited	
	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (limited)	0.94	~wetness (limited)	0.94	~wetness (very limited)	1.00
	~droughty (very limited)	1.00	~wetness (limited)	0.94	~droughty (slightly limited)	0.01	~droughty (slightly limited)	0.01	~droughty (slightly limited)	0.01
	~wetness (limited)	0.94	~droughty (slightly limited)	0.01						

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover): Rating class and limiting features	Value	Domestic grasses and legumes (for use as food and cover): Rating class and limiting features	Value	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Upland deciduous trees: Rating class and limiting features	Value
73135:										
Union----------	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (limited)	0.93
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58						
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39						
73136:										
Union----------	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Limited	
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (limited)	0.93
	~moderate erodibility (moderately limited)	0.50	~moderate erodibility (moderately limited)	0.50						
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39						
73159:										
Yelton---------	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~droughty (limited)	0.88	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (limited)	0.93
	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.58						
	~wetness (moderately limited)	0.58	~percs slowly (moderately limited)	0.39						
73162:										
Alred----------	Very limited		Limited		Slightly limited		Slightly limited		Slightly limited	
	~droughty (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (slightly limited)	0.03	~droughty (slightly limited)	0.03	~droughty (slightly limited)	0.03
	~high erodibility (limited)	0.80	~slope (moderately limited)	0.60						
	~slope (moderately limited)	0.60	~percs slowly (moderately limited)	0.40						
Rueter---------	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.53	~small stones (moderately limited)	0.49	~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	~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): Rating class and limiting features	Value	Domestic grasses and legumes (for use as food and cover): Rating class and limiting features	Value	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Upland deciduous trees: Rating class and limiting features	Value
73164:										
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~slope (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00
	~slope (very limited)	1.00	~droughty (very limited)	1.00	~large stones (slightly limited)	0.17	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80			~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73166:										
Viburnum	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55	~wetness (limited)	0.85
	~droughty (limited)	0.79	~small stones (moderately limited)	0.57	~small stones (slightly limited)	0.11				
	~small stones (moderately limited)	0.57	~wetness (moderately limited)	0.55						
Tonti	Very limited		Very limited		Limited		Limited		Limited	
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (limited)	0.65	~small stones (limited)	0.65	~wetness (limited)	0.85
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55		
	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55						
73168:										
Swiss	Very limited		Very limited		Slightly limited		Slightly limited		Moderately limited	
	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~wetness (moderately limited)	0.37
	~droughty (limited)	0.99	~high erodibility (limited)	0.80	~small stones (slightly limited)	0.03				
	~high erodibility (limited)	0.80	~small stones (moderately limited)	0.30						
73169:										
Beemont	Limited		Limited		Slightly limited		Slightly limited		Moderately limited	
	~droughty (very limited)	1.00	~small stones (limited)	0.82	~wetness (slightly limited)	0.28	~wetness (slightly limited)	0.28	~wetness (moderately limited)	0.45
	~small stones (limited)	0.82	~high erodibility (limited)	0.80	~small stones (slightly limited)	0.17				
	~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): Rating class and limiting features	Value	Domestic grasses and legumes (for use as food and cover): Rating class and limiting features	Value	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Upland deciduous trees: Rating class and limiting features	Value
73169:										
Gatewood-------	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.60	~small stones (moderately limited)	0.60	~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)	0.42	~depth to bedrock (moderately limited)	0.42
	~high erodibility (limited)	0.80	~slope (moderately limited)	0.60	~droughty (slightly limited)	0.22	~wetness (moderately limited)	0.36	~droughty (slightly limited)	0.22
73170:										
Beemont--------	Limited		Limited		Slightly limited		Slightly limited		Moderately limited	
	~droughty (very limited)	1.00	~small stones (limited)	0.82	~wetness (slightly limited)	0.28	~wetness (slightly limited)	0.28	~wetness (moderately limited)	0.45
	~small stones (limited)	0.82	~high erodibility (limited)	0.80	~small stones (slightly limited)	0.17				
	~high erodibility (limited)	0.80	~percs slowly (moderately limited)	0.40						
Gatewood-------	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.60	~small stones (moderately limited)	0.60	~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)	0.42	~depth to bedrock (moderately limited)	0.42
	~high erodibility (limited)	0.80	~depth to bedrock (moderately limited)	0.42	~droughty (slightly limited)	0.22	~wetness (moderately limited)	0.36	~droughty (slightly limited)	0.22
73171:										
Plato----------	Very limited		Very limited		Limited		Limited		Very limited	
	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (limited)	0.94	~wetness (limited)	0.94	~wetness (very limited)	1.00
	~droughty (very limited)	1.00	~wetness (limited)	0.94	~too clayey (slightly limited)	0.08	~too clayey (slightly limited)	0.08	~droughty (slightly limited)	0.03
	~wetness (limited)	0.94	~high erodibility (limited)	0.80	~droughty (slightly limited)	0.03	~droughty (slightly limited)	0.03		
73172:										
Rosati---------	Very limited		Very limited		Limited		Limited		Very limited	
	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (limited)	0.86	~wetness (limited)	0.86	~wetness (very limited)	1.00
	~wetness (limited)	0.86	~wetness (limited)	0.86						
	~moderate erodibility (moderately limited)	0.50	~moderate erodibility (moderately limited)	0.50						

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
73173, 73174:										
Lily-----------	Very limited		Limited		Slightly limited		Limited		Limited	
	~droughty (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (slightly limited)	0.04	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76
	~high erodibility (limited)	0.80	~depth to bedrock (limited)	0.76			~droughty (slightly limited)	0.04	~droughty (slightly limited)	0.04
	~depth to bedrock (limited)	0.76	~droughty (slightly limited)	0.04						
Yelton---------	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~droughty (limited)	0.88	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (limited)	0.93
	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.58						
	~wetness (moderately limited)	0.58	~percs slowly (moderately limited)	0.39						
73175:										
Poynor---------	Limited		Limited		Slightly limited		Slightly limited		Not limited	
	~small stones (limited)	1.00	~small stones (limited)	1.00	~small stones (slightly limited)	0.24	~small stones (slightly limited)	0.01		
	~droughty (very limited)	0.99	~high erodibility (limited)	0.80						
	~high erodibility (limited)	0.80								
Bendavis-------	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.60	~small stones (moderately limited)	0.60	~depth to bedrock (moderately limited)	0.58
	~small stones (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (moderately limited)	0.45	~depth to bedrock (moderately limited)	0.58	~droughty (moderately limited)	0.45
	~high erodibility (limited)	0.80	~depth to bedrock (moderately limited)	0.58	~wetness (slightly limited)	0.28	~droughty (moderately limited)	0.45	~wetness (moderately limited)	0.45
73176:										
Bendavis-------	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.60	~small stones (moderately limited)	0.60	~depth to bedrock (moderately limited)	0.58
	~small stones (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (moderately limited)	0.45	~depth to bedrock (moderately limited)	0.58	~droughty (moderately limited)	0.45
	~high erodibility (limited)	0.80	~depth to bedrock (moderately limited)	0.58	~wetness (slightly limited)	0.28	~droughty (moderately limited)	0.45	~wetness (moderately limited)	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
73176:										
Poynor----------	Limited		Limited		Slightly limited		Slightly limited		Not limited	
	~small stones (limited)	1.00	~small stones (limited)	1.00	~small stones (slightly limited)	0.24	~small stones (slightly limited)	0.01		
	~droughty (very limited)	0.99	~high erodibility (limited)	0.80						
	~high erodibility (limited)	0.80								
73181:										
Useful----------	Limited		Limited		Slightly limited		Slightly limited		Moderately limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~wetness (moderately limited)	0.37
	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13						
	~percs slowly (slightly limited)	0.13	~percs slowly (slightly limited)	0.13						
Gatewood--------	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.60	~small stones (moderately limited)	0.60	~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)	0.42	~depth to bedrock (moderately limited)	0.42
	~high erodibility (limited)	0.80	~depth to bedrock (moderately limited)	0.42	~droughty (slightly limited)	0.22	~wetness (moderately limited)	0.36	~droughty (slightly limited)	0.22
73200:										
Sonsac----------	Very limited		Limited		Slightly limited		Slightly limited		Slightly limited	
	~droughty (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (slightly limited)	0.12	~depth to bedrock (slightly limited)	0.29	~depth to bedrock (slightly limited)	0.29
	~high erodibility (limited)	0.80	~percs slowly (moderately limited)	0.40	~small stones (slightly limited)	0.03	~droughty (slightly limited)	0.12	~droughty (slightly limited)	0.12
	~percs slowly (moderately limited)	0.40	~small stones (moderately limited)	0.30						
73210:										
Goss------------	Very limited		Limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty (very limited)	1.00	~slope (limited)	0.87	~droughty (moderately limited)	0.34	~droughty (moderately limited)	0.34	~droughty (moderately limited)	0.34
	~slope (limited)	0.87	~high erodibility (limited)	0.80	~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17
	~high erodibility (limited)	0.80	~large stones (moderately limited)	0.45	~small stones (slightly limited)	0.05				

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover): Rating class and limiting features	Value	Domestic grasses and legumes (for use as food and cover): Rating class and limiting features	Value	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Upland deciduous trees: Rating class and limiting features	Value
73214:										
Moko	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~shallow to bedrock (very limited)	1.00
	~shallow to bedrock (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~small stones (slightly limited)	0.03	~shallow to bedrock (very limited)	1.00	~droughty (very limited)	1.00
	~slope (limited)	0.87	~slope (limited)	0.87						
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73215:										
Crider	Limited		Limited		Not limited		Not limited		Not limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80						
73271:										
Moko	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (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	~small stones (moderately limited)	0.42	~shallow to bedrock (very limited)	1.00	~droughty (very limited)	1.00
	~shallow to bedrock (very limited)	1.00	~shallow to bedrock (very limited)	1.00			~small stones (slightly limited)	0.30		
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73272:										
Hildebrecht	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (limited)	0.93
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58						
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39						
73273:										
Coulstone	Very limited		Limited		Limited		Limited		Limited	
	~droughty (very limited)	1.00	~droughty (limited)	0.97	~droughty (limited)	0.97	~droughty (limited)	0.97	~droughty (limited)	0.97
	~slope (limited)	0.87	~slope (limited)	0.87	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (limited)	0.93
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80						

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover): Rating class and limiting features	Value	Domestic grasses and legumes (for use as food and cover): Rating class and limiting features	Value	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Upland deciduous trees: Rating class and limiting features	Value
73273:										
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00
	~slope (limited)	0.87	~slope (limited)	0.87			~depth to bedrock (moderately limited)	0.46	~depth to bedrock (moderately limited)	0.46
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80						
73274:										
Scholten	Very limited		Very limited		Moderately limited		Moderately limited		Limited	
	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55	~wetness (limited)	0.85
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.32	~small stones (slightly limited)	0.14	~droughty (slightly limited)	0.13
	~small stones (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (slightly limited)	0.13	~droughty (slightly limited)	0.13		
73275:										
Gravois	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55	~wetness (limited)	0.85
	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55						
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39						
Goss	Very limited		Limited		Limited		Limited		Limited	
	~droughty (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (limited)	0.69	~droughty (limited)	0.69	~droughty (limited)	0.69
	~high erodibility (limited)	0.80	~droughty (limited)	0.69	~small stones (slightly limited)	0.13				
	~small stones (limited)	0.64	~small stones (limited)	0.64						
73276:										
Rueter	Very limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.53	~small stones (moderately limited)	0.49	~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
73276:										
Hildebrecht----	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (limited)	0.93
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58						
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39						
73277:										
Goss-----------	Very limited		Limited		Limited		Limited		Limited	
	~droughty (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (limited)	0.69	~droughty (limited)	0.69	~droughty (limited)	0.69
	~high erodibility (limited)	0.80	~droughty (limited)	0.69	~small stones (slightly limited)	0.13				
	~small stones (limited)	0.64	~small stones (limited)	0.64						
73278:										
Rueter---------	Very limited		Very limited		Slightly limited		Slightly limited		Slightly limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~droughty (slightly limited)	0.29	~droughty (slightly limited)	0.29	~droughty (slightly limited)	0.29
	~droughty (very limited)	1.00	~high erodibility (limited)	0.80	~small stones (slightly limited)	0.13				
	~high erodibility (limited)	0.80	~small stones (limited)	0.64						
73279:										
Sonsac---------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~small stones (slightly limited)	0.15	~depth to bedrock (slightly limited)	0.24	~depth to bedrock (slightly limited)	0.24
	~small stones (limited)	0.74	~small stones (limited)	0.74						
Moko-----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~shallow to bedrock (very limited)	1.00
	~shallow to bedrock (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~small stones (moderately limited)	0.60	~shallow to bedrock (very limited)	1.00	~droughty (very limited)	1.00
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~too clayey (slightly limited)	0.29	~small stones (moderately limited)	0.60		
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover): Rating class and limiting features	Value	Domestic grasses and legumes (for use as food and cover): Rating class and limiting features	Value	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Upland deciduous trees: Rating class and limiting features	Value
73280:										
Alred----------	Very limited		Very limited		Slightly limited		Slightly limited		Slightly limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (slightly limited)	0.28	~droughty (slightly limited)	0.09	~droughty (slightly limited)	0.09
	~small stones (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (slightly limited)	0.09	~small stones (slightly limited)	0.07		
	~high erodibility (limited)	0.80	~percs slowly (moderately limited)	0.40						
73281:										
Hobson---------	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.50	~wetness (moderately limited)	0.50	~wetness (limited)	0.71
	~wetness (moderately limited)	0.50	~wetness (moderately limited)	0.50						
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39						
73282:										
Alred----------	Very limited		Very limited		Slightly limited		Slightly limited		Slightly limited	
	~droughty (very limited)	1.00	~small stones (very limited)	1.00	~small stones (slightly limited)	0.28	~droughty (slightly limited)	0.09	~droughty (slightly limited)	0.09
	~small stones (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (slightly limited)	0.09	~small stones (slightly limited)	0.07		
	~high erodibility (limited)	0.80	~slope (moderately limited)	0.42						
Sonsac---------	Very limited		Limited		Slightly limited		Slightly limited		Slightly limited	
	~droughty (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (slightly limited)	0.12	~depth to bedrock (slightly limited)	0.29	~depth to bedrock (slightly limited)	0.29
	~high erodibility (limited)	0.80	~percs slowly (moderately limited)	0.40	~small stones (slightly limited)	0.03	~droughty (slightly limited)	0.12	~droughty (slightly limited)	0.12
	~percs slowly (moderately limited)	0.40	~small stones (moderately limited)	0.30						
73283:										
Courtois-------	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (limited)	0.93
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58						

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover): Rating class and limiting features	Value	Domestic grasses and legumes (for use as food and cover): Rating class and limiting features	Value	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Upland deciduous trees: Rating class and limiting features	Value
73284:										
Courtois-------	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (limited)	0.93
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58						
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40						
Goss-----------	Very limited		Limited		Limited		Limited		Limited	
	~droughty (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (limited)	0.69	~droughty (limited)	0.69	~droughty (limited)	0.69
	~high erodibility (limited)	0.80	~droughty (limited)	0.69	~small stones (slightly limited)	0.13				
	~small stones (limited)	0.64	~small stones (limited)	0.64						
73285, 73286:										
Useful---------	Limited		Limited		Slightly limited		Slightly limited		Moderately limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~wetness (moderately limited)	0.37
	~percs slowly (slightly limited)	0.15	~percs slowly (slightly limited)	0.15						
	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13						
Courtois-------	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (limited)	0.93
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58						
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40						
73287:										
Useful---------	Limited		Limited		Slightly limited		Slightly limited		Moderately limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~wetness (moderately limited)	0.37
	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60						
	~percs slowly (slightly limited)	0.15	~percs slowly (slightly limited)	0.15						

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover): Rating class and limiting features	Value	Domestic grasses and legumes (for use as food and cover): Rating class and limiting features	Value	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Upland deciduous trees: Rating class and limiting features	Value
73287:										
Sonsac	Very limited		Limited		Limited		Limited		Limited	
	~droughty (very limited)	1.00	~high erodibility (limited)	0.80	~droughty (limited)	0.65	~droughty (limited)	0.65	~droughty (limited)	0.65
	~high erodibility (limited)	0.80	~droughty (limited)	0.65	~too clayey (slightly limited)	0.02	~depth to bedrock (slightly limited)	0.06	~depth to bedrock (slightly limited)	0.06
	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40			~too clayey (slightly limited)	0.02		
73288:										
Caneyville	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (limited)	0.93
	~droughty (moderately limited)	0.58	~wetness (moderately limited)	0.58			~depth to bedrock (slightly limited)	0.30	~depth to bedrock (slightly limited)	0.30
	~wetness (moderately limited)	0.58	~depth to bedrock (slightly limited)	0.30						
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73289:										
Fourche	Limited		Limited		Moderately limited		Moderately limited		Moderately limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.36	~wetness (moderately limited)	0.36	~wetness (moderately limited)	0.51
	~wetness (moderately limited)	0.36	~wetness (moderately limited)	0.36						
	~percs slowly (slightly limited)	0.15	~percs slowly (slightly limited)	0.15						
74634:										
Hartville	Limited		Limited		Moderately limited		Moderately limited		Limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80	~wetness (moderately limited)	0.60	~wetness (moderately limited)	0.60	~wetness (limited)	0.99
	~wetness (moderately limited)	0.60	~wetness (moderately limited)	0.60						
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39						
74650:										
Higdon	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Limited	
	~flooding (moderately limited)	0.60	~flooding (moderately limited)	0.60	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (limited)	0.79
	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53						
	~percs slowly (slightly limited)	0.15	~percs slowly (slightly limited)	0.15						

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover): Rating class and limiting features	Value	Domestic grasses and legumes (for use as food and cover): Rating class and limiting features	Value	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Upland deciduous trees: Rating class and limiting features	Value
74652:										
Lecoma	Limited		Limited		Not limited		Not limited		Not limited	
	~high erodibility (limited)	0.80	~high erodibility (limited)	0.80						
74653:										
Racoon	Very limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~flooding (moderately limited)	0.60	~flooding (moderately limited)	0.60						
	~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39						
Freeburg	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Limited	
	~flooding (moderately limited)	0.60	~flooding (moderately limited)	0.60	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (limited)	0.79
	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53						
	~percs slowly (slightly limited)	0.13	~percs slowly (slightly limited)	0.13						
74656:										
Deible	Very limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00						
	~moderate erodibility (moderately limited)	0.50	~moderate erodibility (moderately limited)	0.50						
74661:										
Waben	Very limited		Very limited		Moderately limited		Slightly limited		Not limited	
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (moderately limited)	0.42	~small stones (slightly limited)	0.30		
	~droughty (limited)	0.70								
74662:										
Higdon	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Limited	
	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (limited)	0.79
	~percs slowly (slightly limited)	0.15	~percs slowly (slightly limited)	0.15						

Table 11a.--Wildlife Habitat--Continued

Map symbol and soil name	Grain and seed crops (for use as food and cover): Rating class and limiting features	Value	Domestic grasses and legumes (for use as food and cover): Rating class and limiting features	Value	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value	Upland deciduous trees: Rating class and limiting features	Value
75376:										
Cedargap-------	Limited		Limited		Slightly limited		Not limited		Slightly limited	
	~droughty (limited)	0.94	~flooding (limited)	0.90	~small stones (slightly limited)	0.03			~wetness (slightly limited)	0.01
	~flooding (limited)	0.90	~small stones (slightly limited)	0.27						
	~small stones (slightly limited)	0.27								
75388:										
Kaintuck-------	Limited		Limited		Not limited		Not limited		Not limited	
	~flooding (limited)	0.90	~flooding (limited)	0.90						
	~droughty (moderately limited)	0.34								
Relfe----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (limited)	0.73	~small stones (limited)	0.73		
	~flooding (limited)	0.90	~flooding (limited)	0.90						
75398:										
Kaintuck-------	Limited		Limited		Not limited		Not limited		Not limited	
	~flooding (limited)	0.90	~flooding (limited)	0.90						
	~droughty (moderately limited)	0.34								
75412:										
Razort---------	Moderately limited		Moderately limited		Not limited		Not limited		Not limited	
	~flooding (moderately limited)	0.60	~flooding (moderately limited)	0.60						
75413:										
Relfe----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00
	~small stones (very limited)	1.00	~small stones (very limited)	1.00	~small stones (limited)	0.73	~small stones (limited)	0.73		
	~flooding (limited)	0.90	~flooding (limited)	0.90						

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
75427: Gabriel	Limited ~wetness (limited) ~flooding (moderately limited) ~percs slowly (slightly limited)	 0.86 0.60 0.13	Limited ~wetness (limited) ~flooding (moderately limited) ~percs slowly (slightly limited)	 0.86 0.60 0.13	Limited ~wetness (limited)	 0.86	Limited ~wetness (limited)	 0.86	Very limited ~wetness (very limited)	 1.00
75450: Bloomsdale	Limited ~flooding (limited) ~droughty (limited)	 0.90 0.72	Limited ~flooding (limited)	 0.90	Not limited		Not limited		Not limited	
75453: Sturkie	Moderately limited ~flooding (moderately limited)	 0.60	Moderately limited ~flooding (moderately limited)	 0.60	Not limited		Not limited		Not limited	
75459: Huzzah	Limited ~flooding (limited)	 0.90	Limited ~flooding (limited)	 0.90	Not limited		Not limited		Not limited	
75460: Horsecreek	Moderately limited ~flooding (moderately limited)	 0.60	Moderately limited ~flooding (moderately limited)	 0.60	Not limited		Not limited		Not limited	
99000: Pits, quarries	Not rated		Not rated		Not rated		Not rated		Not rated	
99001: Water	Not rated		Not rated		Not rated		Not rated		Not rated	
99003: Miscellaneous water	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 0.00 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: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
66014:										
Haymond	Not limited		Moderately limited		Not limited		Not limited		Moderately limited	
			~infrequent flooding (moderately limited)	0.50					~seepage (moderately limited)	0.45
70028:										
Moko	Very limited		Limited		Very limited		Not limited		Very limited	
	~shallow to bedrock (very limited)	1.00	~infrequent flooding (limited)	0.80	~droughty (very limited)	1.00			~slope (very limited)	1.00
	~droughty (very limited)	1.00							~seepage (moderately limited)	0.45
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73012:										
Gravois	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness (limited)	0.85	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.35	~slope (limited)	0.91
			~deep to water (moderately limited)	0.35						
73032:										
Gatewood	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.51	~infrequent flooding (limited)	0.80	~small stones (moderately limited)	0.60	~deep to water (moderately limited)	0.53	~slope (very limited)	1.00
	~depth to bedrock (moderately limited)	0.42	~small stones (moderately limited)	0.60	~droughty (slightly limited)	0.22				
	~droughty (slightly limited)	0.22	~deep to water (moderately limited)	0.53						
73035:										
Gravois	Limited		Limited		Not limited		Moderately limited		Very limited	
	~wetness (limited)	0.85	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.35	~slope (very limited)	1.00
			~deep to water (moderately limited)	0.35						
73039:										
Glensted	Very limited		Limited		Not limited		Not limited		Not limited	
	~wetness (very limited)	1.00	~infrequent flooding (limited)	0.80						

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
73053:										
Lily	Limited		Limited		Moderately limited		Not limited		Very limited	
	~depth to bedrock (limited)	0.76	~infrequent flooding (limited)	0.80	~droughty (moderately limited)	0.48			~slope (very limited)	1.00
	~droughty (moderately limited)	0.48								
Bender	Very limited		Limited		Very limited		Not limited		Very limited	
	~droughty (very limited)	1.00	~infrequent flooding (limited)	0.80	~droughty (very limited)	1.00			~slope (very limited)	1.00
	~depth to bedrock (limited)	0.76	~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17			~seepage (limited)	0.79
	~large stones (slightly limited)	0.17								
73066:										
Bender	Very limited		Limited		Very limited		Not limited		Very limited	
	~droughty (very limited)	1.00	~infrequent flooding (limited)	0.80	~droughty (very limited)	1.00			~slope (very limited)	1.00
	~depth to bedrock (limited)	0.76	~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17			~seepage (limited)	0.79
	~large stones (slightly limited)	0.17								
73067:										
Bender	Very limited		Limited		Very limited		Not limited		Very limited	
	~droughty (very limited)	1.00	~infrequent flooding (limited)	0.80	~droughty (very limited)	1.00			~slope (very limited)	1.00
	~depth to bedrock (limited)	0.76	~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17			~seepage (limited)	0.79
	~large stones (slightly limited)	0.17								
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73089:										
Rueter	Moderately limited		Limited		Moderately limited		Slightly limited		Very limited	
	~droughty (moderately limited)	0.43	~infrequent flooding (limited)	0.80	~small stones (moderately limited)	0.49	~soil reaction (slightly limited)	0.18	~slope (very limited)	1.00
			~small stones (moderately limited)	0.49	~droughty (moderately limited)	0.43			~seepage (limited)	0.79
									~soil reaction (slightly limited)	0.18

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
73094:										
Gatewood-------	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.51	~infrequent flooding (limited)	0.80	~small stones (moderately limited)	0.60	~deep to water (moderately limited)	0.53	~slope (very limited)	1.00
	~depth to bedrock (moderately limited)	0.42	~small stones (moderately limited)	0.60	~droughty (slightly limited)	0.22				
	~droughty (slightly limited)	0.22	~deep to water (moderately limited)	0.53						
73098:										
Plato----------	Very limited		Limited		Slightly limited		Slightly limited		Not limited	
	~wetness (very limited)	1.00	~infrequent flooding (limited)	0.80	~droughty (slightly limited)	0.01	~deep to water (slightly limited)	0.06		
	~droughty (slightly limited)	0.01	~deep to water (slightly limited)	0.06						
73135:										
Union----------	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness (limited)	0.93	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.32	~slope (limited)	0.91
			~deep to water (moderately limited)	0.32						
73136:										
Union----------	Limited		Limited		Not limited		Moderately limited		Not limited	
	~wetness (limited)	0.93	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.32		
			~deep to water (moderately limited)	0.32						
73159:										
Yelton---------	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness (limited)	0.93	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.32	~slope (limited)	0.66
			~deep to water (moderately limited)	0.32						
73162:										
Alred----------	Slightly limited		Limited		Slightly limited		Not limited		Very limited	
	~droughty (slightly limited)	0.03	~infrequent flooding (limited)	0.80	~droughty (slightly limited)	0.03			~slope (very limited)	1.00

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
73162:										
Rueter---------	Moderately limited		Limited		Moderately limited		Slightly limited		Very limited	
	~droughty	0.43	~infrequent flooding	0.80	~small stones	0.49	~soil reaction	0.18	~slope	1.00
	(moderately limited)		(limited)		(moderately limited)		(slightly limited)		(very limited)	
			~small stones	0.49	~droughty	0.43			~seepage	0.79
			(moderately limited)		(moderately limited)				(limited)	
									~soil reaction	0.18
									(slightly limited)	
73164:										
Bender---------	Very limited		Limited		Very limited		Not limited		Very limited	
	~droughty	1.00	~infrequent flooding	0.80	~droughty	1.00			~slope	1.00
	(very limited)		(limited)		(very limited)				(very limited)	
	~depth to bedrock	0.76	~large stones	0.17	~large stones	0.17			~seepage	0.79
	(limited)		(slightly limited)		(slightly limited)				(limited)	
	~large stones	0.17								
	(slightly limited)									
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73166:										
Viburnum-------	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness	0.85	~infrequent flooding	0.80			~deep to water	0.35	~slope	0.66
	(limited)		(limited)				(moderately limited)		(limited)	
			~deep to water	0.35					~seepage	0.18
			(moderately limited)						(slightly limited)	
Tonti----------	Limited		Limited		Limited		Moderately limited		Limited	
	~wetness	0.85	~infrequent flooding	0.80	~small stones	0.65	~deep to water	0.35	~slope	0.66
	(limited)		(limited)		(limited)		(moderately limited)		(limited)	
			~small stones	0.65			~soil reaction	0.06	~soil reaction	0.06
			(limited)				(slightly limited)		(slightly limited)	
			~deep to water	0.35						
			(moderately limited)							
73168:										
Swiss----------	Moderately limited		Limited		Not limited		Limited		Very limited	
	~wetness	0.37	~deep to water	0.82			~deep to water	0.82	~slope	1.00
	(moderately limited)		(limited)				(limited)		(very limited)	
			~infrequent flooding	0.80						
			(limited)							

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
73169, 73170:										
Beemont--------	Moderately limited		Limited		Not limited		Limited		Very limited	
	~wetness (moderately limited)	0.45	~infrequent flooding (limited)	0.80			~deep to water (limited)	0.60	~slope (very limited)	1.00
			~deep to water (limited)	0.60						
Gatewood-------	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.51	~infrequent flooding (limited)	0.80	~small stones (moderately limited)	0.60	~deep to water (moderately limited)	0.53	~slope (very limited)	1.00
	~depth to bedrock (moderately limited)	0.42	~small stones (moderately limited)	0.60	~droughty (slightly limited)	0.22				
	~droughty (slightly limited)	0.22	~deep to water (moderately limited)	0.53						
73171:										
Plato----------	Very limited		Limited		Slightly limited		Slightly limited		Limited	
	~wetness (very limited)	1.00	~infrequent flooding (limited)	0.80	~droughty (slightly limited)	0.03	~soil reaction (slightly limited)	0.06	~slope (limited)	0.91
	~droughty (slightly limited)	0.03	~deep to water (slightly limited)	0.06			~deep to water (slightly limited)	0.06	~soil reaction (slightly limited)	0.06
73172:										
Rosati---------	Very limited		Limited		Not limited		Slightly limited		Slightly limited	
	~wetness (very limited)	1.00	~infrequent flooding (limited)	0.80			~deep to water (slightly limited)	0.11	~slope (slightly limited)	0.08
			~deep to water (slightly limited)	0.11						
73173:										
Lily-----------	Limited		Limited		Slightly limited		Not limited		Limited	
	~depth to bedrock (limited)	0.76	~infrequent flooding (limited)	0.80	~droughty (slightly limited)	0.04			~slope (limited)	0.91
	~droughty (slightly limited)	0.04							~seepage (limited)	0.79
Yelton---------	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness (limited)	0.93	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.32	~slope (limited)	0.66
			~deep to water (moderately limited)	0.32						

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
73174:										
Lily	Limited		Limited		Slightly limited		Not limited		Very limited	
	~depth to bedrock (limited)	0.76	~infrequent flooding (limited)	0.80	~droughty (slightly limited)	0.04			~slope (very limited)	1.00
	~droughty (slightly limited)	0.04							~seepage (limited)	0.79
Yelton	Limited		Limited		Not limited		Moderately limited		Very limited	
	~wetness (limited)	0.93	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.32	~slope (very limited)	1.00
			~deep to water (moderately limited)	0.32						
73175:										
Poynor	Not limited		Limited		Slightly limited		Not limited		Limited	
			~infrequent flooding (limited)	0.80	~small stones (slightly limited)	0.01			~slope (limited)	0.66
			~small stones (slightly limited)	0.01					~seepage (moderately limited)	0.45
Bendavis	Moderately limited		Limited		Moderately limited		Limited		Limited	
	~depth to bedrock (moderately limited)	0.58	~infrequent flooding (limited)	0.80	~small stones (moderately limited)	0.60	~deep to water (limited)	0.60	~slope (limited)	0.66
	~droughty (moderately limited)	0.45	~deep to water (limited)	0.60	~droughty (moderately limited)	0.45			~seepage (moderately limited)	0.45
	~wetness (moderately limited)	0.45	~small stones (moderately limited)	0.60						
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)	0.60	~slope (very limited)	1.00
	~droughty (moderately limited)	0.45	~deep to water (limited)	0.60	~droughty (moderately limited)	0.45			~seepage (moderately limited)	0.45
	~wetness (moderately limited)	0.45	~small stones (moderately limited)	0.60						
Poynor	Not limited		Limited		Slightly limited		Not limited		Very limited	
			~infrequent flooding (limited)	0.80	~small stones (slightly limited)	0.01			~slope (very limited)	1.00
			~small stones (slightly limited)	0.01					~seepage (moderately limited)	0.45

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
73181:										
Useful	Moderately limited		Limited		Not limited		Limited		Very limited	
	~wetness (moderately limited)	0.37	~deep to water (limited)	0.82			~deep to water (limited)	0.82	~slope (very limited)	1.00
			~infrequent flooding (limited)	0.80					~seepage (slightly limited)	0.18
Gatewood	Moderately limited		Limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.51	~infrequent flooding (limited)	0.80	~small stones (moderately limited)	0.60	~deep to water (moderately limited)	0.53	~slope (very limited)	1.00
	~depth to bedrock (moderately limited)	0.42	~small stones (moderately limited)	0.60	~droughty (slightly limited)	0.22				
	~droughty (slightly limited)	0.22	~deep to water (moderately limited)	0.53						
73200:										
Sonsac	Slightly limited		Limited		Slightly limited		Not limited		Very limited	
	~depth to bedrock (slightly limited)	0.29	~infrequent flooding (limited)	0.80	~droughty (slightly limited)	0.12			~slope (very limited)	1.00
	~droughty (slightly limited)	0.12								
73210:										
Goss	Moderately limited		Limited		Moderately limited		Not limited		Very limited	
	~droughty (moderately limited)	0.34	~infrequent flooding (limited)	0.80	~droughty (moderately limited)	0.34			~slope (very limited)	1.00
	~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17	~large stones (slightly limited)	0.17			~seepage (moderately limited)	0.45
73214:										
Moko	Very limited		Limited		Very limited		Not limited		Very limited	
	~shallow to bedrock (very limited)	1.00	~infrequent flooding (limited)	0.80	~droughty (very limited)	1.00			~slope (very limited)	1.00
	~droughty (very limited)	1.00								
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73215:										
Crider	Not limited		Limited		Not limited		Not limited		Limited	
			~infrequent flooding (limited)	0.80					~slope (limited)	0.91
									~seepage (moderately limited)	0.45

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
73271:										
Moko	Very limited		Limited		Very limited		Not limited		Very limited	
	~shallow to bedrock (very limited)	1.00	~infrequent flooding (limited)	0.80	~droughty (very limited)	1.00			~slope (very limited)	1.00
	~droughty (very limited)	1.00	~small stones (slightly limited)	0.30	~small stones (slightly limited)	0.30			~seepage (moderately limited)	0.45
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73272:										
Hildebrecht	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness (limited)	0.93	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.32	~slope (limited)	0.66
			~deep to water (moderately limited)	0.32						
73273:										
Coulstone	Limited		Limited		Limited		Moderately limited		Very limited	
	~droughty (limited)	0.97	~infrequent flooding (limited)	0.80	~droughty (limited)	0.97	~deep to water (moderately limited)	0.32	~slope (very limited)	1.00
	~wetness (limited)	0.93	~deep to water (moderately limited)	0.32			~soil reaction (slightly limited)	0.24	~seepage (limited)	0.79
									~soil reaction (slightly limited)	0.24
Bender	Very limited		Not limited		Very limited		Slightly limited		Very limited	
	~droughty (very limited)	1.00			~droughty (very limited)	1.00	~soil reaction (slightly limited)	0.12	~slope (very limited)	1.00
	~depth to bedrock (moderately limited)	0.46							~seepage (limited)	0.79
									~soil reaction (slightly limited)	0.12
73274:										
Scholten	Limited		Limited		Slightly limited		Moderately limited		Very limited	
	~wetness (limited)	0.85	~infrequent flooding (limited)	0.80	~small stones (slightly limited)	0.14	~deep to water (moderately limited)	0.35	~slope (very limited)	1.00
	~droughty (slightly limited)	0.13	~deep to water (moderately limited)	0.35	~droughty (slightly limited)	0.13				
			~small stones (slightly limited)	0.14						

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
73275:										
Gravois	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness (limited)	0.85	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.35	~slope (limited)	0.91
			~deep to water (moderately limited)	0.35						
Goss	Limited		Limited		Limited		Not limited		Very limited	
	~droughty (limited)	0.69	~infrequent flooding (limited)	0.80	~droughty (limited)	0.69			~slope (very limited)	1.00
									~seepage (moderately limited)	0.45
73276:										
Rueter	Moderately limited		Limited		Moderately limited		Slightly limited		Very limited	
	~droughty (moderately limited)	0.43	~infrequent flooding (limited)	0.80	~small stones (moderately limited)	0.49	~soil reaction (slightly limited)	0.18	~slope (very limited)	1.00
			~small stones (moderately limited)	0.49	~droughty (moderately limited)	0.43			~seepage (limited)	0.79
									~soil reaction (slightly limited)	0.18
Hildebrecht	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness (limited)	0.93	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.32	~slope (limited)	0.66
			~deep to water (moderately limited)	0.32						
73277:										
Goss	Limited		Limited		Limited		Not limited		Very limited	
	~droughty (limited)	0.69	~infrequent flooding (limited)	0.80	~droughty (limited)	0.69			~slope (very limited)	1.00
									~seepage (moderately limited)	0.45
73278:										
Rueter	Slightly limited		Limited		Slightly limited		Slightly limited		Very limited	
	~droughty (slightly limited)	0.29	~infrequent flooding (limited)	0.80	~droughty (slightly limited)	0.29	~soil reaction (slightly limited)	0.30	~slope (very limited)	1.00
									~seepage (limited)	0.79
									~soil reaction (slightly limited)	0.30

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
73279:										
Sonsac	Very limited ~droughty (very limited) ~depth to bedrock (slightly limited)	 1.00 0.24	Limited ~infrequent flooding (limited)	 0.80	Very limited ~droughty (very limited)	 1.00	Not limited		Very limited ~slope (very limited)	 1.00
Moko	Very limited ~shallow to bedrock (very limited) ~droughty (very limited)	 1.00 1.00	Limited ~infrequent flooding (limited) ~small stones (moderately limited)	 0.80 0.60	Very limited ~droughty (very limited) ~small stones (moderately limited)	 1.00 0.60	Not limited		Very limited ~slope (very limited) ~seepage (moderately limited)	 1.00 0.45
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73280:										
Alred	Slightly limited ~droughty (slightly limited)	 0.09	Limited ~infrequent flooding (limited) ~small stones (slightly limited)	 0.80 0.07	Slightly limited ~droughty (slightly limited) ~small stones (slightly limited)	 0.09 0.07	Not limited		Very limited ~slope (very limited)	 1.00
73281:										
Hobson	Limited ~wetness (limited)	 0.71	Limited ~infrequent flooding (limited) ~deep to water (moderately limited)	 0.80 0.40	Not limited		Moderately limited ~deep to water (moderately limited)	 0.40	Very limited ~slope (very limited)	 1.00
73282:										
Alred	Slightly limited ~droughty (slightly limited)	 0.09	Limited ~infrequent flooding (limited) ~small stones (slightly limited)	 0.80 0.07	Slightly limited ~droughty (slightly limited) ~small stones (slightly limited)	 0.09 0.07	Not limited		Very limited ~slope (very limited)	 1.00
Sonsac	Slightly limited ~depth to bedrock (slightly limited) ~droughty (slightly limited)	 0.29 0.12	Limited ~infrequent flooding (limited)	 0.80	Slightly limited ~droughty (slightly limited)	 0.12	Not limited		Very limited ~slope (very limited)	 1.00

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
73283:										
Courtois-------	Limited		Limited		Not limited		Moderately limited		Limited	
	~wetness (limited)	0.93	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.32	~slope (limited)	0.91
			~deep to water (moderately limited)	0.32					~seepage (moderately limited)	0.45
73284:										
Courtois-------	Limited		Limited		Not limited		Moderately limited		Very limited	
	~wetness (limited)	0.93	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.32	~slope (very limited)	1.00
			~deep to water (moderately limited)	0.32						
Goss-----------	Limited		Limited		Limited		Not limited		Very limited	
	~droughty (limited)	0.69	~infrequent flooding (limited)	0.80	~droughty (limited)	0.69			~slope (very limited)	1.00
									~seepage (moderately limited)	0.45
73285:										
Useful---------	Moderately limited		Limited		Not limited		Limited		Slightly limited	
	~wetness (moderately limited)	0.37	~deep to water (limited)	0.82			~deep to water (limited)	0.82	~seepage (slightly limited)	0.16
			~infrequent flooding (limited)	0.80					~slope (slightly limited)	0.08
Courtois-------	Limited		Limited		Not limited		Moderately limited		Very limited	
	~wetness (limited)	0.93	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.32	~slope (very limited)	1.00
			~deep to water (moderately limited)	0.32						
73286:										
Useful---------	Moderately limited		Limited		Not limited		Limited		Very limited	
	~wetness (moderately limited)	0.37	~deep to water (limited)	0.82			~deep to water (limited)	0.82	~slope (very limited)	1.00
			~infrequent flooding (limited)	0.80					~seepage (slightly limited)	0.16
Courtois-------	Limited		Limited		Not limited		Moderately limited		Very limited	
	~wetness (limited)	0.93	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.32	~slope (very limited)	1.00
			~deep to water (moderately limited)	0.32						

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
73287:										
Useful	Moderately limited		Limited		Not limited		Limited		Very limited	
	~wetness (moderately limited)	0.37	~deep to water (limited)	0.82			~deep to water (limited)	0.82	~slope (very limited)	1.00
			~infrequent flooding (limited)	0.80					~seepage (slightly limited)	0.16
Sonsac	Limited		Limited		Limited		Not limited		Very limited	
	~droughty (limited)	0.65	~infrequent flooding (limited)	0.80	~droughty (limited)	0.65			~slope (very limited)	1.00
	~depth to bedrock (slightly limited)	0.06								
73288:										
Caneyville	Limited		Limited		Not limited		Moderately limited		Very limited	
	~wetness (limited)	0.93	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.32	~slope (very limited)	1.00
	~depth to bedrock (slightly limited)	0.30	~deep to water (moderately limited)	0.32					~seepage (slightly limited)	0.18
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73289:										
Fourche	Moderately limited		Limited		Not limited		Moderately limited		Limited	
	~wetness (moderately limited)	0.51	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.53	~slope (limited)	0.66
			~deep to water (moderately limited)	0.53					~seepage (slightly limited)	0.16
74634:										
Hartville	Limited		Limited		Not limited		Slightly limited		Limited	
	~wetness (limited)	0.99	~infrequent flooding (limited)	0.80			~deep to water (slightly limited)	0.30	~slope (limited)	0.91
			~deep to water (slightly limited)	0.30						
74650:										
Higdon	Limited		Moderately limited		Not limited		Moderately limited		Slightly limited	
	~wetness (limited)	0.79	~infrequent flooding (moderately limited)	0.50			~deep to water (moderately limited)	0.37	~seepage (slightly limited)	0.16
			~deep to water (moderately limited)	0.37						

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
74652:										
Lecoma	Not limited		Limited		Not limited		Not limited		Limited	
			~infrequent flooding (limited)	0.80					~slope (limited)	0.91
									~seepage (moderately limited)	0.45
74653:										
Racoon	Very limited		Moderately limited		Not limited		Not limited		Not limited	
	~wetness (very limited)	1.00	~infrequent flooding (moderately limited)	0.50						
Freeburg	Limited		Moderately limited		Not limited		Moderately limited		Slightly limited	
	~wetness (limited)	0.79	~infrequent flooding (moderately limited)	0.50			~deep to water (moderately limited)	0.37	~seepage (slightly limited)	0.18
			~deep to water (moderately limited)	0.37						
74656:										
Deible	Very limited		Limited		Not limited		Not limited		Not limited	
	~wetness (very limited)	1.00	~infrequent flooding (limited)	0.80						
74661:										
Waben	Not limited		Limited		Slightly limited		Not limited		Limited	
			~infrequent flooding (limited)	0.80	~small stones (slightly limited)	0.30			~slope (limited)	0.91
			~small stones (slightly limited)	0.30					~seepage (limited)	0.79
74662:										
Higdon	Limited		Limited		Not limited		Moderately limited		Moderately limited	
	~wetness (limited)	0.79	~infrequent flooding (limited)	0.80			~deep to water (moderately limited)	0.37	~slope (moderately limited)	0.31
			~deep to water (moderately limited)	0.37					~seepage (slightly limited)	0.16
75376:										
Cedargap	Slightly limited		Very limited		Slightly limited		Very limited		Moderately limited	
	~wetness (slightly limited)	0.01	~deep to water (very limited)	1.00	~deep to water (slightly limited)	0.30	~deep to water (very limited)	1.00	~seepage (moderately limited)	0.45
			~infrequent flooding (moderately limited)	0.50					~deep to water (slightly limited)	0.30

Table 11b.--Wildlife Habitat--Continued

Map symbol and soil name	Upland mixed deciduous-conifer trees: Rating class and limiting features	Value	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value	Irrigated freshwater wetland plants: Rating class and limiting features	Value
75388:										
Kaintuck-------	Not limited		Moderately limited		Not limited		Not limited		Limited	
			~infrequent flooding (moderately limited)	0.50					~seepage (limited)	0.79
Relfe----------	Very limited		Limited		Very limited		Not limited		Limited	
	~droughty (very limited)	1.00	~small stones (limited)	0.73	~droughty (very limited)	1.00			~seepage (limited)	0.79
			~infrequent flooding (moderately limited)	0.50	~small stones (limited)	0.73				
75398:										
Kaintuck-------	Not limited		Moderately limited		Not limited		Not limited		Limited	
			~infrequent flooding (moderately limited)	0.50					~seepage (limited)	0.79
75412:										
Razort---------	Not limited		Moderately limited		Not limited		Not limited		Moderately limited	
			~infrequent flooding (moderately limited)	0.50					~seepage (moderately limited)	0.45
75413:										
Relfe----------	Very limited		Limited		Very limited		Not limited		Limited	
	~droughty (very limited)	1.00	~small stones (limited)	0.73	~droughty (very limited)	1.00			~seepage (limited)	0.79
			~infrequent flooding (moderately limited)	0.50	~small stones (limited)	0.73				
75427:										
Gabriel--------	Very limited		Moderately limited		Not limited		Slightly limited		Slightly limited	
	~wetness (very limited)	1.00	~infrequent flooding (moderately limited)	0.50			~deep to water (slightly limited)	0.11	~seepage (slightly limited)	0.18
			~deep to water (slightly limited)	0.11						
75450:										
Bloomsdale-----	Not limited		Moderately limited		Not limited		Not limited		Moderately limited	
			~infrequent flooding (moderately limited)	0.50					~seepage (moderately limited)	0.45
75453:										
Sturkie--------	Not limited		Moderately limited		Not limited		Not limited		Moderately limited	
			~infrequent flooding (moderately limited)	0.50					~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
75459:										
Huzzah---------	Not limited		Moderately limited		Not limited		Not limited		Limited	
			~infrequent flooding (moderately limited)	0.50					~seepage (limited)	0.79
75460:										
Horsecreek-----	Not limited		Very limited		Very limited		Very limited		Very limited	
			~deep to water (very limited)	1.00	~deep to water (very limited)	1.00	~deep to water (very limited)	1.00	~deep to water (very limited)	1.00
			~infrequent flooding (moderately limited)	0.50					~seepage (moderately limited)	0.45
99000: Pits,										
quarries------	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water----------	Not rated		Not rated		Not rated		Not rated		Not rated	
99003: Miscellaneous										
water---------	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 0.00 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
66014:										
Haymond	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00
70028:										
Moko	Very limited		Very limited		Very limited		Very limited		Very limited	
	~hard bedrock <20" (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~hard bedrock <20" (very limited)	1.00	~hard bedrock <20" (very limited)	1.00	~shallow to bedrock (very limited)	1.00
	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45	~slope (very limited)	1.00	~slope (slightly limited)	0.04	~droughty (very limited)	1.00
									~small stones (limited)	0.64
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73012:										
Gravois	Limited		Very limited		Limited		Very limited		Moderately limited	
	~wetness (limited)	0.85	~wetness (very limited)	1.00	~slope (limited)	0.68	~low strength (very limited)	1.00	~wetness (moderately limited)	0.49
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.44	~wetness (moderately limited)	0.49	~wetness (moderately limited)	0.49		
					~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45		
73032:										
Gatewood	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~shrink-swell (very limited)	1.00	~low strength (very limited)	1.00	~small stones (very limited)	1.00
	~wetness (moderately limited)	0.51	~wetness (very limited)	1.00	~slope (very limited)	1.00	~shrink-swell (very limited)	1.00	~depth to bedrock (moderately limited)	0.42
	~depth to bedrock (moderately limited)	0.51	~shrink-swell (very limited)	1.00	~depth to bedrock (moderately limited)	0.51	~depth to bedrock (moderately limited)	0.51	~droughty (slightly limited)	0.22
73035:										
Gravois	Limited		Very limited		Very limited		Very limited		Moderately limited	
	~wetness (limited)	0.85	~wetness (very limited)	1.00	~slope (very limited)	1.00	~low strength (very limited)	1.00	~wetness (moderately limited)	0.49
	~slope (limited)	0.68	~slope (limited)	0.68	~wetness (moderately limited)	0.49	~wetness (moderately limited)	0.49	~slope (moderately limited)	0.37
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.44	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45		

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73039:										
Glensted	Very limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~low strength (very limited)	1.00	~wetness (very limited)	1.00
	~shrink-swell (very limited)	1.00	~shrink-swell (limited)	0.96	~shrink-swell (very limited)	1.00	~wetness (very limited)	1.00		
							~shrink-swell (very limited)	1.00		
73053:										
Lily	Limited		Very limited		Limited		Limited		Limited	
	~depth to bedrock (limited)	0.76	~hard bedrock <40" (very limited)	1.00	~slope (limited)	0.99	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76
	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~depth to bedrock (limited)	0.76			~droughty (moderately limited)	0.48
									~too acid (slightly limited)	0.06
Bender	Limited		Very limited		Limited		Limited		Very limited	
	~depth to bedrock (limited)	0.76	~hard bedrock <40" (very limited)	1.00	~slope (limited)	0.99	~depth to bedrock (limited)	0.76	~droughty (very limited)	1.00
	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~depth to bedrock (limited)	0.76	~large stones (slightly limited)	0.09	~large stones (limited)	0.99
	~large stones (slightly limited)	0.09	~large stones (slightly limited)	0.09	~large stones (slightly limited)	0.09			~depth to bedrock (limited)	0.76
73066:										
Bender	Limited		Very limited		Limited		Limited		Very limited	
	~depth to bedrock (limited)	0.76	~hard bedrock <40" (very limited)	1.00	~slope (limited)	0.99	~depth to bedrock (limited)	0.76	~droughty (very limited)	1.00
	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~depth to bedrock (limited)	0.76	~large stones (slightly limited)	0.09	~large stones (limited)	0.99
	~large stones (slightly limited)	0.09	~large stones (slightly limited)	0.09	~large stones (slightly limited)	0.09			~depth to bedrock (limited)	0.76
73067:										
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~depth to bedrock (limited)	0.76	~slope (very limited)	1.00	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~droughty (very limited)	1.00
	~large stones (slightly limited)	0.09	~large stones (slightly limited)	0.09	~large stones (slightly limited)	0.09	~large stones (slightly limited)	0.09	~large stones (limited)	0.99
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: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73089:										
Rueter	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	~slope (very limited)	1.00
	~large stones (slightly limited)	0.29	~large stones (slightly limited)	0.29	~large stones (slightly limited)	0.29	~large stones (slightly limited)	0.29	~small stones (very limited)	1.00
			~shrink-swell (slightly limited)	0.09					~too acid (limited)	0.84
73094:										
Gatewood	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~slope (very limited)	1.00	~low strength (very limited)	1.00	~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
	~wetness (moderately limited)	0.51	~shrink-swell (very limited)	1.00	~depth to bedrock (moderately limited)	0.51	~shrink-swell (very limited)	1.00	~depth to bedrock (moderately limited)	0.42
73098:										
Plato	Very limited		Very limited		Limited		Limited		Limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.94	~wetness (limited)	0.94	~wetness (limited)	0.94
			~shrink-swell (moderately limited)	0.33					~too acid (slightly limited)	0.06
									~droughty (slightly limited)	0.01
73135:										
Union	Limited		Very limited		Limited		Very limited		Moderately limited	
	~wetness (limited)	0.93	~wetness (very limited)	1.00	~slope (limited)	0.68	~low strength (very limited)	1.00	~wetness (moderately limited)	0.56
	~shrink-swell (moderately limited)	0.45	~shrink-swell (slightly limited)	0.15	~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56		
					~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45		
73136:										
Union	Limited		Very limited		Moderately limited		Very limited		Moderately limited	
	~wetness (limited)	0.93	~wetness (very limited)	1.00	~wetness (moderately limited)	0.56	~low strength (very limited)	1.00	~wetness (moderately limited)	0.56
	~shrink-swell (moderately limited)	0.45	~shrink-swell (slightly limited)	0.15	~shrink-swell (moderately limited)	0.45	~wetness (moderately limited)	0.56		
							~shrink-swell (moderately limited)	0.45		

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73159:										
Yelton	Limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~wetness (limited)	0.93	~wetness (very limited)	1.00	~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56
			~shrink-swell (slightly limited)	0.12	~slope (moderately limited)	0.45				
73162:										
Alred	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (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	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~large stones (moderately limited)	0.30
							~low strength (very limited)	1.00	~droughty (slightly limited)	0.03
Rueter	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	~slope (very limited)	1.00
	~large stones (slightly limited)	0.29	~large stones (slightly limited)	0.29	~large stones (slightly limited)	0.29	~large stones (slightly limited)	0.29	~small stones (very limited)	1.00
			~shrink-swell (slightly limited)	0.09					~too acid (limited)	0.84
73164:										
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~depth to bedrock (limited)	0.76	~slope (very limited)	1.00	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~droughty (very limited)	1.00
	~large stones (slightly limited)	0.09	~large stones (slightly limited)	0.09	~large stones (slightly limited)	0.09	~large stones (slightly limited)	0.09	~large stones (limited)	0.99
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73166:										
Viburnum	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~shrink-swell (very limited)	1.00	~wetness (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~small stones (moderately limited)	0.57
	~wetness (limited)	0.85	~shrink-swell (very limited)	1.00	~wetness (moderately limited)	0.49	~low strength (very limited)	1.00	~wetness (moderately limited)	0.49
					~slope (moderately limited)	0.45	~wetness (moderately limited)	0.49	~too acid (moderately limited)	0.48

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73166:										
Tonti----------	Limited		Very limited		Moderately limited		Moderately limited		Very limited	
	~wetness (limited)	0.85	~wetness (very limited)	1.00	~wetness (moderately limited)	0.49	~wetness (moderately limited)	0.49	~small stones (very limited)	1.00
			~shrink-swell (moderately limited)	0.33	~slope (moderately limited)	0.45			~too acid (limited)	0.60
									~wetness (moderately limited)	0.49
73168:										
Swiss----------	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~small stones (moderately limited)	0.30
	~slope (moderately limited)	0.60	~wetness (limited)	0.99	~slope (very limited)	1.00	~low strength (very limited)	1.00	~too acid (slightly limited)	0.24
	~wetness (moderately limited)	0.37	~slope (moderately limited)	0.60			~slope (slightly limited)	0.16	~slope (slightly limited)	0.16
73169:										
Beemont--------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~low strength (very limited)	1.00	~slope (very limited)	1.00
	~slope (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~slope (very limited)	1.00	~small stones (limited)	0.82
	~wetness (moderately limited)	0.45	~wetness (very limited)	1.00			~shrink-swell (very limited)	1.00	~too acid (moderately limited)	0.42
Gatewood-------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~slope (very limited)	1.00	~low strength (very limited)	1.00	~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
	~wetness (moderately limited)	0.51	~shrink-swell (very limited)	1.00	~depth to bedrock (moderately limited)	0.51	~shrink-swell (very limited)	1.00	~depth to bedrock (moderately limited)	0.42
73170:										
Beemont--------	Very limited		Very limited		Very limited		Very limited		Limited	
	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~low strength (very limited)	1.00	~small stones (limited)	0.82
	~slope (moderately limited)	0.45	~wetness (very limited)	1.00	~slope (very limited)	1.00	~shrink-swell (very limited)	1.00	~too acid (moderately limited)	0.42
	~wetness (moderately limited)	0.45	~slope (moderately limited)	0.45			~slope (slightly limited)	0.04	~slope (slightly limited)	0.04

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73170:										
Gatewood	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~shrink-swell (very limited)	1.00	~low strength (very limited)	1.00	~small stones (very limited)	1.00
	~wetness (moderately limited)	0.51	~wetness (very limited)	1.00	~slope (very limited)	1.00	~shrink-swell (very limited)	1.00	~depth to bedrock (moderately limited)	0.42
	~depth to bedrock (moderately limited)	0.51	~shrink-swell (very limited)	1.00	~depth to bedrock (moderately limited)	0.51	~depth to bedrock (moderately limited)	0.51	~droughty (slightly limited)	0.22
73171:										
Plato	Very limited		Very limited		Limited		Limited		Limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.94	~wetness (limited)	0.94	~wetness (limited)	0.94
	~shrink-swell (moderately limited)	0.45	~shrink-swell (very limited)	1.00	~slope (limited)	0.68	~shrink-swell (moderately limited)	0.45	~too clayey (moderately limited)	0.60
					~shrink-swell (moderately limited)	0.45			~too acid (slightly limited)	0.18
73172:										
Rosati	Very limited		Very limited		Very limited		Very limited		Limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~shrink-swell (very limited)	1.00	~low strength (very limited)	1.00	~wetness (limited)	0.86
	~shrink-swell (very limited)	1.00	~shrink-swell (moderately limited)	0.59	~wetness (limited)	0.86	~shrink-swell (very limited)	1.00		
							~wetness (limited)	0.86		
73173:										
Lily	Limited		Very limited		Limited		Limited		Limited	
	~depth to bedrock (limited)	0.76	~hard bedrock <40" (very limited)	1.00	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76
					~slope (limited)	0.68			~too acid (slightly limited)	0.06
									~droughty (slightly limited)	0.04
Yelton	Limited		Very limited		Moderately limited		Moderately limited		Moderately limited	
	~wetness (limited)	0.93	~wetness (very limited)	1.00	~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56
			~shrink-swell (slightly limited)	0.12	~slope (moderately limited)	0.45				

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73174:										
Lily-----------	Limited		Very limited		Very limited		Limited		Limited	
	~depth to bedrock (limited)	0.76	~hard bedrock <40" (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76
	~slope (limited)	0.76	~slope (limited)	0.76	~depth to bedrock (limited)	0.76	~slope (limited)	0.63	~slope (limited)	0.63
									~too acid (slightly limited)	0.06
Yelton---------	Limited		Very limited		Very limited		Limited		Limited	
	~wetness (limited)	0.93	~wetness (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.63	~slope (limited)	0.63
	~slope (limited)	0.76	~slope (limited)	0.76	~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56
			~shrink-swell (slightly limited)	0.12						
73175:										
Poynor---------	Moderately limited		Moderately limited		Moderately limited		Very limited		Very limited	
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.32	~slope (moderately limited)	0.45	~low strength (very limited)	1.00	~small stones (limited)	1.00
					~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45	~too acid (slightly limited)	0.30
Bendavis-------	Moderately limited		Very limited		Moderately limited		Moderately limited		Very limited	
	~depth to bedrock (moderately limited)	0.59	~hard bedrock <40" (very limited)	1.00	~depth to bedrock (moderately limited)	0.59	~depth to bedrock (moderately limited)	0.59	~small stones (very limited)	1.00
	~wetness (moderately limited)	0.45	~wetness (very limited)	1.00	~slope (moderately limited)	0.45			~depth to bedrock (moderately limited)	0.58
									~droughty (moderately limited)	0.45
73176:										
Bendavis-------	Limited		Very limited		Very limited		Limited		Very limited	
	~slope (limited)	0.76	~hard bedrock <40" (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.63	~small stones (very limited)	1.00
	~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	~slope (limited)	0.63
	~wetness (moderately limited)	0.45	~slope (limited)	0.76					~depth to bedrock (moderately limited)	0.58

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73176:										
Poynor	Limited		Limited		Very limited		Very limited		Very limited	
	~slope (limited)	0.76	~slope (limited)	0.76	~slope (very limited)	1.00	~low strength (very limited)	1.00	~small stones (limited)	1.00
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.32	~shrink-swell (moderately limited)	0.45	~slope (limited)	0.63	~slope (limited)	0.63
							~shrink-swell (moderately limited)	0.45	~too acid (slightly limited)	0.30
73181:										
Useful	Very limited		Very limited		Very limited		Very limited		Limited	
	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~slope (very limited)	1.00	~low strength (very limited)	1.00	~slope (limited)	0.63
	~slope (limited)	0.76	~wetness (limited)	0.99	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00		
	~wetness (moderately limited)	0.37	~slope (limited)	0.76			~slope (limited)	0.63		
Gatewood	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~slope (very limited)	1.00	~low strength (very limited)	1.00	~small stones (very limited)	1.00
	~slope (limited)	0.76	~wetness (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~slope (limited)	0.63
	~wetness (moderately limited)	0.51	~shrink-swell (very limited)	1.00	~depth to bedrock (moderately limited)	0.51	~slope (limited)	0.63	~depth to bedrock (moderately limited)	0.42
73200:										
Sonsac	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~shrink-swell (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~small stones (moderately limited)	0.30
	~depth to bedrock (moderately limited)	0.44	~shrink-swell (very limited)	1.00	~slope (limited)	0.99	~depth to bedrock (moderately limited)	0.44	~depth to bedrock (slightly limited)	0.29
	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~depth to bedrock (moderately limited)	0.44			~too acid (slightly limited)	0.24
73210:										
Goss	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	~low strength (very limited)	1.00	~slope (very limited)	1.00
	~large stones (limited)	0.70	~large stones (limited)	0.70	~large stones (limited)	0.70	~slope (very limited)	1.00	~large stones (limited)	0.99
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45	~large stones (limited)	0.70	~small stones (moderately limited)	0.37

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73214:										
Moko-----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~hard bedrock <20” (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~hard bedrock <20" (very limited)	1.00	~hard bedrock <20" (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 stones (slightly limited)	0.16	~large stones (slightly limited)	0.16	~large stones (slightly limited)	0.16	~droughty (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73215:										
Crider---------	Not limited		Not limited		Limited		Very limited		Not limited	
					~slope (limited)	0.68	~low strength (very limited)	1.00		
73271:										
Moko-----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~hard bedrock <20" (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~hard bedrock <20" (very limited)	1.00	~hard bedrock <20" (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
									~droughty (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73272:										
Hildebrecht----	Limited		Very limited		Moderately limited		Very limited		Moderately limited	
	~wetness (limited)	0.93	~wetness (very limited)	1.00	~wetness (moderately limited)	0.56	~low strength (very limited)	1.00	~wetness (moderately limited)	0.56
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.54	~slope (moderately limited)	0.45	~wetness (moderately limited)	0.56	~too acid (slightly limited)	0.06
					~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45		
73273:										
Coulstone------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~wetness (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~wetness (limited)	0.93	~slope (very limited)	1.00	~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56	~droughty (limited)	0.97
	~large stones (slightly limited)	0.01	~depth to bedrock (slightly limited)	0.27	~large stones (slightly limited)	0.01	~large stones (slightly limited)	0.01	~too acid (limited)	0.92

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73273:										
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~depth to bedrock (moderately limited)	0.53	~slope (very limited)	1.00	~depth to bedrock (moderately limited)	0.53	~depth to bedrock (moderately limited)	0.53	~droughty (very limited)	1.00
	~large stones (slightly limited)	0.29	~large stones (slightly limited)	0.29	~large stones (slightly limited)	0.29	~large stones (slightly limited)	0.29	~too acid (moderately limited)	0.54
73274:										
Scholten	Limited		Very limited		Very limited		Moderately limited		Very limited	
	~wetness (limited)	0.85	~wetness (very limited)	1.00	~slope (very limited)	1.00	~wetness (moderately limited)	0.49	~small stones (very limited)	1.00
	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45	~wetness (moderately limited)	0.49	~slope (slightly limited)	0.04	~wetness (moderately limited)	0.49
			~shrink-swell (slightly limited)	0.05					~too acid (moderately limited)	0.36
73275:										
Gravois	Limited		Very limited		Limited		Very limited		Moderately limited	
	~wetness (limited)	0.85	~wetness (very limited)	1.00	~slope (limited)	0.68	~low strength (very limited)	1.00	~wetness (moderately limited)	0.49
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.44	~wetness (moderately limited)	0.49	~wetness (moderately limited)	0.49		
					~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45		
Goss	Very limited		Very limited		Very limited		Very limited		Limited	
	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~droughty (limited)	0.69
	~slope (limited)	0.76	~slope (limited)	0.76	~slope (very limited)	1.00	~slope (limited)	0.63	~small stones (limited)	0.64
									~slope (limited)	0.63
73276:										
Rueter	Slightly limited		Slightly limited		Limited		Slightly limited		Very limited	
	~large stones (slightly limited)	0.29	~large stones (slightly limited)	0.29	~slope (limited)	0.83	~large stones (slightly limited)	0.29	~small stones (very limited)	1.00
	~slope (slightly limited)	0.15	~slope (slightly limited)	0.15	~large stones (slightly limited)	0.29			~too acid (limited)	0.84
			~shrink-swell (slightly limited)	0.09					~droughty (moderately limited)	0.43

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73276:										
Hildebrecht	Limited		Very limited		Moderately limited		Very limited		Moderately limited	
	~wetness (limited)	0.93	~wetness (very limited)	1.00	~wetness (moderately limited)	0.56	~low strength (very limited)	1.00	~wetness (moderately limited)	0.56
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.57	~slope (moderately limited)	0.45	~wetness (moderately limited)	0.56	~too acid (moderately limited)	0.48
					~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45		
73277:										
Goss	Very limited		Very limited		Very limited		Very limited		Limited	
	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~droughty (limited)	0.69
	~slope (limited)	0.76	~slope (limited)	0.76	~slope (very limited)	1.00	~slope (limited)	0.63	~small stones (limited)	0.64
									~slope (limited)	0.63
73278:										
Rueter	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	~slope (very limited)	1.00
									~too acid (very limited)	1.00
									~small stones (limited)	0.64
73279:										
Sonsac	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~slope (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~droughty (very limited)	1.00
	~depth to bedrock (moderately limited)	0.39	~slope (very limited)	1.00	~depth to bedrock (moderately limited)	0.39	~low strength (very limited)	1.00	~small stones (limited)	0.74
Moko	Very limited		Very limited		Very limited		Very limited		Very limited	
	~hard bedrock <20" (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~hard bedrock <20" (very limited)	1.00	~hard bedrock <20" (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
									~droughty (very limited)	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: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73280:										
Alred----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~low strength (very limited)	1.00	~small stones (very limited)	1.00
	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~slope (limited)	0.99	~shrink-swell (very limited)	1.00	~too acid (slightly limited)	0.24
									~large stones (slightly limited)	0.13
73281:										
Hobson---------	Limited		Very limited		Very limited		Very limited		Limited	
	~slope (limited)	0.83	~wetness (very limited)	1.00	~slope (very limited)	1.00	~low strength (very limited)	1.00	~slope (limited)	0.84
	~wetness (limited)	0.71	~slope (limited)	0.83	~shrink-swell (moderately limited)	0.45	~slope (limited)	0.84	~too acid (limited)	0.60
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.36	~wetness (moderately limited)	0.39	~shrink-swell (moderately limited)	0.45	~wetness (moderately limited)	0.39
73282:										
Alred----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~low strength (very limited)	1.00	~slope (very limited)	1.00
	~slope (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~slope (very limited)	1.00	~small stones (very limited)	1.00
							~shrink-swell (very limited)	1.00	~too acid (slightly limited)	0.24
Sonsac---------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~slope (limited)	0.99	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~small stones (moderately limited)	0.30
	~depth to bedrock (moderately limited)	0.44	~slope (limited)	0.99	~depth to bedrock (moderately limited)	0.44	~depth to bedrock (moderately limited)	0.44	~depth to bedrock (slightly limited)	0.29
73283:										
Courtois-------	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~shrink-swell (very limited)	1.00	~wetness (very limited)	1.00	~shrink-swell (very limited)	1.00	~low strength (very limited)	1.00	~wetness (moderately limited)	0.56
	~wetness (limited)	0.93	~shrink-swell (very limited)	1.00	~slope (limited)	0.68	~shrink-swell (very limited)	1.00		
					~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56		

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73284:										
Courtois-------	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~shrink-swell (very limited)	1.00	~wetness (very limited)	1.00	~slope (very limited)	1.00	~shrink-swell (very limited)	1.00	~wetness (moderately limited)	0.56
	~wetness (limited)	0.93	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~low strength (very limited)	1.00	~slope (slightly limited)	0.04
	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45	~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56		
Goss-----------	Limited		Limited		Very limited		Moderately limited		Limited	
	~slope (limited)	0.68	~slope (limited)	0.68	~slope (very limited)	1.00	~shrink-swell (moderately limited)	0.45	~droughty (limited)	0.69
	~shrink-swell (moderately limited)	0.45	~shrink-swell (slightly limited)	0.30	~shrink-swell (moderately limited)	0.45	~slope (moderately limited)	0.37	~small stones (limited)	0.64
									~slope (moderately limited)	0.37
73285:										
Useful---------	Very limited		Very limited		Very limited		Very limited		Not limited	
	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~low strength (very limited)	1.00		
	~wetness (moderately limited)	0.37	~wetness (limited)	0.99			~shrink-swell (very limited)	1.00		
			~depth to bedrock (limited)	0.72						
Courtois-------	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~shrink-swell (very limited)	1.00	~wetness (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~wetness (moderately limited)	0.56
	~wetness (limited)	0.93	~shrink-swell (very limited)	1.00	~slope (limited)	0.83	~low strength (very limited)	1.00	~too acid (slightly limited)	0.18
	~slope (slightly limited)	0.15	~slope (slightly limited)	0.15	~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56		
73286:										
Useful---------	Very limited		Very limited		Very limited		Very limited		Slightly limited	
	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~slope (very limited)	1.00	~low strength (very limited)	1.00	~slope (slightly limited)	0.04
	~slope (moderately limited)	0.45	~wetness (limited)	0.99	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00		
	~wetness (moderately limited)	0.37	~slope (moderately limited)	0.45			~slope (slightly limited)	0.04		

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
73286:										
Courtois	Limited		Very limited		Very limited		Very limited		Moderately limited	
	~wetness (limited)	0.93	~wetness (very limited)	1.00	~slope (very limited)	1.00	~low strength (very limited)	1.00	~wetness (moderately limited)	0.56
	~slope (moderately limited)	0.60	~shrink-swell (very limited)	1.00	~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56	~slope (slightly limited)	0.16
	~shrink-swell (moderately limited)	0.45	~slope (moderately limited)	0.60	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45		
73287:										
Useful	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~low strength (very limited)	1.00	~slope (very limited)	1.00
	~slope (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~slope (very limited)	1.00		
	~wetness (moderately limited)	0.37	~wetness (limited)	0.99			~shrink-swell (very limited)	1.00		
Sonsac	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~slope (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~droughty (limited)	0.65
	~large stones (very limited)	1.00	~slope (very limited)	1.00	~large stones (very limited)	1.00	~large stones (very limited)	1.00	~too clayey (moderately limited)	0.48
73288:										
Caneyville	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~shrink-swell (very limited)	1.00	~hard bedrock <40" (very limited)	1.00	~slope (very limited)	1.00	~low strength (very limited)	1.00	~wetness (moderately limited)	0.56
	~wetness (limited)	0.93	~wetness (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~depth to bedrock (slightly limited)	0.30
	~depth to bedrock (moderately limited)	0.45	~shrink-swell (very limited)	1.00	~wetness (moderately limited)	0.56	~wetness (moderately limited)	0.56	~slope (slightly limited)	0.04
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73289:										
Fourche	Moderately limited		Very limited		Moderately limited		Very limited		Slightly limited	
	~wetness (moderately limited)	0.51	~wetness (very limited)	1.00	~slope (moderately limited)	0.45	~low strength (very limited)	1.00	~wetness (slightly limited)	0.13
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.32	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45		
					~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13		

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
74634:										
Hartville	Very limited		Very limited		Very limited		Very limited		Limited	
	~shrink-swell (very limited)	1.00	~wetness (very limited)	1.00	~shrink-swell (very limited)	1.00	~low strength (very limited)	1.00	~wetness (limited)	0.60
	~wetness (limited)	0.99	~shrink-swell (very limited)	1.00	~slope (limited)	0.68	~shrink-swell (very limited)	1.00		
					~wetness (limited)	0.60	~wetness (limited)	0.60		
74650:										
Higdon	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
	~wetness (limited)	0.79	~wetness (very limited)	1.00	~wetness (moderately limited)	0.45	~low strength (very limited)	1.00	~wetness (moderately limited)	0.45
	~shrink-swell (moderately limited)	0.45	~shrink-swell (slightly limited)	0.29	~shrink-swell (moderately limited)	0.45	~wetness (moderately limited)	0.45	~too acid (moderately limited)	0.36
74652:										
Lecoma	Moderately limited		Moderately limited		Limited		Very limited		Not limited	
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45	~slope (limited)	0.68	~low strength (very limited)	1.00		
					~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45		
74653:										
Racoon	Very limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
			~shrink-swell (slightly limited)	0.17			~low strength (very limited)	1.00		
Freeburg	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
	~wetness (limited)	0.79	~wetness (very limited)	1.00	~wetness (moderately limited)	0.45	~low strength (very limited)	1.00	~wetness (moderately limited)	0.45
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.39	~shrink-swell (moderately limited)	0.45	~wetness (moderately limited)	0.45	~too acid (slightly limited)	0.12

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
74656:										
Deible	Very limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~low strength (very limited)	1.00	~wetness (very limited)	1.00
	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00		
	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00	~shrink-swell (very limited)	1.00		
74661:										
Waben	Not limited		Not limited		Limited		Not limited		Very limited	
					~slope (limited)	0.68			~small stones (very limited)	1.00
74662:										
Higdon	Limited		Very limited		Moderately limited		Very limited		Moderately limited	
	~wetness (limited)	0.79	~wetness (very limited)	1.00	~wetness (moderately limited)	0.45	~low strength (very limited)	1.00	~wetness (moderately limited)	0.45
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.37	~shrink-swell (moderately limited)	0.45	~wetness (moderately limited)	0.45		
					~slope (slightly limited)	0.15	~shrink-swell (moderately limited)	0.45		
75376:										
Cedargap	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00
	~wetness (slightly limited)	0.01	~wetness (limited)	0.61					~small stones (slightly limited)	0.27
									~large stones (slightly limited)	0.01
75388:										
Kaintuck	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00
Relfe	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00
									~droughty (very limited)	1.00
									~small stones (very limited)	1.00

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
75398:										
Kaintuck-------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00
75412:										
Razort---------	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
75413:										
Relfe----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00
									~droughty (very limited)	1.00
									~small stones (very limited)	1.00
75427:										
Gabriel--------	Very limited		Very limited		Very limited		Very limited		Limited	
	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~low strength (very limited)	1.00	~wetness (limited)	0.86
	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.86	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45	~shrink-swell (moderately limited)	0.45	~wetness (limited)	0.86		
75450:										
Bloomsdale-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00
			~shrink-swell (slightly limited)	0.07						
75453:										
Sturkie--------	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
							~low strength (very limited)	1.00		
75459:										
Huzzah---------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00

Table 12.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value	Local roads and streets: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
75460:										
Horsecreek	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
			~wetness (slightly limited)	0.16			~low strength (very limited)	1.00		
99000:										
Pits, quarries	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water	Not rated		Not rated		Not rated		Not rated		Not rated	
99003:										
Miscellaneous water	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 0.00 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
66014:										
Haymond--------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~seepage (very limited)	1.00
	~poor filter (very limited)	1.00	~seepage (very limited)	1.00	~seepage (very limited)	1.00				
	~percs slowly (slightly limited)	0.25								
70028:										
Moko-----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock (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	~depth to bedrock (very limited)	1.00
	~slope (slightly limited)	0.04	~slope (very limited)	1.00	~slope (slightly limited)	0.04	~slope (slightly limited)	0.04	~small stones (limited)	0.99
									~slope (slightly limited)	0.04
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73012:										
Gravois--------	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.93	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.93	~slope (limited)	0.91	~too clayey (very limited)	1.00			~wetness (moderately limited)	0.57
					~large stones (slightly limited)	0.02				
73032:										
Gatewood-------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock (very limited)	1.00	~wetness (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	~depth to bedrock (very limited)	1.00	~too clayey (very limited)	1.00	~wetness (limited)	0.69	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.94	~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: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
73035:										
Gravois	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~slope (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.93	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.93	~wetness (very limited)	1.00	~too clayey (very limited)	1.00	~slope (moderately limited)	0.37	~wetness (moderately limited)	0.57
	~slope (moderately limited)	0.37			~slope (moderately limited)	0.37			~slope (moderately limited)	0.37
73039:										
Glensted	Very limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~percs slowly (limited)	0.71			~too clayey (limited)	0.90			~too clayey (moderately limited)	0.48
73053:										
Lily	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock (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	~depth to bedrock (very limited)	1.00
			~seepage (very limited)	1.00	~seepage (limited)	0.79	~seepage (limited)	0.75	~seepage (moderately limited)	0.50
			~slope (very limited)	1.00	~too acid (slightly limited)	0.12			~too acid (slightly limited)	0.12
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock (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	~depth to bedrock (very limited)	1.00
	~large stones (slightly limited)	0.09	~seepage (very limited)	1.00	~seepage (limited)	0.79	~seepage (limited)	0.75	~small stones (limited)	0.65
			~slope (very limited)	1.00	~too acid (slightly limited)	0.24			~seepage (moderately limited)	0.50
73066:										
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock (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	~depth to bedrock (very limited)	1.00
	~large stones (slightly limited)	0.09	~seepage (very limited)	1.00	~seepage (limited)	0.79	~seepage (limited)	0.75	~small stones (limited)	0.65
			~slope (very limited)	1.00	~too acid (slightly limited)	0.24			~seepage (moderately 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
73067:										
Bender---------	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~large stones (slightly limited)	 1.00 1.00 0.09	Very limited ~slope (very limited) ~depth to bedrock (very limited) ~seepage (very limited)	 1.00 1.00 1.00	Very limited ~slope (very limited) ~depth to bedrock (very limited) ~seepage (limited)	 1.00 1.00 0.79	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~seepage (limited)	 1.00 1.00 0.75	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~small stones (limited)	 1.00 1.00 0.65
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73089:										
Rueter---------	Very limited ~slope (very limited) ~large stones (slightly limited) ~percs slowly (slightly limited)	 1.00 0.29 0.25	Very limited ~slope (very limited) ~seepage (very limited)	 1.00 1.00	Very limited ~slope (very limited) ~too clayey (limited) ~large stones (limited)	 1.00 0.92 0.63	Very limited ~slope (very limited) ~seepage (limited)	 1.00 0.75	Very limited ~slope (very limited) ~too clayey (limited) ~small stones (moderately limited)	 1.00 0.83 0.50
73094:										
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	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~wetness (limited)	 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
73098:										
Plato----------	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	Very limited ~wetness (very limited) ~too clayey (very limited) ~too acid (slightly limited)	 1.00 1.00 0.18	Very limited ~wetness (very limited)	 1.00	Very limited ~too clayey (very limited) ~wetness (limited) ~small stones (limited)	 1.00 0.94 0.92
73135:										
Union----------	Very limited ~wetness (very limited) ~percs slowly (limited)	 1.00 0.93	Very limited ~wetness (very limited) ~slope (limited) ~seepage (moderately limited)	 1.00 0.91 0.50	Very limited ~wetness (very limited) ~too clayey (very limited) ~too acid (slightly limited)	 1.00 1.00 0.12	Limited ~wetness (limited)	 0.96	Very limited ~too clayey (very limited) ~wetness (moderately limited) ~small stones (slightly limited)	 1.00 0.59 0.18

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
73136:										
Union	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.96	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.93	~seepage (moderately limited)	0.50	~too clayey (very limited)	1.00			~wetness (moderately limited)	0.59
					~too acid (slightly limited)	0.12			~small stones (slightly limited)	0.18
73159:										
Yelton	Very limited		Very limited		Very limited		Limited		Moderately limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.96	~wetness (moderately limited)	0.59
	~percs slowly (limited)	0.93	~slope (limited)	0.66	~too acid (slightly limited)	0.30			~too acid (slightly limited)	0.30
					~too clayey (slightly limited)	0.10				
73162:										
Alred	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	~slope (very limited)	1.00
	~percs slowly (limited)	0.94	~seepage (moderately limited)	0.50	~too clayey (limited)	0.94			~too clayey (limited)	0.87
					~too acid (moderately limited)	0.36			~hard to pack (limited)	0.70
Rueter	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	~slope (very limited)	1.00
	~large stones (slightly limited)	0.29	~seepage (very limited)	1.00	~too clayey (limited)	0.92	~seepage (limited)	0.75	~too clayey (limited)	0.83
	~percs slowly (slightly limited)	0.25			~large stones (limited)	0.63			~small stones (limited)	0.80
73164:										
Bender	Very limited		Very limited		Very limited		Very limited		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 (slightly limited)	0.09	~seepage (very limited)	1.00	~seepage (limited)	0.79	~seepage (limited)	0.75	~small stones (limited)	0.65
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
73166:										
Viburnum-------	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.93	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.71	~slope (limited)	0.66	~too clayey (very limited)	1.00			~hard to pack (limited)	0.70
					~too acid (limited)	0.68			~too acid (limited)	0.68
Tonti----------	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.93	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.93	~slope (limited)	0.66	~too clayey (very limited)	1.00			~small stones (limited)	0.85
			~seepage (moderately limited)	0.50	~too acid (limited)	0.60			~too acid (limited)	0.60
73168:										
Swiss----------	Very limited		Very limited		Limited		Moderately limited		Limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~too clayey (limited)	0.90	~wetness (moderately limited)	0.44	~too clayey (limited)	0.79
	~percs slowly (very limited)	1.00	~slope (very limited)	1.00	~wetness (limited)	0.69	~slope (slightly limited)	0.16	~hard to pack (limited)	0.70
	~slope (slightly limited)	0.16			~slope (slightly limited)	0.16			~wetness (moderately limited)	0.35
73169:										
Beemont--------	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	~slope (very limited)	1.00
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~depth to bedrock (very limited)	1.00	~wetness (limited)	0.60	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.94	~depth to bedrock (moderately limited)	0.32	~too clayey (very limited)	1.00	~depth to bedrock (slightly limited)	0.05	~hard to pack (limited)	0.70
Gatewood-------	Very limited		Very limited		Very limited		Very limited		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

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
73170:										
Beemont	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~depth to bedrock (very limited)	1.00	~wetness (limited)	0.60	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.94	~slope (very limited)	1.00	~too clayey (very limited)	1.00	~depth to bedrock (slightly limited)	0.05	~hard to pack (limited)	0.70
	~depth to bedrock (moderately limited)	0.32	~depth to bedrock (moderately limited)	0.32	~wetness (limited)	0.79	~slope (slightly limited)	0.04	~wetness (moderately limited)	0.40
Gatewood	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock (very limited)	1.00	~wetness (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	~depth to bedrock (very limited)	1.00	~too clayey (very limited)	1.00	~wetness (limited)	0.69	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.94	~slope (very limited)	1.00	~wetness (limited)	0.89	~slope (slightly limited)	0.04	~hard to pack (limited)	0.70
73171:										
Plato	Very limited		Very limited		Very limited		Very limited		Limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.94
	~percs slowly (very limited)	1.00	~slope (limited)	0.91	~too clayey (limited)	0.66			~hard to pack (limited)	0.70
					~too acid (moderately limited)	0.36			~too clayey (moderately limited)	0.39
73172:										
Rosati	Very limited		Very limited		Very limited		Very limited		Limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.86
	~percs slowly (very limited)	1.00	~slope (slightly limited)	0.08	~too clayey (limited)	0.70			~too clayey (moderately limited)	0.45
73173:										
Lily	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock (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	~depth to bedrock (very limited)	1.00
			~seepage (very limited)	1.00	~seepage (limited)	0.79	~seepage (limited)	0.75	~seepage (moderately limited)	0.50
			~slope (limited)	0.91	~too acid (slightly limited)	0.12			~too acid (slightly limited)	0.12

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
73173:										
Yelton	Very limited		Very limited		Very limited		Limited		Moderately limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.96	~wetness (moderately limited)	0.59
	~percs slowly (limited)	0.93	~slope (limited)	0.66	~too acid (slightly limited)	0.30			~too acid (slightly limited)	0.30
					~too clayey (slightly limited)	0.10				
73174:										
Lily	Very limited		Very limited		Very limited		Very limited		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
	~slope (limited)	0.63	~depth to bedrock (very limited)	1.00	~seepage (limited)	0.79	~seepage (limited)	0.75	~slope (limited)	0.63
			~seepage (very limited)	1.00	~slope (limited)	0.63	~slope (limited)	0.63	~seepage (moderately limited)	0.50
Yelton	Very limited		Very limited		Very limited		Limited		Limited	
	~wetness (very limited)	1.00	~slope (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.96	~slope (limited)	0.63
	~percs slowly (limited)	0.93	~wetness (very limited)	1.00	~slope (limited)	0.63	~slope (limited)	0.63	~wetness (moderately limited)	0.59
	~slope (limited)	0.63			~too acid (slightly limited)	0.30			~too acid (slightly limited)	0.30
73175:										
Poynor	Slightly limited		Limited		Very limited		Not limited		Very limited	
	~percs slowly (slightly limited)	0.25	~slope (limited)	0.66	~too clayey (very limited)	1.00			~too clayey (very limited)	1.00
			~seepage (moderately limited)	0.50	~too acid (moderately limited)	0.36			~hard to pack (limited)	0.70
									~too acid (moderately limited)	0.36
Bendavis	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock (very limited)	1.00	~wetness (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	~depth to bedrock (very limited)	1.00	~wetness (limited)	0.79	~wetness (limited)	0.60	~small stones >35% (very limited)	1.00
	~percs slowly (slightly limited)	0.25	~slope (limited)	0.66	~too acid (moderately limited)	0.36			~wetness (moderately limited)	0.40

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
73176:										
Bendavis	Very limited		Very limited		Very limited		Very limited		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)	0.60	~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)	0.36			~slope (limited)	0.63
73181:										
Useful	Very limited		Very limited		Very limited		Limited		Limited	
	~wetness (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~slope (limited)	0.63	~slope (limited)	0.63
	~percs slowly (limited)	0.71	~wetness (very limited)	1.00	~too clayey (limited)	0.70	~wetness (moderately limited)	0.44	~too clayey (moderately limited)	0.45
	~slope (limited)	0.63	~seepage (moderately limited)	0.50	~wetness (limited)	0.69	~depth to bedrock (slightly limited)	0.10	~wetness (moderately limited)	0.35
Gatewood	Very limited		Very limited		Very limited		Very limited		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	~too clayey (very limited)	1.00	~wetness (limited)	0.69	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.94	~depth to bedrock (very limited)	1.00	~wetness (limited)	0.89	~slope (limited)	0.63	~hard to pack (limited)	0.70
73200:										
Sonsac	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock (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	~depth to bedrock (very limited)	1.00
			~slope (very limited)	1.00	~too clayey (limited)	1.00			~small stones >35% (very limited)	1.00
									~too clayey (limited)	0.99

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
73210:										
Goss-----------	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	~slope (very limited)	1.00
	~large stones (limited)	0.70	~large stones (limited)	0.83	~too clayey (very limited)	1.00			~too clayey (very limited)	1.00
	~percs slowly (slightly limited)	0.25	~seepage (moderately limited)	0.50	~large stones (limited)	0.86			~large stones (limited)	0.72
73214:										
Moko-----------	Very limited		Very limited		Very limited		Very limited		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 (slightly limited)	0.16								
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73215:										
Crider---------	Slightly limited		Limited		Moderately limited		Not limited		Slightly limited	
	~percs slowly (slightly limited)	0.25	~slope (limited)	0.91	~too clayey (moderately limited)	0.54			~too clayey (slightly limited)	0.27
			~seepage (moderately limited)	0.50						
73271:										
Moko-----------	Very limited		Very limited		Very limited		Very limited		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
									~small stones >35% (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73272:										
Hildebrecht----	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.96	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.93	~slope (limited)	0.66	~too clayey (very limited)	1.00			~hard to pack (limited)	0.70
									~wetness (moderately limited)	0.59

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
73273:										
Coulstone	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~wetness (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~wetness (very limited)	1.00	~seepage (very limited)	1.00	~slope (very limited)	1.00	~wetness (limited)	0.96	~small stones (limited)	0.66
	~depth to bedrock (slightly limited)	0.27	~wetness (moderately limited)	0.50	~depth to bedrock (very limited)	1.00	~seepage (limited)	0.75	~too acid (limited)	0.60
Bender	Very limited		Very limited		Very limited		Very limited		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 (slightly limited)	0.29	~seepage (very limited)	1.00	~seepage (limited)	0.79	~seepage (limited)	0.75	~too acid (limited)	0.60
73274:										
Scholten	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.93	~small stones >35% (very limited)	1.00
	~percs slowly (very limited)	1.00	~slope (very limited)	1.00	~too acid (moderately limited)	0.36	~slope (slightly limited)	0.04	~wetness (moderately limited)	0.57
	~slope (slightly limited)	0.04	~seepage (moderately limited)	0.50	~too clayey (slightly limited)	0.19			~too acid (moderately limited)	0.36
73275:										
Gravois	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.93	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.93	~slope (limited)	0.91	~too clayey (very limited)	1.00			~wetness (moderately limited)	0.57
					~large stones (slightly limited)	0.02				
Goss	Limited		Very limited		Limited		Limited		Very limited	
	~slope (limited)	0.63	~slope (very limited)	1.00	~too clayey (limited)	0.81	~slope (limited)	0.63	~small stones >35% (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 (moderately limited)	0.48			~too clayey (limited)	0.63

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
73276:										
Rueter	Slightly limited		Very limited		Limited		Limited		Limited	
	~large stones (slightly limited)	0.29	~seepage (very limited)	1.00	~too clayey (limited)	0.92	~seepage (limited)	0.75	~too clayey (limited)	0.83
	~percs slowly (slightly limited)	0.25	~slope (very limited)	1.00	~large stones (limited)	0.63			~small stones (moderately limited)	0.50
									~large stones (moderately limited)	0.32
Hildebrecht	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.96	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.93	~slope (limited)	0.66	~too clayey (very limited)	1.00			~small stones (limited)	0.90
					~too acid (limited)	0.60			~too acid (limited)	0.60
73277:										
Goss	Limited		Very limited		Limited		Limited		Very limited	
	~slope (limited)	0.63	~slope (very limited)	1.00	~too clayey (limited)	0.81	~slope (limited)	0.63	~small stones >35% (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 (moderately limited)	0.48			~too clayey (limited)	0.63
73278:										
Rueter	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	~slope (very limited)	1.00
	~percs slowly (slightly limited)	0.25	~seepage (very limited)	1.00	~too acid (slightly limited)	0.30	~seepage (limited)	0.75	~small stones >35% (very limited)	1.00
					~too clayey (slightly limited)	0.05			~too acid (slightly limited)	0.30
73279:										
Sonsac	Very limited		Very limited		Very limited		Very limited		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
	~percs slowly (limited)	0.94			~too clayey (very limited)	1.00			~too clayey (very limited)	1.00

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
73279:										
Moko-----------	Very limited		Very limited		Very limited		Very limited		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
									~small stones >35% (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73280:										
Alred----------	Limited		Very limited		Very limited		Not limited		Very limited	
	~percs slowly (limited)	0.94	~slope (very limited)	1.00	~too clayey (very limited)	1.00			~too clayey (very limited)	1.00
			~seepage (moderately limited)	0.50	~too acid (moderately limited)	0.42			~hard to pack (limited)	0.70
									~small stones (limited)	0.60
73281:										
Hobson---------	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.86	~too clayey (very limited)	1.00
	~percs slowly (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~slope (limited)	0.84	~slope (limited)	0.84
	~slope (limited)	0.84	~depth to bedrock (slightly limited)	0.19	~too clayey (very limited)	1.00			~hard to pack (limited)	0.70
73282:										
Alred----------	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	~slope (very limited)	1.00
	~percs slowly (limited)	0.94	~seepage (moderately limited)	0.50	~too clayey (very limited)	1.00			~too clayey (very limited)	1.00
					~too acid (moderately limited)	0.42			~hard to pack (limited)	0.70
Sonsac---------	Very limited		Very limited		Very limited		Very limited		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
					~too clayey (limited)	1.00			~small stones >35% (very limited)	1.00

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
73283:										
Courtois-------	Very limited		Very limited		Very limited		Limited		Moderately limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.96	~wetness (moderately limited)	0.59
	~percs slowly (slightly limited)	0.25	~slope (limited)	0.91	~too clayey (moderately limited)	0.58			~too acid (moderately limited)	0.36
			~seepage (moderately limited)	0.50	~too acid (moderately limited)	0.36			~too clayey (slightly limited)	0.29
73284:										
Courtois-------	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~slope (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.96	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.94	~wetness (very limited)	1.00	~too clayey (very limited)	1.00	~slope (slightly limited)	0.04	~hard to pack (limited)	0.70
	~slope (slightly limited)	0.04	~seepage (moderately limited)	0.50	~too acid (slightly limited)	0.30			~wetness (moderately limited)	0.59
Goss-----------	Moderately limited		Very limited		Limited		Moderately limited		Very limited	
	~slope (moderately limited)	0.37	~slope (very limited)	1.00	~too clayey (limited)	0.81	~slope (moderately limited)	0.37	~small stones >35% (very limited)	1.00
	~percs slowly (slightly limited)	0.25	~seepage (moderately limited)	0.50	~too acid (moderately limited)	0.48			~too clayey (limited)	0.63
					~slope (moderately limited)	0.37			~too acid (moderately limited)	0.48
73285:										
Useful---------	Very limited		Very limited		Very limited		Moderately limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~depth to bedrock (very limited)	1.00	~depth to bedrock (moderately limited)	0.54	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.73	~depth to bedrock (limited)	0.72	~too clayey (very limited)	1.00	~wetness (moderately limited)	0.44	~hard to pack (limited)	0.70
	~depth to bedrock (limited)	0.72	~slope (slightly limited)	0.08	~wetness (limited)	0.69			~depth to bedrock (moderately limited)	0.54
Courtois-------	Very limited		Very limited		Very limited		Limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.96	~too clayey (very limited)	1.00
	~percs slowly (limited)	0.94	~slope (very limited)	1.00	~too clayey (very limited)	1.00			~hard to pack (limited)	0.70
			~seepage (moderately limited)	0.50					~wetness (moderately limited)	0.59

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
73286:										
Useful---------	Very limited		Very limited		Very limited		Moderately limited		Limited	
	~wetness (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~wetness (moderately limited)	0.44	~hard to pack (limited)	0.70
	~percs slowly (limited)	0.73	~wetness (very limited)	1.00	~too clayey (limited)	0.70	~depth to bedrock (slightly limited)	0.05	~too clayey (moderately limited)	0.45
	~depth to bedrock (moderately limited)	0.32	~depth to bedrock (moderately limited)	0.32	~wetness (limited)	0.69	~slope (slightly limited)	0.04	~wetness (moderately limited)	0.35
Courtois-------	Very limited		Very limited		Very limited		Limited		Limited	
	~wetness (very limited)	1.00	~slope (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.96	~too clayey (limited)	0.72
	~percs slowly (limited)	0.94	~wetness (very limited)	1.00	~too clayey (limited)	0.86	~slope (slightly limited)	0.16	~hard to pack (limited)	0.70
	~slope (slightly limited)	0.16	~seepage (moderately limited)	0.50	~too acid (slightly limited)	0.18			~wetness (moderately limited)	0.59
73287:										
Useful---------	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	~slope (very limited)	1.00
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~depth to bedrock (very limited)	1.00	~wetness (moderately limited)	0.44	~hard to pack (limited)	0.70
	~percs slowly (limited)	0.73	~depth to bedrock (moderately limited)	0.32	~too clayey (limited)	0.70	~depth to bedrock (slightly limited)	0.05	~too clayey (moderately limited)	0.45
Sonsac---------	Very limited		Very limited		Very limited		Very limited		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 (very limited)	1.00	~large stones (very limited)	1.00	~too clayey (limited)	0.97			~large stones (limited)	1.00
73288:										
Caneyville-----	Very limited		Very limited		Very limited		Very limited		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	~depth to bedrock (very limited)	1.00
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~depth to bedrock (very limited)	1.00	~wetness (limited)	0.96	~hard to pack (limited)	0.70
	~percs slowly (limited)	0.71	~depth to bedrock (very limited)	1.00	~too clayey (limited)	0.67	~slope (slightly limited)	0.04	~wetness (moderately limited)	0.59
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
73289: Fourche--------	Very limited		Very limited		Limited		Limited		Moderately limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.89	~wetness (limited)	0.69	~wetness (moderately limited)	0.45
	~percs slowly (limited)	0.73	~slope (limited)	0.66	~too clayey (moderately limited)	0.36			~too acid (slightly limited)	0.30
					~too acid (slightly limited)	0.30			~too clayey (slightly limited)	0.18
74634: Hartville------	Very limited		Very limited		Very limited		Limited		Limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (limited)	0.99	~hard to pack (limited)	0.70
	~percs slowly (limited)	0.93	~slope (limited)	0.91	~too clayey (moderately limited)	0.36			~wetness (moderately limited)	0.60
					~too acid (slightly limited)	0.06			~too clayey (slightly limited)	0.18
74650: Higdon---------	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~wetness (moderately limited)	0.55
	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~wetness (limited)	0.90		
	~percs slowly (limited)	0.73			~too clayey (slightly limited)	0.06				
74652: Lecoma---------	Slightly limited		Limited		Slightly limited		Not limited		Slightly limited	
	~percs slowly (slightly limited)	0.25	~slope (limited)	0.91	~too acid (slightly limited)	0.18			~too acid (slightly limited)	0.18
			~seepage (moderately limited)	0.50						
74653: Racoon---------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~wetness (very limited)	1.00
	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~too acid (moderately limited)	0.36
	~percs slowly (limited)	0.93			~too acid (moderately limited)	0.36				

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
74653:										
Freeburg-------	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~wetness	1.00	~flooding	1.00	~wetness	1.00	~flooding	1.00	~wetness	0.55
	(very limited)		(very limited)		(very limited)		(very limited)		(moderately limited)	
	~flooding	1.00	~wetness	1.00	~flooding	1.00	~wetness	0.90		
	(very limited)		(very limited)		(very limited)		(limited)			
	~percs slowly	0.71			~too clayey	0.01				
	(limited)				(slightly limited)					
74656:										
Deible---------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~wetness	1.00	~wetness	1.00	~wetness	1.00	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~percs slowly	1.00			~too clayey	0.74	~flooding (rare)	0.60	~hard to pack	0.70
	(very limited)				(limited)		(moderately limited)		(limited)	
	~flooding (rare)	0.60			~flooding (rare)	0.60			~too clayey	0.51
	(moderately limited)				(moderately limited)				(moderately limited)	
74661:										
Waben----------	Not limited		Very limited		Limited		Limited		Moderately limited	
			~seepage	1.00	~seepage	0.79	~seepage	0.75	~seepage	0.50
			(very limited)		(limited)		(limited)		(moderately limited)	
			~slope	0.91					~small stones	0.42
			(limited)						(moderately limited)	
74662:										
Higdon---------	Very limited		Very limited		Very limited		Limited		Moderately limited	
	~wetness	1.00	~wetness	1.00	~wetness	1.00	~wetness	0.90	~wetness	0.55
	(very limited)		(very limited)		(very limited)		(limited)		(moderately limited)	
	~percs slowly	0.73	~slope	0.31	~too clayey	0.19			~too clayey	0.06
	(limited)		(moderately limited)		(slightly limited)				(slightly limited)	
75376:										
Cedargap-------	Very limited		Very limited		Very limited		Very limited		Limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~small stones	0.99
	(very limited)		(very limited)		(very limited)		(very limited)		(limited)	
	~percs slowly	0.71	~wetness	0.71	~too clayey	0.78			~too clayey	0.57
	(limited)		(limited)		(limited)				(moderately limited)	
	~wetness	0.60	~seepage	0.50	~wetness	0.30				
	(moderately limited)		(moderately limited)		(slightly limited)					
75388:										
Kaintuck-------	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~flooding	1.00	~flooding	1.00	~flooding	1.00	~flooding	1.00	~seepage	0.50
	(very limited)		(very limited)		(very limited)		(very limited)		(moderately limited)	
			~seepage	1.00	~seepage	0.79	~seepage	0.75		
			(very limited)		(limited)		(limited)			

Table 13.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption field: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value	Sanitary landfill (trench): Rating class and limiting features	Value	Sanitary landfill (area): Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
75388:										
Relfe	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~seepage (very limited)	1.00
	~poor filter (very limited)	1.00	~seepage (very limited)	1.00	~seepage (very limited)	1.00	~seepage (very limited)	1.00	~small stones >35% (very limited)	1.00
					~too sandy (moderately limited)	0.60			~too sandy (moderately limited)	0.60
75398:										
Kaintuck	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~seepage (moderately limited)	0.50
			~seepage (very limited)	1.00	~seepage (limited)	0.79	~seepage (limited)	0.75		
75412:										
Razort	Very limited		Very limited		Very limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~seepage (moderately limited)	0.50
	~percs slowly (slightly limited)	0.25	~seepage (very limited)	1.00	~seepage (limited)	0.79	~seepage (limited)	0.75	~small stones (slightly limited)	0.06
75413:										
Relfe	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~seepage (very limited)	1.00
	~poor filter (very limited)	1.00	~seepage (very limited)	1.00	~seepage (very limited)	1.00	~seepage (very limited)	1.00	~small stones >35% (very limited)	1.00
					~too sandy (moderately limited)	0.60			~too sandy (moderately limited)	0.60
75427:										
Gabriel	Very limited		Very limited		Very limited		Very limited		Limited	
	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~wetness (limited)	0.86
	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~too clayey (slightly limited)	0.12
	~percs slowly (limited)	0.71			~too clayey (slightly limited)	0.26				

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
75450: Bloomsdale	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 clayey (slightly limited)	 1.00 0.11	Very limited ~flooding (very limited) ~seepage (limited)	 1.00 0.75	Limited ~small stones (limited)	 0.71
75453: Sturkie	Very limited ~flooding (very limited) ~percs slowly (slightly limited)	 1.00 0.25	Very limited ~flooding (very limited) ~seepage (moderately limited)	 1.00 0.50	Very limited ~flooding (very limited)	 1.00	Very limited ~flooding (very limited)	 1.00	Not limited	
75459: Huzzah	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 (limited)	 1.00 0.79	Very limited ~flooding (very limited) ~seepage (limited)	 1.00 0.75	Moderately limited ~seepage (moderately limited)	 0.50
75460: Horsecreek	Very limited ~flooding (very limited) ~wetness (moderately limited) ~percs slowly (slightly limited)	 1.00 0.30 0.25	Very limited ~flooding (very limited) ~seepage (moderately limited)	 1.00 0.50	Very limited ~flooding (very limited) ~wetness (slightly limited)	 1.00 0.15	Very limited ~flooding (very limited)	 1.00	Not limited	
99000: Pits, quarries	Not rated		Not rated		Not rated		Not rated		Not rated	
99001: Water	Not rated		Not rated		Not rated		Not rated		Not rated	
99003: Miscellaneous water	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 0.00 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	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
66014:										
Haymond	Not limited		Very limited		Very limited		Not limited		Moderately limited	
			~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00			~flooding (moderately limited)	0.60
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00			~cutbanks cave (slightly limited)	0.29
70028:										
Moko	Very limited		Very limited		Limited		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
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	0.75	~small stones (very limited)	1.00	~cutbanks cave (slightly limited)	0.29
							~large surface stones (limited)	0.79	~slope (slightly limited)	0.04
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73012:										
Gravois	Very limited		Very limited		Very limited		Limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~area reclaim (limited)	0.92	~wetness (very limited)	1.00
	~wetness (limited)	0.76	~excess fines (bottom layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.76	~cutbanks cave (very limited)	1.00
	~shrink-swell (moderately limited)	0.44	~small stones (thickest layer)	1.00	~small stones (thickest layer)	1.00	~too clayey (moderately limited)	0.48	~too clayey (very limited)	1.00
73032:										
Gatewood	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (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
	~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	~wetness (very limited)	1.00
	~shrink-swell (very limited)	1.00					~wetness (slightly limited)	0.26	~too clayey (very limited)	1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73035:										
Gravois	Very limited		Very limited		Very limited		Limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~area reclaim (limited)	0.92	~wetness (very limited)	1.00
	~wetness (limited)	0.76	~excess fines (bottom layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.76	~cutbanks cave (very limited)	1.00
	~shrink-swell (moderately limited)	0.44	~small stones (thickest layer)	1.00	~small stones (thickest layer)	1.00	~too clayey (moderately limited)	0.48	~too clayey (very limited)	1.00
73039:										
Glensted	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~wetness (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (very limited)	1.00	~too clayey (moderately limited)	0.48
	~shrink-swell (limited)	0.96							~cutbanks cave (slightly limited)	0.29
73053:										
Lily	Very limited		Very limited		Very limited		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
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too acid (slightly limited)	0.30	~cutbanks cave (very limited)	1.00
							~too clayey (slightly limited)	0.04		
Bender	Very limited		Very limited		Possible source		Very limited		Very limited	
	~depth to bedrock (very limited)	1.00	~excess fines (thickest layer)	1.00	~possible source (bottom layer)	0.42	~depth to bedrock (very limited)	1.00	~hard bedrock <40" (very limited)	1.00
	~large stones (slightly limited)	0.09	~excess fines (bottom layer)	1.00	~possible source (thickest layer)	0.42	~small stones (very limited)	1.00	~cutbanks cave (slightly limited)	0.29
							~large stones >25% (very limited)	1.00	~large stones (slightly limited)	0.09
73066:										
Bender	Very limited		Very limited		Possible source		Very limited		Very limited	
	~depth to bedrock (very limited)	1.00	~excess fines (thickest layer)	1.00	~possible source (bottom layer)	0.42	~depth to bedrock (very limited)	1.00	~hard bedrock <40" (very limited)	1.00
	~large stones (slightly limited)	0.09	~excess fines (bottom layer)	1.00	~possible source (thickest layer)	0.42	~small stones (very limited)	1.00	~cutbanks cave (slightly limited)	0.29
							~large stones >25% (very limited)	1.00	~large stones (slightly limited)	0.09

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73067:										
Bender	Very limited		Very limited		Possible source		Very limited		Very limited	
	~depth to bedrock (very limited)	1.00	~excess fines (thickest layer)	1.00	~possible source (bottom layer)	0.42	~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	~possible source (thickest layer)	0.42	~slope (very limited)	1.00	~slope (very limited)	1.00
	~large stones (slightly limited)	0.09					~small stones (very limited)	1.00	~cutbanks cave (slightly limited)	0.29
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73089:										
Rueter	Limited		Very limited		Limited		Very limited		Very limited	
	~slope (limited)	0.92	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	0.99	~slope (very limited)	1.00	~slope (very limited)	1.00
	~large stones (slightly limited)	0.29	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	0.99	~small stones (very limited)	1.00	~too clayey (limited)	0.83
	~shrink-swell (slightly limited)	0.09	~small stones (thickest layer)	0.66	~small stones (thickest layer)	0.66	~area reclaim (very limited)	1.00	~cutbanks cave (slightly limited)	0.29
73094:										
Gatewood	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (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
	~depth to bedrock (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest 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
73098:										
Plato	Limited		Very limited		Possible source		Very limited		Very limited	
	~wetness (very limited)	0.99	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~small stones (very limited)	1.00	~dense layer <20" (very limited)	1.00
	~shrink-swell (moderately limited)	0.33	~excess fines (bottom layer)	1.00	~possible source (thickest layer)	0.33	~dense layer <20" (very limited)	1.00	~wetness (very limited)	1.00
							~wetness (very limited)	0.99	~cutbanks cave (very limited)	1.00
73135, 73136:										
Union	Limited		Very limited		Possible source		Limited		Very limited	
	~wetness (limited)	0.82	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (limited)	0.90	~wetness (very limited)	1.00
	~shrink-swell (slightly limited)	0.15	~excess fines (bottom layer)	1.00	~possible source (thickest layer)	0.25	~dense layer (limited)	0.86	~cutbanks cave (very limited)	1.00
							~wetness (limited)	0.82	~too clayey (very limited)	1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73159:										
Yelton	Limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (limited)	0.82	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~dense layer <20" (very limited)	1.00	~dense layer <20" (very limited)	1.00
	~shrink-swell (slightly limited)	0.12	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~wetness (limited)	0.82	~wetness (very limited)	1.00
							~small stones (moderately limited)	0.50	~cutbanks cave (slightly limited)	0.29
73162:										
Alred	Very limited		Very limited		Limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~low strength (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	0.75	~too clayey (very limited)	1.00	~cutbanks cave (very limited)	1.00
	~slope (limited)	0.92					~small stones (limited)	0.88	~too clayey (limited)	0.87
Rueter	Limited		Very limited		Limited		Very limited		Very limited	
	~slope (limited)	0.92	~excess fines (thickest layer)	1.00	~small stones (thickest layer)	0.66	~slope (very limited)	1.00	~slope (very limited)	1.00
	~large stones (slightly limited)	0.29	~excess fines (bottom layer)	1.00	~small stones (bottom layer)	0.66	~small stones (very limited)	1.00	~too clayey (limited)	0.83
	~shrink-swell (slightly limited)	0.09	~small stones (thickest layer)	0.66	~possible source (bottom layer)	0.50	~area reclaim (very limited)	1.00	~cutbanks cave (slightly limited)	0.29
73164:										
Bender	Very limited		Very limited		Possible source		Very limited		Very limited	
	~slope (very limited)	1.00	~excess fines (thickest layer)	1.00	~possible source (bottom layer)	0.42	~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	~possible source (thickest layer)	0.42	~slope (very limited)	1.00	~slope (very limited)	1.00
	~large stones (slightly limited)	0.09					~small stones (very limited)	1.00	~cutbanks cave (slightly limited)	0.29
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73166:										
Viburnum	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (very limited)	1.00	~wetness (very limited)	1.00
	~low strength (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (bottom layer)	1.00	~small stones (very limited)	1.00	~cutbanks cave (very limited)	1.00
	~wetness (limited)	0.76					~wetness (limited)	0.76	~too clayey (very limited)	1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73166:										
Tonti----------	Limited		Very limited		Possible source		Very limited		Very limited	
	~wetness (limited)	0.76	~excess fines (thickest layer)	1.00	~possible source (bottom layer)	0.50	~small stones (very limited)	1.00	~dense layer <20" (very limited)	1.00
	~shrink-swell (moderately limited)	0.33	~excess fines (bottom layer)	1.00	~possible source (thickest layer)	0.25	~dense layer <20" (very limited)	1.00	~wetness (very limited)	1.00
			~small stones (thickest layer)	0.10	~small stones (thickest layer)	0.10	~area reclaim (very limited)	1.00	~cutbanks cave (very limited)	1.00
73168:										
Swiss----------	Very limited		Very limited		Very limited		Very limited		Limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (very limited)	1.00	~wetness (limited)	0.99
	~shrink-swell (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~dense layer (moderately limited)	0.46	~too clayey (limited)	0.79
	~wetness (slightly limited)	0.03					~too acid (moderately limited)	0.42	~dense layer (moderately limited)	0.46
73169:										
Beemont--------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest 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	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (very limited)	1.00	~too clayey (very limited)	1.00
	~slope (limited)	0.92					~too acid (slightly limited)	0.30	~wetness (very limited)	1.00
Gatewood-------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (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
	~depth to bedrock (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest 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
73170:										
Beemont--------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (very limited)	1.00	~too clayey (very limited)	1.00
	~shrink-swell (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too acid (slightly limited)	0.30	~wetness (very limited)	1.00
	~wetness (slightly limited)	0.12					~large surface stones (slightly limited)	0.13	~depth to bedrock (moderately limited)	0.32

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73170:										
Gatewood	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (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
	~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	~wetness (very limited)	1.00
	~shrink-swell (very limited)	1.00					~wetness (slightly limited)	0.26	~too clayey (very limited)	1.00
73171:										
Plato	Very limited		Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~small stones (very limited)	1.00	~wetness (very limited)	1.00
	~low strength (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~wetness (very limited)	0.99	~cutbanks cave (very limited)	1.00
	~wetness (very limited)	0.99					~dense layer (limited)	0.99	~dense layer (limited)	0.99
73172:										
Rosati	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (very limited)	1.00	~wetness (very limited)	1.00
	~wetness (limited)	0.98	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~wetness (limited)	0.98	~dense layer (limited)	0.88
	~shrink-swell (moderately limited)	0.59					~dense layer (limited)	0.88	~too clayey (moderately limited)	0.45
73173:										
Lily	Very limited		Very limited		Very limited		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
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too acid (slightly limited)	0.30	~cutbanks cave (very limited)	1.00
							~too clayey (slightly limited)	0.04		
Yelton	Limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (limited)	0.82	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~dense layer <20" (very limited)	1.00	~dense layer <20" (very limited)	1.00
	~shrink-swell (slightly limited)	0.12	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~wetness (limited)	0.82	~wetness (very limited)	1.00
							~small stones (moderately limited)	0.50	~cutbanks cave (slightly limited)	0.29

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73174:										
Lily-----------	Very limited		Very limited		Very limited		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
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~slope (limited)	0.63	~cutbanks cave (very limited)	1.00
							~too acid (slightly limited)	0.30	~slope (limited)	0.63
Yelton---------	Limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (limited)	0.82	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~dense layer <20" (very limited)	1.00	~dense layer <20" (very limited)	1.00
	~shrink-swell (slightly limited)	0.12	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~wetness (limited)	0.82	~wetness (very limited)	1.00
							~slope (limited)	0.63	~slope (limited)	0.63
73175:										
Poynor---------	Very limited		Very limited		Limited		Very limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (very limited)	1.00	~too clayey (very limited)	1.00
	~shrink-swell (moderately limited)	0.32	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	0.99	~too acid (moderately limited)	0.36	~cutbanks cave (slightly limited)	0.29
							~small stones (slightly limited)	0.12		
Bendavis-------	Very limited		Very limited		Limited		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
	~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
							~too acid (moderately limited)	0.36	~wetness (very limited)	1.00
73176:										
Bendavis-------	Very limited		Very limited		Limited		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
	~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

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73176:										
Poynor	Very limited		Very limited		Limited		Very limited		Very limited	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00	~too clayey	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~shrink-swell	0.32	~excess fines	1.00	~excess fines	0.99	~slope	0.63	~slope	0.63
	(moderately limited)		(bottom layer)		(thickest layer)		(limited)		(limited)	
							~too acid	0.36	~cutbanks cave	0.29
							(moderately limited)		(slightly limited)	
73181:										
Useful	Very limited		Very limited		Very limited		Very limited		Limited	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00	~wetness	0.99
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(limited)	
	~shrink-swell	1.00	~excess fines	1.00	~excess fines	1.00	~slope	0.63	~slope	0.63
	(very limited)		(bottom layer)		(thickest layer)		(limited)		(limited)	
	~depth to bedrock	0.10					~too acid	0.12	~too clayey	0.45
	(slightly limited)						(slightly limited)		(moderately limited)	
Gatewood	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~depth to bedrock	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~depth to bedrock	1.00	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00	~wetness	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~shrink-swell	1.00					~slope	0.63	~too clayey	1.00
	(very limited)						(limited)		(very limited)	
73200:										
Sonsac	Very limited		Very limited		Possible source		Very limited		Very limited	
	~depth to bedrock	1.00	~excess fines	1.00	~possible source	0.42	~small stones	1.00	~hard bedrock <40"	1.00
	(very limited)		(thickest layer)		(thickest layer)		(very limited)		(very limited)	
	~shrink-swell	1.00	~excess fines	1.00	~possible source	0.42	~too clayey	1.00	~cutbanks cave	1.00
	(very limited)		(bottom layer)		(bottom layer)		(very limited)		(very limited)	
							~depth to bedrock	0.97	~too clayey	0.99
							(limited)		(limited)	
73210:										
Goss	Very limited		Very limited		Limited		Very limited		Very limited	
	~low strength	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00	~slope	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)		(very limited)	
	~slope	1.00	~excess fines	1.00	~small stones	0.83	~large surface stones	1.00	~too clayey	1.00
	(very limited)		(bottom layer)		(thickest layer)		(very limited)		(very limited)	
	~large stones	0.70	~small stones	0.83	~small stones	0.83	~large stones >25%	1.00	~large stones	0.70
	(limited)		(thickest layer)		(bottom layer)		(very limited)		(limited)	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73214:										
Moko-----------	Very limited		Very limited		Very limited		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 (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~large stones (slightly limited)	0.16	~small stones (bottom layer)	1.00	~small stones (bottom layer)	1.00	~large surface stones (very limited)	1.00	~cutbanks cave (slightly limited)	0.29
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73215:										
Crider---------	Very limited		Very limited		Very limited		Limited		Slightly limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (limited)	0.61	~cutbanks cave (slightly limited)	0.29
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00			~too clayey (slightly limited)	0.27
73271:										
Moko-----------	Very limited		Very limited		Limited		Very limited		Very limited	
	~slope (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	0.99	~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 (thickest layer)	0.99	~slope (very limited)	1.00	~slope (very limited)	1.00
							~small stones (very limited)	1.00	~cutbanks cave (slightly limited)	0.29
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73272:										
Hildebrecht----	Limited		Very limited		Possible source		Very limited		Very limited	
	~wetness (limited)	0.82	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~dense layer <20" (very limited)	1.00	~dense layer <20" (very limited)	1.00
	~shrink-swell (moderately limited)	0.54	~excess fines (bottom layer)	1.00	~possible source (bottom layer)	0.33	~area reclaim (very limited)	1.00	~wetness (very limited)	1.00
							~wetness (limited)	0.82	~cutbanks cave (very limited)	1.00
73273:										
Coulstone------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~wetness (limited)	0.82	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~small stones (very limited)	1.00	~wetness (very limited)	1.00
	~large stones (slightly limited)	0.01					~large surface stones (very limited)	1.00	~cutbanks cave (very limited)	1.00

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73273:										
Bender	Very limited		Very limited		Very limited		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 (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~large stones (slightly limited)	0.29	~small stones (thickest layer)	0.30	~small stones (thickest layer)	0.30	~small stones (very limited)	1.00	~cutbanks cave (very limited)	1.00
73274:										
Scholten	Limited		Very limited		Possible source		Very limited		Very limited	
	~wetness (limited)	0.76	~excess fines (thickest layer)	1.00	~possible source (bottom layer)	0.25	~small stones (very limited)	1.00	~wetness (very limited)	1.00
	~shrink-swell (slightly limited)	0.05	~excess fines (bottom layer)	1.00	~possible source (thickest layer)	0.25	~area reclaim (very limited)	1.00	~cutbanks cave (very limited)	1.00
							~dense layer (limited)	1.00	~dense layer (limited)	1.00
73275:										
Gravois	Very limited		Very limited		Very limited		Limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~area reclaim (limited)	0.92	~wetness (very limited)	1.00
	~wetness (limited)	0.76	~excess fines (bottom layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.76	~cutbanks cave (very limited)	1.00
	~shrink-swell (moderately limited)	0.44	~small stones (thickest layer)	1.00	~small stones (thickest layer)	1.00	~too clayey (moderately limited)	0.48	~too clayey (very limited)	1.00
Goss	Very limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	0.99	~small stones (very limited)	1.00	~cutbanks cave (very limited)	1.00
			~excess fines (bottom layer)	1.00	~possible source (bottom layer)	0.42	~area reclaim (very limited)	1.00	~slope (limited)	0.63
			~small stones (thickest layer)	0.10	~small stones (thickest layer)	0.10	~too clayey (very limited)	1.00	~too clayey (limited)	0.63
73276:										
Rueter	Slightly limited		Very limited		Limited		Very limited		Limited	
	~large stones (slightly limited)	0.29	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	0.99	~small stones (very limited)	1.00	~too clayey (limited)	0.83
	~shrink-swell (slightly limited)	0.09	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	0.99	~area reclaim (very limited)	1.00	~cutbanks cave (slightly limited)	0.29
			~small stones (thickest layer)	0.66	~small stones (thickest layer)	0.66	~too acid (moderately limited)	0.36	~large stones (slightly limited)	0.29

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73276:										
Hildebrecht----	Limited		Very limited		Possible source		Very limited		Very limited	
	~wetness (limited)	0.82	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~area reclaim (very limited)	1.00	~wetness (very limited)	1.00
	~shrink-swell (moderately limited)	0.57	~excess fines (bottom layer)	1.00	~possible source (bottom layer)	0.42	~dense layer (limited)	0.96	~cutbanks cave (very limited)	1.00
							~wetness (limited)	0.82	~too clayey (very limited)	1.00
73277:										
Goss-----------	Very limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	0.99	~small stones (very limited)	1.00	~cutbanks cave (very limited)	1.00
			~excess fines (bottom layer)	1.00	~possible source (bottom layer)	0.42	~area reclaim (very limited)	1.00	~slope (limited)	0.63
			~small stones (thickest layer)	0.10	~small stones (thickest layer)	0.10	~too clayey (very limited)	1.00	~too clayey (limited)	0.63
73278:										
Rueter---------	Very limited		Very limited		Possible source		Very limited		Very limited	
	~slope (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
			~excess fines (bottom layer)	1.00	~possible source (thickest layer)	0.50	~small stones (very limited)	1.00	~cutbanks cave (very limited)	1.00
							~large stones (limited)	0.80		
73279:										
Sonsac---------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~slope (very limited)	1.00	~hard bedrock <40" (very limited)	1.00
	~shrink-swell (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~small stones (very limited)	1.00	~slope (very limited)	1.00
	~low strength (very limited)	1.00					~too clayey (very limited)	1.00	~cutbanks cave (very limited)	1.00
Moko-----------	Very limited		Very limited		Possible source		Very limited		Very limited	
	~depth to bedrock (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	0.75	~depth to bedrock (very limited)	1.00	~hard bedrock <40" (very limited)	1.00
	~slope (limited)	0.83	~excess fines (bottom layer)	1.00	~possible source (bottom layer)	0.33	~slope (very limited)	1.00	~slope (very limited)	1.00
							~small stones (very limited)	1.00	~cutbanks cave (slightly limited)	0.29
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73280:										
Alred----------	Very limited		Very limited		Possible source		Very limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (very limited)	1.00	~cutbanks cave (very limited)	1.00
	~shrink-swell (very limited)	1.00	~excess fines (bottom layer)	1.00	~possible source (thickest layer)	0.50	~small stones (very limited)	1.00	~too clayey (very limited)	1.00
							~large surface stones (limited)	0.79		
73281:										
Hobson---------	Limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (limited)	0.64	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~dense layer <20" (very limited)	1.00	~dense layer <20" (very limited)	1.00
	~shrink-swell (moderately limited)	0.36	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~slope (limited)	0.84	~wetness (very limited)	1.00
			~small stones (thickest layer)	1.00	~small stones (thickest layer)	1.00	~wetness (limited)	0.64	~cutbanks cave (very limited)	1.00
73282:										
Alred----------	Very limited		Very limited		Possible source		Very limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest 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	~excess fines (bottom layer)	1.00	~possible source (thickest layer)	0.50	~too clayey (very limited)	1.00	~cutbanks cave (very limited)	1.00
	~slope (limited)	0.67					~small stones (very limited)	1.00	~too clayey (very limited)	1.00
Sonsac---------	Very limited		Very limited		Possible source		Very limited		Very limited	
	~depth to bedrock (very limited)	1.00	~excess fines (thickest layer)	1.00	~possible source (thickest layer)	0.42	~slope (very limited)	1.00	~hard bedrock <40" (very limited)	1.00
	~shrink-swell (very limited)	1.00	~excess fines (bottom layer)	1.00	~possible source (bottom layer)	0.42	~small stones (very limited)	1.00	~slope (very limited)	1.00
	~slope (slightly limited)	0.08					~too clayey (very limited)	1.00	~cutbanks cave (very limited)	1.00
73283:										
Courtois-------	Very limited		Very limited		Very limited		Limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (limited)	1.00	~wetness (very limited)	1.00
	~shrink-swell (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~wetness (limited)	0.82	~too clayey (slightly limited)	0.29
	~wetness (limited)	0.82					~too acid (moderately limited)	0.36	~cutbanks cave (slightly limited)	0.29

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73284:										
Courtois-------	Very limited		Very limited		Very limited		Limited		Very limited	
	~shrink-swell (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (limited)	0.88	~wetness (very limited)	1.00
	~low strength (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.82	~cutbanks cave (very limited)	1.00
	~wetness (limited)	0.82					~area reclaim (limited)	0.68	~too clayey (very limited)	1.00
Goss-----------	Slightly limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell (slightly limited)	0.30	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	0.99	~small stones (very limited)	1.00	~cutbanks cave (very limited)	1.00
			~excess fines (bottom layer)	1.00	~possible source (bottom layer)	0.42	~area reclaim (very limited)	1.00	~too clayey (limited)	0.63
			~small stones (thickest layer)	0.10	~small stones (thickest layer)	0.10	~too clayey (very limited)	1.00	~slope (moderately limited)	0.37
73285:										
Useful---------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (very limited)	1.00	~too clayey (very limited)	1.00
	~shrink-swell (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~depth to bedrock (slightly limited)	0.12	~wetness (limited)	0.99
	~depth to bedrock (moderately limited)	0.54					~wetness (slightly limited)	0.03	~depth to bedrock (limited)	0.72
Courtois-------	Very limited		Very limited		Very limited		Limited		Very limited	
	~shrink-swell (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (limited)	0.98	~wetness (very limited)	1.00
	~low strength (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.82	~cutbanks cave (very limited)	1.00
	~wetness (limited)	0.82					~area reclaim (limited)	0.68	~too clayey (very limited)	1.00
73286:										
Useful---------	Very limited		Very limited		Very limited		Very limited		Limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (very limited)	1.00	~wetness (limited)	0.99
	~shrink-swell (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~slope (slightly limited)	0.04	~too clayey (moderately limited)	0.45
	~depth to bedrock (slightly limited)	0.05					~wetness (slightly limited)	0.03	~depth to bedrock (moderately limited)	0.32

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
73286:										
Courtois-------	Very limited		Very limited		Very limited		Limited		Very limited	
	~shrink-swell (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (limited)	0.94	~wetness (very limited)	1.00
	~low strength (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.82	~too clayey (limited)	0.72
	~wetness (limited)	0.82					~slope (slightly limited)	0.16	~cutbanks cave (slightly limited)	0.29
73287:										
Useful---------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest 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	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (very limited)	1.00	~wetness (limited)	0.99
	~slope (limited)	0.92					~wetness (slightly limited)	0.03	~too clayey (moderately limited)	0.45
Sonsac---------	Very limited		Very limited		Possible source		Very limited		Very limited	
	~depth to bedrock (very limited)	1.00	~excess fines (thickest layer)	1.00	~possible source (bottom layer)	0.42	~slope (very limited)	1.00	~hard bedrock <40" (very limited)	1.00
	~shrink-swell (very limited)	1.00	~excess fines (bottom layer)	1.00	~possible source (thickest layer)	0.42	~small stones (very limited)	1.00	~slope (very limited)	1.00
	~large stones (very limited)	1.00	~large stones (bottom layer)	0.30	~large stones (thickest layer)	0.30	~too clayey (very limited)	1.00	~cutbanks cave (very limited)	1.00
73288:										
Caneyville-----	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (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 (thickest layer)	1.00	~depth to bedrock (very limited)	0.99	~wetness (very limited)	1.00
	~shrink-swell (very limited)	1.00					~wetness (limited)	0.82	~too clayey (moderately limited)	0.41
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73289:										
Fourche--------	Very limited		Very limited		Very limited		Limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (limited)	0.83	~wetness (very limited)	1.00
	~shrink-swell (moderately limited)	0.32	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too acid (slightly limited)	0.30	~cutbanks cave (slightly limited)	0.29
	~wetness (slightly limited)	0.26					~wetness (slightly limited)	0.26	~too clayey (slightly limited)	0.18

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
74634:										
Hartville	Very limited		Very limited		Very limited		Limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.86	~wetness (very limited)	1.00
	~shrink-swell (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (limited)	0.83	~cutbanks cave (slightly limited)	0.29
	~wetness (limited)	0.86					~too acid (slightly limited)	0.06	~too clayey (slightly limited)	0.18
74650:										
Higdon	Very limited		Very limited		Very limited		Limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.71	~wetness (very limited)	1.00
	~wetness (limited)	0.71	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (moderately limited)	0.39	~flooding (moderately limited)	0.60
	~shrink-swell (slightly limited)	0.29							~cutbanks cave (slightly limited)	0.29
74652:										
Lecoma	Moderately limited		Very limited		Very limited		Not limited		Slightly limited	
	~shrink-swell (moderately limited)	0.45	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00			~cutbanks cave (slightly limited)	0.29
	~low strength (slightly limited)	0.22	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00				
74653:										
Racoon	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~wetness (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00			~flooding (moderately limited)	0.60
	~shrink-swell (slightly limited)	0.17							~cutbanks cave (slightly limited)	0.29
Freeburg	Very limited		Very limited		Very limited		Limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.71	~wetness (very limited)	1.00
	~wetness (limited)	0.71	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (slightly limited)	0.17	~flooding (moderately limited)	0.60
	~shrink-swell (moderately limited)	0.39							~cutbanks cave (slightly limited)	0.29

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
74656:										
Deible	Very limited		Very limited		Very limited		Very limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~wetness (very limited)	1.00	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (very limited)	1.00	~too clayey (moderately limited)	0.51
	~shrink-swell (very limited)	1.00					~too acid (slightly limited)	0.18	~cutbanks cave (slightly limited)	0.29
74661:										
Waben	Not limited		Very limited		Limited		Very limited		Very limited	
			~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~small stones (very limited)	1.00	~cutbanks cave (very limited)	1.00
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	0.99	~too sandy (slightly limited)	0.12		
74662:										
Higdon	Very limited		Very limited		Very limited		Limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.71	~wetness (very limited)	1.00
	~wetness (limited)	0.71	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (moderately limited)	0.59	~cutbanks cave (slightly limited)	0.29
	~shrink-swell (moderately limited)	0.37					~small stones (moderately limited)	0.50	~too clayey (slightly limited)	0.06
75376:										
Cedargap	Not limited		Very limited		Possible source		Very limited		Very limited	
			~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~small stones (very limited)	1.00	~cutbanks cave (very limited)	1.00
			~excess fines (bottom layer)	1.00	~possible source (thickest layer)	0.50	~too sandy (moderately limited)	0.34	~wetness (limited)	0.61
							~too clayey (moderately limited)	0.33	~flooding (moderately limited)	0.60
75388:										
Kaintuck	Not limited		Very limited		Very limited		Limited		Very limited	
			~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too sandy (limited)	0.73	~cutbanks cave (very limited)	1.00
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00			~flooding (moderately limited)	0.60

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
75388:										
Relfe----------	Not limited		Possible source		Possible source		Very limited		Very limited	
			~excess fines (thickest layer)	1.00	~possible source (thickest layer)	0.50	~too sandy (very limited)	1.00	~cutbanks cave (very limited)	1.00
			~possible source (bottom layer)	0.33	~possible source (bottom layer)	0.25	~small stones (very limited)	1.00	~flooding (moderately limited)	0.60
							~area reclaim (very limited)	1.00		
75398:										
Kaintuck-------	Not limited		Very limited		Very limited		Limited		Very limited	
			~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too sandy (limited)	0.76	~cutbanks cave (very limited)	1.00
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00			~flooding (moderately limited)	0.60
75412:										
Razort---------	Not limited		Very limited		Very limited		Limited		Very limited	
			~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~area reclaim (limited)	0.68	~cutbanks cave (very limited)	1.00
			~excess fines (bottom layer)	1.00	~excess fines (bottom layer)	1.00	~small stones (moderately limited)	0.50	~flooding (moderately limited)	0.60
75413:										
Relfe----------	Not limited		Possible source		Possible source		Very limited		Very limited	
			~excess fines (thickest layer)	1.00	~possible source (thickest layer)	0.50	~too sandy (very limited)	1.00	~cutbanks cave (very limited)	1.00
			~possible source (bottom layer)	0.32	~possible source (bottom layer)	0.25	~small stones (very limited)	1.00	~flooding (moderately limited)	0.60
							~area reclaim (very limited)	1.00		
75427:										
Gabriel--------	Very limited		Very limited		Limited		Limited		Very limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~wetness (limited)	0.98	~wetness (very limited)	1.00
	~wetness (limited)	0.98	~excess fines (bottom layer)	1.00	~excess fines (bottom layer)	0.99	~too clayey (limited)	0.72	~cutbanks cave (very limited)	1.00
	~shrink-swell (moderately limited)	0.45							~flooding (moderately limited)	0.60

Table 14.--Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill: Rating class and limiting features	Value	Source for sand: Rating class and limiting features	Value	Source for gravel: Rating class and limiting features	Value	Source for topsoil: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value
75450:										
Bloomsdale	Slightly limited		Very limited		Possible source		Very limited		Very limited	
	~shrink-swell (slightly limited)	0.07	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~area reclaim (very limited)	1.00	~cutbanks cave (very limited)	1.00
			~excess fines (bottom layer)	1.00	~possible source (bottom layer)	0.33			~flooding (moderately limited)	0.60
			~small stones (thickest layer)	0.10	~small stones (thickest layer)	0.10				
75453:										
Sturkie	Very limited		Very limited		Very limited		Not limited		Moderately limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00			~flooding (moderately limited)	0.60
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00			~cutbanks cave (slightly limited)	0.29
75459:										
Huzzah	Not limited		Very limited		Very limited		Not limited		Moderately limited	
			~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00			~flooding (moderately limited)	0.60
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00			~cutbanks cave (slightly limited)	0.29
75460:										
Horsecreek	Very limited		Very limited		Very limited		Slightly limited		Moderately limited	
	~low strength (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (slightly limited)	0.13	~flooding (moderately limited)	0.60
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00			~cutbanks cave (slightly limited)	0.29
									~wetness	0.16
99000:										
Pits, quarries	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water	Not rated		Not rated		Not rated		Not rated		Not rated	
99003:										
Miscellaneous water	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 0.00 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: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
66014:										
Haymond--------	Very limited		Limited		Limited		Moderately limited		Moderately limited	
	~seepage (very limited)	1.00	~flooding (limited)	0.90	~flooding (limited)	0.90	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
					~erodes easily (moderately limited)	0.60				
70028:										
Moko-----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~bedrock <20 in. (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~depth to bedrock (very limited)	1.00	~bedrock <20 in. (very limited)	1.00
	~slope (limited)	0.70	~slope (very limited)	1.00	~droughty (very limited)	1.00	~large surface stones (limited)	0.79	~droughty (very limited)	1.00
			~large surface stones (limited)	0.79	~slope (very limited)	1.00	~slope (limited)	0.70	~large surface stones (limited)	0.79
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73012:										
Gravois--------	Moderately limited		Limited		Limited		Moderately limited		Moderately limited	
	~slope (moderately limited)	0.30	~slope (limited)	0.98	~slope (limited)	0.98	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
			~percs slowly (moderately limited)	0.39	~erodes easily (moderately limited)	0.60	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55
					~percs slowly (moderately limited)	0.39	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30
73032:										
Gatewood-------	Limited		Very limited		Very limited		Very limited		Limited	
	~depth to bedrock (limited)	0.88	~slope (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~depth to bedrock (limited)	0.88
	~slope (limited)	0.70	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~slope (limited)	0.70	~slope (limited)	0.70
			~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~wetness (moderately limited)	0.36	~wetness (moderately limited)	0.36

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73035:										
Gravois	Limited		Very limited		Very limited		Limited		Limited	
	~slope (limited)	0.89	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.89	~slope (limited)	0.89
			~percs slowly (moderately limited)	0.39	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
					~percs slowly (moderately limited)	0.39	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55
73039:										
Glensted	Not limited		Moderately limited		Moderately limited		Very limited		Very limited	
			~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~wetness (very limited)	1.00	~wetness (very limited)	1.00
73053:										
Lily	Very limited		Very limited		Very limited		Very limited		Limited	
	~seepage (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~depth to bedrock (limited)	0.95
	~depth to bedrock (limited)	0.95	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60
	~slope (moderately limited)	0.60	~percs slowly (moderately limited)	0.57	~percs slowly (moderately limited)	0.57			~droughty (moderately limited)	0.48
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~seepage (very limited)	1.00	~slope (very limited)	1.00	~droughty (very limited)	1.00	~depth to bedrock (very limited)	1.00	~large stones (very limited)	1.00
	~depth to bedrock (limited)	0.95	~depth to bedrock (limited)	0.76	~slope (very limited)	1.00	~large stones (very limited)	1.00	~droughty (very limited)	1.00
	~slope (moderately limited)	0.60	~large stones (moderately limited)	0.51	~depth to bedrock (limited)	0.76	~slope (moderately limited)	0.60	~depth to bedrock (limited)	0.95
73066:										
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~seepage (very limited)	1.00	~slope (very limited)	1.00	~droughty (very limited)	1.00	~depth to bedrock (very limited)	1.00	~large stones (very limited)	1.00
	~depth to bedrock (limited)	0.95	~depth to bedrock (limited)	0.76	~slope (very limited)	1.00	~large stones (very limited)	1.00	~droughty (very limited)	1.00
	~slope (moderately limited)	0.60	~large stones (moderately limited)	0.51	~depth to bedrock (limited)	0.76	~slope (moderately limited)	0.60	~depth to bedrock (limited)	0.95

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73067:										
Bender	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	~slope (very limited)	1.00
	~seepage (very limited)	1.00	~depth to bedrock (limited)	0.76	~droughty (very limited)	1.00	~depth to bedrock (very limited)	1.00	~large stones (very limited)	1.00
	~depth to bedrock (limited)	0.95	~large surface stones (moderately limited)	0.60	~depth to bedrock (limited)	0.76	~large stones (very limited)	1.00	~droughty (very limited)	1.00
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73089:										
Rueter	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	~slope (very limited)	1.00
	~seepage (very limited)	1.00	~large stones (very limited)	1.00	~large surface stones (limited)	0.79	~large stones (very limited)	1.00	~large stones (very limited)	1.00
			~large surface stones (limited)	0.79	~droughty (moderately limited)	0.43	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79
73094:										
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	~slope (very limited)	1.00	~slope (very limited)	1.00
	~depth to bedrock (limited)	0.88	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (very limited)	1.00	~depth to bedrock (limited)	0.88
			~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~wetness (moderately limited)	0.36	~wetness (moderately limited)	0.36
73098:										
Plato	Moderately limited		Very limited		Very limited		Limited		Limited	
	~seepage (moderately limited)	0.50	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (limited)	0.94	~wetness (limited)	0.94
					~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~rooting depth (limited)	0.80
					~droughty (slightly limited)	0.01			~erodes easily (moderately limited)	0.60
73135:										
Union	Moderately limited		Limited		Limited		Moderately limited		Limited	
	~seepage (moderately limited)	0.50	~slope (limited)	0.98	~slope (limited)	0.98	~erodes easily (moderately limited)	0.60	~rooting depth (limited)	0.80
	~slope (moderately limited)	0.30	~large stones (limited	0.75	~erodes easily (moderately limited)	0.60	~wetness (moderately limited)	0.58	~erodes easily (moderately limited)	0.60
			~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~slope (moderately limited)	0.30	~wetness (moderately limited)	0.58

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73136:										
Union	Moderately limited		Limited		Moderately limited		Moderately limited		Limited	
	~seepage	0.50	~large stones	0.75	~erodes easily	0.60	~erodes easily	0.60	~rooting depth	0.80
	(moderately limited)		(limited		(moderately limited)		(moderately limited)		(limited)	
			~percs slowly	0.39	~percs slowly	0.39	~wetness	0.58	~erodes easily	0.60
			(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
									~wetness	0.58
									(moderately limited)	
73159:										
Yelton	Slightly limited		Limited		Limited		Moderately limited		Limited	
	~slope	0.20	~slope	0.78	~slope	0.78	~erodes easily	0.60	~rooting depth	0.80
	(slightly limited)		(limited)		(limited)		(moderately limited)		(limited)	
			~percs slowly	0.39	~erodes easily	0.60	~wetness	0.58	~erodes easily	0.60
			(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
					~percs slowly	0.39	~slope	0.20	~wetness	0.58
					(moderately limited)		(slightly limited)		(moderately limited)	
73162:										
Alred	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	0.50	~large surface stones	0.79	~large surface stones	0.79	~large surface stones	0.79	~large surface stones	0.79
	(moderately limited)		(limited)		(limited)		(limited)		(limited)	
			~percs slowly	0.40	~percs slowly	0.40			~droughty	0.03
			(moderately limited)		(moderately limited)				(slightly limited)	
Rueter	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	1.00	~large stones	1.00	~large surface stones	0.79	~large stones	1.00	~large stones	1.00
	(very limited)		(very limited)		(limited)		(very limited)		(very limited)	
			~large surface stones	0.79	~droughty	0.43	~large surface stones	0.79	~large surface stones	0.79
			(limited)		(moderately limited)		(limited)		(limited)	
73164:										
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	1.00	~large surface stones	1.00	~large surface stones	1.00	~depth to bedrock	1.00	~large surface stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.95	~depth to bedrock	0.76	~droughty	1.00	~large surface stones	1.00	~large stones	1.00
	(limited)		(limited)		(very limited)		(very limited)		(very limited)	
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73166:										
Viburnum-------	Slightly limited		Limited		Limited		Moderately limited		Moderately limited	
	~slope (slightly limited)	0.20	~slope (limited)	0.78	~slope (limited)	0.78	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
			~percs slowly (slightly limited)	0.13	~erodes easily (moderately limited)	0.60	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55
					~percs slowly (slightly limited)	0.13	~slope (slightly limited)	0.20	~slope (slightly limited)	0.20
Tonti----------	Moderately limited		Limited		Limited		Limited		Limited	
	~seepage (moderately limited)	0.50	~large stones (limited	0.99	~slope (limited)	0.78	~large stones (limited)	0.67	~rooting depth (limited)	0.80
	~slope (slightly limited)	0.20	~slope (limited)	0.78	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~large stones (limited)	0.67
			~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~wetness (moderately limited)	0.55	~erodes easily (moderately limited)	0.60
73168:										
Swiss----------	Limited		Very limited		Very limited		Limited		Limited	
	~slope (limited)	0.80	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~slope (limited)	0.80	~slope (limited)	0.80
			~slope (very limited)	1.00	~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	~large surface stones (slightly limited)	0.13	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13
73169:										
Beemont--------	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	~slope (very limited)	1.00
	~depth to bedrock (moderately limited)	0.32	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~wetness (slightly limited)	0.28	~depth to bedrock (moderately limited)	0.32
			~large surface stones (slightly limited)	0.13	~large surface stones (slightly limited)	0.13	~large surface stones (slightly limited)	0.13	~wetness (slightly limited)	0.28
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	~slope (very limited)	1.00	~slope (very limited)	1.00
	~depth to bedrock (limited)	0.88	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (very limited)	1.00	~depth to bedrock (limited)	0.88
			~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~wetness (moderately limited)	0.36	~wetness (moderately limited)	0.36

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73170:										
Beemont	Limited		Very limited		Very limited		Limited		Limited	
	~slope (limited)	0.70	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.70	~slope (limited)	0.70
	~depth to bedrock (moderately limited)	0.32	~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~wetness (slightly limited)	0.28	~depth to bedrock (moderately limited)	0.32
			~large surface stones (slightly limited)	0.13	~large surface stones (slightly limited)	0.13	~large surface stones (slightly limited)	0.13	~wetness (slightly limited)	0.28
Gatewood	Limited		Very limited		Very limited		Very limited		Limited	
	~depth to bedrock (limited)	0.88	~slope (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~depth to bedrock (limited)	0.88
	~slope (limited)	0.70	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~slope (limited)	0.70	~slope (limited)	0.70
			~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~wetness (moderately limited)	0.36	~wetness (moderately limited)	0.36
73171:										
Plato	Moderately limited		Very limited		Very limited		Limited		Limited	
	~slope (moderately limited)	0.30	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (limited)	0.94	~wetness (limited)	0.94
			~slope (limited)	0.98	~slope (limited)	0.98	~erodes easily (moderately limited)	0.60	~rooting depth (limited)	0.80
			~large stones (slightly limited	0.30	~erodes easily (moderately limited)	0.60	~slope (moderately limited)	0.30	~erodes easily (moderately limited)	0.60
73172:										
Rosati	Not limited		Very limited		Very limited		Limited		Limited	
			~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (limited)	0.86	~wetness (limited)	0.86
			~slope (slightly limited)	0.10	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~rooting depth (limited)	0.80
					~slope (slightly limited)	0.10			~erodes easily (moderately limited)	0.60
73173:										
Lily	Very limited		Limited		Limited		Very limited		Limited	
	~seepage (very limited)	1.00	~slope (limited)	0.98	~slope (limited)	0.98	~depth to bedrock (very limited)	1.00	~depth to bedrock (limited)	0.95
	~depth to bedrock (limited)	0.95	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30
	~slope (moderately limited)	0.30			~droughty (slightly limited)	0.04			~droughty (slightly limited)	0.04

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73173:										
Yelton---------	Slightly limited		Limited		Limited		Moderately limited		Limited	
	~slope (slightly limited)	0.20	~slope (limited)	0.78	~slope (limited)	0.78	~erodes easily (moderately limited)	0.60	~rooting depth (limited)	0.80
			~percs slowly (moderately limited)	0.39	~erodes easily (moderately limited)	0.60	~wetness (moderately limited)	0.58	~erodes easily (moderately limited)	0.60
					~percs slowly (moderately limited)	0.39	~slope (slightly limited)	0.20	~wetness (moderately limited)	0.58
73174:										
Lily-----------	Very limited		Very limited		Very limited		Very limited		Limited	
	~seepage (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~slope (limited)	0.99
	~slope (limited)	0.99	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~slope (limited)	0.99	~depth to bedrock (limited)	0.95
	~depth to bedrock (limited)	0.95			~droughty (slightly limited)	0.04			~droughty (slightly limited)	0.04
Yelton---------	Limited		Very limited		Very limited		Limited		Limited	
	~slope (limited)	0.99	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.99	~slope (limited)	0.99
			~percs slowly (moderately limited)	0.39	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~rooting depth (limited)	0.80
					~percs slowly (moderately limited)	0.39	~wetness (moderately limited)	0.58	~erodes easily (moderately limited)	0.60
73175:										
Poynor---------	Moderately limited		Limited		Limited		Slightly limited		Slightly limited	
	~seepage (moderately limited)	0.50	~slope (limited)	0.78	~slope (limited)	0.78	~slope (slightly limited)	0.20	~slope (slightly limited)	0.20
	~slope (slightly limited)	0.20								
Bendavis-------	Limited		Limited		Limited		Very limited		Limited	
	~depth to bedrock (limited)	0.92	~slope (limited)	0.78	~slope (limited)	0.78	~depth to bedrock (very limited)	1.00	~depth to bedrock (limited)	0.92
	~seepage (moderately limited)	0.50	~depth to bedrock (moderately limited)	0.58	~depth to bedrock (moderately limited)	0.58	~wetness (slightly limited)	0.28	~droughty (moderately limited)	0.45
	~slope (slightly limited)	0.20			~droughty (moderately limited)	0.45	~slope (slightly limited)	0.20	~wetness (slightly limited)	0.28

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73176:										
Bendavis-------	Limited		Very limited		Very limited		Very limited		Limited	
	~slope (limited)	0.99	~slope (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~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		Very limited		Very limited		Limited		Limited	
	~slope (limited)	0.99	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.99	~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
73181:										
Useful---------	Limited		Very limited		Very limited		Limited		Limited	
	~slope (limited)	0.99	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.99	~slope (limited)	0.99
	~seepage (moderately limited)	0.50	~percs slowly (slightly limited)	0.13	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
	~depth to bedrock (moderately limited)	0.34			~percs slowly (slightly limited)	0.13	~wetness (slightly limited)	0.13	~depth to bedrock (moderately limited)	0.34
Gatewood-------	Limited		Very limited		Very limited		Very limited		Limited	
	~slope (limited)	0.99	~slope (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~slope (limited)	0.99
	~depth to bedrock (limited)	0.88	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~slope (limited)	0.99	~depth to bedrock (limited)	0.88
			~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~wetness (moderately limited)	0.36	~wetness (moderately limited)	0.36
73200:										
Sonsac---------	Limited		Very limited		Very limited		Very limited		Limited	
	~depth to bedrock (limited)	0.85	~slope (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~depth to bedrock (limited)	0.85
	~slope (moderately limited)	0.60	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79
			~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73210:										
Goss-----------	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	~slope (very limited)	1.00
	~seepage (moderately limited)	0.50	~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 stones (very limited)	1.00	~large stones (limited)	0.70	~large stones (very limited)	1.00	~large stones (very limited)	1.00
73214:										
Moko-----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~bedrock <20 in. (very limited)	1.00	~slope (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~slope (very limited)	1.00	~bedrock <20 in. (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	~slope (very limited)	1.00
			~large surface stones (very limited)	1.00	~slope (very limited)	1.00	~large stones (very limited)	1.00	~droughty (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73215:										
Crider---------	Moderately limited		Limited		Limited		Moderately limited		Moderately limited	
	~seepage (moderately limited)	0.50	~slope (limited)	0.98	~slope (limited)	0.98	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30
	~slope (moderately limited)	0.30								
73271:										
Moko-----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~bedrock <20 in. (very limited)	1.00	~slope (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~slope (very limited)	1.00	~bedrock <20 in. (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	~slope (very limited)	1.00
			~large surface stones (very limited)	1.00	~slope (very limited)	1.00	~large surface stones (very limited)	1.00	~droughty (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73272:										
Hildebrecht----	Slightly limited		Limited		Limited		Moderately limited		Limited	
	~slope (slightly limited)	0.20	~slope (limited)	0.78	~slope (limited)	0.78	~wetness (moderately limited)	0.58	~rooting depth (limited)	0.80
			~large stones (moderately limited)	0.51	~percs slowly (moderately limited)	0.39	~large stones (slightly limited)	0.20	~wetness (moderately limited)	0.58
			~percs slowly (moderately limited)	0.39			~slope (slightly limited)	0.20	~large stones (slightly limited)	0.20

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73273:										
Coulstone------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	1.00	~large surface stones	1.00	~large surface stones	1.00	~large surface stones	1.00	~large surface stones	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.27			~droughty	0.97	~large stones	1.00	~large stones	1.00
	(slightly limited)				(limited)		(very limited)		(very limited)	
Bender---------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~droughty	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~seepage	1.00	~large surface stones	1.00	~slope	1.00	~depth to bedrock	1.00	~droughty	1.00
	(very limited)		(very limited)		(very limited)		(very limited)		(very limited)	
	~depth to bedrock	0.89	~large stones	1.00	~large surface stones	1.00	~large surface stones	1.00	~large surface stones	1.00
	(limited)		(very limited)		(very limited)		(very limited)		(very limited)	
73274:										
Scholten-------	Limited		Very limited		Very limited		Limited		Limited	
	~slope	0.70	~percs slowly	1.00	~percs slowly	1.00	~slope	0.70	~rooting depth	0.80
	(limited)		(very limited)		(very limited)		(limited)		(limited)	
	~seepage	0.50	~slope	1.00	~slope	1.00	~wetness	0.55	~slope	0.70
	(moderately limited)		(very limited)		(very limited)		(moderately limited)		(limited)	
			~large stones	0.30	~droughty	0.13	~large stones	0.01	~wetness	0.55
			(slightly limited		(slightly limited)		(slightly limited)		(moderately limited)	
73275:										
Gravois--------	Moderately limited		Limited		Limited		Moderately limited		Moderately limited	
	~slope	0.30	~slope	0.98	~slope	0.98	~erodes easily	0.60	~erodes easily	0.60
	(moderately limited)		(limited)		(limited)		(moderately limited)		(moderately limited)	
			~percs slowly	0.39	~erodes easily	0.60	~wetness	0.55	~wetness	0.55
			(moderately limited)		(moderately limited)		(moderately limited)		(moderately limited)	
					~percs slowly	0.39	~slope	0.30	~slope	0.30
					(moderately limited)		(moderately limited)		(moderately limited)	
Goss-----------	Limited		Very limited		Very limited		Limited		Limited	
	~slope	0.99	~slope	1.00	~slope	1.00	~slope	0.99	~slope	0.99
	(limited)		(very limited)		(very limited)		(limited)		(limited)	
	~seepage	0.50	~large stones	0.99	~droughty	0.69	~large stones	0.90	~large stones	0.90
	(moderately limited)		(limited		(limited)		(limited)		(limited)	
			~large surface stones	0.13	~large surface stones	0.13	~large surface stones	0.13	~droughty	0.69
			(slightly limited)		(slightly limited)		(slightly limited)		(limited)	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73276:										
Rueter---------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~seepage (very limited)	1.00	~large stones (very limited)	1.00	~slope (very limited)	1.00	~large stones (very limited)	1.00	~large stones (very limited)	1.00
	~slope (moderately limited)	0.45	~slope (very limited)	1.00	~droughty (moderately limited)	0.43	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45
			~large surface stones (slightly limited)	0.13	~large stones (slightly limited)	0.29	~large surface stones (slightly limited)	0.13	~droughty (moderately limited)	0.43
Hildebrecht----	Slightly limited		Limited		Limited		Moderately limited		Limited	
	~slope (slightly limited)	0.20	~slope (limited)	0.78	~slope (limited)	0.78	~wetness (moderately limited)	0.58	~rooting depth (limited)	0.80
			~percs slowly (moderately limited)	0.39	~percs slowly (moderately limited)	0.39	~slope (slightly limited)	0.20	~wetness (moderately limited)	0.58
			~large stones (slightly limited	0.30					~slope (slightly limited)	0.20
73277:										
Goss-----------	Limited		Very limited		Very limited		Limited		Limited	
	~slope (limited)	0.99	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.99	~slope (limited)	0.99
	~seepage (moderately limited)	0.50	~large stones (limited	0.99	~droughty (limited)	0.69	~large stones (limited)	0.90	~large stones (limited)	0.90
			~large surface stones (slightly limited)	0.13	~large surface stones (slightly limited)	0.13	~large surface stones (slightly limited)	0.13	~droughty (limited)	0.69
73278:										
Rueter---------	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	~slope (very limited)	1.00
	~seepage (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
					~droughty (slightly limited)	0.29	~large stones (slightly limited)	0.02	~droughty (slightly limited)	0.29
73279:										
Sonsac---------	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	~slope (very limited)	1.00
	~depth to bedrock (limited)	0.83	~large surface stones (very limited)	1.00	~large surface stones (very limited)	1.00	~depth to bedrock (very limited)	1.00	~large surface stones (very limited)	1.00
			~percs slowly (moderately limited)	0.40	~droughty (very limited)	1.00	~large surface stones (very limited)	1.00	~droughty (very limited)	1.00

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73279:										
Moko	Very limited		Very limited		Very limited		Very limited		Very limited	
	~bedrock <20 in. (very limited)	1.00	~slope (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~slope (very limited)	1.00	~bedrock <20 in. (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	~slope (very limited)	1.00
			~large surface stones (very limited)	1.00	~slope (very limited)	1.00	~large surface stones (very limited)	1.00	~droughty (very limited)	1.00
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73280:										
Alred	Moderately limited		Very limited		Very limited		Limited		Limited	
	~slope (moderately limited)	0.60	~slope (very limited)	1.00	~slope (very limited)	1.00	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79
	~seepage (moderately limited)	0.50	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60
			~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40			~droughty (slightly limited)	0.09
73281:										
Hobson	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	~slope (very limited)	1.00
	~depth to bedrock (slightly limited)	0.19	~percs slowly (moderately limited)	0.39	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~rooting depth (limited)	0.80
					~percs slowly (moderately limited)	0.39	~wetness (moderately limited)	0.50	~erodes easily (moderately limited)	0.60
73282:										
Alred	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	~slope (very limited)	1.00
	~seepage (moderately limited)	0.50	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79
			~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40			~droughty (slightly limited)	0.09
Sonsac	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	~slope (very limited)	1.00
	~depth to bedrock (limited)	0.85	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~depth to bedrock (very limited)	1.00	~depth to bedrock (limited)	0.85
			~percs slowly (moderately limited)	0.40	~percs slowly (moderately limited)	0.40	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73283:										
Courtois-------	Moderately limited		Limited		Limited		Moderately limited		Moderately limited	
	~seepage (moderately limited)	0.50	~slope (limited)	0.98	~slope (limited)	0.98	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
	~slope (moderately limited)	0.30			~erodes easily (moderately limited)	0.60	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58
							~slope (moderately limited)	0.30	~slope (moderately limited)	0.30
73284:										
Courtois-------	Limited		Very limited		Very limited		Limited		Limited	
	~slope (limited)	0.70	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.70	~slope (limited)	0.70
	~seepage (moderately limited)	0.50	~percs slowly (moderately limited)	0.40	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
			~large stones (slightly limited	0.12	~percs slowly (moderately limited)	0.40	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58
Goss-----------	Limited		Very limited		Very limited		Limited		Limited	
	~slope (limited)	0.89	~slope (very limited)	1.00	~slope (very limited)	1.00	~large stones (limited)	0.90	~large stones (limited)	0.90
	~seepage (moderately limited)	0.50	~large stones (limited	0.99	~droughty (limited)	0.69	~slope (limited)	0.89	~slope (limited)	0.89
									~droughty (limited)	0.69
73285:										
Useful---------	Limited		Slightly limited		Moderately limited		Moderately limited		Limited	
	~depth to bedrock (limited)	0.62	~percs slowly (slightly limited)	0.15	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~depth to bedrock (limited)	0.62
			~slope (slightly limited)	0.10	~percs slowly (slightly limited)	0.15	~depth to bedrock (moderately limited)	0.54	~erodes easily (moderately limited)	0.60
					~slope (slightly limited)	0.10	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13
Courtois-------	Moderately limited		Very limited		Very limited		Moderately limited		Moderately limited	
	~seepage (moderately limited)	0.50	~slope (very limited)	1.00	~slope (very limited)	1.00	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
	~slope (moderately limited)	0.45	~percs slowly (moderately limited)	0.40	~erodes easily (moderately limited)	0.60	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58
					~percs slowly (moderately limited)	0.40	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73286:										
Useful---------	Limited		Very limited		Very limited		Limited		Limited	
	~slope (limited)	0.70	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.70	~slope (limited)	0.70
	~depth to bedrock (moderately limited)	0.32	~percs slowly (slightly limited)	0.15	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
					~percs slowly (slightly limited)	0.15	~wetness (slightly limited)	0.13	~depth to bedrock (moderately limited)	0.32
Courtois-------	Limited		Very limited		Very limited		Limited		Limited	
	~slope (limited)	0.80	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (limited)	0.80	~slope (limited)	0.80
	~seepage (moderately limited)	0.50	~percs slowly (moderately limited)	0.40	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
					~percs slowly (moderately limited)	0.40	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58
73287:										
Useful---------	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	~slope (very limited)	1.00
	~depth to bedrock (moderately limited)	0.32	~percs slowly (slightly limited)	0.15	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
					~percs slowly (slightly limited)	0.15	~wetness (slightly limited)	0.13	~depth to bedrock (moderately limited)	0.32
Sonsac---------	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	~slope (very limited)	1.00
	~depth to bedrock (limited)	0.74	~large stones (limited	0.99	~large stones (very limited)	1.00	~depth to bedrock (very limited)	1.00	~large stones (very limited)	1.00
			~percs slowly (moderately limited)	0.40	~droughty (limited)	0.65	~large stones (very limited)	1.00	~depth to bedrock (limited)	0.74
73288:										
Caneyville-----	Limited		Very limited		Very limited		Very limited		Limited	
	~depth to bedrock (limited)	0.85	~slope (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~depth to bedrock (limited)	0.85
	~slope (limited)	0.70	~depth to bedrock (slightly limited)	0.30	~erodes easily (moderately limited)	0.60	~slope (limited)	0.70	~slope (limited)	0.70
			~percs slowly (slightly limited)	0.13	~depth to bedrock (slightly limited)	0.30	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
73289:										
Fourche--------	Slightly limited		Limited		Limited		Moderately limited		Moderately limited	
	~slope (slightly limited)	0.20	~slope (limited)	0.78	~slope (limited)	0.78	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
			~percs slowly (slightly limited)	0.15	~erodes easily (moderately limited)	0.60	~wetness (moderately limited)	0.36	~wetness (moderately limited)	0.36
					~percs slowly (slightly limited)	0.15	~slope (slightly limited)	0.20	~slope (slightly limited)	0.20
74634:										
Hartville------	Moderately limited		Limited		Limited		Moderately limited		Moderately limited	
	~slope (moderately limited)	0.30	~slope (limited)	0.98	~slope (limited)	0.98	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
			~percs slowly (moderately limited)	0.39	~erodes easily (moderately limited)	0.60	~wetness (moderately limited)	0.60	~wetness (moderately limited)	0.60
					~percs slowly (moderately limited)	0.39	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30
74650:										
Higdon---------	Not limited		Moderately limited		Moderately limited		Moderately limited		Moderately limited	
			~flooding (moderately limited)	0.60	~flooding (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
			~percs slowly (slightly limited)	0.15	~erodes easily (moderately limited)	0.60	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53
					~percs slowly (slightly limited)	0.15				
74652:										
Lecoma---------	Moderately limited		Limited		Limited		Moderately limited		Moderately limited	
	~seepage (moderately limited)	0.50	~slope (limited)	0.98	~slope (limited)	0.98	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
	~slope (moderately limited)	0.30			~erodes easily (moderately limited)	0.60	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30
74653:										
Racoon---------	Not limited		Moderately limited		Moderately limited		Very limited		Very limited	
			~flooding (moderately limited)	0.60	~flooding (moderately limited)	0.60	~wetness (very limited)	1.00	~wetness (very limited)	1.00
			~percs slowly (moderately limited)	0.39	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
					~percs slowly (moderately limited)	0.39				

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
74653:										
Freeburg-------	Not limited		Moderately limited		Moderately limited		Moderately limited		Moderately limited	
			~flooding (moderately limited)	0.60	~flooding (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
			~percs slowly (slightly limited)	0.13	~erodes easily (moderately limited)	0.60	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53
					~percs slowly (slightly limited)	0.13				
74656:										
Deible---------	Not limited		Very limited		Very limited		Very limited		Very limited	
			~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
					~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
74661:										
Waben----------	Very limited		Limited		Limited		Moderately limited		Moderately limited	
	~seepage (very limited)	1.00	~slope (limited)	0.98	~slope (limited)	0.98	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30
	~slope (moderately limited)	0.30								
74662:										
Higdon---------	Slightly limited		Moderately limited		Moderately limited		Moderately limited		Moderately limited	
	~slope (slightly limited)	0.10	~slope (moderately limited)	0.40	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
			~percs slowly (slightly limited)	0.15	~slope (moderately limited)	0.40	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53
					~percs slowly (slightly limited)	0.15	~slope (slightly limited)	0.10	~slope (slightly limited)	0.10
75376:										
Cedargap-------	Moderately limited		Limited		Limited		Not limited		Not limited	
	~seepage (moderately limited)	0.50	~flooding (limited)	0.90	~flooding (limited)	0.90				
75388:										
Kaintuck-------	Very limited		Limited		Limited		Not limited		Not limited	
	~seepage (very limited)	1.00	~flooding (limited)	0.90	~flooding (limited)	0.90				
Relfe----------	Very limited		Limited		Very limited		Moderately limited		Very limited	
	~seepage (very limited)	1.00	~flooding (limited)	0.90	~droughty (very limited)	1.00	~too sandy (moderately limited)	0.60	~droughty (very limited)	1.00
					~flooding (limited)	0.90				

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
75398: Kaintuck	Very limited ~seepage (very limited)	 1.00	Limited ~flooding (limited)	 0.90	Limited ~flooding (limited)	 0.90	Not limited		Not limited	
75412: Razort	Very limited ~seepage (very limited)	 1.00	Moderately limited ~flooding (moderately limited)	 0.60	Moderately limited ~flooding (moderately limited) ~erodes easily (moderately limited)	 0.60 0.60	Moderately limited ~erodes easily (moderately limited)	 0.60	Moderately limited ~erodes easily (moderately limited)	 0.60
75413: 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
75427: Gabriel	Not limited		Moderately limited ~flooding (moderately limited) ~percs slowly (slightly limited)	 0.60 0.13	Moderately limited ~flooding (moderately limited) ~percs slowly (slightly limited)	 0.60 0.13	Limited ~wetness (limited)	 0.86	Limited ~wetness (limited)	 0.86
75450: Bloomsdale	Very limited ~seepage (very limited)	 1.00	Limited ~large stones (limited ~flooding (limited)	 0.99 0.90	Limited ~flooding (limited)	 0.90	Moderately limited ~large stones (moderately limited)	 0.30	Moderately limited ~large stones (moderately limited)	 0.30
75453: Sturkie	Moderately limited ~seepage (moderately limited)	 0.50	Moderately limited ~flooding (moderately limited)	 0.60	Moderately limited ~flooding (moderately limited) ~erodes easily (moderately limited)	 0.60 0.60	Moderately limited ~erodes easily (moderately limited)	 0.60	Moderately limited ~erodes easily (moderately limited)	 0.60
75459: Huzzah	Very limited ~seepage (very limited)	 1.00	Limited ~flooding (limited)	 0.90	Limited ~flooding (limited) ~erodes easily (moderately limited)	 0.90 0.60	Moderately limited ~erodes easily (moderately limited)	 0.60	Moderately limited ~erodes easily (moderately limited)	 0.60

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value	Irrigation: Rating class and limiting features	Value	Terraces and diversions: Rating class and limiting features	Value	Grassed waterways: Rating class and limiting features	Value
75460:										
Horsecreek-----	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Moderately limited	
	~seepage (moderately limited)	0.50	~flooding (moderately limited)	0.60	~flooding (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
					~erodes easily (moderately limited)	0.60				
99000:										
Pits, quarries------	Not rated		Not rated		Not rated		Not rated		Not rated	
99001:										
Water----------	Not rated		Not rated		Not rated		Not rated		Not rated	
99003:										
Miscellaneous water---------	Not rated		Not rated		Not rated		Not rated		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 0.00 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: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
66014:										
Haymond--------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~percs slowly (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	~flooding (very limited)	1.00
70028:										
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	~large surface stones (limited)	0.79	~depth to bedrock (very limited)	1.00
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~slope (limited)	0.70	~slope (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73012:										
Gravois--------	Limited		Limited		Limited		Limited		Very limited	
	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (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
					~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~slope (limited)	0.91
73032:										
Gatewood-------	Moderately limited		Moderately limited		Limited		Very limited		Very limited	
	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45	~slope (limited)	0.70	~depth to bedrock (very limited)	1.00	~percs slowly (very limited)	1.00
	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~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: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73035:										
Gravois	Limited		Limited		Limited		Limited		Very limited	
	~slope (limited)	0.68	~slope (limited)	0.68	~slope (limited)	0.89	~slope (limited)	0.89	~percs slowly (very limited)	1.00
	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~slope (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
73039:										
Glensted	Very limited		Very limited		Very Limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
73053:										
Lily	Limited		Limited		Limited		Very limited		Very limited	
	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~depth to bedrock (very limited)	1.00	~depth to bedrock (very limited)	1.00
	~droughty (moderately limited)	0.48	~droughty (moderately limited)	0.48	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60	~slope (very limited)	1.00
	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~droughty (moderately limited)	0.48	~too acid (slightly limited)	0.06	~percs slowly (moderately limited)	0.32
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~depth to bedrock (very limited)	1.00	~depth to bedrock (very limited)	1.00
	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~slope (moderately limited)	0.60	~slope (very limited)	1.00
	~too acid (moderately limited)	0.48	~too acid (moderately limited)	0.48	~slope (moderately limited)	0.60	~too acid (moderately limited)	0.48	~percs slowly (moderately limited)	0.32
73066:										
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~depth to bedrock (very limited)	1.00	~depth to bedrock (very limited)	1.00
	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~slope (moderately limited)	0.60	~slope (very limited)	1.00
	~too acid (moderately limited)	0.48	~too acid (moderately limited)	0.48	~slope (moderately limited)	0.60	~too acid (moderately limited)	0.48	~percs slowly (moderately limited)	0.32

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73067:										
Bender---------	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	~slope (very limited)	1.00
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00
	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~large surface stones (moderately limited)	0.60	~large surface stones (moderately limited)	0.60
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73089:										
Rueter---------	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	~slope (very limited)	1.00
	~too acid (limited)	0.84	~too acid (limited)	0.84	~too acid (limited)	0.84	~too acid (limited)	0.84	~too cobbly (limited)	0.95
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79
73094:										
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
	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~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
73098:										
Plato----------	Limited		Limited		Limited		Limited		Very limited	
	~wetness (limited)	0.94	~wetness (limited)	0.94	~wetness (limited)	0.94	~wetness (limited)	0.94	~percs slowly (very limited)	1.00
	~too acid (slightly limited)	0.06	~too acid (slightly limited)	0.06	~too acid (slightly limited)	0.06	~too acid (slightly limited)	0.06	~wetness (very limited)	1.00
	~droughty (slightly limited)	0.01	~droughty (slightly limited)	0.01	~droughty (slightly limited)	0.01			~too acid (slightly limited)	0.21
73135:										
Union----------	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~percs slowly (very limited)	1.00
					~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~wetness (very limited)	1.00
									~slope (limited)	0.91

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73136:										
Union----------	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~percs slowly (very limited)	1.00
									~wetness (very limited)	1.00
									~too acid (moderately limited)	0.42
73159:										
Yelton---------	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~percs slowly (very limited)	1.00
					~slope (slightly limited)	0.20	~slope (slightly limited)	0.20	~wetness (very limited)	1.00
									~slope (limited)	0.66
73162:										
Alred----------	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
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~slope (very limited)	1.00
	~droughty (slightly limited)	0.03	~droughty (slightly limited)	0.03	~droughty (slightly limited)	0.03			~large surface stones (limited)	0.79
Rueter---------	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	~slope (very limited)	1.00
	~too acid (limited)	0.84	~too acid (limited)	0.84	~too acid (limited)	0.84	~too acid (limited)	0.84	~too cobbly (limited)	0.95
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79
73164:										
Bender---------	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	~slope (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	~slope (very limited)	1.00	~depth to bedrock (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
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73166:										
Viburnum-------	Limited		Limited		Limited		Limited		Very limited	
	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (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
	~too acid (moderately limited)	0.48	~too acid (moderately limited)	0.48	~too acid (moderately limited)	0.48	~too acid (moderately limited)	0.48	~slope (limited)	0.66
Tonti----------	Limited		Limited		Limited		Limited		Very limited	
	~too acid (limited)	0.60	~too acid (limited)	0.60	~too acid (limited)	0.60	~too acid (limited)	0.60	~percs slowly (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
					~slope (slightly limited)	0.20	~slope (slightly limited)	0.20	~slope (limited)	0.66
73168:										
Swiss----------	Moderately limited		Moderately limited		Limited		Limited		Very limited	
	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60	~slope (limited)	0.80	~slope (limited)	0.80	~wetness (very limited)	1.00
	~too acid (slightly limited)	0.24	~too acid (slightly limited)	0.24	~too acid (slightly limited)	0.24	~too acid (slightly limited)	0.24	~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	~large surface stones (slightly limited)	0.13	~percs slowly (moderately limited)	0.32
73169:										
Beemont--------	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	~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 (moderately limited)	0.42	~depth to bedrock (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
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
	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~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: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73170:										
Beemont	Moderately limited		Moderately limited		Limited		Limited		Very limited	
	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45	~slope (limited)	0.70	~slope (limited)	0.70	~depth to bedrock (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
	~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
Gatewood	Moderately limited		Moderately limited		Limited		Very limited		Very limited	
	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45	~slope (limited)	0.70	~depth to bedrock (very limited)	1.00	~percs slowly (very limited)	1.00
	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~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
73171:										
Plato	Limited		Limited		Limited		Limited		Very limited	
	~wetness (limited)	0.94	~wetness (limited)	0.94	~wetness (limited)	0.94	~wetness (limited)	0.94	~percs slowly (very limited)	1.00
	~too acid (slightly limited)	0.18	~too acid (slightly limited)	0.18	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~wetness (very limited)	1.00
	~droughty (slightly limited)	0.03	~droughty (slightly limited)	0.03	~too acid (slightly limited)	0.18	~too acid (slightly limited)	0.18	~slope (limited)	0.91
73172:										
Rosati	Limited		Limited		Limited		Limited		Very limited	
	~wetness (limited)	0.86	~wetness (limited)	0.86	~wetness (limited)	0.86	~wetness (limited)	0.86	~percs slowly (very limited)	1.00
									~wetness (very limited)	1.00
									~slope (slightly limited)	0.08
73173:										
Lily	Limited		Limited		Limited		Very limited		Very limited	
	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~depth to bedrock (very limited)	1.00	~depth to bedrock (very limited)	1.00
	~too acid (slightly limited)	0.06	~too acid (slightly limited)	0.06	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~slope (limited)	0.91
	~droughty (slightly limited)	0.04	~droughty (slightly limited)	0.04	~too acid (slightly limited)	0.06	~too acid (slightly limited)	0.06	~percs slowly (moderately limited)	0.32

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73173:										
Yelton---------	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~percs slowly (very limited)	1.00
					~slope (slightly limited)	0.20	~slope (slightly limited)	0.20	~wetness (very limited)	1.00
									~slope (limited)	0.66
73174:										
Lily-----------	Limited		Limited		Limited		Very limited		Very limited	
	~depth to bedrock (limited)	0.76	~depth to bedrock (limited)	0.76	~slope (limited)	0.99	~depth to bedrock (very limited)	1.00	~slope (very limited)	1.00
	~slope (limited)	0.76	~slope (limited)	0.76	~depth to bedrock (limited)	0.76	~slope (limited)	0.99	~depth to bedrock (very limited)	1.00
	~too acid (slightly limited)	0.06	~too acid (slightly limited)	0.06	~too acid (slightly limited)	0.06	~too acid (slightly limited)	0.06	~percs slowly (moderately limited)	0.32
Yelton---------	Limited		Limited		Limited		Limited		Very limited	
	~slope (limited)	0.76	~slope (limited)	0.76	~slope (limited)	0.99	~slope (limited)	0.99	~percs slowly (very limited)	1.00
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~slope (very limited)	1.00
									~wetness (very limited)	1.00
73175:										
Poynor---------	Slightly limited		Slightly limited		Slightly limited		Slightly limited		Limited	
	~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 (limited)	0.66
					~slope (slightly limited)	0.20	~slope (slightly limited)	0.20	~percs slowly (moderately limited)	0.32
									~too acid (slightly limited)	0.01
Bendavis-------	Moderately limited		Moderately limited		Moderately limited		Very limited		Very limited	
	~depth to bedrock (moderately limited)	0.58	~depth to bedrock (moderately limited)	0.58	~depth to bedrock (moderately limited)	0.58	~depth to bedrock (very limited)	1.00	~percs slowly (very limited)	1.00
	~droughty (moderately limited)	0.45	~droughty (moderately limited)	0.45	~droughty (moderately limited)	0.45	~wetness (slightly limited)	0.28	~depth to bedrock (very limited)	1.00
	~wetness (slightly limited)	0.28	~wetness (slightly limited)	0.28	~wetness (slightly limited)	0.28	~too acid (slightly limited)	0.24	~wetness (very limited)	1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73176:										
Bendavis-------	Limited		Limited		Limited		Very limited		Very limited	
	~slope (limited)	0.76	~slope (limited)	0.76	~slope (limited)	0.99	~depth to bedrock (very limited)	1.00	~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
Poynor---------	Limited		Limited		Limited		Limited		Very limited	
	~slope (limited)	0.76	~slope (limited)	0.76	~slope (limited)	0.99	~slope (limited)	0.99	~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	~percs slowly (moderately limited)	0.32
	~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	~large surface stones (slightly limited)	0.13
73181:										
Useful---------	Limited		Limited		Limited		Limited		Very limited	
	~slope (limited)	0.76	~slope (limited)	0.76	~slope (limited)	0.99	~slope (limited)	0.99	~percs slowly (very limited)	1.00
	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~slope (very limited)	1.00
	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~depth to bedrock (very limited)	1.00
Gatewood-------	Limited		Limited		Limited		Very limited		Very limited	
	~slope (limited)	0.76	~slope (limited)	0.76	~slope (limited)	0.99	~depth to bedrock (very limited)	1.00	~percs slowly (very limited)	1.00
	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~depth to bedrock (moderately limited)	0.42	~slope (limited)	0.99	~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
73200:										
Sonsac---------	Limited		Limited		Limited		Very limited		Very limited	
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~depth to bedrock (very limited)	1.00	~percs slowly (very limited)	1.00
	~percs slowly (limited)	0.76	~percs slowly (limited)	0.76	~percs slowly (limited)	0.76	~large surface stones (limited)	0.79	~depth to bedrock (very limited)	1.00
	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~slope (moderately limited)	0.60	~percs slowly (limited)	0.76	~slope (very limited)	1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73210:										
Goss	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~large surface stones (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~large surface stones (very limited)	1.00	~slope (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 stones (moderately limited)	0.45	~large stones (moderately limited)	0.45	~large stones (moderately limited)	0.45	~large stones (moderately limited)	0.45	~too cobbly (very limited)	1.00
73214:										
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	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~slope (very limited)	1.00	~large surface stones (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~large surface stones (very limited)	1.00	~depth to bedrock (very limited)	1.00
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73215:										
Crider	Not limited		Not limited		Moderately limited		Moderately limited		Very limited	
					~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~percs slowly (very limited)	1.00
									~slope (limited)	0.91
73271:										
Moko	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~depth to bedrock (very limited)	1.00	~slope (very limited)	1.00
	~shallow to bedrock (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00
Rock outcrop	Not rated		Not rated		Not rated		Not rated		Not rated	
73272:										
Hildebrecht	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~percs slowly (very limited)	1.00
	~too acid (slightly limited)	0.06	~too acid (slightly limited)	0.06	~slope (slightly limited)	0.20	~slope (slightly limited)	0.20	~wetness (very limited)	1.00
					~too acid (slightly limited)	0.06	~too acid (slightly limited)	0.06	~slope (limited)	0.66

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73273:										
Coulstone	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~large surface stones (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~large surface stones (very limited)	1.00	~slope (very limited)	1.00	~large surface stones (very limited)	1.00	~large surface stones (very limited)	1.00	~depth to bedrock (very limited)	1.00
	~droughty (limited)	0.97	~droughty (limited)	0.97	~droughty (limited)	0.97	~too acid (limited)	0.92	~wetness (very limited)	1.00
Bender	Very limited		Very limited		Very limited		Very limited		Very limited	
	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~depth to bedrock (very limited)	1.00	~slope (very limited)	1.00
	~slope (very limited)	1.00	~large surface stones (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00
	~large surface stones (very limited)	1.00	~slope (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
73274:										
Scholten	Moderately limited		Moderately limited		Limited		Limited		Very limited	
	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55	~slope (limited)	0.70	~slope (limited)	0.70	~wetness (very limited)	1.00
	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55	~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	~percs slowly (moderately limited)	0.32
73275:										
Gravois	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55	~wetness (moderately limited)	0.55	~percs slowly (very limited)	1.00
					~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~wetness (very limited)	1.00
									~slope (limited)	0.91
Goss	Limited		Limited		Limited		Limited		Very limited	
	~slope (limited)	0.76	~slope (limited)	0.76	~slope (limited)	0.99	~slope (limited)	0.99	~slope (very limited)	1.00
	~droughty (limited)	0.69	~droughty (limited)	0.69	~droughty (limited)	0.69	~large surface stones (slightly limited)	0.13	~percs slowly (moderately limited)	0.32
	~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

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73276:										
Rueter	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
	~droughty (moderately limited)	0.43	~droughty (moderately limited)	0.43	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45	~too cobbly (limited)	0.95
	~slope (slightly limited)	0.15	~slope (slightly limited)	0.15	~droughty (moderately limited)	0.43	~large surface stones (slightly limited)	0.13	~percs slowly (moderately limited)	0.32
Hildebrecht	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~percs slowly (very limited)	1.00
	~too acid (moderately limited)	0.48	~too acid (moderately limited)	0.48	~too acid (moderately limited)	0.48	~too acid (moderately limited)	0.48	~wetness (very limited)	1.00
					~slope (slightly limited)	0.20	~slope (slightly limited)	0.20	~slope (limited)	0.66
73277:										
Goss	Limited		Limited		Limited		Limited		Very limited	
	~slope (limited)	0.76	~slope (limited)	0.76	~slope (limited)	0.99	~slope (limited)	0.99	~slope (very limited)	1.00
	~droughty (limited)	0.69	~droughty (limited)	0.69	~droughty (limited)	0.69	~large surface stones (slightly limited)	0.13	~percs slowly (moderately limited)	0.32
	~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
73278:										
Rueter	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	~slope (very limited)	1.00
	~too acid (very limited)	1.00	~too acid (very limited)	1.00	~too acid (very limited)	1.00	~too acid (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	~large surface stones (limited)	0.79	~percs slowly (moderately limited)	0.32
73279:										
Sonsac	Very limited		Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~large surface stones (very limited)	1.00	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~percs slowly (very limited)	1.00
	~large surface stones (very limited)	1.00	~slope (very limited)	1.00	~large surface stones (very limited)	1.00	~slope (very limited)	1.00	~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	~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: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73279:										
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	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~slope (very limited)	1.00	~large surface stones (very limited)	1.00	~shallow to bedrock (very limited)	1.00	~large surface stones (very limited)	1.00	~depth to bedrock (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
73280:										
Alred----------	Limited		Limited		Limited		Limited		Very limited	
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~percs slowly (very limited)	1.00
	~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60	~slope (very limited)	1.00
	~too acid (slightly limited)	0.24	~too acid (slightly limited)	0.24	~too acid (slightly limited)	0.24	~too acid (slightly limited)	0.24	~large surface stones (limited)	0.79
73281:										
Hobson---------	Limited		Limited		Very limited		Very limited		Very limited	
	~slope (limited)	0.83	~slope (limited)	0.83	~slope (very limited)	1.00	~slope (very limited)	1.00	~percs slowly (very limited)	1.00
	~too acid (limited)	0.60	~too acid (limited)	0.60	~too acid (limited)	0.60	~too acid (limited)	0.60	~depth to bedrock (very limited)	1.00
	~wetness (moderately limited)	0.50	~wetness (moderately limited)	0.50	~wetness (moderately limited)	0.50	~wetness (moderately limited)	0.50	~wetness (very limited)	1.00
73282:										
Alred----------	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
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~slope (very limited)	1.00
	~too acid (slightly limited)	0.24	~too acid (slightly limited)	0.24	~too acid (slightly limited)	0.24	~too acid (slightly limited)	0.24	~large surface stones (limited)	0.79
Sonsac---------	Limited		Limited		Very limited		Very limited		Very limited	
	~slope (limited)	0.99	~slope (limited)	0.99	~slope (very limited)	1.00	~depth to bedrock (very limited)	1.00	~percs slowly (very limited)	1.00
	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~large surface stones (limited)	0.79	~slope (very limited)	1.00	~slope (very limited)	1.00
	~percs slowly (limited)	0.76	~percs slowly (limited)	0.76	~percs slowly (limited)	0.76	~large surface stones (limited)	0.79	~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: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73283:										
Courtois-------	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~percs slowly (very limited)	1.00
					~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~wetness (very limited)	1.00
									~slope (limited)	0.91
73284:										
Courtois-------	Moderately limited		Moderately limited		Limited		Limited		Very limited	
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~slope (limited)	0.70	~slope (limited)	0.70	~percs slowly (very limited)	1.00
	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~slope (very limited)	1.00
									~wetness (very limited)	1.00
Goss-----------	Limited		Limited		Limited		Limited		Very limited	
	~droughty (limited)	0.69	~droughty (limited)	0.69	~slope (limited)	0.89	~slope (limited)	0.89	~slope (very limited)	1.00
	~slope (limited)	0.68	~slope (limited)	0.68	~droughty (limited)	0.69			~percs slowly (moderately limited)	0.32
									~too acid (slightly limited)	0.07
73285:										
Useful---------	Slightly limited		Slightly limited		Slightly limited		Moderately limited		Very limited	
	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~depth to bedrock (moderately limited)	0.54	~percs slowly (very limited)	1.00
							~wetness (slightly limited)	0.13	~depth to bedrock (very limited)	1.00
									~wetness (very limited)	1.00
Courtois-------	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Very limited	
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~percs slowly (very limited)	1.00
	~too acid (slightly limited)	0.18	~too acid (slightly limited)	0.18	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45	~wetness (very limited)	1.00
	~slope (slightly limited)	0.15	~slope (slightly limited)	0.15	~too acid (slightly limited)	0.18	~too acid (slightly limited)	0.18	~slope (very limited)	1.00

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73286:										
Useful---------	Limited		Limited		Limited		Limited		Very limited	
	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~slope (limited)	0.70	~slope (limited)	0.70	~percs slowly (very limited)	1.00
	~slope (moderately limited)	0.45	~slope (moderately limited)	0.45	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~slope (very limited)	1.00
	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~depth to bedrock (very limited)	1.00
Courtois-------	Moderately limited		Moderately limited		Limited		Limited		Very limited	
	~slope (moderately limited)	0.60	~slope (moderately limited)	0.60	~slope (limited)	0.80	~slope (limited)	0.80	~percs slowly (very limited)	1.00
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~slope (very limited)	1.00
									~wetness (very limited)	1.00
73287:										
Useful---------	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
	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~slope (very limited)	1.00
	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~wetness (slightly limited)	0.13	~depth to bedrock (very limited)	1.00
Sonsac---------	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
	~droughty (limited)	0.65	~droughty (limited)	0.65	~droughty (limited)	0.65	~slope (very limited)	1.00	~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	~large surface stones (slightly limited)	0.13	~depth to bedrock (very limited)	1.00
73288:										
Caneyville-----	Moderately limited		Moderately limited		Limited		Very limited		Very limited	
	~wetness (moderately limited)	0.58	~wetness (moderately limited)	0.58	~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	~wetness (moderately limited)	0.58	~slope (limited)	0.70	~slope (very limited)	1.00
	~depth to bedrock (slightly limited)	0.30	~depth to bedrock (slightly limited)	0.30	~depth to bedrock (slightly limited)	0.30	~wetness (moderately limited)	0.58	~depth to bedrock (very limited)	1.00
Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
73289:										
Fourche	Limited		Limited		Limited		Limited		Very limited	
	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (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
					~slope (slightly limited)	0.20	~slope (slightly limited)	0.20	~slope (limited)	0.66
74634:										
Hartville	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)	0.60	~wetness (moderately limited)	0.60	~wetness (moderately limited)	0.60	~wetness (moderately limited)	0.60	~wetness (very limited)	1.00
					~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~slope (limited)	0.91
74650:										
Higdon	Limited		Limited		Limited		Limited		Very limited	
	~flooding (limited)	0.90	~flooding (limited)	0.90	~flooding (limited)	0.90	~flooding (limited)	0.90	~percs slowly (very limited)	1.00
	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (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	~flooding (moderately limited)	0.60
74652:										
Lecoma	Not limited		Not limited		Moderately limited		Moderately limited		Very limited	
					~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~percs slowly (very limited)	1.00
									~slope (limited)	0.91
74653:										
Racoon	Very limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~percs slowly (very limited)	1.00
	~flooding (limited)	0.90	~flooding (limited)	0.90	~flooding (limited)	0.90	~flooding (limited)	0.90	~wetness (very limited)	1.00
	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~flooding (moderately limited)	0.60

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
74653:										
Freeburg-------	Limited		Limited		Limited		Limited		Very limited	
	~flooding (limited)	0.90	~flooding (limited)	0.90	~flooding (limited)	0.90	~flooding (limited)	0.90	~percs slowly (very limited)	1.00
	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~wetness (very limited)	1.00
	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~flooding (moderately limited)	0.60
74656:										
Deible---------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~percs slowly (very limited)	1.00
	~flooding (slightly limited)	0.30	~flooding (slightly limited)	0.30	~flooding (slightly limited)	0.30	~flooding (slightly limited)	0.30	~wetness (very limited)	1.00
74661:										
Waben----------	Not limited		Not limited		Moderately limited		Moderately limited		Limited	
					~slope (moderately limited)	0.30	~slope (moderately limited)	0.30	~slope (limited)	0.91
									~percs slowly (moderately limited)	0.32
74662:										
Higdon---------	Limited		Limited		Limited		Limited		Very limited	
	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (very limited)	1.00
	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (moderately limited)	0.53	~wetness (very limited)	1.00
					~slope (slightly limited)	0.10	~slope (slightly limited)	0.10	~slope (moderately limited)	0.31
75376:										
Cedargap-------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~percs slowly (very limited)	1.00
									~flooding (very limited)	1.00
									~wetness (limited)	0.99
75388:										
Kaintuck-------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (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: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
75388:										
Relfe----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00
	~droughty (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~poor filter (very limited)	1.00	~percs slowly (moderately limited)	0.32
	~poor filter (very limited)	1.00	~poor filter (very limited)	1.00	~poor filter (very limited)	1.00				
75398:										
Kaintuck-------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00
									~percs slowly (moderately limited)	0.32
75412:										
Razort---------	Limited		Limited		Limited		Limited		Very limited	
	~flooding (limited)	0.90	~flooding (limited)	0.90	~flooding (limited)	0.90	~flooding (limited)	0.90	~percs slowly (very limited)	1.00
									~flooding (moderately limited)	0.60
75413:										
Relfe----------	Very limited		Very limited		Very limited		Very limited		Very limited	
	~flooding (very limited)	1.00	~droughty (very limited)	1.00	~droughty (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00
	~droughty (very limited)	1.00	~flooding (very limited)	1.00	~flooding (very limited)	1.00	~poor filter (very limited)	1.00	~percs slowly (moderately limited)	0.32
	~poor filter (very limited)	1.00	~poor filter (very limited)	1.00	~poor filter (very limited)	1.00				
75427:										
Gabriel--------	Limited		Limited		Limited		Limited		Very limited	
	~flooding (limited)	0.90	~flooding (limited)	0.90	~flooding (limited)	0.90	~flooding (limited)	0.90	~percs slowly (very limited)	1.00
	~wetness (limited)	0.86	~wetness (limited)	0.86	~wetness (limited)	0.86	~wetness (limited)	0.86	~wetness (very limited)	1.00
	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~percs slowly (limited)	0.60	~flooding (moderately limited)	0.60

Table 16.--Waste Management--Continued

Map symbol and soil name	Land application of manure and food processing waste: Rating class and limiting features	Value	Land application of municipal sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Treatment of wastewater by slow rate process: Rating class and limiting features	Value	Treatment of wastewater by rapid infiltration process: Rating class and limiting features	Value
75450: Bloomsdale-----	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 ~percs slowly (very limited) ~flooding (very limited) ~too cobbly (slightly limited)	 1.00 1.00 0.01
75453: Sturkie--------	Limited ~flooding (limited)	 0.90	Limited ~flooding (limited)	 0.90	Limited ~flooding (limited)	 0.90	Limited ~flooding (limited)	 0.90	Very limited ~percs slowly (very limited) ~flooding (moderately limited)	 1.00 0.60
75459: Huzzah---------	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
75460: Horsecreek-----	Limited ~flooding (limited)	 0.90	Limited ~flooding (limited)	 0.90	Limited ~flooding (limited)	 0.90	Limited ~flooding (limited)	 0.90	Very limited ~percs slowly (very limited) ~wetness (limited) ~flooding (moderately limited)	 1.00 0.60 0.60
99000: Pits, quarries-------	Not rated		Not rated		Not rated		Not rated		Not rated	
99001: Water----------	Not rated		Not rated		Not rated		Not rated		Not rated	
99003: Miscellaneous water---------	Not rated		Not rated		Not rated		Not rated		Not rated	

Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-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 the tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

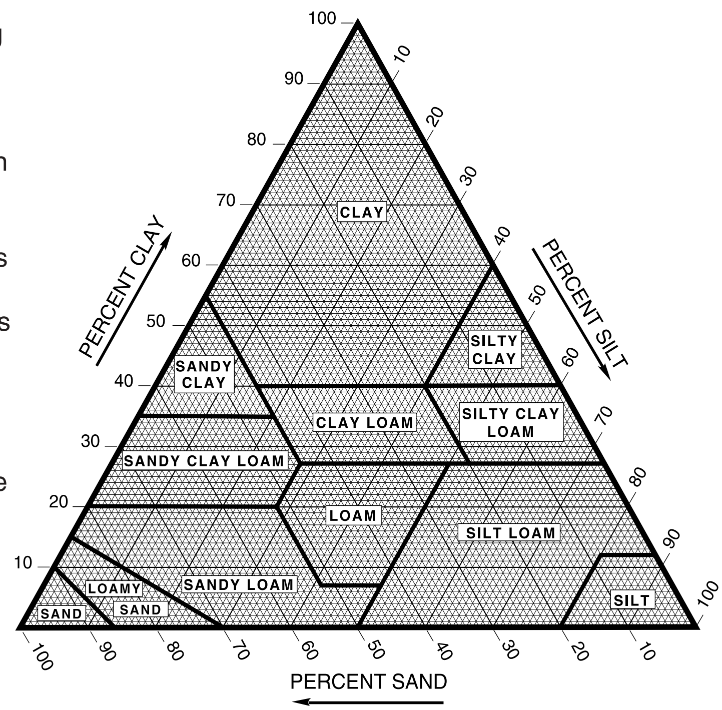


Figure 14.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

Engineering Index Properties

Table 17 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under the heading "Soil Series and Their Morphology."

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. 14). "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 as much as about 15 percent, 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).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-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 grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-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 omitted in the table.

Physical and Chemical Properties

Table 18 shows estimates of some physical and 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.

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

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

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

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

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

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

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

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

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.

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 the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

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

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

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.

5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.

6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.

7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.

8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

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.

Water Features

Table 19 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.

Flooding, the temporary inundation of an area, is 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.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The estimates are based mainly on observations of the water table at selected sites and on the evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. Indicated in the table are the depth to the seasonal high water table; the kind of water table—that is, perched, apparent, or artesian; and the months of the year that the water table commonly is high. A water table that is seasonally high for less than 1 month is not indicated in the table.

An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone. An *artesian* water table is under hydrostatic head, generally below an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole.

Two numbers in the column showing depth to the water table indicate the normal range in depth to a saturated zone. Depth is given to the nearest half foot. The first numeral in the range indicates the highest water level. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. “More than 6.0” indicates that the water table is below a depth of 6 feet or that it is within a depth of 6 feet for less than a month.

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 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).

Soil Features

Table 20 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, fragipans, 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 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 mainly to pavements and other rigid structures.

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

Table 17.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
66014:												
Haymond------	0-6	SIL	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	20-35	5-15
	6-41	SIL	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	20-35	5-15
	41-80	FSL, L	SC, SM, SC-SM	A-4	0	0	95-100	90-100	70-80	40-60	10-30	NP-10
70028:												
Moko---------	0-3	GR-L	SC, GC, CL	A-6	0-5	0-15	55-80	50-75	45-70	35-60	25-35	10-15
	3-8	GRV-L	GC	A-2-6, A-6	0-5	0-15	35-55	30-50	25-45	20-40	25-35	10-15
	8-60	UWB			---	---	---	---	---	---	---	---
Rock outcrop.												
73012:												
Gravois------	0-6	SIL	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	80-100	70-90	20-40	5-15
	6-25	SICL, SIL	CL	A-6, A-7	0	0	90-100	85-100	80-100	70-85	30-45	10-25
	25-35	SICL, GR-SICL, GRV-SIL, SIL, GRX-SIL	GC, CL, SC	A-6, A-7, A-7-6	0	0-15	35-100	30-95	25-90	20-80	25-45	10-20
	35-50	GRV-SICL, SICL, GRV-SIL, GRV-L	SC, GC-GM, GC	A-7-6, A-7, A-6	0	0-15	35-85	30-80	25-80	20-75	25-45	10-25
	50-80	CBV-C, GRV-SIC, GR-SIC, GRV-C	CL, GC	A-7-6, A-2-7, A-7	0	0-60	35-80	30-75	25-70	20-65	45-90	25-60
73032:												
Gatewood-----	0-2	GRV-SIL	GC, GC-GM	A-4, A-6, A-2-6	0	0-20	35-55	30-50	30-50	25-40	20-35	5-15
	2-10	GRV-SIL	GC, GC-GM	A-2-6, A-4, A-6	0-5	0-20	35-55	30-50	30-50	25-40	20-35	5-15
	10-28	C	CH	A-7-6, A-7	0-5	0-5	85-100	80-95	80-85	70-80	50-75	25-45
	28-60	UWB			---	---	---	---	---	---	---	---
73035:												
Gravois------	0-6	SIL	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	80-100	70-90	20-40	5-15
	6-25	SICL, SIL	CL	A-6, A-7	0	0	90-100	85-100	80-100	70-85	30-45	10-25
	25-35	SICL, GR-SICL, GRV-SIL, GRX-SIL, SIL	GC, CL, SC	A-6, A-7, A-7-6	0	0-15	35-100	30-95	25-90	20-80	25-45	10-25
	35-50	GRV-SICL, SICL, GRV-SIL, GRV-L	SC, GC-GM, GC	A-7, A-6, A-7-6	0	0-15	35-85	30-80	25-80	20-75	25-45	10-25
	50-80	CBV-C, GRV-SIC, GR-SIC, GRV-C	CL, GC	A-2-7, A-7, A-7-6	0	0-60	35-80	30-75	25-70	20-65	45-90	25-60
73039:												
Glensted-----	0-9	SIL	CL	A-6	0	0	100	100	90-100	70-90	30-45	10-25
	9-14	SIC	CH	A-7-6, A-7	0	0	100	100	95-100	85-95	55-75	30-50
	14-33	SIC, SICL	CL, CH	A-7-6, A-7	0	0	85-100	80-100	75-95	65-90	45-65	20-40
	33-60	SICL	CL	A-7, A-7-6	0	0	85-100	80-100	75-95	65-90	40-50	20-30
73053:												
Lily---------	0-3	L	CL-ML, ML	A-4	0	0-5	90-100	85-100	75-90	55-65	10-35	2-15
	3-15	L, CL	CL	A-6	0	0-5	90-100	85-100	75-90	55-70	30-45	10-20
	15-21	GR-L, GR-CL	GC	A-7, A-6	0	0-10	60-80	55-75	50-70	40-50	25-45	10-20
	21-60	BR			---	---	---	---	---	---	---	---
Bender-------	0-4	CBV-FSL	SC, SC-SM, SM	A-2, A-2-4	0-2	20-50	65-80	60-75	50-60	30-35	10-30	2-10
	4-12	CBV-FSL	SC-SM, SC, SM	A-2	0	20-50	65-80	60-75	50-60	30-35	10-30	2-10
	12-23	CBX-L, GRX-SL	GC, GC-GM, GW-GC	A-2, A-1-a, A-1	0-2	10-55	25-75	20-70	10-60	5-45	25-30	5-10
	23-60	BR			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73066:												
Bender-------	0-4	CBV-FSL	SC, SC-SM	A-2, A-2-4	0-2	20-50	65-80	60-75	50-60	30-35	10-30	2-10
	4-12	CBV-FSL	SC-SM, SC	A-2	0	20-50	65-80	60-75	50-60	30-35	10-30	2-10
	12-23	CBX-L, GRX-SL	GC, GC-GM	A-2, A-1-a	0-2	10-55	25-75	20-70	10-60	5-45	25-30	5-10
	23-60	UWB			---	---	---	---	---	---	---	---
73067:												
Bender-------	0-4	CBV-FSL	SC, SC-SM, SM	A-2, A-2-4	0-2	20-50	65-80	60-75	50-60	30-35	10-30	2-10
	4-12	CBV-FSL	SC-SM, SC, SM	A-2	0	20-50	65-80	60-75	50-60	30-35	10-30	2-10
	12-23	CBX-L, GRX-SL	GC, GC-GM, GW-GC	A-2, A-1-a, A-1	0-2	10-55	25-75	20-70	10-60	5-45	25-30	5-10
	23-60	UWB			---	---	---	---	---	---	---	---
Rock outcrop.												
73089:												
Rueter-------	0-3	GRV-SIL	GC, GC-GM	A-2-4	0-5	0-10	30-55	25-50	25-50	20-45	10-35	2-15
	3-14	GRV-SIL, GRX-SIL	GC, GC-GM	A-2-6, A-4, A-6, A-2-4	0-5	0-10	20-55	15-50	15-45	10-40	10-35	2-15
	14-45	CBX-L, GRV-L, GRV-SCL	GC, GC-GM	A-2-4, A-1-a, A-2-6	0-5	10-50	30-60	25-55	25-55	10-45	15-40	5-20
	45-80	CBX-C, GRV-C	GC-GM	A-2-7, A-7	0-5	10-50	30-60	25-55	25-55	20-50	50-75	25-60
73094:												
Gatewood-----	0-2	GRV-SIL	GC, GC-GM	A-4, A-6, A-2-6	0	0-20	35-55	30-50	30-50	25-40	20-35	5-15
	2-10	GRV-SIL	GC, GC-GM	A-4, A-6, A-2-6	0-5	0-20	35-55	30-50	30-50	25-40	20-35	5-15
	10-28	C	CH	A-7, A-7-6	0-5	0-5	85-100	80-95	80-85	70-80	50-75	25-45
	28-60	UWB			---	---	---	---	---	---	---	---
73098:												
Plato--------	0-8	SIL	CL-ML, CL	A-6, A-4	0	0	100	100	90-100	70-90	25-35	5-15
	8-20	SIC	CH	A-7, A-7-6	0	0	100	100	95-100	90-95	50-65	25-40
	20-48	GRX-SIL, GRV-SICL	GC, GC-GM	A-1-b, A-4, A-6, A-2-6	0	0-5	25-55	20-50	15-50	10-45	25-45	5-20
	48-60	C, GR-C, GR-SICL	CH, CL	A-6, A-7, A-7-6	0	0-5	55-95	50-90	45-90	40-80	35-85	15-60
73135, 73136:												
Union--------	0-9	SIL	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	85-95	65-85	20-35	5-15
	9-30	SICL, SIC	CH, CL	A-7-6, A-6, A-7	0	0	90-100	85-95	80-95	70-80	35-60	15-30
	30-53	GRX-SIL, CBX-L	GC	A-2	0	15-40	15-30	10-25	10-20	10-15	25-35	10-15
	53-80	C, GRV-C, GR-SIC	GC, SC, CH	A-7-6, A-7	0	0-15	55-95	50-85	50-80	45-70	50-85	25-60
73159:												
Yelton-------	0-3	SIL	CL-ML, ML	A-4	0	0	95-100	90-100	85-95	75-85	10-30	2-10
	3-8	SIL, L	CL, ML, CL-ML	A-4	0	0	95-100	90-100	75-95	55-85	10-30	2-10
	8-19	SICL, L	CL	A-6	0	0	85-100	80-100	75-95	55-90	30-45	10-20
	19-38	L, SL, GR-L, GRV-SL	CL, SC	A-6, A-4	0	0-5	25-95	20-90	10-80	5-60	20-35	5-15
	38-65	SCL, L, GR-L, GRV-CL	SC, CL	A-6	0	0-5	40-95	35-90	30-80	15-60	30-40	10-20

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73162:												
Alred--------	0-7	GRV-L	GC-GM, GC, GM	A-1, A-1-b, A-2	0-5	0-20	35-50	30-45	25-40	20-30	15-30	2-15
	7-15	GRV-L	GC-GM, GC	A-2-4, A-2, A-1	0-5	0-20	30-50	25-45	25-40	20-30	20-30	5-15
	15-21	GRV-L, GRX-SICL	GC-GM, GC	A-2-6, A-2, A-6	0-5	0-20	25-65	20-50	20-50	15-45	25-40	5-20
	21-80	CB-C, GR-C, C	CH	A-7-6, A-7	0	5-20	60-100	55-100	50-100	40-85	50-90	30-65
Rueter-------	0-3	GRV-SIL	GC, GC-GM	A-2-4	0-5	0-10	30-55	25-50	25-50	20-45	10-35	2-15
	3-14	GRV-SIL, GRX-SIL	GC, GC-GM	A-2-6, A-4, A-6, A-2-4	0-5	0-10	20-55	15-50	15-45	10-40	10-35	2-15
	14-45	CBX-L, GRV-L, GRV-SCL	GC-GM, GC	A-2-4, A-1-a, A-2-6	0-5	10-50	25-55	20-50	15-45	10-35	15-40	5-20
	45-80	CBX-C, GRV-C	GC-GM	A-2-7, A-7	0-5	10-50	25-85	20-80	20-80	15-70	50-75	25-60
73164:												
Bender-------	0-4	CBV-FSL	SC, SC-SM	A-2, A-2-4	0-2	20-50	65-80	60-75	50-60	30-35	10-30	2-10
	4-12	CBV-FSL	SC-SM, SC	A-2	0	20-50	65-80	60-75	50-60	30-35	10-30	2-10
	12-23	CBX-L, GRX-SL	GC, GC-GM	A-2, A-1-a	0-2	10-55	25-75	20-70	10-60	5-45	25-30	5-10
	23-60	UWB			---	---	---	---	---	---	---	---
Rock outcrop.												
73166:												
Viburnum-----	0-4	SIL	CL, CL-ML	A-4	0	0	85-100	80-100	70-95	60-85	20-35	5-15
	4-7	SIL	CL	A-6, A-4	0	0	85-100	80-100	70-95	60-85	20-35	5-15
	7-13	SICL	CL	A-7, A-7-6	0	0-5	85-100	80-100	80-95	75-90	45-50	20-25
	13-20	GR-SICL, GR-SIC	GC, SC	A-7, A-7-6	0	0-10	55-80	50-75	50-75	45-70	45-60	20-30
	20-80	GRV-C, GR-C	CH, SC, GC	A-7-6, A-7	0	0-10	30-80	25-75	25-65	20-60	50-85	30-65
Tonti--------	0-3	SIL	CL, ML, CL-ML	A-4, A-6	0	0	95-100	90-100	85-95	75-85	10-35	2-15
	3-9	SIL	CL, ML	A-4, A-6	0	0	95-100	90-100	85-95	75-85	10-35	2-15
	9-23	SICL, GR-SICL	CL	A-7, A-6	0-5	0-5	75-100	70-100	65-95	60-90	35-45	15-20
	23-44	GRX-SIL, CBX-SIL	GC	A-2, A-2-4	0	0-35	20-35	15-30	15-30	10-25	20-35	5-15
	44-61	GRV-C	GC	A-2-7, A-7	0	0-25	30-50	25-45	25-45	25-40	50-75	25-50
73168:												
Swiss--------	0-3	GR-SIL	SC, CL	A-4, A-6	0	0-5	55-80	50-75	50-70	40-60	20-40	5-15
	3-9	GR-SIL, GR-L	CL, SC	A-4, A-6	0	0-5	55-80	50-75	50-70	40-60	20-40	5-15
	9-40	C, GR-C, SIC, GR-SIC	CH, SC	A-7, A-7-6	0	0-5	55-100	50-100	50-100	45-95	50-70	25-45
	40-80	CL, SIC, C	CL, CH	A-7, A-7-6	0	0-5	100	100	90-100	70-90	40-70	15-45
73169, 73170:												
Beemont------	0-3	GR-SIL	CL, GC, SC	A-6	0	0-10	55-80	50-75	45-70	40-60	25-40	10-20
	3-11	GR-SIL	CL, GC, SC	A-6	0	0-10	55-80	50-75	45-70	30-60	25-40	10-20
	11-59	C	CH	A-7, A-7-6	0	0-5	80-100	75-100	70-95	65-85	75-90	50-75
	59-80	UWB			---	---	---	---	---	---	---	---
Gatewood-----	0-2	GRV-SIL	GC, GC-GM	A-4, A-6, A-2-6	0	0-20	35-55	30-50	30-50	25-40	20-35	5-15
	2-10	GRV-SIL	GC, GC-GM	A-4, A-6, A-2-6	0-5	0-20	35-55	30-50	30-50	25-40	20-35	5-15
	10-28	C	CH	A-7, A-7-6	0-5	0-5	85-100	80-95	80-85	70-80	50-75	25-45
	28-60	UWB			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification Unified	Classification AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73171:												
Plato--------	0-7	SICL	CL	A-6, A-7-6	0	0	100	95-100	90-95	80-90	35-45	15-25
	7-23	SIC, C	CH	A-7, A-7-6	0	0	95-100	90-100	90-95	80-85	50-60	25-30
	23-40	GR-L, GRV-L, GRV-SIL	SC, GC, GC-GM	A-1-b, A-4, A-6	0	0-5	35-80	30-75	25-70	20-50	25-35	5-15
	40-80	GR-C, GRV-C	CH, GC, SC	A-7, A-7-6	0	0-20	50-80	45-75	45-70	40-65	50-65	25-40
73172:												
Rosati-------	0-9	SIL	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	20-35	5-15
	9-29	SIC	CH, CL	A-7, A-7-6	0	0	95-100	90-100	90-100	85-95	45-60	20-35
	29-41	SIL	CL	A-6, A-4	0	0-5	85-100	80-100	80-95	65-85	25-35	5-15
	41-80	SICL	CL	A-7, A-6	0	0-5	85-100	80-100	80-95	75-90	35-45	15-20
73173, 73174:												
Lily---------	0-3	FSL	SC, SM	A-4	0	0-5	90-100	85-100	65-80	40-50	10-35	2-10
	3-8	L	CL, ML	A-4, A-6	0	0-5	90-100	85-100	75-90	55-65	10-35	2-15
	8-15	L, CL	CL	A-6	0	0-5	90-100	85-100	75-90	60-65	30-45	10-20
	15-21	GR-L, GR-CL	GC	A-7, A-6	0	0-10	60-80	55-75	50-70	40-50	25-45	10-20
	21-23	GR-L	GC	A-6	0	0-10	60-80	55-75	50-70	40-50	25-35	10-15
	23-60	UWB			---	---	---	---	---	---	---	---
Yelton-------	0-3	SIL	CL-ML, ML	A-4	0	0	95-100	90-100	85-95	75-85	10-30	2-10
	3-8	SIL, L	CL, ML	A-4	0	0	95-100	90-100	75-95	55-85	10-30	2-10
	8-19	SICL, L	CL	A-6	0	0	85-100	80-100	75-95	55-90	30-45	10-20
	19-38	L, SL	CL, SC	A-6, A-4	0	0-5	25-95	20-90	10-80	5-60	20-35	5-15
	38-65	L, SCL	SC, CL	A-6	0	0-5	40-95	35-90	30-80	15-60	30-40	10-20
73175:												
Poynor-------	0-5	GRV-SIL	GC, GC-GM, GM	A-4, A-2-4	0-5	0-20	35-55	30-50	30-50	25-40	10-30	2-10
	5-11	GRV-SIL	GC, GC-GM, GM	A-2-4, A-4	0-5	0-20	35-55	30-50	30-50	25-40	10-30	2-10
	11-17	GRV-SIL	GC	A-2-6, A-6	0-5	0-20	35-55	30-50	30-50	25-40	25-35	10-15
	17-60	C	CH	A-7, A-7-6	0	0-5	90-100	85-100	80-95	70-85	50-75	30-50
Bendavis-----	0-5	GRV-SIL	GC, GC-GM, GM	A-2-4	0-5	0-5	35-50	30-45	30-45	25-35	10-25	2-10
	5-9	GRV-SIL, GR-SIL	GC, GM	A-2-4	0-5	0-5	35-65	30-60	30-60	25-50	10-25	2-10
	9-25	GRV-SIL, GRV-SICL	GC	A-2-4, A-2-6	0-5	0-5	35-50	30-45	30-45	25-35	25-35	5-15
	25-60	UWB			---	---	---	---	---	---	---	---
73176:												
Bendavis-----	0-5	GRV-SIL	GC, GC-GM, GM	A-2, A-2-4	0-5	0-5	35-50	30-45	30-45	25-35	10-25	2-10
	5-9	GRV-SIL, GR-SIL	GC, GM, GC-GM	A-2, A-2-4	0-5	0-5	35-65	30-60	30-60	25-50	10-25	2-10
	9-25	GRV-SIL, GRV-SICL	GC	A-2, A-2-6, A-2-4	0-5	0-5	35-50	30-45	30-45	25-35	25-35	5-15
	25-80	BR			---	---	---	---	---	---	---	---
Poynor-------	0-5	GRV-SIL	GC, GC-GM, GM	A-4, A-2-4	0-5	0-20	35-55	30-50	30-50	25-40	10-30	2-10
	5-11	GRV-SIL	GC, GC-GM, GM	A-2, A-2-4, A-4	0-5	0-20	35-55	30-50	30-50	25-40	10-30	2-10
	11-17	GRV-SIL	GC	A-2, A-2-6, A-6	0-5	0-20	35-55	30-50	30-50	25-40	25-35	10-15
	17-80	C	CH	A-7, A-7-6	0	0-5	90-100	85-100	80-95	70-85	50-75	30-50
73181:												
Useful-------	0-7	SIL	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	25-35	5-15
	7-31	SIC, SICL	CL	A-7, A-7-6	0	0-5	95-100	85-100	80-100	70-95	45-50	20-30
	31-45	SIC, GRV-SIC, C, GRV-C	GC, CH	A-7-6, A-7	0	0-10	45-100	40-100	40-95	35-95	50-65	25-40
	45-53	SICL, SIC	CH, CL	A-7-6, A-7	0	0	95-100	85-100	80-95	75-95	45-60	20-35
	53-60	UWB			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73181:												
Gatewood-----	0-2	GRV-SIL	GC, GC-GM	A-4, A-6, A-2-6	0	0-20	35-55	30-50	30-50	25-40	20-35	5-15
	2-10	GRV-SIL	GC, GC-GM	A-4, A-6, A-2-6	0-5	0-20	35-55	30-50	30-50	25-40	20-35	5-15
	10-28	C	CH	A-7, A-7-6	0-5	0-5	85-100	80-95	80-85	70-80	50-75	25-45
	28-60	UWB			---	---	---	---	---	---	---	---
73200:												
Sonsac-------	0-3	GR-SIL	CL, CL-ML, GC	A-4, A-6	0-10	0-10	55-80	50-75	50-70	40-60	20-35	5-15
	3-8	GRV-SIL, GRX-SIL	SC, GC	A-2, A-2-4	0-15	0-10	15-55	10-50	10-50	5-40	20-35	5-15
	8-11	GRV-SIL, GRX-SIL, GRV-SICL, CBV-SICL	GC	A-2-6, A-6, A-2	0-10	0-15	15-55	10-50	10-50	5-45	30-45	10-25
	11-32	GRV-C, GRV-SIC	GC	A-7, A-2-7	0-5	0-10	30-55	25-50	25-50	20-45	60-80	30-50
	32-60	UWB			---	---	---	---	---	---	---	---
73210:												
Goss---------	0-3	CBV-SIL	GC, GC-GM	A-4	0-5	20-45	50-75	45-70	45-65	35-55	20-35	5-15
	3-9	GRV-SIL, CB-SIL	GC, GC-GM	A-2, A-4	0-5	0-25	30-65	25-60	25-60	20-50	20-35	5-15
	9-80	CBV-C, CB-C, GR-C	CH, CL	A-7, A-7-6	0-5	15-65	65-90	60-85	60-85	55-75	45-80	25-50
73214:												
Moko---------	0-5	GR-L	CL, GC, SC	A-6	0-10	0-10	65-80	60-75	55-70	40-50	30-40	10-20
	5-10	CNX-SIL, CNV-CL, CNV-SICL	CL, GC, SC	A-6, A-7	0-10	40-80	65-90	60-85	60-80	45-75	30-45	10-25
	10-60	UWB			---	---	---	---	---	---	---	---
Rock outcrop.												
73215:												
Crider-------	0-11	SIL	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	25-35	5-15
	11-37	SICL, SIL	CL	A-6, A-7, A-7-6	0	0	100	100	95-100	85-95	30-45	10-20
	37-60	SICL, SIC, C	CH, CL	A-6, A-7, A-7-6	0	0-5	80-100	75-100	70-95	65-95	40-65	20-40
73271:												
Moko---------	0-13	GRV-SL	SC, GC	A-2	0-5	0-15	30-75	25-70	25-45	10-25	25-35	10-15
	13-60	UWB			---	---	---	---	---	---	---	---
Rock outcrop.												
73272:												
Hildebrecht--	0-4	SIL	CL-ML, ML	A-4	0	0	95-100	90-100	85-95	75-90	10-30	2-10
	4-9	SIL	CL, ML	A-4	0	0	95-100	90-100	85-95	75-85	10-30	2-10
	9-26	SICL	CL	A-6	0	0	90-100	85-100	80-95	75-90	40-50	20-25
	26-40	GRX-SIL, CB-SIL	CL	A-6, A-4	0-15	0-25	25-65	20-60	15-60	15-50	20-35	5-15
	40-80	GRX-C, CBV-C	CH	A-7	0-15	0-25	25-60	20-55	20-55	15-50	60-85	30-60
73273:												
Coulstone----	0-4	GRV-FSL	GC	A-2-4	0	0-25	35-60	30-55	25-45	15-25	5-25	1-10
	4-24	GRV-FSL, GRX-SL	GC	A-2-4	0	0-25	25-55	20-50	15-35	10-20	5-25	1-10
	24-39	STV-SL	GC	A-2-4	0-25	0-25	45-80	40-75	25-50	15-25	20-30	5-10
	39-61	GR-SCL	GC	A-2-6	0-10	0-10	60-80	55-75	50-65	25-35	30-45	10-20
	61-80	BR			---	---	---	---	---	---	---	---
Bender-------	0-2	GRV-SL	GM	A-1	0	0-10	35-65	30-60	20-40	10-20	5-20	1-5
	2-14	GRX-FSL	GM	A-1	0-5	0-20	25-45	20-40	10-25	5-15	5-20	1-5
	14-27	GRV-SL, CBV-SL	GC	A-2-4	0-20	0-35	35-70	30-65	20-40	10-20	20-30	5-10
	27-80	BR			---	---	---	---	---	---	---	---

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
73274:												
Scholten-----	0-7	GRV-SIL	GC, GC-GM	A-2, A-4, A-6, A-2-4	0	0-10	30-55	25-50	25-50	20-40	20-35	5-15
	7-21	GRX-SIL, GRV-SIL	GC	A-2, A-2-6	0	0-15	20-50	15-45	15-45	10-35	25-45	10-20
	21-33	GRX-SIL, GR-CL	GC	A-2-6	0-10	5-35	20-60	15-55	15-55	10-45	25-35	10-15
	33-63	GRX-CL, GR-SIC	GC	A-2, A-7, A-2-7	0-10	5-35	20-60	15-55	15-55	10-50	40-65	20-40
73275:												
Gravois------	0-6	SIL	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	80-100	70-90	20-40	5-15
	6-25	SICL, SIL	CL	A-6, A-7	0	0	90-100	85-100	80-100	70-85	30-45	10-25
	25-35	SICL, GR-SICL, GRV-SIL, SIL, GRX-SIL	GC, CL, SC	A-6, A-7, A-7-6	0	0-15	35-100	30-95	25-90	20-80	25-45	10-20
	35-50	GRV-SICL, SICL, GRV-SIL, GRV-L	SC, GC-GM, GC	A-7-6, A-7, A-6	0	0-15	35-85	30-80	25-80	20-75	25-45	10-25
	50-80	CBV-C, GRV-SIC, GR-SIC, GRV-C	CL, GC	A-7-6, A-2-7, A-7	0	0-60	35-80	30-75	25-70	20-65	45-90	25-60
Goss---------	0-3	GR-SIL	CL	A-4	0-5	0-10	55-75	50-70	50-65	40-55	10-35	2-15
	3-18	GRV-SIL, GRX-SIL	GM	A-4	0-5	0-10	30-50	25-50	20-50	20-40	10-35	2-15
	18-80	GRX-C, CBV-C, GRV-C	GC	A-7, A-7-6	0-5	15-50	30-50	25-45	25-45	25-40	45-85	20-55
73276:												
Rueter-------	0-3	GRV-SIL	GC, GC-GM	A-2-4	0-5	0-10	30-55	25-50	25-50	20-45	10-35	2-15
	3-14	GRV-SIL, GRX-SIL	GC, GC-GM	A-2-6, A-4, A-6, A-2-4	0-5	0-10	20-55	15-50	15-45	10-40	10-35	2-15
	14-45	CBX-L, GRV-L, GRV-SCL	GC, GC-GM	A-2-4, A-1-a, A-2-6	0-5	10-50	30-60	25-55	25-55	10-45	15-40	5-20
	45-80	CBX-C, GRV-C	GC-GM	A-2-7, A-7	0-5	10-50	30-60	25-55	25-55	20-50	50-75	25-60
Hildebrecht--	0-5	SIL	CL-ML, ML	A-4	0	0	95-100	90-100	85-95	75-90	10-30	2-10
	5-25	SICL, SIL	CL	A-6	0	0	90-100	85-100	85-95	75-90	30-50	10-25
	25-39	GRX-SIL, GRX-SICL	GC	A-2	0	0-15	25-45	20-40	15-40	15-30	20-35	5-15
	39-80	GRV-C	GC	A-7	0	0-15	35-55	30-50	30-45	25-40	60-85	30-60
73277:												
Goss---------	0-3	GR-SIL	CL	A-4	0-5	0-10	55-75	50-70	50-65	40-55	10-35	2-15
	3-18	GRV-SIL, GRX-SIL	GM	A-4	0-5	0-10	30-50	25-50	20-50	20-40	10-35	2-15
	18-80	GRX-C, CBV-C, GRV-C	GC	A-7, A-7-6	0-5	15-50	30-50	25-45	25-45	25-40	45-85	20-55
73278:												
Rueter-------	0-3	GRV-SIL	GC, GC-GM	A-2-4	0-5	0-25	45-60	40-55	40-55	30-45	10-35	2-15
	3-23	GRV-SIL	GC, GC-GM	A-2-6, A-4, A-6, A-2-4	0-5	0-10	40-55	35-50	35-50	30-40	10-35	2-15
	23-50	GRV-SIL, GRX-SIL	GC, GC-GM	A-2-4, A-2-6	0-5	0-10	35-55	30-50	30-50	25-40	10-35	2-15
	50-80	GR-CL, GRV-CL	GC-GM	A-7	0-5	0-10	55-75	50-70	50-65	40-55	35-50	15-25

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73279:												
Sonsac-------	0-3	GRX-SIL	GC	A-4, A-6	0-10	0-20	30-55	25-50	25-50	20-40	20-35	5-15
	3-6	GRX-SIL, GRV-SIL	GC	A-2, A-2-4	0-15	0-15	30-50	25-45	25-45	20-35	20-35	5-15
	6-10	GRV-SICL, GRV-SIL	GC	A-2-6, A-6, A-2	0-10	0-15	35-65	30-60	30-60	25-55	30-45	10-25
	10-32	GRV-C, GRV-SIC	GC	A-7	0-10	0-20	45-76	40-70	40-70	35-65	60-90	30-60
	32-60	UWB			---	---	---	---	---	---	---	---
Moko---------	0-8	GRV-CL	GC	A-2	0-5	0-15	35-55	30-50	30-50	25-40	35-48	15-25
	8-14	GRX-SIL	GC	A-2	0-5	0-15	15-30	10-25	10-20	5-20	10-30	2-10
	14-60	UWB			---	---	---	---	---	---	---	---
Rock outcrop.												
73280:												
Alred--------	0-3	GRV-SIL	GC, GC-GM, GM	A-2	0	0-15	40-60	35-55	35-55	30-45	15-30	2-15
	3-15	GRV-SIL	GC-GM, GC	A-2-4, A-2	0	0-10	40-60	35-55	35-55	30-45	20-30	5-15
	15-21	GRV-SICL, GRV-SIL	GC-GM, GC	A-2-6, A-2, A-6	0	0-10	40-60	35-55	35-55	30-45	25-40	5-20
	21-80	GR-C, C	CH	A-7, A-7-6	0	0-10	65-100	60-100	60-95	55-85	50-90	30-65
73281:												
Hobson-------	0-2	SIL	CL-ML, CL	A-4	0	0	90-100	85-100	80-100	65-100	10-30	2-10
	2-7	SIL	CL	A-4	0	0	90-100	85-100	80-100	65-100	10-30	2-10
	7-26	SICL, SIL, CL	CL	A-6	0	0	90-100	85-100	80-100	65-95	30-45	10-20
	26-45	GRX-L, GR-L	GC	A-2	0	0-15	25-45	20-40	20-35	15-25	25-35	10-15
	45-64	CBV-C, CBX-C	CH	A-7	0	0-75	85-100	80-100	80-95	70-85	60-95	30-70
	64-80	BR			---	---	---	---	---	---	---	---
73282:												
Alred--------	0-3	GRV-SIL	GC, GC-GM, GM	A-2	0	0-15	40-60	35-55	35-55	30-45	15-30	2-15
	3-15	GRV-SIL	GC-GM, GC	A-2-4, A-2	0	0-10	40-60	35-55	35-55	30-45	20-30	5-15
	15-21	GRV-SIL, GRV-SICL	GC-GM, GC	A-2-6, A-2, A-6	0	0-10	40-60	35-55	35-55	30-45	25-40	5-20
	21-80	GR-C, C	CH	A-7-6, A-7	0	0-10	65-100	60-100	60-95	55-85	50-90	30-65
Sonsac-------	0-3	GR-SIL	CL, CL-ML, GC	A-4, A-6	0-10	0-10	55-80	50-75	50-70	40-60	20-35	5-15
	3-8	GRV-SIL, GRX-SIL	SC, GC	A-2, A-2-4	0-15	0-10	15-55	10-50	10-50	5-40	20-35	5-15
	8-11	GRV-SIL, GRX-SIL, GRV-SICL, CBV-SICL	GC	A-2-6, A-6, A-2	0-10	0-15	15-55	10-50	10-50	5-45	30-45	10-25
	11-32	GRV-C, GRV-SIC	GC	A-7, A-2-7	0-5	0-10	30-55	25-50	25-50	20-45	60-80	30-50
	32-60	UWB			---	---	---	---	---	---	---	---
73283:												
Courtois-----	0-4	SIL	CL	A-4	0	0	100	100	90-100	70-90	20-35	5-15
	4-13	SICL	CL	A-6	0	0	100	100	90-100	85-95	40-50	15-25
	13-80	SIC, SICL	CL	A-6	0	0	75-100	70-100	65-95	60-95	40-60	20-30
73284:												
Courtois-----	0-4	SIL	CL	A-4	0	0	100	100	90-100	70-90	15-30	5-10
	4-8	SIL	CL	A-4	0	0	100	100	90-100	70-90	15-30	5-10
	8-24	SICL, SIL	CL	A-6	0	0	100	100	90-100	85-95	30-45	10-20
	24-80	GRX-C, GR-C, C	CH	A-7	0	0-10	35-95	30-90	30-90	25-80	50-85	25-55
Goss---------	0-3	GR-SIL	CL	A-4	0-5	0-10	55-75	50-70	50-65	40-55	10-30	2-10
	3-18	GRV-SIL, GRX-SIL	GM	A-4	0-5	0-10	30-50	25-50	20-50	20-40	10-30	2-10
	18-80	GRX-C, CBV-C, GRV-C	GC	A-7, A-7-6	0-5	15-50	30-50	25-45	25-45	25-40	40-80	15-50

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73285:												
Useful-------	0-8	SIL	CL	A-4	0	0	100	100	90-100	70-90	25-40	5-15
	8-13	SIL	CL	A-4	0	0	100	100	90-100	70-90	25-40	5-15
	13-47	C, SIC	CH	A-7	0	0-5	75-100	70-100	65-95	60-90	60-85	30-60
	47-80	BR			---	---	---	---	---	---	---	---
Courtois-----	0-6	SIL	CL	A-4	0	0	100	100	90-100	70-90	20-40	5-15
	6-24	SICL, SIL	CL	A-6	0	0	100	100	90-100	70-95	35-50	15-25
	24-80	GRV-C, GR-C, C, SIC	CH	A-7	0	0-10	50-100	45-100	45-90	40-80	60-90	30-65
73286:												
Useful-------	0-6	SIL	CL	A-4	0	0	100	100	90-100	70-90	25-40	5-20
	6-12	SICL	CL	A-6	0	0	100	100	95-100	85-95	40-50	15-25
	12-59	C, SIC	CH	A-7	0	0-5	85-100	80-100	80-95	70-95	50-65	25-40
	59-80	BR			---	---	---	---	---	---	---	---
Courtois-----	0-6	SIL	CL	A-4	0	0	100	100	90-100	70-90	20-40	5-15
	6-25	SICL, SIC	CL	A-6	0	0	100	100	90-95	80-95	40-60	20-30
	25-80	GRV-C, GR-C, C, SIC	CH	A-7	0	0-10	50-100	45-100	45-95	40-95	50-85	25-55
73287:												
Useful-------	0-6	SIL	CL	A-4	0	0	100	100	90-100	70-90	25-40	5-20
	6-12	SICL	CL	A-6	0	0	100	100	95-100	85-95	40-50	15-25
	12-59	C, SIC	CH	A-7	0	0-5	85-100	80-100	80-95	70-95	50-65	25-40
	59-80	BR			---	---	---	---	---	---	---	---
Sonsac-------	0-4	SICL	CL	A-6	0-10	0-10	85-100	80-100	80-95	75-90	35-50	15-25
	4-38	GR-SIC, GRV-C, STX-C	GC	A-7, A-2-7	0-40	0-30	30-55	25-50	25-50	20-45	55-85	30-55
	38-60	UWB			---	---	---	---	---	---	---	---
73288:												
Caneyville---	0-6	SIL	CL, CL-ML	A-4, A-6	0	0-3	100	100	90-100	70-90	20-35	5-15
	6-11	SIL	CL-ML, CL	A-6, A-4	0	0-3	100	100	90-100	70-90	20-35	5-15
	11-17	SICL, SIC	CL	A-7, A-7-6	0	0-3	90-100	85-100	80-95	75-90	40-50	15-25
	17-30	SIC, C	CH	A-7-6, A-7	0	0-10	90-100	85-100	80-95	70-90	50-65	25-40
	30-60	UWB			---	---	---	---	---	---	---	---
Rock outcrop.												
73289:												
Fourche------	0-8	SIL	CL	A-4	0	0	100	100	90-100	70-90	20-35	5-15
	8-20	SIL, SICL	CL	A-6	0	0	100	100	90-100	70-95	30-45	10-20
	20-27	SICL, SIL	CL	A-6	0	0	85-100	80-95	80-95	65-85	25-35	10-15
	27-80	SICL	CL	A-6	0	0	85-100	80-95	80-95	75-90	35-50	15-25
74634:												
Hartville----	0-7	SIL	CL, CL-ML	A-4, A-6	0	0	100	95-100	85-100	65-90	25-40	5-15
	7-12	SIL	CL-ML, CL	A-6, A-4	0	0	100	95-100	85-100	65-90	25-40	5-15
	12-48	SICL, SIC	CH, CL	A-7-6	0	0	100	95-100	90-100	80-95	45-55	20-30
	48-80	C, SICL	CL	A-7-6, A-6	0	0	95-100	90-100	85-100	75-95	40-60	20-30
74650:												
Higdon-------	0-10	SIL	CL	A-4	0	0	100	100	90-100	70-90	25-35	5-15
	10-19	SIL	CL	A-4	0	0	100	100	90-100	70-90	25-35	5-15
	19-80	SICL, SIL	CL	A-5, A-6	0	0	95-100	90-100	75-100	70-95	30-45	10-20
74652:												
Lecoma-------	0-9	SIL	CL-ML, ML, SC-SM	A-4	0	0	100	100	90-100	70-90	10-30	2-10
	9-31	SIL, SICL	CL	A-6	0	0	95-100	90-100	85-95	75-85	25-40	10-20
	31-60	L, CL	CL	A-6	0	0	85-100	80-100	75-90	55-65	30-45	10-20

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
74653:												
Racoon-------	0-6	SIL	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	70-90	20-35	5-15
	6-26	SIL	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	20-35	5-15
	26-60	SICL	CL	A-6, A-7, A-7-6	0	0	100	100	95-100	85-95	35-50	15-25
Freeburg-----	0-9	SIL	CL-ML, CL	A-6, A-4	0	0	100	100	90-100	70-90	20-35	5-15
	9-13	SIL	CL, CL-ML	A-6, A-4	0	0	100	100	90-100	70-90	20-35	5-15
	13-52	SIL, SICL	CL	A-6, A-7	0	0	100	100	90-100	70-95	30-50	10-25
	52-80	SICL	CL	A-6, A-7	0	0	100	100	95-100	85-95	35-45	15-20
74656:												
Deible-------	0-10	SIL	CL, CL-ML	A-6, A-4	0	0	100	100	90-100	70-90	20-35	5-15
	10-15	SIL	CL, CL-ML	A-6, A-4	0	0	100	100	90-100	70-90	20-35	5-15
	15-37	SIC, C	CH	A-7, A-7-6	0	0	100	100	90-100	70-90	50-85	25-60
	37-80	SICL, SIC	CL, CH	A-7, A-7-6	0	0	100	100	95-100	75-80	35-65	15-40
74661:												
Waben--------	0-6	GR-L	GC	A-4	0	0	60-80	55-75	50-70	40-50	15-25	2-10
	6-36	GRV-L, GR-SIL	GC	A-2, A-4	0	0	30-55	25-50	25-50	20-40	20-30	5-10
	36-80	L, SIL	CL	A-4	0	0	85-100	80-100	75-95	55-85	20-30	5-10
74662:												
Higdon-------	0-6	SIL	CL	A-4	0	0	100	100	90-100	70-90	25-35	5-15
	6-14	SIL	CL	A-4	0	0	100	100	90-100	70-90	25-35	5-15
	14-26	SICL, SIL	CL	A-6, A-5	0	0	95-100	90-100	75-100	70-95	30-45	10-20
	26-80	SICL, SIL	CL	A-6, A-5	0	0	75-95	70-90	65-85	55-80	30-45	10-20
75376:												
Cedargap-----	0-9	GR-SIL	CL-ML, CL	A-4, A-6	0	0-10	55-80	50-75	45-75	35-70	20-35	5-15
	9-18	GRV-L, GRV-SCL, GRX-COSL, GRV-SIL, GRX-SCL	GC, GC-GM	A-2-6, A-2-4	0	0-10	30-55	25-50	15-50	10-45	20-45	5-25
	18-49	GR-COSL, GRX-COSL, GRV-COSL, GRX-CL, GRV-CL, GRX-SCL, GRV-SCL, GRV-L, GRV-SICL	GC-GM, GC	A-2-6, A-2-4	0	0-10	25-65	20-60	15-50	10-45	25-45	5-20
	49-60	C, GRV-C, GRX-SCL, GRX-SC, GR-C	GC	A-2-7, A-7-6	0	0-15	30-85	25-80	20-75	10-70	50-85	25-60
75388:												
Kaintuck-----	0-6	FSL	CL-ML, ML, SC-SM, SM	A-4	0	0	80-100	75-100	60-80	35-50	10-30	NP-10
	6-80	SR- FS LFS FSL L SIL	CL-ML, SC-SM, ML, SM	A-4	0	0-5	80-100	75-100	55-95	20-85	10-30	NP-10
Relfe--------	0-6	GRV-SL	GC-GM, GM	A-1, A-1-a	0	0-5	35-50	30-45	20-30	10-15	10-25	2-5
	6-60	GRX-LCOS, GRV-LCOS, GRV-SL	GC-GM, GW-GM	A-1-a, A-1	0	0-15	15-40	10-35	5-20	5-10	10-25	2-5
75398:												
Kaintuck-----	0-6	FSL	CL-ML, ML, SC-SM, SM	A-4	0	0	80-100	75-100	60-80	35-50	10-30	NP-10
	6-80	SR- FS LFS FSL L SIL	CL-ML, SC-SM, ML, SM	A-4	0	0-5	80-100	75-100	55-95	20-85	10-30	NP-10
75412:												
Razort-------	0-7	SIL	CL-ML, CL	A-4	0	0	80-100	75-100	70-100	55-90	20-30	5-15
	7-34	SIL, L, CL	CL	A-6	0	0	80-100	75-100	70-95	50-85	30-45	10-20
	34-80	GR-L, L, GRV-L	CL, CL-ML, GC	A-6, A-4	0	0	35-80	30-75	30-70	25-50	20-30	5-15

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
75413:												
Relfe--------	0-6	GRV-SL	GC-GM, GM	A-1, A-1-a	0	0-5	35-50	30-45	20-30	10-15	10-25	2-5
	6-60	GRX-LCOS, GRV-LCOS, GRV-SL	GC-GM	A-1-a	0	0-15	15-40	10-35	5-20	5	10-25	2-5
75427:												
Gabriel------	0-9	SIL	CL	A-6, A-4	0	0	100	100	90-100	70-90	25-35	5-15
	9-42	SICL	CL	A-7, A-6	0	0	100	100	95-100	85-95	35-45	15-25
	42-62	CL	CL	A-6, A-7	0	0	85-95	80-90	80-90	65-70	35-45	15-25
	62-80	GRV-CL	GC	A-6, A-7	0	0	35-55	30-50	30-50	25-40	35-45	15-25
75450:												
Bloomsdale---	0-20	SIL	CL, CL-ML	A-4	0	0-5	100	95-100	85-95	75-85	20-30	5-10
	20-32	SR- GRV-COSL GRV-L GRV-CL	GC, GC-GM	A-2, A-2-4	0	0-20	35-55	30-50	20-50	10-40	25-40	5-20
	32-80	GRX-CL, GRV-C, GRV-CL	GC	A-2, A-2-7	0	10-40	20-40	15-35	15-35	10-30	40-65	20-40
75453:												
Sturkie------	0-8	SIL	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	85-95	75-85	25-35	5-15
	8-28	SIL, L, SICL	CL	A-6	0	0	95-100	90-100	85-95	60-90	30-45	10-20
	28-80	SIL, SICL	CL	A-6	0	0	90-100	85-100	80-95	65-90	30-45	10-20
75459:												
Huzzah-------	0-38	SIL	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	20-35	5-15
	38-80	SIL, L, FSL	CL-ML, CL	A-4, A-6	0	0	100	100	70-90	50-75	10-25	2-20
75460:												
Horsecreek---	0-8	SIL	CL	A-4	0	0	95-100	95-100	85-100	70-100	20-35	5-15
	8-60	SIL, SICL	CL	A-6, A-7	0	0	95-100	90-100	80-100	65-100	30-45	10-20
99000. Pits, quarries												
99001. Water												
99003. Miscellaneous water												

Table 18.--Physical and Chemical 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	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
66014:																	
Haymond-------	0-6	10-25	60-80	10-27	1.30-1.50	4.00-14.00	0.22-0.24	8.0-18	5.0-15	5.1-7.8	0.1-2.9	1.0-3.0	.37	.37	5	5	56
	6-41	10-25	60-80	10-27	1.30-1.50	4.00-14.00	0.20-0.22	8.0-18	5.0-15	5.6-7.8	0.1-2.9	0.5-2.0	.37	.37			
	41-80	40-75	20-40	5-20	1.25-1.40	42.00-140.00	0.14-0.16	4.0-10	3.0-7.0	5.6-7.8	1.0-2.9	0.2-0.5	.28	.28			
70028:																	
Moko----------	0-3	25-45	30-50	18-27	1.25-1.50	4.00-14.00	0.07-0.13	15-40	15-45	5.1-7.8	0.1-2.9	2.0-6.0	.24	.37	1	8	0
	3-8	25-45	30-50	18-27	1.25-1.60	4.00-14.00	0.03-0.14	15-40	15-40	6.1-7.8	0.1-2.9	2.0-6.0	.20	.37			
	8-60	---	---	---	---	0.00-1.40	---	---	---	---	---	---	---	---			
Rock outcrop.																	
73012:																	
Gravois-------	0-6	5-15	65-85	12-27	1.20-1.50	4.00-14.00	0.20-0.22	8.0-15	5.0-11	4.5-6.5	0.1-2.9	1.0-3.0	.37	.37	4	5	56
	6-25	5-15	50-75	20-35	1.30-1.50	1.40-4.00	0.12-0.18	10-24	6.0-19	4.5-7.3	3.0-5.9	0.3-1.0	.43	.43			
	25-35	5-15	45-70	15-35	1.50-1.70	0.42-1.40	0.08-0.12	10-18	6.0-14	4.5-7.3	0.1-2.9	0.1-0.5	.32	.43			
	35-50	5-30	45-70	15-35	1.45-1.65	1.40-4.00	0.10-0.13	10-18	6.0-14	4.5-7.3	3.0-5.9	0.1-0.5	.32	.43			
	50-80	5-25	10-42	40-80	1.30-1.50	1.40-4.00	0.04-0.10	25-36	25-40	6.6-7.8	6.0-8.9	0.1-0.5	.28	.32			
73032:																	
Gatewood------	0-2	20-40	50-70	12-27	1.10-1.40	4.00-14.00	0.14-0.16	10-30	9.0-29	5.1-7.3	0.1-2.9	0.5-3.0	.28	.43	2	8	0
	2-10	20-40	50-70	12-27	1.10-1.30	4.00-14.00	0.12-0.14	10-18	8.0-16	5.1-7.3	0.1-2.9	0.5-1.0	.28	.43			
	10-28	5-20	15-35	40-80	1.35-1.60	0.42-1.40	0.08-0.14	30-44	27-41	5.1-7.8	6.0-8.9	0.5-1.0	.28	.28			
	28-60	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
73035:																	
Gravois-------	0-6	2-10	65-80	12-27	1.20-1.50	4.00-14.00	0.20-0.22	8.0-15	5.0-11	4.5-6.5	0.1-2.9	1.0-3.0	.37	.37	4	5	56
	6-25	2-10	55-75	20-35	1.30-1.50	1.40-4.00	0.12-0.18	10-24	6.0-19	4.5-7.3	3.0-5.9	0.3-1.0	.43	.43			
	25-35	5-15	45-70	15-35	1.50-1.70	0.42-1.40	0.08-0.12	10-18	6.0-14	4.5-7.3	0.1-2.9	0.1-0.5	.32	.43			
	35-50	5-30	45-70	15-35	1.45-1.65	1.40-4.00	0.10-0.13	10-18	6.0-14	4.5-7.3	3.0-5.9	0.1-0.5	.32	.43			
	50-80	5-20	15-45	40-80	1.30-1.50	1.40-4.00	0.04-0.10	25-36	25-40	6.6-7.8	6.0-8.9	0.1-0.5	.28	.32			
73039:																	
Glensted------	0-9	5-15	65-80	15-27	1.30-1.50	4.00-14.00	0.22-0.24	11-17	8.0-13	5.1-7.3	0.1-2.9	2.0-3.0	.32	.32	3	6	48
	9-14	2-10	40-58	40-60	1.30-1.45	0.42-1.40	0.11-0.13	21-27	17-22	4.5-6.5	6.0-8.9	1.0-2.0	.32	.32			
	14-33	2-10	40-65	27-50	1.30-1.45	1.40-4.00	0.11-0.18	21-27	17-22	4.5-7.3	6.0-8.9	0.1-0.5	.32	.32			
	33-60	2-10	55-70	27-35	1.30-1.45	1.40-4.00	0.18-0.19	14-18	10-14	4.5-7.3	3.0-5.9	0.1-0.5	.32	.32			
73053:																	
Lily----------	0-3	30-50	25-50	10-27	1.25-1.35	14.00-42.00	0.17-0.19	3.0-12	2.0-10	3.5-5.5	0.1-2.9	0.5-4.0	.28	.28	2	3	56
	3-15	25-50	25-50	20-35	1.25-1.35	14.00-42.00	0.12-0.16	9.0-15	5.0-12	3.5-5.5	0.1-2.9	0.1-0.5	.28	.28			
	15-21	35-50	25-50	15-35	1.20-1.35	14.00-42.00	0.12-0.16	9.0-15	5.0-12	3.5-5.5	0.1-2.9	0.1-0.5	.15	.28			
	21-60	---	---	---	---	0.00-1.40	---	---	---	---	---	---	---	---			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
73053:																	
Bender--------	0-4	50-65	25-45	5-18	1.20-1.50	14.00-42.00	0.07-0.11	3.0-10	2.0-8.0	3.5-6.5	0.1-2.9	0.5-2.0	.10	.24	2	8	0
	4-12	50-65	25-45	5-18	1.20-1.50	14.00-42.00	0.07-0.11	3.0-10	2.0-8.0	3.5-6.5	0.1-2.9	0.2-1.0	.10	.24			
	12-23	40-65	25-45	12-20	1.20-1.50	14.00-42.00	0.03-0.09	5.0-14	3.0-12	3.5-6.0	0.1-2.9	0.2-1.0	.10	.32			
	23-60	---	---	---	---	0.00-1.40	---	---	---	---	---	---	---	---			
73066:																	
Bender--------	0-4	50-65	25-45	5-18	1.20-1.50	14.00-42.00	0.07-0.11	3.0-10	2.0-8.0	3.5-6.5	0.1-2.9	0.5-2.0	.10	.24	2	8	0
	4-12	50-65	25-45	5-18	1.20-1.50	14.00-42.00	0.07-0.11	3.0-10	2.0-8.0	3.5-6.5	0.1-2.9	0.2-1.0	.10	.24			
	12-23	40-65	25-45	12-20	1.20-1.50	14.00-42.00	0.03-0.09	5.0-14	3.0-12	3.5-6.0	0.1-2.9	0.2-1.0	.10	.32			
	23-60	---	---	---	---	0.07-1.40	---	---	---	---	---	---	---	---			
73067:																	
Bender--------	0-4	50-65	25-45	5-18	1.20-1.50	14.00-42.00	0.07-0.11	3.0-10	2.0-8.0	3.5-6.5	0.1-2.9	0.5-2.0	.10	.24	2	8	0
	4-12	50-65	25-45	5-18	1.20-1.50	14.00-42.00	0.07-0.11	3.0-10	2.0-8.0	3.5-6.5	0.1-2.9	0.2-1.0	.10	.24			
	12-23	40-65	25-45	12-20	1.20-1.50	14.00-42.00	0.03-0.09	5.0-14	3.0-12	3.5-6.0	0.1-2.9	0.2-1.0	.10	.32			
	23-60	---	---	---	---	0.01-1.40	---	---	---	---	---	---	---	---			
Rock outcrop.																	
73089:																	
Rueter--------	0-3	20-45	55-75	4-27	1.20-1.40	14.00-42.00	0.07-0.12	2.0-11	1.0-8.0	3.5-6.0	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	4.0-10	1.0-6.0	3.5-6.0	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	2.0-12	1.0-10	3.5-6.0	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	10-32	7.0-29	3.5-6.0	6.0-8.9	0.1-0.5	.20	.32			
73094:																	
Gatewood------	0-2	20-40	50-70	12-27	1.10-1.40	4.00-14.00	0.14-0.16	10-30	9.0-29	5.1-7.3	0.1-2.9	0.5-3.0	.28	.43	2	8	0
	2-10	20-40	50-70	12-27	1.10-1.30	4.00-14.00	0.12-0.14	10-18	8.0-16	5.1-7.3	0.1-2.9	0.5-1.0	.28	.43			
	10-28	5-20	15-35	40-80	1.35-1.60	0.42-1.40	0.08-0.14	30-44	27-41	5.1-7.8	6.0-8.9	0.5-1.0	.28	.28			
	28-60	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
73098:																	
Plato---------	0-8	2-10	60-80	12-27	1.20-1.50	4.00-14.00	0.22-0.24	6.0-16	4.0-13	5.1-7.3	0.1-2.9	1.0-2.0	.43	.43	4	5	56
	8-20	2-10	40-60	40-60	1.30-1.50	1.40-4.00	0.11-0.13	14-30	8.0-24	3.5-6.0	6.0-8.9	0.5-1.0	.37	.37			
	20-48	5-15	55-75	12-35	1.60-1.90	0.14-0.42	0.01-0.05	10-16	7.0-13	3.5-6.0	0.1-2.9	0.1-0.5	.24	.43			
	48-60	2-10	20-55	27-80	1.40-1.60	4.00-14.00	0.02-0.06	18-36	14-32	4.5-6.0	6.0-8.9	0.1-0.5	.24	.32			
73135:																	
Union---------	0-9	2-10	60-80	10-27	1.35-1.45	4.00-14.00	0.18-0.22	6.0-16	4.0-14	4.5-6.5	0.1-2.9	0.5-2.0	.43	.43	4	5	56
	9-30	2-10	45-65	27-50	1.30-1.40	4.00-14.00	0.14-0.19	14-24	10-20	3.5-5.5	3.0-5.9	0.5-1.0	.43	.43			
	30-53	20-45	45-65	15-27	1.60-1.90	0.42-1.40	0.01-0.05	8.0-18	5.0-15	3.5-5.5	0.1-2.9	0.1-0.5	.10	.43			
	53-80	2-10	15-45	40-80	1.30-1.45	1.40-4.00	0.02-0.06	20-40	15-35	4.5-6.5	6.0-8.9	0.1-0.5	.17	.28			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
73136:																	
Union---------	0-9	2-10	65-80	10-27	1.35-1.45	4.00-14.00	0.18-0.22	6.0-16	4.0-14	4.5-6.5	0.1-2.9	0.5-2.0	.43	.43	4	5	56
	9-30	2-10	45-65	27-50	1.30-1.40	4.00-14.00	0.14-0.19	14-24	10-20	3.5-5.5	3.0-5.9	0.5-1.0	.43	.43			
	30-53	15-35	45-65	15-27	1.60-1.90	0.42-1.40	0.01-0.05	8.0-18	5.0-15	3.5-5.5	0.1-2.9	0.1-0.5	.10	.43			
	53-80	5-10	15-45	40-80	1.30-1.45	1.40-4.00	0.02-0.06	20-40	15-35	4.5-6.5	6.0-8.9	0.1-0.5	.17	.28			
73159:																	
Yelton--------	0-3	15-35	60-80	5-20	1.20-1.40	4.00-14.00	0.22-0.24	3.0-12	2.0-9.0	3.5-6.5	0.1-2.9	0.5-3.0	.43	.43	3	5	56
	3-8	15-35	45-65	5-20	1.20-1.40	4.00-14.00	0.20-0.22	3.0-12	2.0-9.0	3.5-6.5	0.1-2.9	0.5-2.0	.43	.43			
	8-19	15-35	40-65	20-35	1.30-1.50	1.40-4.00	0.15-0.17	8.0-20	5.0-16	3.5-5.5	3.0-5.9	0.2-1.0	.37	.37			
	19-38	35-60	30-50	10-27	1.60-1.90	0.42-1.40	0.03-0.05	5.0-15	3.0-10	3.5-5.5	0.1-2.9	0.1-0.5	.24	.28			
	38-65	30-60	20-45	20-35	1.20-1.40	1.40-4.00	0.14-0.16	8.0-20	5.0-18	3.5-5.5	3.0-5.9	0.1-0.5	.24	.28			
73162:																	
Alred---------	0-7	30-50	35-50	7-22	1.30-1.50	4.00-14.00	0.08-0.12	5.5-12	2.0-9.0	4.5-7.3	0.1-2.9	1.0-2.0	.10	.32	4	8	0
	7-15	30-50	35-50	10-22	1.40-1.60	4.00-14.00	0.06-0.10	4.0-12	2.0-9.0	4.5-6.5	0.1-2.9	0.5-1.0	.10	.32			
	15-21	18-45	35-60	12-35	1.30-1.50	4.00-14.00	0.07-0.12	7.5-13	3.0-10	4.5-6.5	0.1-2.9	0.3-0.5	.20	.28			
	21-80	10-35	5-25	42-80	1.40-1.60	0.42-1.40	0.08-0.11	14-27	13-26	4.5-7.8	6.0-8.9	0.1-0.5	.10	.28			
Rueter--------	0-3	20-45	55-75	4-27	1.20-1.40	14.00-42.00	0.07-0.12	2.0-11	1.0-8.0	3.5-6.0	0.1-2.9	0.5-2.0	.28	.37	3	8	0
	3-14	15-35	55-75	4-27	1.20-1.40	14.00-42.00	0.07-0.12	4.0-10	1.0-6.0	3.5-6.0	0.1-2.9	0.5-1.0	.37	.43			
	14-45	35-55	25-40	7-35	1.30-1.50	14.00-42.00	0.05-0.10	2.0-12	1.0-10	3.5-6.0	0.1-2.9	0.1-0.5	.32	.43			
	45-80	15-35	5-25	40-80	1.20-1.40	4.00-14.00	0.02-0.05	10-32	7.0-29	3.5-6.0	6.0-8.9	0.1-0.5	.20	.32			
73164:																	
Bender--------	0-4	50-65	25-45	5-18	1.20-1.50	14.00-42.00	0.07-0.11	3.0-10	2.0-8.0	3.5-6.5	0.1-2.9	0.5-2.0	.10	.24	2	8	0
	4-12	50-75	25-45	5-18	1.20-1.50	14.00-42.00	0.07-0.11	3.0-10	2.0-8.0	3.5-6.5	0.1-2.9	0.2-1.0	.10	.24			
	12-23	40-65	25-45	12-20	1.20-1.50	14.00-42.00	0.03-0.09	5.0-14	3.0-12	3.5-6.0	0.1-2.9	0.2-1.0	.10	.32			
	23-60	---	---	---	---	0.07-1.40	---	---	---	---	---	---	---	---			
Rock outcrop.																	
73166:																	
Viburnum------	0-4	5-15	60-80	10-25	1.30-1.50	4.00-14.00	0.22-0.24	5.0-15	3.0-10	4.5-7.3	0.1-2.9	1.0-3.0	.37	.37	4	5	56
	4-7	5-15	60-80	10-25	1.30-1.50	4.00-14.00	0.20-0.22	5.0-15	3.0-10	4.5-5.5	0.1-2.9	0.2-1.0	.37	.37			
	7-13	5-15	45-65	35-40	1.20-1.40	4.00-14.00	0.13-0.18	15-25	10-20	4.5-5.5	3.0-5.9	0.2-0.8	.32	.32			
	13-20	5-15	45-65	35-50	1.10-1.40	1.40-4.00	0.10-0.15	20-30	15-25	4.5-5.5	3.0-5.9	0.2-0.8	.15	.32			
	20-80	5-15	5-30	50-80	1.10-1.40	1.40-4.00	0.02-0.07	25-35	20-30	3.5-7.3	6.0-8.9	0.1-0.5	.10	.24			
Tonti---------	0-3	10-30	60-80	5-25	1.30-1.50	4.00-14.00	0.22-0.24	5.0-15	3.0-12	3.5-6.5	0.1-2.9	1.0-4.0	.43	.43	4	5	56
	3-9	10-30	60-80	5-25	1.30-1.50	4.00-14.00	0.20-0.22	5.0-15	3.0-12	3.5-5.5	0.1-2.9	0.5-1.5	.43	.43			
	9-23	5-20	40-65	27-35	1.30-1.50	4.00-14.00	0.14-0.17	10-25	10-25	3.5-5.5	3.0-5.9	0.5-0.8	.24	.32			
	23-44	20-45	50-75	10-25	1.60-1.90	0.42-1.40	0.04-0.06	5.0-15	5.0-15	3.5-5.5	0.1-2.9	0.1-0.5	.15	.37			
	44-61	15-35	5-25	40-70	1.20-1.40	1.40-4.00	0.03-0.05	10-30	5.0-25	3.5-5.5	6.0-8.9	0.1-0.5	.10	.32			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
73168:																	
Swiss---------	0-3	15-30	60-80	8-27	1.10-1.40	14.00-42.00	0.10-0.19	15-22	3.0-9.0	4.5-6.5	0.1-2.9	2.5-4.5	.32	.37	4	8	0
	3-9	20-40	45-65	7-27	1.10-1.45	14.00-42.00	0.10-0.19	5.0-12	2.0-7.0	4.5-6.5	0.1-2.9	0.5-1.2	.32	.37			
	9-40	10-30	25-45	40-65	1.40-1.55	0.14-0.42	0.08-0.10	20-26	13-20	3.5-7.3	6.0-8.9	0.2-0.8	.24	.32			
	40-80	15-45	20-45	27-65	1.50-1.90	0.14-0.42	0.05-0.10	6.0-12	4.0-11	5.1-6.5	3.0-5.9	0.1-0.2	.32	.32			
73169, 73170:																	
Beemont-------	0-3	10-30	60-80	10-27	1.20-1.35	14.00-42.00	0.14-0.17	5.0-15	3.0-12	4.5-6.5	0.1-2.9	2.0-4.0	.15	.32	4	8	0
	3-11	10-30	60-80	10-27	1.30-1.40	14.00-42.00	0.14-0.17	5.0-15	3.0-12	3.5-6.0	0.1-2.9	0.5-1.0	.15	.32			
	11-59	2-10	15-35	60-85	1.35-1.45	0.42-1.40	0.07-0.10	25-45	20-40	3.5-6.5	6.0-8.9	0.0-0.5	.32	.32			
	59-80	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
Gatewood------	0-2	20-40	50-70	12-27	1.10-1.40	4.00-14.00	0.14-0.16	10-30	9.0-29	5.1-7.3	0.1-2.9	0.5-3.0	.28	.43	2	8	0
	2-10	20-40	50-70	12-27	1.10-1.30	4.00-14.00	0.12-0.14	10-18	8.0-16	5.1-7.3	0.1-2.9	0.5-1.0	.28	.43			
	10-28	5-20	15-35	40-80	1.35-1.60	0.42-1.40	0.08-0.14	30-44	27-41	5.1-7.8	6.0-8.9	0.5-1.0	.28	.28			
	28-60	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
73171:																	
Plato---------	0-7	5-15	45-65	27-35	1.30-1.50	4.00-14.00	0.20-0.22	15-30	7.0-20	5.1-7.3	3.0-5.9	1.0-3.0	.43	.43	4	4	86
	7-23	5-15	30-45	40-50	1.35-1.55	1.40-4.00	0.11-0.13	20-40	15-35	3.5-5.5	6.0-8.9	0.5-1.0	.37	.37			
	23-40	15-35	40-60	15-27	1.60-1.90	0.14-0.42	0.01-0.05	10-20	7.0-15	3.5-5.5	3.0-5.9	0.1-0.5	.24	.43			
	40-80	15-35	10-35	40-60	1.40-1.60	1.40-4.00	0.02-0.05	15-25	10-20	4.5-6.0	6.0-8.9	0.1-0.5	.10	.32			
73172:																	
Rosati--------	0-9	2-10	60-80	10-25	1.20-1.40	4.00-14.00	0.22-0.24	6.0-16	4.0-14	4.5-7.3	0.1-2.9	1.0-3.0	.43	.43	4	5	56
	9-29	2-10	45-55	40-55	1.30-1.50	1.40-4.00	0.11-0.13	16-30	13-27	4.5-6.5	6.0-8.9	0.5-1.0	.32	.32			
	29-41	5-15	60-75	15-27	1.60-1.90	0.14-0.42	0.04-0.08	10-18	7.0-15	4.5-5.5	0.1-2.9	0.0-0.5	.43	.43			
	41-80	5-15	45-70	27-40	1.30-1.55	1.40-4.00	0.15-0.18	12-18	10-16	4.5-6.0	3.0-5.9	0.0-0.5	.32	.32			
73173, 73174:																	
Lily----------	0-3	45-65	25-50	4-20	1.20-1.40	14.00-42.00	0.16-0.18	3.0-12	2.0-10	3.5-5.5	0.1-2.9	0.5-4.0	.28	.28	2	3	86
	3-8	30-50	30-50	7-27	1.25-1.35	14.00-42.00	0.17-0.19	3.0-12	2.0-10	3.5-5.5	0.1-2.9	0.1-1.0	.28	.28			
	8-15	25-50	25-50	20-35	1.25-1.35	14.00-42.00	0.17-0.19	9.0-15	5.0-12	3.5-5.5	0.1-2.9	0.1-0.5	.28	.28			
	15-21	25-50	25-50	15-35	1.20-1.35	14.00-42.00	0.12-0.16	9.0-15	5.0-12	3.5-5.5	0.1-2.9	0.1-0.5	.15	.28			
	21-23	30-50	30-50	15-27	1.20-1.35	14.00-42.00	0.12-0.16	9.0-15	5.0-12	3.5-5.5	0.1-2.9	0.1-0.5	.15	.28			
	23-60	---	---	---	---	0.00-1.40	---	---	---	---	---	---	---	---			
Yelton--------	0-3	15-35	60-80	5-20	1.20-1.40	4.00-14.00	0.22-0.24	3.0-12	2.0-9.0	3.5-6.5	0.1-2.9	0.5-3.0	.43	.43	3	5	56
	3-8	15-35	45-65	5-20	1.20-1.40	4.00-14.00	0.20-0.22	3.0-12	2.0-9.0	3.5-6.5	0.1-2.9	0.5-2.0	.43	.43			
	8-19	15-35	40-65	20-35	1.30-1.50	1.40-4.00	0.15-0.17	8.0-20	5.0-16	3.5-5.5	3.0-5.9	0.2-1.0	.37	.37			
	19-38	35-60	30-50	10-27	1.60-1.90	0.42-1.40	0.03-0.05	5.0-15	3.0-10	3.5-5.5	0.1-2.9	0.1-0.5	.24	.28			
	38-65	30-60	20-45	20-35	1.20-1.40	1.40-4.00	0.14-0.16	8.0-20	5.0-25	3.5-5.5	3.0-5.9	0.1-0.5	.24	.28			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
73175:																	
Poynor--------	0-5	15-35	55-75	5-22	1.20-1.45	14.00-42.00	0.09-0.15	3.0-12	3.0-10	3.5-6.5	0.1-2.9	1.0-3.0	.28	.43	4	8	0
	5-11	15-35	55-75	5-22	1.25-1.45	14.00-42.00	0.08-0.13	4.0-12	3.0-10	3.5-6.0	0.1-2.9	0.5-1.0	.28	.43			
	11-17	10-25	55-75	18-27	1.40-1.55	4.00-14.00	0.08-0.13	7.0-15	5.0-15	3.5-6.0	0.1-2.9	0.1-0.8	.28	.43			
	17-60	5-20	10-30	42-70	1.50-1.65	4.00-14.00	0.08-0.10	20-35	15-30	3.5-5.5	3.0-5.9	0.1-0.5	.28	.28			
Bendavis------	0-5	10-30	60-80	5-15	1.20-1.40	14.00-42.00	0.09-0.13	3.0-10	2.0-8.0	4.5-6.0	0.1-2.9	2.0-4.0	.15	.37	2	8	0
	5-9	10-30	60-80	5-15	1.20-1.40	4.00-14.00	0.09-0.13	3.0-10	2.0-8.0	4.5-6.0	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	8.0-16	3.0-12	4.5-6.0	0.1-2.9	0.1-1.0	.15	.37			
	25-60	---	---	---	---	0.42-4.00	---	---	---	---	---	---	---	---			
73176:																	
Bendavis------	0-5	10-30	60-80	5-15	1.20-1.40	14.00-42.00	0.09-0.13	3.0-10	2.0-8.0	4.5-6.0	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	3.0-10	2.0-8.0	4.5-6.0	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	8.0-16	3.0-12	3.5-5.5	0.1-2.9	0.1-1.0	.15	.37			
	25-80	---	---	---	---	0.01-1.40	---	---	---	---	---	---	---	---			
Poynor--------	0-5	15-35	55-75	5-22	1.20-1.45	14.00-42.00	0.09-0.15	3.0-12	3.0-10	4.5-6.5	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	4.0-12	3.0-10	4.5-6.0	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	7.0-15	5.0-15	3.5-6.0	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	20-35	15-30	3.5-5.5	3.0-5.9	0.1-0.5	.28	.28			
73181:																	
Useful--------	0-7	2-10	60-80	15-27	1.35-1.45	4.00-14.00	0.22-0.24	10-17	7.0-14	5.1-7.8	0.1-2.9	2.0-4.0	.37	.37	4	6	48
	7-31	2-10	45-65	35-45	1.25-1.35	4.00-14.00	0.11-0.18	18-23	15-20	4.5-7.3	6.0-8.9	0.5-1.0	.32	.32			
	31-45	2-10	35-55	40-60	1.25-1.55	1.40-4.00	0.05-0.12	18-30	15-27	5.6-7.8	6.0-8.9	0.1-0.5	.10	.32			
	45-53	5-20	35-55	35-55	1.25-1.50	1.40-4.00	0.05-0.12	18-30	15-27	5.6-7.8	6.0-8.9	0.1-0.5	.43	.43			
	53-60	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
Gatewood------	0-2	20-40	50-70	12-27	1.10-1.40	4.00-14.00	0.14-0.16	10-30	9.0-29	5.1-7.3	0.1-2.9	0.5-3.0	.28	.43	2	8	0
	2-10	20-40	50-70	12-27	1.10-1.30	4.00-14.00	0.12-0.14	10-18	8.0-16	5.1-7.3	0.1-2.9	0.5-1.0	.28	.43			
	10-28	5-20	15-35	40-80	1.35-1.60	0.42-1.40	0.08-0.14	30-44	27-41	5.1-7.8	6.0-8.9	0.5-1.0	.28	.28			
	28-60	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
73200:																	
Sonsac--------	0-3	5-25	60-80	9-27	1.10-1.40	4.00-14.00	0.12-0.17	8.0-17	6.0-12	4.5-6.5	0.1-2.9	0.5-2.0	.28	.37	3	8	0
	3-8	5-25	60-80	9-27	1.10-1.40	4.00-14.00	0.12-0.17	3.0-10	2.0-8.0	4.5-6.5	0.1-2.9	0.5-1.0	.32	.43			
	8-11	5-25	55-75	18-39	1.10-1.40	1.00-4.00	0.09-0.15	7.0-15	5.0-13	4.5-6.5	6.0-9.0	0.5-1.0	.32	.32			
	11-32	2-15	20-45	50-85	1.30-1.50	0.42-1.40	0.08-0.12	25-42	20-54	6.6-7.8	6.0-9.0	0.5-1.0	.20	.20			
	32-60	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
73210:																	
Goss----------	0-3	10-25	60-80	10-27	1.10-1.50	14.00-42.00	0.06-0.10	5.0-14	2.0-8.0	4.5-6.5	0.1-2.9	0.5-3.0	.24	.37	4	8	0
	3-9	10-25	60-80	10-27	1.10-1.70	14.00-42.00	0.06-0.10	3.0-10	1.0-7.0	4.5-6.0	0.1-2.9	0.2-1.0	.24	.32			
	9-80	5-25	10-30	35-90	1.30-1.60	4.00-14.00	0.06-0.10	25-35	18-28	4.5-7.3	3.0-5.9	0.2-1.0	.24	.28			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
73214:																	
Moko----------	0-5	25-45	35-50	18-27	1.25-1.60	4.00-14.00	0.08-0.17	13-23	25-35	6.6-7.8	0.1-2.9	2.0-6.0	.24	.43	1	8	0
	5-10	15-30	45-65	18-35	1.25-1.60	4.00-14.00	0.07-0.14	10-20	25-36	6.6-7.8	0.1-2.9	2.0-6.0	.37	.43			
	10-60	---	---	---	---	0.00-1.40	---	---	---	---	---	---	---	---			
Rock outcrop.																	
73215:																	
Crider--------	0-11	5-15	60-80	15-27	1.20-1.40	4.00-14.00	0.22-0.24	10-18	10-18	5.1-7.3	0.1-2.9	2.0-4.0	.32	.32	5	6	48
	11-37	5-15	50-70	18-35	1.20-1.45	4.00-14.00	0.18-0.23	13-22	10-19	5.1-7.3	0.1-2.9	0.2-1.0	.28	.28			
	37-60	5-15	35-60	30-60	1.20-1.55	4.00-14.00	0.08-0.18	13-22	9.0-18	4.5-7.3	3.0-5.9	0.2-1.0	.28	.28			
73271:																	
Moko----------	0-13	50-65	15-35	18-27	1.25-1.50	4.00-14.00	0.07-0.13	25-40	30-45	6.6-7.8	0.1-2.9	3.0-6.0	.10	.20	1	8	0
	13-60	---	---	---	---	0.00-1.40	---	---	---	---	---	---	---	---			
Rock outcrop.																	
73272:																	
Hildebrecht---	0-4	2-5	60-85	5-20	1.20-1.40	4.00-14.00	0.22-0.24	3.0-15	2.0-10	4.5-6.5	0.1-2.9	2.0-4.0	.32	.32	4	5	56
	4-9	2-5	60-85	5-20	1.20-1.40	4.00-14.00	0.20-0.22	3.0-15	2.0-10	3.5-5.5	0.1-2.9	0.5-1.5	.43	.43			
	9-26	2-5	45-65	30-40	1.30-1.50	1.40-4.00	0.15-0.17	10-30	5.0-25	3.5-5.5	3.0-5.9	0.2-1.0	.43	.43			
	26-40	2-25	60-85	10-27	1.60-1.90	0.42-1.40	0.03-0.05	3.0-10	2.0-10	3.5-5.5	0.1-2.9	0.1-0.5	.20	.28			
	40-80	5-15	10-35	50-80	1.20-1.40	1.40-4.00	0.03-0.07	15-25	15-25	3.5-6.5	6.0-8.9	0.1-0.5	.20	.28			
73273:																	
Coulstone-----	0-4	55-75	20-45	3-15	1.30-1.50	14.00-42.00	0.06-0.08	5.0-15	2.0-5.0	3.5-5.5	0.1-2.9	3.0-5.0	.17	.24	3	8	0
	4-24	55-75	20-45	3-15	1.30-1.50	14.00-42.00	0.04-0.06	2.0-10	1.0-5.0	3.5-5.5	0.1-2.9	0.2-0.8	.17	.24			
	24-39	55-83	5-30	7-20	1.30-1.50	14.00-42.00	0.05-0.07	2.0-10	1.0-5.0	3.5-5.5	0.1-2.8	0.1-0.2	.17	.24			
	39-61	50-75	5-20	20-35	1.10-1.40	14.00-42.00	0.12-0.14	2.0-10	1.0-5.0	3.5-5.5	3.0-5.9	0.1-0.2	.32	.32			
	61-80	---	---	---	---	0.07-1.40	---	---	---	---	---	---	---	---			
Bender--------	0-2	50-75	25-45	2-10	1.30-1.50	14.00-42.00	0.08-0.10	5.0-15	2.0-10	3.5-5.5	0.1-2.9	3.0-6.0	.17	.24	2	8	0
	2-14	50-75	25-45	2-10	1.30-1.50	14.00-42.00	0.05-0.07	2.0-10	1.0-8.0	3.5-5.5	0.1-2.9	1.0-2.0	.17	.24			
	14-27	60-80	5-30	10-20	1.30-1.50	14.00-42.00	0.05-0.07	2.0-10	1.0-8.0	3.5-5.5	0.1-2.9	0.2-0.5	.17	.24			
	27-80	---	---	---	---	0.07-1.40	---	---	---	---	---	---	---	---			
73274:																	
Scholten------	0-7	15-35	50-75	10-27	1.20-1.40	14.00-42.00	0.08-0.13	5.0-15	3.0-12	4.5-6.0	0.1-2.9	0.5-2.0	.15	.37	2	8	0
	7-21	15-35	50-70	15-27	1.30-1.50	4.00-14.00	0.08-0.13	5.0-15	3.0-12	3.5-5.5	0.1-2.9	0.5-1.0	.15	.37			
	21-33	15-35	35-55	15-35	1.60-1.90	0.14-0.42	0.04-0.08	5.0-15	3.0-12	3.5-5.5	0.1-2.9	0.1-0.5	.10	.43			
	33-63	15-35	35-55	30-60	1.30-1.60	4.00-14.00	0.04-0.09	5.0-15	3.0-12	3.5-5.5	3.0-5.9	0.1-0.5	.10	.28			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
73275:																	
Gravois-------	0-6	5-15	65-85	12-27	1.20-1.50	4.00-14.00	0.20-0.22	8.0-15	5.0-11	4.5-6.5	0.1-2.9	1.0-3.0	.37	.37	4	5	56
	6-25	5-15	50-75	20-35	1.30-1.50	1.40-4.00	0.12-0.18	10-24	6.0-19	4.5-7.3	3.0-5.9	0.3-1.0	.43	.43			
	25-35	5-15	45-70	15-35	1.50-1.70	0.42-1.40	0.08-0.12	10-18	6.0-14	4.5-7.3	0.1-2.9	0.1-0.5	.32	.43			
	35-50	5-30	45-70	15-35	1.45-1.65	1.40-4.00	0.10-0.13	10-18	6.0-14	4.5-7.3	3.0-5.9	0.1-0.5	.32	.43			
	50-80	5-25	10-42	40-80	1.30-1.50	1.40-4.00	0.04-0.10	25-36	25-40	6.6-7.8	6.0-8.9	0.1-0.5	.28	.32			
Goss----------	0-3	10-25	60-80	5-27	1.10-1.50	14.00-42.00	0.12-0.16	10-20	8.0-15	4.5-6.5	0.1-2.9	2.0-5.0	.28	.37	4	8	0
	3-18	10-25	60-80	5-27	1.10-1.70	14.00-42.00	0.08-0.13	3.0-10	2.0-7.0	4.5-6.5	0.1-2.9	0.5-1.0	.28	.37			
	18-80	20-40	10-30	35-80	1.30-1.60	4.00-14.00	0.02-0.05	10-25	8.0-23	3.5-6.0	6.0-8.9	0.2-0.5	.20	.28			
73276:																	
Rueter--------	0-3	20-45	55-75	4-27	1.20-1.40	14.00-42.00	0.07-0.12	2.0-11	1.0-8.0	3.5-6.0	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	4.0-10	1.0-6.0	3.5-6.0	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	2.0-12	1.0-10	3.5-6.0	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	10-32	7.0-29	3.5-6.0	6.0-8.9	0.1-0.5	.20	.32			
Hildebrecht---	0-5	2-5	60-88	5-20	1.20-1.40	4.00-14.00	0.22-0.24	3.0-15	2.0-10	4.5-6.5	0.1-2.9	2.0-4.0	.32	.32	4	5	56
	5-25	2-5	45-65	20-40	1.30-1.50	1.40-4.00	0.18-0.21	10-25	5.0-20	3.5-5.5	3.0-5.9	0.2-1.0	.43	.43			
	25-39	2-25	50-85	10-27	1.60-1.90	0.42-1.40	0.06-0.09	3.0-15	2.0-13	3.5-5.5	0.1-2.9	0.1-0.5	.20	.28			
	39-80	5-25	10-35	50-80	1.20-1.40	1.40-4.00	0.04-0.07	15-25	10-20	3.5-6.5	6.0-8.9	0.1-0.5	.20	.28			
73277:																	
Goss----------	0-3	10-25	60-80	5-27	1.10-1.50	14.00-42.00	0.12-0.16	10-20	8.0-15	4.5-6.5	0.1-2.9	2.0-5.0	.28	.37	4	8	0
	3-18	10-25	60-80	5-27	1.10-1.70	14.00-42.00	0.08-0.13	3.0-10	2.0-7.0	4.5-6.5	0.1-2.9	0.5-1.0	.28	.37			
	18-80	20-40	10-30	35-80	1.30-1.60	4.00-14.00	0.02-0.05	10-25	8.0-23	3.5-6.0	6.0-8.9	0.2-0.5	.20	.28			
73278:																	
Rueter--------	0-3	20-45	50-75	4-27	1.20-1.40	14.00-42.00	0.07-0.12	5.0-11	1.0-8.0	3.5-6.0	0.1-2.9	2.0-5.0	.28	.37	3	8	0
	3-23	20-45	55-75	4-27	1.20-1.40	14.00-42.00	0.07-0.12	2.0-10	1.0-6.0	3.5-6.0	0.1-2.9	0.2-1.0	.37	.43			
	23-50	20-40	50-65	7-27	1.30-1.50	14.00-42.00	0.05-0.10	2.0-12	1.0-10	3.5-6.0	0.1-2.9	0.1-0.3	.32	.43			
	50-80	20-40	30-50	27-40	1.20-1.40	4.00-14.00	0.07-0.11	5.0-20	3.0-15	3.5-6.0	3.0-5.9	0.1-0.3	.32	.37			
73279:																	
Sonsac--------	0-3	5-25	60-80	9-27	1.10-1.40	4.00-14.00	0.07-0.11	8.0-25	6.0-23	4.5-6.5	0.1-2.9	3.0-6.0	.28	.37	3	8	0
	3-6	5-25	60-80	9-27	1.10-1.40	4.00-14.00	0.07-0.11	3.0-10	2.0-9.0	4.5-6.5	0.1-2.9	1.0-3.0	.28	.37			
	6-10	5-25	45-70	20-35	1.10-1.40	1.00-4.00	0.07-0.11	7.0-15	5.0-13	4.5-7.3	3.0-5.9	0.8-1.5	.32	.43			
	10-32	2-15	15-40	50-85	1.30-1.50	0.42-1.40	0.04-0.07	25-42	20-40	6.6-7.8	6.0-9.0	0.5-1.0	.20	.28			
	32-60	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
Moko----------	0-8	20-40	25-45	28-40	1.25-1.50	4.00-14.00	0.07-0.12	10-25	10-25	6.6-7.8	3.0-5.9	3.0-6.0	.28	.43	1	8	0
	8-14	20-45	50-75	5-20	1.25-1.50	4.00-14.00	0.06-0.10	10-25	10-25	6.6-7.8	0.1-2.9	2.0-5.0	.28	.43			
	14-60	---	---	---	---	0.00-1.40	---	---	---	---	---	---	---	---			
Rock outcrop.																	

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
73280:																	
Alred---------	0-3	5-20	55-85	7-22	1.30-1.50	4.00-14.00	0.08-0.12	5.0-12	2.0-9.0	4.5-7.3	0.1-2.9	2.0-4.0	.10	.32	4	8	0
	3-15	5-20	55-85	10-22	1.40-1.60	4.00-14.00	0.06-0.12	4.0-12	2.0-9.0	4.5-6.5	0.1-2.9	0.5-1.8	.10	.32			
	15-21	5-20	45-75	12-35	1.30-1.50	4.00-14.00	0.07-0.12	5.0-13	3.0-10	4.5-6.5	0.1-2.9	0.2-0.5	.10	.32			
	21-80	5-20	5-25	42-90	1.40-1.60	0.42-1.40	0.06-0.10	14-40	10-35	4.5-7.3	6.0-8.9	0.1-0.5	.10	.28			
73281:																	
Hobson--------	0-2	15-35	55-75	5-20	1.20-1.40	4.00-14.00	0.22-0.24	3.0-15	2.0-10	3.5-6.5	0.1-2.9	2.0-4.0	.37	.37	4	5	56
	2-7	15-35	55-75	5-20	1.20-1.40	4.00-14.00	0.20-0.22	3.0-15	2.0-10	3.5-5.5	0.1-2.9	0.5-1.5	.37	.37			
	7-26	15-35	40-60	20-35	1.30-1.50	1.40-4.00	0.18-0.21	10-25	7.0-20	3.5-5.5	3.0-5.9	0.2-1.0	.43	.43			
	26-45	30-50	30-45	15-27	1.60-1.90	0.42-1.40	0.06-0.09	3.0-15	2.0-13	3.5-5.5	0.1-2.9	0.1-0.5	.20	.28			
	45-64	5-15	5-30	50-90	1.20-1.40	1.40-4.00	0.04-0.07	15-30	13-27	3.5-6.5	6.0-8.9	0.1-0.5	.20	.28			
	64-80	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
73282:																	
Alred---------	0-3	5-20	55-85	7-22	1.30-1.50	4.00-14.00	0.08-0.12	5.0-12	2.0-9.0	4.5-7.3	0.1-2.9	2.0-4.0	.10	.32	4	8	0
	3-15	5-20	55-85	10-22	1.40-1.60	4.00-14.00	0.06-0.12	4.0-12	2.0-9.0	4.5-6.5	0.1-2.9	0.5-1.8	.10	.32			
	15-21	5-20	45-75	12-35	1.30-1.50	4.00-14.00	0.07-0.12	5.0-13	3.0-10	4.5-6.5	0.1-2.9	0.2-0.5	.10	.32			
	21-80	5-20	5-25	42-90	1.40-1.60	0.42-1.40	0.06-0.10	14-40	10-35	4.5-7.3	6.0-8.9	0.1-0.5	.10	.28			
Sonsac--------	0-3	5-25	60-80	9-27	1.10-1.40	4.00-14.00	0.12-0.17	8.0-17	6.0-12	4.5-6.5	0.1-2.9	0.5-2.0	.28	.37	3	8	0
	3-8	5-25	60-80	9-27	1.10-1.40	4.00-14.00	0.12-0.17	3.0-10	2.0-8.0	4.5-6.5	0.1-2.9	0.5-1.0	.32	.43			
	8-11	5-25	55-75	18-39	1.10-1.40	1.00-4.00	0.09-0.15	7.0-15	5.0-13	4.5-6.5	6.0-9.0	0.5-1.0	.32	.32			
	11-32	2-15	20-45	50-85	1.30-1.50	0.42-1.40	0.08-0.12	25-42	20-54	6.6-7.8	6.0-9.0	0.5-1.0	.20	.20			
	32-60	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
73283:																	
Courtois------	0-4	5-20	50-80	10-27	1.20-1.40	14.00-42.00	0.20-0.22	10-20	5.0-15	5.1-6.5	0.1-2.9	2.0-4.0	.37	.37	4	5	56
	4-13	5-15	45-70	28-40	1.25-1.55	4.00-14.00	0.18-0.20	10-25	5.0-20	5.1-6.5	3.0-5.9	0.5-1.0	.28	.28			
	13-80	5-20	40-70	30-50	1.25-1.55	4.00-14.00	0.10-0.20	10-25	5.0-20	4.5-6.5	6.0-8.9	0.2-0.5	.28	.28			
73284:																	
Courtois------	0-4	5-20	60-80	10-27	1.20-1.40	14.00-42.00	0.20-0.22	10-20	5.0-15	5.1-6.5	0.1-2.9	2.0-4.0	.37	.37	4	5	56
	4-8	5-15	60-80	10-27	1.20-1.40	14.00-42.00	0.20-0.22	5.0-15	3.0-10	5.1-6.5	0.1-2.9	0.5-1.5	.37	.37			
	8-24	5-15	45-70	25-40	1.25-1.55	4.00-14.00	0.18-0.20	10-25	5.0-20	4.5-6.5	3.0-5.9	0.2-1.0	.28	.28			
	24-80	5-20	5-35	50-85	1.25-1.55	0.42-1.40	0.05-0.10	25-40	20-35	4.5-6.5	6.0-8.9	0.2-0.5	.24	.28			
Goss----------	0-3	10-25	60-80	5-27	1.10-1.50	14.00-42.00	0.12-0.16	10-20	8.0-15	4.5-6.5	0.1-2.9	2.0-5.0	.28	.37	4	8	0
	3-18	10-25	60-80	5-27	1.10-1.70	14.00-42.00	0.08-0.13	3.0-10	2.0-7.0	4.5-6.5	0.1-2.9	0.5-1.0	.28	.37			
	18-80	20-40	10-30	35-80	1.30-1.60	4.00-14.00	0.02-0.05	10-25	8.0-23	3.5-6.0	3.0-5.9	0.2-0.5	.20	.28			
73285:																	
Useful--------	0-8	2-10	65-80	15-27	1.35-1.45	4.00-14.00	0.22-0.24	10-20	8.0-18	5.1-6.5	0.1-2.9	1.5-3.0	.37	.37	4	5	56
	8-13	2-10	65-80	15-27	1.35-1.45	4.00-14.00	0.20-0.22	10-20	8.0-18	5.1-6.5	0.1-2.9	0.8-1.5	.37	.37			
	13-47	2-10	25-45	50-80	1.40-1.55	1.40-4.00	0.08-0.11	25-40	23-35	5.1-6.5	6.0-8.9	0.2-0.8	.20	.28			
	47-80	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
73285:																	
Courtois------	0-6	5-20	60-80	10-27	1.20-1.40	14.00-42.00	0.20-0.22	10-20	5.0-15	5.1-6.5	0.1-2.9	1.0-4.0	.37	.37	4	5	56
	6-24	5-15	45-70	25-40	1.25-1.55	4.00-14.00	0.18-0.20	10-25	5.0-20	4.5-6.5	3.0-5.9	0.2-1.0	.28	.28			
	24-80	5-20	5-45	50-85	1.25-1.55	0.42-1.40	0.05-0.10	25-40	20-35	4.5-6.5	6.0-8.9	0.2-0.8	.24	.28			
73286:																	
Useful--------	0-6	2-10	65-80	15-27	1.35-1.45	4.00-14.00	0.22-0.24	10-20	8.0-18	5.1-6.5	0.1-2.9	1.5-3.0	.37	.37	4	5	56
	6-12	2-10	45-70	28-40	1.35-1.45	1.40-4.00	0.18-0.20	10-20	8.0-18	5.1-6.5	3.0-5.9	0.8-1.8	.37	.37			
	12-59	2-10	25-55	40-60	1.40-1.55	1.40-4.00	0.08-0.12	20-40	18-35	5.1-7.3	6.0-8.9	0.2-1.0	.28	.28			
	59-80	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
Courtois------	0-6	5-20	60-80	10-27	1.20-1.40	14.00-42.00	0.20-0.22	10-20	5.0-15	5.1-6.5	0.1-2.9	1.0-3.0	.37	.37	4	5	56
	6-25	4-15	45-65	30-50	1.25-1.55	4.00-14.00	0.13-0.20	10-25	5.0-20	4.5-6.5	3.0-5.9	0.2-1.0	.28	.28			
	25-80	5-20	5-55	40-80	1.25-1.55	0.42-1.40	0.07-0.12	15-40	10-25	4.5-6.5	6.0-8.9	0.2-0.8	.28	.28			
73287:																	
Useful--------	0-6	2-10	65-80	15-27	1.35-1.45	4.00-14.00	0.22-0.24	10-20	8.0-18	5.1-6.5	0.1-2.9	1.5-3.0	.37	.37	4	5	56
	6-12	2-10	45-70	28-40	1.35-1.45	1.40-4.00	0.18-0.20	10-20	8.0-18	5.1-6.5	3.0-5.9	0.8-1.8	.37	.37			
	12-59	2-10	25-55	40-60	1.40-1.55	1.40-4.00	0.08-0.12	20-40	18-35	5.1-7.3	6.0-8.9	0.2-1.0	.28	.28			
	59-80	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
Sonsac--------	0-4	5-15	45-70	27-40	1.10-1.40	4.00-14.00	0.18-0.20	20-35	15-30	5.1-7.3	3.0-5.9	0.5-2.0	.32	.32	2	8	0
	4-38	5-25	20-45	45-80	1.30-1.50	0.42-1.40	0.04-0.08	30-50	25-45	6.6-7.8	6.0-9.0	0.5-1.0	.20	.28			
	38-60	---	---	---	---	0.07-0.42	---	---	---	---	---	---	---	---			
73288:																	
Caneyville----	0-6	5-20	55-80	10-27	1.20-1.40	4.00-14.00	0.22-0.24	5.0-15	3.0-14	5.6-7.8	0.1-2.9	2.0-4.0	.43	.43	2	5	56
	6-11	5-15	55-80	10-27	1.20-1.40	4.00-14.00	0.20-0.22	5.0-15	3.0-14	5.6-7.8	0.1-2.9	0.9-2.0	.43	.43			
	11-17	5-15	45-70	27-40	1.35-1.60	4.00-14.00	0.11-0.20	10-25	9.0-25	5.6-7.3	3.0-5.9	0.5-1.0	.28	.28			
	17-30	5-15	35-50	40-60	1.35-1.60	1.40-4.00	0.08-0.12	15-35	15-35	5.6-7.3	6.0-8.9	0.5-1.0	.28	.28			
	30-60	---	---	---	---	0.42-0.70	---	---	---	---	---	---	---	---			
Rock outcrop.																	
73289:																	
Fourche-------	0-8	5-10	60-85	10-27	1.30-1.50	4.00-14.00	0.22-0.24	5.0-15	3.0-12	5.1-6.5	0.1-2.9	1.5-3.0	.37	.37	5	5	56
	8-20	5-10	60-70	20-35	1.40-1.60	1.40-4.00	0.18-0.20	10-20	7.0-18	5.1-6.5	3.0-5.9	0.2-0.5	.37	.37			
	20-27	5-10	60-75	15-30	1.30-1.60	1.40-4.00	0.18-0.20	10-20	7.0-18	5.1-6.5	0.1-2.9	0.1-0.3	.37	.37			
	27-80	5-10	45-65	27-40	1.30-1.60	1.40-4.00	0.18-0.20	10-25	7.0-23	4.5-6.5	3.0-5.9	0.1-0.3	.37	.37			
74634:																	
Hartville-----	0-7	3-10	65-85	12-27	1.10-1.30	4.00-14.00	0.22-0.24	10-16	9.0-15	4.5-7.3	0.1-2.9	1.0-3.0	.43	.43	5	6	48
	7-12	3-10	65-85	12-27	1.20-1.40	4.00-14.00	0.20-0.22	9.0-20	7.0-18	4.5-6.5	0.1-2.9	0.5-1.5	.43	.43			
	12-48	3-10	50-70	35-45	1.20-1.50	0.42-1.40	0.15-0.20	18-25	14-21	4.5-7.8	6.0-8.9	0.2-0.8	.32	.32			
	48-80	5-15	35-70	30-50	1.20-1.50	0.42-1.40	0.18-0.20	16-25	15-24	5.6-8.4	6.0-8.9	0.2-0.8	.32	.32			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
74650:																	
Higdon--------	0-10	5-20	60-80	12-27	1.30-1.50	4.00-14.00	0.22-0.24	10-15	7.0-18	4.5-6.5	0.1-2.9	1.2-3.0	.37	.37	5	5	56
	10-19	5-20	60-80	12-27	1.30-1.50	4.00-14.00	0.22-0.24	5.0-15	3.0-12	5.6-6.5	0.1-2.9	0.2-1.0	.43	.43			
	19-80	5-18	55-75	20-35	1.30-1.50	1.40-4.00	0.18-0.20	10-20	8.0-18	6.1-7.3	3.0-5.9	0.2-0.8	.43	.43			
74652:																	
Lecoma--------	0-9	20-40	50-70	6-18	1.40-1.50	4.00-14.00	0.20-0.24	5.0-15	4.0-14	5.6-7.3	0.1-2.9	1.0-2.0	.37	.37	5	5	56
	9-31	15-35	45-70	15-30	1.50-1.60	4.00-14.00	0.18-0.20	7.0-15	5.0-13	5.1-7.3	3.0-5.9	0.0-0.5	.43	.43			
	31-60	30-50	25-45	18-35	1.50-1.60	4.00-14.00	0.16-0.20	10-15	7.0-12	4.5-7.3	3.0-5.9	0.0-0.5	.37	.37			
74653:																	
Racoon--------	0-6	2-10	60-80	12-27	1.30-1.50	1.40-4.00	0.22-0.24	14-20	16-22	4.5-7.3	0.1-2.9	1.0-2.0	.37	.37	5	6	48
	6-26	2-10	60-80	12-27	1.35-1.50	1.40-4.00	0.20-0.22	11-16	9.0-14	4.5-7.3	0.1-2.9	0.2-1.0	.37	.37			
	26-60	2-10	50-70	27-40	1.35-1.60	0.42-1.40	0.18-0.20	16-23	5.0-15	4.5-7.3	3.0-5.9	0.2-1.0	.37	.37			
Freeburg------	0-9	2-10	60-80	12-27	1.20-1.45	4.00-14.00	0.22-0.24	14-20	8.0-15	4.5-7.3	0.1-2.9	1.0-3.0	.37	.37	5	6	48
	9-13	2-10	60-80	12-27	1.40-1.50	4.00-14.00	0.18-0.20	11-20	7.0-17	4.5-7.3	0.1-2.9	0.5-2.0	.37	.37			
	13-52	2-10	50-75	20-40	1.40-1.50	1.40-4.00	0.18-0.20	13-20	11-18	4.5-7.3	3.0-5.9	0.5-1.0	.37	.37			
	52-80	10-20	50-70	27-35	1.35-1.50	1.40-4.00	0.16-0.19	14-20	11-18	4.5-7.3	3.0-5.9	0.2-0.8	.37	.37			
74656:																	
Deible--------	0-10	5-15	60-80	12-27	1.30-1.45	4.00-14.00	0.22-0.24	7.0-20	5.0-18	4.5-7.8	0.1-2.9	1.0-4.0	.43	.43	3	5	56
	10-15	5-15	60-80	12-27	1.30-1.45	4.00-14.00	0.20-0.22	7.0-20	5.0-17	4.5-7.8	0.1-2.9	0.5-2.0	.43	.43			
	15-37	2-10	35-55	40-80	1.35-1.50	0.14-0.42	0.08-0.12	20-35	14-30	4.5-7.8	6.0-8.9	0.1-1.0	.32	.32			
	37-80	5-20	45-65	27-60	1.35-1.50	1.40-4.00	0.08-0.11	10-20	9.0-16	5.1-7.8	6.0-8.9	0.1-0.5	.32	.32			
74661:																	
Waben---------	0-6	35-52	30-50	8-20	1.20-1.50	14.00-42.00	0.13-0.17	5.0-15	2.0-12	5.1-6.0	0.1-2.9	2.0-4.0	.28	.37	5	8	0
	6-36	20-52	30-50	15-25	1.30-1.50	14.00-42.00	0.08-0.13	5.0-15	2.0-12	5.1-6.5	0.1-2.9	0.5-1.0	.28	.37			
	36-80	20-52	30-50	15-25	1.30-1.50	14.00-42.00	0.14-0.17	5.0-15	2.0-12	5.1-6.5	0.1-2.9	0.2-0.5	.28	.37			
74662:																	
Higdon--------	0-6	5-20	60-80	12-27	1.30-1.50	4.00-14.00	0.22-0.24	10-15	7.0-18	4.5-6.5	0.1-2.9	1.2-3.0	.37	.37	5	5	56
	6-14	5-20	60-80	12-27	1.30-1.50	4.00-14.00	0.22-0.24	5.0-15	3.0-12	5.6-6.5	0.1-2.9	0.2-1.0	.43	.43			
	14-26	5-18	55-75	20-35	1.30-1.50	1.40-4.00	0.18-0.20	10-20	8.0-18	6.1-7.3	3.0-5.9	0.2-0.8	.43	.43			
	26-80	5-18	55-75	20-35	1.30-1.50	1.40-4.00	0.16-0.20	10-20	8.0-18	6.1-7.3	3.0-5.9	0.2-0.8	.43	.43			
75376:																	
Cedargap------	0-9	15-35	55-75	12-27	1.20-1.45	4.00-14.00	0.16-0.18	7.0-17	5.0-14	5.1-7.3	0.1-2.9	1.0-4.0	.24	.32	5	8	0
	9-18	40-65	20-55	12-35	1.30-1.50	4.00-14.00	0.08-0.10	10-20	7.0-15	5.1-7.3	0.1-2.9	0.5-2.0	.32	.43			
	18-49	18-55	20-55	15-35	1.30-1.50	4.00-14.00	0.08-0.10	10-20	7.0-15	5.1-7.3	0.1-2.9	0.5-1.0	.32	.43			
	49-60	15-50	15-45	30-80	1.20-1.40	1.40-4.00	0.04-0.10	18-40	15-36	5.6-7.3	6.0-8.9	0.5-1.0	.20	.32			
75388:																	
Kaintuck------	0-6	55-75	20-45	5-18	1.30-1.50	14.00-42.00	0.09-0.17	4.0-10	2.0-10	5.6-7.3	0.1-2.9	0.5-2.0	.24	.24	5	3	86
	6-80	40-90	10-55	5-18	1.20-1.50	14.00-42.00	0.06-0.20	5.0-8.0	2.0-8.0	5.6-7.3	0.1-2.9	0.1-1.0	.28	.28			

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	meq/100 g	meq/100 g	pH	Pct	Pct					
75388:																	
Relfe	0-6	55-75	15-35	5-15	1.10-1.30	14.00-42.00	0.06-0.10	6.0-12	4.0-10	5.6-7.8	0.1-2.9	0.5-2.0	.10	.17	5	8	0
	6-60	65-90	2-15	5-15	1.20-1.40	42.00-140.00	0.01-0.02	4.0-10	2.0-6.0	5.1-7.8	0.1-2.9	0.0-1.0	.05	.15			
75398:																	
Kaintuck	0-6	55-75	20-45	5-18	1.30-1.50	14.00-42.00	0.09-0.17	4.0-10	2.0-10	5.6-7.3	0.1-2.9	0.5-2.0	.24	.24	5	3	86
	6-80	40-90	10-55	5-18	1.20-1.50	14.00-42.00	0.06-0.20	5.0-8.0	2.0-8.0	5.6-7.8	0.1-2.9	0.1-1.0	.28	.28			
75412:																	
Razort	0-7	15-30	60-80	9-27	1.35-1.60	4.00-14.00	0.20-0.22	6.0-25	6.0-27	5.6-7.3	0.1-2.9	1.0-3.0	.37	.43	5	5	56
	7-34	15-40	45-70	18-35	1.35-1.60	4.00-14.00	0.17-0.22	5.0-20	5.0-20	5.6-7.3	0.1-2.9	0.5-1.0	.32	.43			
	34-80	30-50	30-50	10-27	1.35-1.50	14.00-42.00	0.08-0.10	5.0-20	5.0-20	5.6-7.3	0.1-2.9	0.5-1.0	.32	.43			
75413:																	
Relfe	0-6	55-75	15-35	5-15	1.10-1.30	14.00-42.00	0.06-0.10	6.0-12	4.0-10	5.6-7.8	0.1-2.9	0.5-2.0	.10	.17	5	8	0
	6-60	65-90	2-15	5-15	1.20-1.40	42.00-140.00	0.01-0.02	4.0-10	2.0-6.0	5.1-7.8	0.1-2.9	0.0-1.0	.05	.15			
75427:																	
Gabriel	0-9	3-10	55-75	12-27	1.20-1.40	4.00-14.00	0.22-0.24	15-25	12-23	6.1-7.3	0.1-2.9	3.0-5.0	.32	.32	5	5	56
	9-42	3-15	45-70	27-35	1.20-1.40	1.40-4.00	0.18-0.20	15-25	12-23	6.1-7.8	3.0-5.9	1.0-3.0	.37	.37			
	42-62	25-40	25-45	27-35	1.25-1.45	1.40-4.00	0.13-0.16	10-20	15-25	6.1-7.8	3.0-5.9	0.1-0.5	.37	.37			
	62-80	25-40	25-45	27-35	1.25-1.45	1.40-4.00	0.09-0.11	10-20	15-25	6.1-7.8	3.0-5.9	0.1-0.5	.28	.37			
75450:																	
Bloomsdale	0-20	10-30	50-80	10-20	1.10-1.30	4.00-14.00	0.10-0.24	5.0-20	3.0-20	5.6-7.3	0.1-2.9	1.0-2.0	.24	.32	5	8	0
	20-32	45-65	20-40	12-30	1.10-1.30	14.00-42.00	0.06-0.09	5.0-20	3.0-20	5.6-7.8	0.1-2.9	0.5-1.0	.24	.32			
	32-80	25-45	20-40	27-60	1.20-1.50	4.00-14.00	0.03-0.09	10-25	7.0-30	4.5-7.8	3.0-5.9	0.5-1.0	.24	.32			
75453:																	
Sturkie	0-8	1-5	65-85	15-27	1.20-1.40	4.00-14.00	0.20-0.24	10-30	10-30	5.6-7.8	0.1-2.9	2.0-4.0	.37	.37	5	5	56
	8-28	1-25	45-80	18-35	1.20-1.40	4.00-14.00	0.18-0.22	10-30	10-30	5.6-7.8	0.1-2.9	1.0-2.0	.37	.37			
	28-80	1-18	65-80	18-35	1.20-1.40	4.00-14.00	0.18-0.22	10-30	10-30	5.6-8.4	0.1-2.9	0.5-2.0	.37	.37			
75459:																	
Huzzah	0-38	10-30	60-80	10-27	1.30-1.50	14.00-42.00	0.22-0.24	8.0-18	12-30	5.1-7.8	0.1-2.9	2.0-5.0	.37	.37	5	5	56
	38-80	15-70	10-55	5-18	1.30-1.50	14.00-42.00	0.14-0.16	5.0-10	5.0-10	5.6-7.8	0.1-2.9	0.2-2.0	.24	.24			
75460:																	
Horsecreek	0-8	5-10	60-85	10-25	1.20-1.40	4.00-14.00	0.18-0.23	7.0-15	6.0-12	5.6-7.3	0.0-2.9	1.5-3.0	.43	.43	5	5	56
	8-60	5-10	60-80	18-34	1.20-1.50	4.00-14.00	0.16-0.23	8.0-15	7.0-12	5.1-7.3	0.0-2.9	0.2-1.0	.49	.49			
99000.																	
Pits, quarries																	

Table 18.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	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	meq/100 g	meq/100 g	pH	Pct	Pct					
99001. Water																	
99003. Miscellaneous water																	

Table 19.--Water Features

(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	Flooding			High Water Table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
66014:							
Haymond	B	Frequent	Brief	Nov-May	>6.0	---	---
70028:							
Moko	D	None	---	---	>6.0	---	---
Rock outcrop.							
73012:							
Gravois	C	None	---	---	1.5-3.0	Perched	Nov-May
73032:							
Gatewood	C	None	---	---	1.5-3.0	Perched	Nov-May
73035:							
Gravois	C	None	---	---	1.5-3.0	Perched	Nov-May
73039:							
Glensted	D	None	---	---	0.5-1.5	Perched	Nov-May
73053:							
Lily	B	None	---	---	>6.0	---	---
Bender	B	None	---	---	>6.0	---	---
73066:							
Bender	B	None	---	---	>6.0	---	---
73067:							
Bender	B	None	---	---	>6.0	---	---
Rock outcrop.							
73089:							
Rueter	B	None	---	---	>6.0	---	---
73094:							
Gatewood	C	None	---	---	1.5-3.0	Perched	Nov-May
73098:							
Plato	C	None	---	---	1.0-2.0	Perched	Nov-May
73135, 73136:							
Union	C	None	---	---	1.5-3.0	Perched	Nov-May
73159:							
Yelton	C	None	---	---	1.5-2.0	Perched	Nov-May
73162:							
Alred	C	None	---	---	>6.0	---	---
Rueter	B	None	---	---	>6.0	---	---
73164:							
Bender	B	None	---	---	>6.0	---	---
Rock outcrop.							
73166:							
Viburnum	C	None	---	---	1.5-2.5	Perched	Nov-Apr

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High Water Table: Depth	High Water Table: Kind	High Water Table: Months
					Ft		
73166:							
Tonti---------	C	None	---	---	1.5-2.0	Perched	Nov-Apr
73168:							
Swiss---------	C	None	---	---	2.0-3.0	Perched	Nov-Apr
73169, 73170:							
Beemont-------	C	None	---	---	2.0-3.0	Perched	Nov-Apr
Gatewood------	C	None	---	---	1.5-3.0	Perched	Nov-May
73171:							
Plato---------	C	None	---	---	1.0-2.0	Perched	Nov-May
73172:							
Rosati--------	C	None	---	---	1.0-2.0	Perched	Nov-Apr
73173, 73174:							
Lily----------	B	None	---	---	>6.0	---	---
Yelton--------	C	None	---	---	1.5-2.0	Perched	Nov-May
73175:							
Poynor--------	B	None	---	---	>6.0	---	---
Bendavis------	C	None	---	---	2.0-3.0	Perched	Nov-Apr
73176:							
Bendavis------	C	None	---	---	2.0-3.0	Perched	Nov-Apr
Poynor--------	B	None	---	---	>6.0	---	---
73181:							
Useful--------	C	None	---	---	2.0-3.5	Perched	Nov-May
Gatewood------	C	None	---	---	1.5-3.0	Perched	Nov-May
73200:							
Sonsac--------	B	None	---	---	>6.0	---	---
73210:							
Goss----------	B	None	---	---	>6.0	---	---
73214:							
Moko----------	D	None	---	---	>6.0	---	---
Rock outcrop.							
73215:							
Crider--------	B	None	---	---	>6.0	---	---
73271:							
Moko----------	D	None	---	---	>6.0	---	---
Rock outcrop.							
73272:							
Hildebrecht----	C	None	---	---	1.5-2.0	Perched	Nov-May
73273:							
Coulstone-----	B	None	---	---	>6.0	---	---
Bender--------	B	None	---	---	>6.0	---	---

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High Water Table: Depth	High Water Table: Kind	High Water Table: Months
					Ft		
73274:							
Scholten------	C	None	---	---	1.5-2.0	Perched	Nov-Apr
73275:							
Gravois-------	C	None	---	---	1.5-3.0	Perched	Nov-May
Goss----------	B	None	---	---	>6.0	---	---
73276:							
Rueter--------	B	None	---	---	>6.0	---	---
Hildebrecht---	C	None	---	---	1.5-2.0	Perched	Nov-May
73277:							
Goss----------	B	None	---	---	>6.0	---	---
73278:							
Rueter--------	B	None	---	---	>6.0	---	---
73279:							
Sonsac--------	B	None	---	---	>6.0	---	---
Moko----------	D	None	---	---	>6.0	---	---
Rock outcrop.							
73280:							
Alred---------	C	None	---	---	>6.0	---	---
73281:							
Hobson--------	C	None	---	---	1.5-2.0	Perched	Nov-May
73282:							
Alred---------	C	None	---	---	>6.0	---	---
Sonsac--------	B	None	---	---	>6.0	---	---
73283:							
Courtois------	B	None	---	---	>6.0	---	---
73284:							
Courtois------	B	None	---	---	>6.0	---	---
Goss----------	B	None	---	---	>6.0	---	---
73285, 73286:							
Useful--------	C	None	---	---	2.0-3.5	Perched	Nov-May
Courtois------	B	None	---	---	>6.0	---	---
73287:							
Useful--------	C	None	---	---	2.0-3.5	Perched	Nov-May
Sonsac--------	B	None	---	---	>6.0	---	---
73288:							
Caneyville----	C	None	---	---	>6.0	---	---
Rock outcrop.							
73289:							
Fourche-------	B	None	---	---	1.5-3.0	Perched	Nov-May

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High Water Table: Depth	High Water Table: Kind	High Water Table: Months
					Ft		
74634:							
Hartville-----	C	None	---	---	1.0-2.0	Perched	Nov-May
74650:							
Higdon--------	C	Occasional	Brief	Nov-Apr	1.0-2.5	Perched	Nov-May
74652:							
Lecoma--------	B	None	---	---	>6.0	---	---
74653:							
Racoon--------	C/D	Occasional	Brief	Nov-May	0.0	Apparent	Nov-May
Freeberg------	C	Occasional	Brief	Nov-May	1.0-2.5	Perched	Nov-May
74656:							
Dieble--------	D	Rare	Brief	Jan-Dec	0.0-1.0	Apparent	Nov-May
74661:							
Waben---------	B	None	---	---	>6.0	---	---
74662:							
Higdon--------	C	None	---	---	1.0-2.5	Perched	Nov-May
75376:							
Cedargap------	B	Frequent	Very brief	Nov-Apr	3.5-5.0	Perched	Nov-Apr
75388:							
Kaintuck------	B	Frequent	Brief	Nov-May	>6.0	---	---
Relfe---------	A	Frequent	Brief	Nov-May	>6.0	---	---
75398:							
Kaintuck------	B	Frequent	Brief	Nov-Nov	>6.0	---	---
75412:							
Razort--------	B	Occasional	Brief	Nov-Apr	>6.0	---	---
75413:							
Relfe---------	A	Frequent	Very brief	Nov-May	>6.0	---	---
75427:							
Gabriel-------	B/D	Occasional	Brief	Nov-May	1.0-2.5	Apparent	Nov-May
75450:							
Bloomsdale----	B	Frequent	Very brief	Nov-May	>6.0	---	---
75453:							
Sturkie-------	B	Occasional	Brief	Nov-Apr	>6.0	---	---
75459:							
Huzzah--------	B	Frequent	Brief	Nov-May	>6.0	---	---
75460:							
Horsecreek----	B	Occasional	Very brief	Nov-May	4.0-6.0	Apparent	Nov-Apr
99000. Pits, quarries							
99001. Water							
99003. Miscellaneous water							

Table 20.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
66014:							
Haymond	---	---	---	---	Moderate	Low	Moderate
70028:							
Moko	Bedrock (lithic)	4-20	---	Indurated	Moderate	Low	Low
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	None	---	---
73012:							
Gravois	Dense material	18-40	10-35	Noncemented	Moderate	Moderate	High
73032:							
Gatewood	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
73035:							
Gravois	Dense material	18-40	10-35	Noncemented	Moderate	Moderate	High
73039:							
Glensted	Abrupt textural change	6-19	---	Noncemented	Moderate	High	High
73053:							
Lily	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
Bender	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
73066:							
Bender	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
73067:							
Bender	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	---	---	---
73089:							
Rueter	---	---	---	---	Moderate	High	High
73094:							
Gatewood	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
73098:							
Plato	Fragipan	20-36	8-28	Noncemented	Moderate	High	High
73135, 73136:							
Union	Fragipan	18-36	9-25	Noncemented	Moderate	High	High
73159:							
Yelton	Fragipan	18-27	16-40	Noncemented	Moderate	High	High
73162:							
Alred	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
Rueter	---	---	---	---	Moderate	Moderate	High

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
73164:							
Bender	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	---	---	---
73166:							
Viburnum	---	---	---	---	Moderate	High	High
Tonti	Fragipan	18-25	10-36	Noncemented	Moderate	High	High
73168:							
Swiss	Dense material	40-80	0-40	Noncemented	Moderate	High	High
73169, 73170:							
Beemont	Bedrock (lithic)	40-60	---	Indurated	Moderate	High	High
Gatewood	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
73171:							
Plato	Fragipan	20-36	8-30	Noncemented	Moderate	High	High
73172:							
Rosati	Fragipan	20-35	7-22	Noncemented	Moderate	High	High
73173, 73174:							
Lily	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
Yelton	Fragipan	18-27	16-40	Noncemented	Moderate	Moderate	High
73175:							
Poynor	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
Bendavis	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
73176:							
Bendavis	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
Poynor	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73181:							
Useful	Bedrock (lithic)	40-60	---	Indurated	Moderate	Moderate	Moderate
Gatewood	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Moderate
73200:							
Sonsac	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
73210:							
Goss	---	---	---	---	Moderate	Moderate	High
73214:							
Moko	Bedrock (lithic)	4-20	---	Indurated	Moderate	Low	Low
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	None	---	---
73215:							
Crider	---	---	---	---	Moderate	Moderate	Moderate

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
73271:							
Moko	Bedrock (lithic)	4-20	---	Indurated	Moderate	Low	Low
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	None	---	---
73272:							
Hildebrecht	Fragipan	24-36	10-30	Noncemented	Moderate	Moderate	High
73273:							
Coulstone	Bedrock (lithic)	61-80	---	Indurated	Moderate	Moderate	High
Bender	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
73274:							
Scholten	Fragipan	18-27	6-36	Noncemented	Moderate	Moderate	High
73275:							
Gravois	Dense material	18-40	10-35	Noncemented	Moderate	Moderate	High
Goss	---	---	---	---	Moderate	Moderate	High
73276:							
Rueter	---	---	---	---	Moderate	Moderate	High
Hildebrecht	Fragipan	24-36	10-30	Noncemented	Moderate	Moderate	High
73277:							
Goss	---	---	---	---	Moderate	Moderate	High
73278:							
Rueter	---	---	---	---	Moderate	Moderate	High
73279:							
Sonsac	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
Moko	Bedrock (lithic)	4-20	---	Indurated	Moderate	Low	Low
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	None	---	---
73280:							
Alred	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
73281:							
Hobson	Fragipan	18-27	10-30	Noncemented	Moderate	Moderate	High
	Bedrock (lithic)	61-80	---	Indurated			
73282:							
Alred	Strongly contrasting textural stratification	15-39	41-65	Noncemented	Moderate	Moderate	High
Sonsac	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
73283:							
Courtois	---	---	---	---	Moderate	Moderate	High

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
73284:							
Courtois-----------	---	---	---	---	Moderate	Moderate	High
Goss---------------	---	---	---	---	Moderate	Moderate	High
73285, 73286:							
Useful-------------	Bedrock (lithic)	40-59	---	Indurated	Moderate	Moderate	Moderate
Courtois-----------	---	---	---	---	Moderate	Moderate	High
73287:							
Useful-------------	Bedrock (lithic)	40-59	---	Indurated	Moderate	Moderate	Moderate
Sonsac-------------	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	High
73288:							
Caneyville---------	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Moderate
Rock outcrop-------	Bedrock (lithic)	0-0	---	Indurated	None	---	---
73289:							
Fourche------------	---	---	---	---	Moderate	High	High
74634:							
Hartville----------	---	---	---	---	Moderate	Moderate	High
74650:							
Higdon-------------	---	---	---	---	Moderate	High	Moderate
74652:							
Lecoma-------------	---	---	---	---	Moderate	Moderate	High
74653:							
Racoon-------------	---	---	---	---	Moderate	High	High
Freeburg-----------	---	---	---	---	Moderate	High	High
74656:							
Deible-------------	Abrupt textural change	11-22	---	Noncemented	Moderate	High	High
74661:							
Waben--------------	---	---	---	---	Low	Low	Moderate
74662:							
Higdon-------------	---	---	---	---	Moderate	High	Moderate
75376:							
Cedargap-----------	---	---	---	---	Moderate	Low	Moderate
75388:							
Kaintuck-----------	---	---	---	---	Moderate	Low	Moderate
Relfe--------------	---	---	---	---	Low	Low	Moderate
75398:							
Kaintuck-----------	---	---	---	---	Moderate	Low	Moderate
75412:							
Razort-------------	---	---	---	---	Moderate	Low	Moderate
75413:							
Relfe--------------	---	---	---	---	Low	Low	Moderate

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
75427:							
Gabriel------------	---	---	---	---	Moderate	High	Low
75450:							
Bloomsdale---------	---	---	---	---	Moderate	Low	Moderate
75453:							
Sturkie------------	---	---	---	---	Moderate	Low	Moderate
75459:							
Huzzah-------------	---	---	---	---	Moderate	Low	Moderate
75460:							
Horsecreek---------	---	---	---	---	Moderate	Moderate	Moderate
99000.							
Pits, quarries							
99001.							
Water							
99003.							
Miscellaneous water							

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 21 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

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

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

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

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (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.

The map units of each soil series are described in the section “Detailed Soil Map Units.”

Alred Series

Depth class: Very deep
Drainage class: Well drained
Landform: Upland
Parent material: Gravelly colluvium over residuum weathered from dolostone
Slope range: 3 to 35 percent

Taxonomic classification: Loamy-skeletal over clayey, siliceous, semiactive, mesic Typic Paleudalfs

Typical Pedon

Alred very gravelly silt loam, in an area of Alred-Sonsac complex, 15 to 35 percent slopes, very stony, very rocky; USGS Berryman topographic quadrangle; UTM—Zone 15, Easting 671570, Northing 4206640. (This pedon is from Washington County.)

A—0 to 3 inches; dark grayish brown (10YR 4/2) very gravelly silt loam, light gray (10YR 7/2) dry; moderate very fine granular structure; friable; many very fine and fine and common medium and coarse roots; many very fine and fine interstitial and tubular pores; few distinct silt coats on faces of peds; many distinct organic stains on faces of peds; 5 percent chert cobbles and 40 percent chert gravel; strongly acid; clear smooth boundary.

E—3 to 9 inches; light yellowish brown (10YR 6/4) very gravelly silt loam; moderate very fine subangular blocky structure; friable; many very fine and fine and common medium and coarse roots; many very fine and fine interstitial and tubular pores; common prominent organic stains on gravel; many distinct silt coats on faces of peds; 45 percent chert gravel; strongly acid; clear smooth boundary.

EB—9 to 15 inches; yellowish brown (10YR 5/4) very gravelly silt loam; moderate very fine and fine subangular blocky structure; friable; many very fine and fine and common medium and coarse roots; common very fine and fine interstitial and tubular pores; many distinct silt coats on faces of peds; 50 percent chert gravel; strongly acid; clear wavy boundary.

Bt1—15 to 21 inches; 65 percent strong brown (7.5YR 5/6) and 35 percent yellowish red (5YR 4/6) very gravelly silt loam; moderate fine subangular blocky structure; firm; many very fine and fine and few medium and coarse roots; common very fine and fine interstitial and tubular pores; common distinct clay films and common distinct silt coats on faces of peds; 40 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt2—21 to 29 inches; 60 percent strong brown (7.5YR 5/6) and 40 percent strong brown (7.5YR 4/6) gravelly clay; moderate medium prismatic structure parting to moderate fine subangular blocky; very firm; many very fine and fine roots; few very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; 20 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt3—29 to 36 inches; strong brown (7.5YR 5/6) gravelly clay; moderate medium prismatic structure parting to moderate medium subangular blocky; very firm; few very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; 30 percent chert gravel; very strongly acid; clear smooth boundary.

2Bt4—36 to 51 inches; 70 percent yellowish red (5YR 4/6) and 30 percent strong brown (7.5YR 5/6) gravelly clay; moderate medium prismatic structure; very firm; few very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; 25 percent chert gravel; moderately acid; gradual wavy boundary.

2Bt5—51 to 64 inches; red (2.5YR 4/6) clay; moderate medium prismatic structure; very firm; few very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; neutral.

Range in Characteristics

Depth to bedrock: More than 60 inches

A horizon:
Color—chroma of 2 or 3
Texture—very gravelly loam or very gravelly silt loam

E and EB horizons:
Color—value of 5 or 6 and chroma of 3 or 4
Texture—very gravelly loam or very gravelly silt loam

Bt horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4 or 6
Texture—very gravelly analogs of silt loam, loam, or silty clay loam

2Bt horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4, 6, or 8
Texture—clay, gravelly clay, or cobbly clay

Beemont Series

Depth class: Deep
Drainage class: Moderately well drained
Landform: Upland
Parent material: Gravelly colluvium over clayey residuum from dolostone
Slope range: 3 to 35 percent

Taxonomic classification: Very-fine, smectitic, mesic Oxyaquic Hapludalfs

Typical Pedon

Beemont gravelly silt loam, in an area of Beemont-Gatewood complex, 3 to 15 percent slopes, stony; USGS Cuba topographic quadrangle; UTM—Zone 15, Easting 636520, Northing 4219050.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) gravelly silt loam, grayish brown (10YR 5/2) dry; friable; moderate fine subangular blocky structure; many very fine roots; 25 percent chert gravel and 5 percent sandstone gravel; slightly acid; clear smooth boundary.

E1—4 to 10 inches; brown (10YR 5/3) very gravelly silt loam; moderate medium subangular blocky structure; friable; many very fine, fine, medium, and coarse roots; 5 percent sandstone cobbles and 45 percent chert gravel; moderately acid; gradual smooth boundary.

E2—10 to 17 inches; yellowish brown (10YR 5/4) very gravelly silt loam; weak medium subangular blocky structure; friable; common fine and medium roots; 50 percent chert gravel and 5 percent sandstone gravel; moderately acid; gradual smooth boundary.

2Bt1—17 to 25 inches; 60 percent yellowish brown (10YR 5/4) and 40 percent strong brown (7.5YR 4/6) clay; strong medium prismatic structure parting to strong fine angular blocky; firm; few fine and medium roots; many continuous distinct clay films on faces of peds; 5 percent chert gravel; very strongly acid; gradual smooth boundary.

2Bt2—25 to 36 inches; 60 percent strong brown (7.5YR 5/6) and 40 percent light brown (7.5YR 6/3) clay; strong coarse prismatic structure parting to strong fine prismatic; firm; few fine and medium roots; many continuous distinct clay films on faces of peds; common discontinuous prominent manganese or iron-manganese stains on faces of peds; strongly acid; clear smooth boundary.

3Bt3—36 to 45 inches; 70 percent light brownish gray (10YR 6/2) and 30 percent yellowish brown (10YR 5/4) gravelly silty clay loam; weak medium prismatic structure parting to weak medium platy; firm; very few fine roots; common discontinuous distinct clay films on faces of peds; 5 percent chert gravel, 15 percent dolostone gravel, and 10 percent shale gravel; slightly alkaline; gradual smooth boundary.

3Bt4—45 to 58 inches; 70 percent yellow (10YR 7/8) and 30 percent light brownish gray (10YR 6/2) very gravelly silty clay loam; weak medium prismatic structure; firm; common discontinuous distinct clay films on faces of peds; 25 percent chert gravel, 5 percent dolostone gravel, and 5 percent shale gravel; moderately alkaline; gradual smooth boundary.

3R—58 inches; Jefferson City dolostone bedrock.

Range in Characteristics

Depth to bedrock: 40 to 60 inches

A horizon:
Color—value of 3 or 4 and chroma of 2 or 3
Texture—gravelly silt loam or very gravelly silt loam

E horizon:
Color—value of 5 or 6 and chroma of 3 or 4
Texture—gravelly silt loam or very gravelly silt loam

2Bt horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 to 6 and chroma of 3, 4, 6, or 8 (may be 2 in the lower part)
Texture—clay or gravelly clay

3Bt horizon:
Color—value of 4 to 8 and chroma of 2, 3, 4, 6, or 8
Texture—gravelly, very gravelly, or extremely gravelly analogs of silty clay loam, silty clay, or clay

Bendavis Series

Depth class: Moderately deep
Drainage class: Moderately well drained
Landform: Upland
Parent material: Gravelly colluvium
Slope range: 1 to 15 percent

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

Typical pedon

Bendavis very gravelly silt loam, in an area of Bendavis-Poynor complex, 8 to 15 percent slopes, stony; USGS Slabtown Springs topographic quadrangle; UTM—Zone 15, Easting 587410, Northing 4162860. (This pedon is from Phelps County.)

A—0 to 2 inches; very dark grayish brown (10YR 3/2) very gravelly silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; very friable; common very fine and fine and few medium roots; 1 percent sandstone stones, 2 percent sandstone cobbles, and 45 percent chert gravel; very strongly acid; clear smooth boundary.

E—2 to 6 inches; brown (10YR 5/3) very gravelly silt loam; weak fine subangular blocky structure; friable; common very fine and fine and few medium roots; 50 percent chert gravel; very strongly acid; clear smooth boundary.

Bt1—6 to 17 inches; yellowish brown (10YR 5/4) extremely gravelly silt loam; moderate fine subangular blocky structure; friable; common fine and few medium and coarse roots; few faint clay films on faces of peds; 5 percent sandstone cobbles and 65 percent chert gravel; strongly acid; clear wavy boundary.

Bt2—17 to 22 inches; brown (7.5YR 5/4) very gravelly clay loam; moderate fine subangular blocky structure; firm; few very fine, fine, and medium roots; common faint clay films on faces of peds; 2 percent sandstone cobbles and 50 percent chert gravel; strongly acid; abrupt wavy boundary.

Bt3—22 to 32 inches; strong brown (7.5YR 5/8) extremely cobbly clay loam; few medium prominent pale brown (10YR 6/3) mottles; moderate fine and medium subangular blocky structure; firm; few very fine, fine, and medium roots; many distinct continuous clay films on faces of peds; 40 percent sandstone cobbles and 40 percent chert gravel; strongly acid; abrupt wavy boundary.

2R—32 inches; unweathered sandstone bedrock.

Range in Characteristics

Depth to bedrock: 20 to 40 inches

A horizon:
Color—value of 3 to 5 and chroma of 2 or 3

E horizon or BE horizon (where present):
Color—value of 5 or 6
Texture—very gravelly silt loam or extremely gravelly silt loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3, 4, 6, or 8
Texture—very gravelly, extremely gravelly, very cobbly, or extremely cobbly analogs of silt loam, silty clay loam, or clay loam

Bender Series

Depth class: Moderately deep
Drainage class: Somewhat excessively drained
Landform: Upland
Parent material: Residuum weathered from sandstone
Slope range: 3 to 65 percent

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

Typical Pedon

Bender very gravelly sandy loam, in an area of Coulstone-Bender complex, 15 to 35 percent slopes, extremely stony; USGS Ebo topographic quadrangle; UTM—Zone 15, Easting 683270, Northing 4220500. (This pedon is from Washington County.)

A—0 to 2 inches; very dark gray (10YR 3/1) very gravelly sandy loam, gray (10YR 6/1) dry; weak very fine granular structure; very friable; many very fine and fine and common medium and coarse roots; many very fine and fine interstitial and tubular pores; 5 percent quartzite cobbles and 30 percent quartzite gravel; very strongly acid; abrupt smooth boundary.

E1—2 to 10 inches; yellowish brown (10YR 5/4) extremely gravelly fine sandy loam; weak fine subangular blocky structure; friable; many very fine, fine, medium, and coarse roots; many very fine and fine interstitial and tubular pores; many continuous distinct silt coats on faces of peds and in pores; 10 percent quartzite cobbles and 50 percent quartzite gravel; extremely acid; gradual smooth boundary.

E2—10 to 14 inches; light yellowish brown (10YR 6/4) extremely gravelly fine sandy loam; weak fine subangular blocky structure; friable; common very fine, fine, medium, and coarse roots; common very fine and fine interstitial and tubular pores; many continuous prominent silt coats on faces of peds and in pores; 15 percent quartzite cobbles and 50 percent quartzite gravel; extremely acid; clear smooth boundary.

Bt1—14 to 22 inches; yellowish brown (10YR 5/4) very cobbly fine sandy loam; weak fine subangular blocky structure; friable; common very fine and fine roots; common very fine and fine interstitial and tubular pores; few discontinuous faint clay films on faces of peds; many continuous prominent silt coats on faces of peds and in pores; 25 percent quartzite cobbles and 30 percent quartzite gravel; very strongly acid; clear smooth boundary.

Bt2—22 to 27 inches; strong brown (7.5YR 4/6) very cobbly sandy loam; moderate medium subangular blocky structure; firm; common very fine and fine roots; common very fine and fine interstitial and tubular pores; common discontinuous prominent clay films on faces of peds; few discontinuous prominent silt coats on faces of peds; 10 percent quartzite stones, 15 percent quartzite cobbles, and 25 percent quartzite gravel; very strongly acid; abrupt smooth boundary.

R—27 inches; Roubidoux sandstone bedrock.

Range in Characteristics

Depth to bedrock: 20 to 40 inches

A horizon:
Color—chroma of 1 or 2
Texture—very gravelly or very cobbly analogs of sandy loam or fine sandy loam

E horizon:
Color—value of 5 or 6 and chroma of 3 or 4
Texture—cobbly, very cobbly, or extremely gravelly analogs of sandy loam or fine sandy loam

BE horizon (where present):
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—very gravelly, cobbly, or very cobbly analogs of loam, sandy loam, or fine sandy loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 or 6
Texture—very gravelly, extremely gravelly, cobbly, very cobbly, or extremely cobbly analogs of sandy loam or fine sandy loam

The Bender component of map unit 73164 Bender-Rock outcrop complex, 35 to 65 percent slopes, extremely stony, is a taxadjunct to the Bender series. It does not have enough of a clay increase for an argillic horizon. This difference does not affect the use and management of the soils.

Bloomsdale Series

Depth class: Very deep
Drainage class: Well drained
Landform: Flood plain
Parent material: Gravelly alluvium
Slope range: 0 to 3 percent

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Bloomsdale silt loam, 0 to 3 percent slopes, frequently flooded; USGS Ebo topographic quadrangle; UTM—Zone 15, Easting 684180, Northing 4216820. (This pedon is from Washington County.)

A—0 to 5 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine subangular blocky structure; friable; many very fine and fine and common medium and coarse roots; many fine, medium, and coarse interstitial and tubular pores; 10 percent chert gravel; moderately acid; clear smooth boundary.

BA—5 to 11 inches; brown (10YR 4/3) gravelly silt loam; weak medium subangular blocky structure parting to weak fine subangular blocky; friable; many very fine and fine and common medium and coarse roots; many fine, medium, and coarse interstitial and tubular pores; 15 percent chert gravel; strongly acid; clear smooth boundary.

2Bt1—11 to 18 inches; dark yellowish brown (10YR 4/4) gravelly silt loam; weak medium subangular blocky structure parting to moderate fine subangular blocky; friable; common fine, medium, and coarse roots; common fine and medium interstitial and tubular pores; few discontinuous distinct clay films on faces of peds; 30 percent chert gravel; strongly acid; abrupt smooth boundary.

2Bt2—18 to 25 inches; dark yellowish brown (10YR 4/4) extremely gravelly silt loam; weak fine subangular blocky structure; friable; common fine, medium, and coarse roots; common fine, medium, and coarse interstitial and tubular pores; few discontinuous distinct clay films on faces of peds; 10 percent chert cobbles and 65 percent chert gravel; very strongly acid; gradual smooth boundary.

2Bt3—25 to 34 inches; 50 percent dark brown (7.5YR 3/4) and 50 percent dark yellowish brown (10YR 4/4) extremely gravelly sandy loam; weak very fine subangular blocky structure; firm; common very fine, fine, medium, and coarse roots; common very fine and fine interstitial and tubular pores; common discontinuous distinct clay films on faces of peds; 10 percent chert cobbles and 75 percent chert gravel; strongly acid; gradual smooth boundary.

2Bt4—34 to 41 inches; dark yellowish brown (10YR 4/4) extremely gravelly sandy loam; weak very fine subangular blocky structure; firm; common very fine and fine roots; common very fine and fine interstitial and tubular pores; many discontinuous distinct clay films and organic stains on faces of peds; 5 percent chert cobbles and 55 percent chert gravel; strongly acid; gradual smooth boundary.

3Bt5—41 to 62 inches; dark brown (7.5YR 3/4) extremely gravelly sandy clay loam; weak very fine subangular blocky structure; firm; common very fine and fine roots; common very fine and fine interstitial and tubular pores; many discontinuous distinct clay films on faces of peds; 10 percent chert cobbles and 60 percent chert gravel; slightly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

BA horizon:
Color—value of 4 or 5 and chroma of 3 or 4
Texture—silt loam or gravelly silt loam

2Bw horizon (where present):
Texture—stratified very gravelly coarse sandy loam to very gravelly loam to very gravelly clay loam

2Bt horizon:
Color—hue of 7.5YR or 10YR and value of 3 or 4
Texture—gravelly, very gravelly, or extremely gravelly analogs of silt loam, sandy loam, or sandy clay loam

3Bt horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 or 4
Texture—extremely gravelly sandy clay loam or extremely gravelly clay loam

Caneyville Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Upland
Parent material: Loess over residuum weathered from dolostone
Slope range: 8 to 15 percent slopes.

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

Typical Pedon

Caneyville silt loam, in an area of Caneyville-Rock outcrop complex, 8 to 15 percent slopes; USGS Irondale topographic quadrangle; UTM—Zone 15, Easting 699650, Northing 4186140. (This pedon is from Washington County.)

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; weak fine and medium subangular blocky structure; friable; common very fine and fine roots; neutral; clear smooth boundary.

BE—6 to 11 inches; brown (7.5YR 4/4) silt loam; moderate fine and medium subangular blocky structure; firm; common very fine roots; neutral; clear smooth boundary.

2Bt1—11 to 17 inches; reddish brown (5YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots; common clay films on faces of peds; 5 percent chert gravel; neutral; clear smooth boundary.

2Bt2—17 to 24 inches; 80 percent reddish brown (5YR 4/4) and 20 percent reddish brown (2.5YR 4/4) silty clay; moderate medium prismatic structure parting to strong fine angular blocky; very firm; few very fine roots; many clay films on faces of peds; 7 percent chert gravel; neutral; gradual smooth boundary.

2Bt3—24 to 30 inches; reddish brown (2.5YR 4/4) clay; moderate medium prismatic structure parting to strong fine angular blocky; very firm; few very fine roots; many clay films on faces of peds; few manganese or iron-manganese stains on faces of peds; 5 percent chert gravel; neutral; abrupt smooth boundary.

2R—30 inches; dolostone bedrock.

Range in Characteristics

Depth to bedrock: 20 to 40 inches

Ap horizon:
Color—chroma of 3 or 4

E horizon (where present) or BE horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—silt loam

Bt horizon (where present):
Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 3, 4, or 6
Texture—silt loam, silty clay loam, or silty clay

2Bt horizon:
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 4 or 6
Texture—silty clay loam, silty clay, or clay

Cedargap Series

Depth class: Very deep
Drainage class: Well drained
Landform: Flood plain
Parent material: Gravelly alluvium
Slope range: 0 to 3 percent

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

Typical Pedon

Cedargap gravelly silt loam, 0 to 3 percent slopes, frequently flooded; USGS Palmer topographic quadrangle; UTM—Zone 15, Easting 682820, Northing 4186500. (This pedon is from Washington County.)

Ap—0 to 8 inches; dark brown (10YR 3/3) gravelly silt loam, brown (10YR 5/3) dry; moderate very fine granular structure; friable; many very fine and fine roots; many very fine and fine interstitial and tubular pores; 34 percent chert gravel; strongly acid; clear smooth boundary.

A—8 to 15 inches; dark brown (10YR 3/3) very gravelly loam, brown (10YR 5/3) dry; moderate very fine subangular blocky structure; friable; many very fine and fine roots; many very fine and fine interstitial and tubular pores; 40 percent chert gravel; strongly acid; gradual smooth boundary.

Bw1—15 to 24 inches; dark brown (10YR 3/3) very gravelly loam, brown (10YR 5/3) dry; moderate very fine subangular blocky structure; friable; common very fine and fine roots; common very fine and fine interstitial and tubular pores; 36 percent chert gravel; strongly acid; gradual smooth boundary.

Bw2—24 to 29 inches; brown (7.5YR 4/4) very gravelly loam; moderate very fine subangular blocky structure; friable; common very fine and fine roots; common very fine and fine interstitial and tubular pores; 45 percent chert gravel; strongly acid; gradual smooth boundary.

Bw3—29 to 38 inches; brown (7.5YR 4/4) very gravelly loam; moderate fine subangular blocky structure; firm; few very fine and fine roots; common very fine and fine interstitial and tubular pores; 40 percent chert gravel; moderately acid; gradual smooth boundary.

Bw4—38 to 50 inches; brown (7.5YR 4/4) very gravelly loam; moderate fine subangular blocky structure; firm; common very fine and fine interstitial and tubular pores; 45 percent chert gravel; slightly acid; gradual smooth boundary.

Bw5—50 to 60 inches; strong brown (7.5YR 4/6) gravelly loam; moderate fine subangular blocky structure; firm; common very fine and fine interstitial and tubular pores; 15 percent chert gravel; neutral.

Range in Characteristics

Depth to bedrock: More than 60 inches
Thickness of the mollic epipedon: 24 inches to more than 60 inches

Ap horizon:
Color—chroma of 2 or 3

A horizon:
Color—chroma of 2 or 3
Texture—gravelly or very gravelly analogs of silt loam or loam

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 3, 4, or 6
Texture—gravelly or very gravelly analogs of loam or sandy clay loam

2Bw horizon (where present):
Color—hue of 7.5YR, value of 4 or 5, and chroma of 4 or 6
Texture—clay or gravelly clay

Coulstone Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Landform: Upland
Parent material: Colluvium over residuum weathered from sandstone
Slope range: 15 to 35 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 35 percent slopes, extremely stony; USGS Ebo topographic quadrangle; UTM—Zone 15, Easting 683250, Northing 4220480. (This pedon is from Washington County.)

A—0 to 4 inches; very dark grayish brown (10YR 3/2) very gravelly fine sandy loam, gray (10YR 6/1) dry; moderate fine subangular blocky structure; friable; many very fine and fine and common medium and coarse roots; common very fine and fine interstitial and tubular pores; 10 percent quartzite cobbles and 45 percent quartzite gravel; extremely acid; clear smooth boundary.

E1—4 to 9 inches; grayish brown (10YR 5/2) very gravelly sandy loam; moderate medium subangular blocky structure; friable; many very fine and fine roots; common very fine and fine interstitial and tubular pores; common prominent organic stains on faces of peds; 55 percent quartzite gravel; extremely acid; clear smooth boundary.

E2—9 to 15 inches; pale brown (10YR 6/3) extremely gravelly fine sandy loam; weak fine subangular blocky structure; friable; common very fine and fine and few medium and coarse roots; common very fine and fine interstitial and tubular pores; many distinct silt coats on faces of peds; 10 percent quartzite cobbles and 55 percent quartzite gravel; extremely acid; clear smooth boundary.

E3—15 to 21 inches; pale brown (10YR 6/3) extremely gravelly sandy loam; weak fine subangular blocky structure; friable; common very fine, fine, medium, and coarse roots; common very fine and fine interstitial and tubular pores; many distinct silt coats on faces of peds; 60 percent quartzite gravel; extremely acid; clear smooth boundary.

E4—21 to 32 inches; pale brown (10YR 6/3) extremely gravelly sandy loam; weak fine subangular blocky structure; friable; common very fine and fine and few medium and coarse roots; common very fine and fine interstitial and tubular pores; many distinct silt coats on faces of peds; 15 percent quartzite cobbles and 45 percent quartzite gravel; very strongly acid; abrupt smooth boundary.

Bt1—32 to 39 inches; 55 percent light yellowish brown (10YR 6/4) and 45 percent yellowish red (5YR 5/8) very gravelly sandy loam; weak fine subangular blocky structure; friable; common very fine and fine and few medium roots; common medium and coarse interstitial pores; few discontinuous prominent clay films on faces of peds; 10 percent chert stones, 10 percent chert cobbles, and 30 percent chert gravel; very strongly acid; clear smooth boundary.

2Bt2—39 to 44 inches; 80 percent yellow (10YR 7/6) and 20 percent reddish yellow (7.5YR 6/8) very gravelly sandy clay loam; strong medium angular blocky structure; firm; common very fine and fine roots; few very fine and fine vesicular and common medium and coarse interstitial pores; few discontinuous prominent clay films on faces of peds; 45 percent quartzite gravel; very strongly acid; clear smooth boundary.

2Bt3—44 to 61 inches; 55 percent red (2.5YR 4/8) and 45 percent reddish yellow (7.5YR 6/6) gravelly sandy clay loam; moderate medium angular blocky structure; firm; common very fine and fine roots; common very fine and fine vesicular and common medium and coarse interstitial pores; common discontinuous prominent clay films on faces of peds; 20 percent quartzite gravel; extremely acid; abrupt smooth boundary.

2R—61 inches; Roubidoux sandstone bedrock.

Range in Characteristics

Depth to bedrock: More than 60 inches

E horizon:
Color—value of 5 or 6 and chroma of 2 or 3
Texture—very gravelly or extremely gravelly analogs of sandy loam or fine sandy loam

Bt horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 5 or 6, and chroma of 4, 6, or 8
Texture—very gravelly sandy loam or very stony sandy loam

2Bt horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 to 7, and chroma of 6 or 8
Texture—gravelly sandy clay loam or very gravelly sandy clay loam

Courtois Series

Depth class: Very deep
Drainage class: Well drained
Landform: Upland
Parent material: Loess over residuum weathered from dolostone
Slope range: 3 to 15 percent

Taxonomic classification: Fine, mixed, active, mesic Typic Paleudalfs

Typical Pedon

Courtois silt loam, 3 to 8 percent slopes, eroded; USGS Belgrade topographic quadrangle; UTM—Zone 15, Easting 697390, Northing 4184330. (This pedon is from Washington County.)

Ap—0 to 4 inches; brown (10YR 4/3) silt loam, brown (10YR 5/3) dry; moderate fine subangular blocky structure; friable; many very fine and fine roots; many very fine and fine interstitial and tubular pores; moderately acid; clear smooth boundary.

Bt1—4 to 8 inches; brown (7.5YR 4/4) silty clay loam; weak very fine prismatic structure parting to moderate fine subangular blocky; friable; common very fine and fine roots; many fine and medium interstitial and tubular pores; few distinct clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—8 to 13 inches; reddish brown (5YR 4/4) silty clay loam; moderate fine prismatic structure parting to moderate very fine subangular blocky; firm; common very fine and fine roots; common very fine and fine interstitial and tubular pores; few distinct clay films on faces of peds; moderately acid; gradual smooth boundary.

2Bt3—13 to 19 inches; dark red (2.5YR 3/6) silty clay loam; strong fine prismatic structure parting to moderate very fine subangular blocky; firm; common very fine and fine roots; common very fine and fine interstitial and tubular pores; many distinct clay films on faces of peds; few masses of manganese oxide accumulation; moderately acid; clear smooth boundary.

2Bt4—19 to 29 inches; red (2.5YR 4/6) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; firm; common very fine and fine roots; few very fine and fine interstitial and tubular pores; many distinct clay films on faces of peds; many masses of manganese oxide accumulation; strongly acid; gradual smooth boundary.

2Bt5—29 to 40 inches; dark red (2.5YR 3/6) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; firm; common very fine and fine roots; few very fine and fine interstitial and tubular pores; many distinct clay films on faces of peds; common masses of manganese oxide accumulation; very strongly acid; gradual smooth boundary.

2Bt6—40 to 48 inches; dark red (2.5YR 3/6) silty clay; moderate fine prismatic structure parting to moderate fine angular blocky; very firm; common very fine and fine roots; few very fine and fine interstitial and tubular pores; many distinct clay films on faces of peds; many masses of manganese oxide accumulation; strongly acid; gradual smooth boundary.

2Bt7—48 to 68 inches; dark red (2.5YR 3/6) silty clay; moderate fine prismatic structure parting to moderate fine angular blocky; very firm; few very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; few distinct silt coats on faces of peds; common masses of manganese oxide accumulation; strongly acid; gradual smooth boundary.

2Bt8—68 to 80 inches; dark reddish brown (2.5YR 3/4) silty clay; moderate fine prismatic structure parting to moderate fine subangular blocky; very firm; few very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; many masses of manganese oxide accumulation; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

Ap horizon:
Color—value of 3 or 4 and chroma of 3 or 4

BE horizon (where present):
Color—hue of 7.5YR, value of 4 or 5, chroma of 4 or 6
Texture—silt loam

Bt horizon:
Color—hue of 5YR or 7.5YR, value of 3 or 4, and chroma of 4 or 6
Texture—silt loam, silty clay loam, or silty clay

2Bt horizon:
Color—hue of 2.5YR, 5YR, or 7.5YR, value of 3 or 4, and chroma of 4 or 6
Texture—silty clay loam, silty clay, clay, gravelly clay, or very gravelly clay

Crider Series

Depth class: Very deep
Drainage class: Well drained
Landform: Upland
Parent material: Loess over residuum
Slope range: 3 to 8 percent

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

Typical Pedon

Crider silt loam, 3 to 8 percent slopes; USGS Palmer topographic quadrangle; UTM—Zone 15, Easting 686460, Northing 4180330. (This pedon is from Washington County.)

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure parting to weak very fine subangular blocky; friable; common very fine and fine roots; common very fine and fine interstitial and tubular pores; slightly acid; clear smooth boundary.

BE—7 to 13 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots; common very fine and fine interstitial and tubular pores; few distinct clay films on faces of peds; neutral; gradual smooth boundary.

Bt1—13 to 21 inches; brown (7.5YR 4/4) silt loam; weak medium prismatic structure parting to moderate fine subangular blocky; friable; common very fine and fine roots; many very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; neutral; clear smooth boundary.

Bt2—21 to 29 inches; reddish brown (5YR 4/4) silty clay loam; weak coarse prismatic structure parting to moderate fine subangular blocky; firm; common very fine and fine roots; common very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; neutral; gradual smooth boundary.

2Bt3—29 to 36 inches; red (2.5YR 4/6) silty clay loam; weak coarse prismatic structure parting to moderate fine subangular blocky; firm; common very fine and fine roots; common very fine and fine interstitial and tubular pores; many distinct clay films on faces of peds; neutral; gradual smooth boundary.

2Bt4—36 to 43 inches; red (2.5YR 4/6) silty clay; moderate coarse prismatic structure parting to moderate fine subangular blocky; firm; common very fine and fine roots; few very fine and fine interstitial and tubular pores; many distinct clay films on faces of peds; few prominent manganese or iron-manganese stains on faces of peds; slightly acid; clear smooth boundary.

2Bt5—43 to 53 inches; dark reddish brown (2.5YR 3/4) clay; moderate coarse prismatic structure parting to strong very fine angular blocky; very firm; few very fine and fine interstitial and tubular pores; many distinct clay films on faces of peds; common distinct manganese or iron-manganese stains on faces of peds; slightly acid; gradual smooth boundary.

2Bt6—53 to 69 inches; dark reddish brown (2.5YR 3/4) clay; moderate coarse prismatic structure parting to strong very fine angular blocky; very firm; few very fine and fine interstitial and tubular pores; many distinct clay films on faces of peds; neutral; abrupt smooth boundary.

2R—69 inches; dolostone bedrock.

Range in Characteristics

Depth to bedrock: More than 60 inches

BE horizon:
Color—hue of 7.5YR or 10YR and chroma of 3 or 4

Bt horizon:
Color—hue of 5YR or 7.5YR
Texture—silt loam or silty clay loam

2Bt horizon:
Color—hue of 2.5YR or 5YR, value of 3 or 4, and chroma of 4 or 6
Texture—silty clay loam, silty clay, or clay

Deible Series

Depth class: Very deep
Drainage class: Poorly drained
Landform: Stream terrace
Parent material: Alluvium over colluvium
Slope range: 1 to 5 percent

Taxonomic classification: Fine, mixed, active, mesic Typic Albaqualfs

Typical Pedon

Deible silt loam, 1 to 5 percent slopes, rarely flooded; USGS Argo topographic quadrangle; UTM—Zone 15, Easting 652475, Northing 4229200.

Ap—0 to 8 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak medium subangular blocky structure parting to weak fine granular; friable; many very fine and fine roots; common fine interstitial and tubular pores; common fine and medium spherical very dark gray (10YR 3/1) iron-manganese concretions throughout; slightly acid; clear smooth boundary.

E—8 to 14 inches; light brownish gray (10YR 6/2) silt loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; common fine interstitial and tubular pores; common fine and medium spherical very dark gray (10YR 3/1) iron-manganese concretions throughout; common fine and medium irregular light reddish brown (2.5YR 6/3) and red (2.5YR 4/6) masses of iron oxide accumulation; strongly acid; clear smooth boundary.

Btg1—14 to 20 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium subangular blocky structure; friable; common very fine and fine roots; common fine interstitial and tubular pores; few continuous distinct clay films on faces of peds; common fine and medium spherical very dark gray (10YR 3/1) iron-manganese concretions throughout; common fine and medium irregular brown (10YR 4/3) and red (2.5YR 4/6) masses of iron oxide accumulation; very strongly acid; clear smooth boundary.

Btg2—20 to 29 inches; dark grayish brown (10YR 4/2) silty clay; strong fine and medium subangular blocky structure; firm; common very fine and fine roots; common fine interstitial and tubular pores; many continuous distinct clay films on faces of peds; common fine and medium spherical very dark gray (10YR 3/1) iron-manganese concretions throughout; common fine and medium spherical yellowish brown (10YR 5/6) masses of iron oxide accumulation; very strongly acid; gradual smooth boundary.

Btg3—29 to 40 inches; 60 percent grayish brown (10YR 5/2) and 40 percent dark grayish brown (10YR 4/2) silty clay; weak fine prismatic structure parting to strong fine and medium subangular blocky; firm; common very fine and fine roots; many continuous distinct clay films on faces of peds; common fine and medium spherical very dark gray (10YR 3/1) iron-manganese concretions throughout; many fine and medium irregular yellowish brown (10YR 5/6) masses of iron oxide accumulation; very strongly acid; gradual smooth boundary.

Btg4—40 to 51 inches; 75 percent brown (7.5YR 5/2) and 25 percent brown (10YR 4/3) silty clay; moderate medium prismatic structure parting to strong medium and coarse subangular blocky; firm; common very fine and fine roots; many continuous distinct clay films on faces of peds; common fine and medium spherical very dark gray (10YR 3/1) iron-manganese concretions throughout; many fine and medium irregular strong brown (7.5YR 4/6) masses of iron oxide accumulation; very strongly acid; gradual smooth boundary.

2Btg5—51 to 60 inches; grayish brown (10YR 5/2) clay loam; moderate medium and coarse subangular blocky and strong medium prismatic structure; firm; common very fine and fine roots; many continuous distinct clay films on faces of peds; common discontinuous prominent clay depletions throughout; common fine and medium spherical very dark gray (10YR 3/1) iron-manganese concretions throughout; common strong brown (7.5YR 4/6) masses of iron oxide accumulation; strongly acid; gradual smooth boundary.

2Btg6—60 to 71 inches; gray (10YR 5/1) clay loam; moderate medium subangular blocky and moderate medium prismatic structure; firm; many continuous distinct clay films on faces of peds; common discontinuous prominent clay depletions throughout; many fine and medium spherical very dark gray (10YR 3/1) iron-manganese concretions throughout; many fine and medium irregular strong brown (7.5YR 4/6) masses of iron oxide accumulation; strongly acid; gradual smooth boundary.

2Btg7—71 to 80 inches; gray (10YR 5/1) silty clay loam; moderate medium prismatic and moderate medium subangular blocky structure; firm; common continuous distinct clay films on faces of peds; few discontinuous prominent clay depletions on faces of peds; many fine and medium irregular very dark gray (10YR 3/1) iron-manganese concretions throughout; many fine and medium irregular strong brown (7.5YR 4/6) masses of iron oxide accumulation; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

Ap horizon:
Color—value of 4 to 6

E horizon:
Color—value of 4 to 6

Btg horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 or 3
Texture—silty clay loam or silty clay

2Btg horizon:
Color—value of 4 or 5 and chroma of 1 or 2
Texture—clay loam or silty clay loam

Fourche Series

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Footslope
Parent material: Loess over residuum weathered from dolostone
Slope range: 3 to 15 percent

Taxonomic classification: Fine-silty, mixed, active, mesic Glossaquic Paleudalfs

Typical Pedon

Fourche silt loam, 3 to 15 percent slopes; USGS Courtois topographic quadrangle; UTM—Zone 15, Easting 670850, Northing 4189195. (This pedon is from Washington County.)

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure parting to moderate very fine and fine granular; friable; many very fine and fine roots; many fine interstitial and tubular pores; moderately acid; clear smooth boundary.

Bt1—8 to 14 inches; brown (7.5YR 5/4) silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots; many fine interstitial and tubular pores; few discontinuous faint clay films on faces of peds; 1 percent subangular chert gravel; moderately acid; gradual smooth boundary.

Bt2—14 to 20 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine subangular blocky structure; firm; common very fine and fine roots; common fine interstitial and tubular pores; few discontinuous distinct clay films, few distinct silt coats, and few fine distinct yellowish red (5YR 5/8) iron stains on faces of peds; 1 percent subangular chert gravel; moderately acid; gradual smooth boundary.

2Bt/E—20 to 27 inches; 60 percent strong brown (7.5YR 5/6) and 40 percent yellowish brown (10YR 5/6) silty clay loam (2Bt); weak fine prismatic structure parting to moderate very fine and fine subangular blocky; firm; light yellowish brown (10YR 6/4) silt loam (E) 1 to 5 millimeters thick covering faces of peds; few very fine and fine roots; common fine interstitial and tubular pores; few discontinuous distinct clay films, common distinct grayish brown (10YR 5/2) clay depletions, and few fine distinct yellowish red (5YR 4/6) manganese or iron-manganese stains on faces of peds; 5 percent subangular chert gravel; moderately acid; clear smooth boundary.

2Bt1—27 to 33 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine and medium prismatic structure parting to moderate fine subangular blocky; firm; many fine interstitial and tubular pores; many continuous distinct clay films, few distinct grayish brown (10YR 5/2) clay depletions, and common distinct yellowish red (5YR 4/6) and few red (2.5YR 4/6) manganese or iron-manganese stains on faces of peds; 5 percent subangular chert gravel; strongly acid; gradual smooth boundary.

2Bt2—33 to 48 inches; red (2.5YR 4/8) silty clay loam; moderate fine and medium prismatic structure; firm; many fine interstitial and tubular pores; many continuous distinct clay films on faces of peds; few distinct pale brown (10YR 6/3) clay depletions and few distinct dark red (2.5YR 3/6) manganese or iron-manganese stains on faces of peds; 5 percent subangular chert gravel; very strongly acid; gradual smooth boundary.

2Bt3—48 to 60 inches; yellowish red (5YR 5/8) silty clay loam; moderate fine and medium prismatic structure; firm; common fine interstitial and tubular pores; many discontinuous distinct clay films, common fine prominent light brownish gray (10YR 6/2) clay depletions, and few distinct dark red (2.5YR 4/6) manganese or iron-manganese stains on faces of peds; 5 percent subangular chert gravel; very strongly acid; gradual smooth boundary.

2Bt4—60 to 80 inches; yellowish red (5YR 5/8) silty clay loam; moderate fine and medium prismatic structure; firm; common fine interstitial and tubular pores; many discontinuous distinct clay films, few fine prominent light brownish gray (10YR 6/2) clay depletions, and few distinct red (2.5YR 4/6) manganese or iron-manganese stains on faces of peds; 5 percent subangular chert gravel; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

Bt horizon:
Color—value of 4 or 5 and chroma of 4 or 6
Texture—silt loam or silty clay loam

2Bt/E horizon:
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 5 or 6 (2Bt); hue of 10YR, value of 5 or 6, and chroma of 3 or 4 (E)

2Bt horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 2, 3, 4, 6, or 8

Freeburg Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Landform: Stream terrace
Parent material: Silty alluvium
Slope range: 0 to 3 percent

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

Typical Pedon

Freeburg silt loam, in an area of Racoon-Freeburg complex, 0 to 3 percent slopes, occasionally flooded; USGS Leasburg topographic quadrangle; UTM—Zone 15, Easting 648215, Northing 4211940.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; many very fine and fine roots; common fine moderate continuity tubular pores; few discontinuous distinct strong brown (7.5YR 5/6) iron stains in root channels and/or pores; few fine black (10YR 2/1) masses of iron-manganese accumulation throughout; moderately acid; clear smooth boundary.

E—6 to 11 inches; grayish brown (10YR 5/2) silt loam; weak fine subangular blocky structure; friable; common very fine and fine roots; common fine tubular pores; common discontinuous prominent strong brown (7.5YR 5/6) iron stains on faces of peds and in pores; few fine black (10YR 2/1) masses of iron-manganese accumulation throughout; neutral; clear smooth boundary.

Bt1—11 to 23 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure;

friable; few very fine and fine roots; common fine moderate continuity tubular pores; common discontinuous faint dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine and medium light gray (10YR 7/1) iron depletions throughout; few distinct strong brown (7.5YR 5/6) iron stains on faces of peds and in pores; few fine black (10YR 2/1) masses of iron-manganese accumulation between peds; slightly acid; clear smooth boundary.

Bt2—23 to 35 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; few very fine and fine roots; common fine moderate continuity tubular pores; common distinct dark yellowish brown (10YR 4/4) clay films, many distinct grayish brown (10YR 5/2) clay depletions, and few distinct strong brown (7.5YR 5/6) iron stains on faces of peds and in pores; few fine and medium light gray (10YR 7/1) iron depletions throughout; few fine and medium black (10YR 2/1) masses of iron-manganese accumulation throughout; slightly acid; gradual wavy boundary.

Bt3—35 to 47 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films, common distinct grayish brown (10YR 5/2) clay depletions, and few distinct strong brown (7.5YR 5/6) iron stains on faces of peds and in pores; few fine light gray (10YR 7/1) iron depletions throughout; few fine and medium spherical black (10YR 2/1) masses of iron-manganese accumulation throughout; slightly acid; gradual wavy boundary.

Bt4—47 to 60 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure; friable; common faint dark yellowish brown (10YR 4/4) clay films, common distinct pale brown (10YR 6/3) clay depletions, and common distinct yellowish brown (10YR 5/6) iron stains on faces of peds and in pores; few fine and medium irregular gray (10YR 6/1) iron depletions and few fine and medium black (10YR 2/1) masses of iron-manganese accumulation between peds; neutral; gradual wavy boundary.

Bt5—60 to 70 inches; yellowish brown (10YR 5/4) silty clay loam; strong medium subangular blocky structure; firm; common distinct dark yellowish brown (10YR 4/4) clay films, common distinct light brownish gray (10YR 6/2) clay depletions, and common distinct yellowish brown (10YR 5/6) iron stains on faces of peds and in pores; common fine and medium gray (10YR 6/1) iron depletions and common medium black (10YR 2/1) masses of iron-manganese accumulation between peds; neutral; gradual wavy boundary.

Bt6—70 to 80 inches; yellowish brown (10YR 5/4) silt loam; strong medium subangular blocky structure; firm; common distinct clay films, common distinct clay depletions, and common distinct iron stains on faces of peds and in pores; common medium gray (10YR 6/1) iron depletions between peds; neutral.

Range in Characteristics

Depth to bedrock: More than 60 inches

E horizon and BA horizon (where present):
Color—value of 5 or 6 and chroma of 2 to 4
Texture—silt loam

Bt horizon:
Color—value of 4 or 5 and chroma of 1 to 4
Texture—silt loam or silty clay loam

2BCg horizon (where present):
Color—hue of 10YR, value of 4 or 5, and chroma of 1 or 2
Texture—silt loam or silty clay loam

Gabriel Series

Depth class: Very deep
Drainage class: Poorly drained
Landform: Stream terrace
Parent material: Silty alluvium
Slope range: 0 to 3 percent

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

Typical Pedon

Gabriel silt loam, 0 to 3 percent slopes, occasionally flooded, gravelly substratum phase; USGS Berryman topographic quadrangle; UTM—Zone 15, Easting 668595, Northing 4198120. (This pedon is from Washington County.)

Ap1—0 to 4 inches; very dark gray (10YR 3/1) silt loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure; friable; many very fine and fine roots; common fine interstitial and tubular pores; common fine prominent iron stains on faces of peds; neutral; clear smooth boundary.

Ap2—4 to 9 inches; very dark gray (10YR 3/1) silt loam, dark gray (10YR 4/1) dry; moderate medium subangular blocky structure; friable; many very fine and fine roots; many fine interstitial and tubular pores; common fine prominent iron stains on faces of peds; neutral; clear smooth boundary.

Btg1—9 to 18 inches; very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium subangular blocky structure parting to strong fine subangular blocky; firm; common very fine and fine roots; common fine interstitial and tubular pores; few fine distinct clay films and many fine prominent iron stains on faces of peds; few fine manganese accumulations; neutral; clear smooth boundary.

Btg2—18 to 27 inches; very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine prismatic structure parting to strong fine subangular blocky; very firm; common very fine and fine roots; common fine interstitial and tubular pores; common fine distinct clay films and many fine prominent iron stains on faces of peds; common fine manganese accumulations; neutral; clear smooth boundary.

Btg3—27 to 42 inches; gray (2.5Y 5/1) silty clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; very firm; common very fine and fine roots; common fine interstitial and tubular pores; common fine distinct clay films on faces of peds; common fine prominent iron stains on faces of peds; common fine manganese accumulations; slightly alkaline; clear smooth boundary.

2Btg4—42 to 55 inches; gray (2.5Y 6/1) clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; very firm; common very fine and fine roots; common fine interstitial and tubular pores; common fine distinct clay films and common fine prominent iron stains on faces of peds; common fine manganese accumulations; 2 percent chert gravel; slightly alkaline; clear smooth boundary.

2Btg5—55 to 62 inches; gray (2.5Y 5/1) clay loam; weak medium prismatic structure parting to moderate very fine subangular blocky; very firm; common very fine and fine roots; common fine interstitial and tubular pores; common fine distinct clay films and common fine prominent iron stains on faces of peds; common fine manganese accumulations; 10 percent chert gravel; slightly alkaline; clear smooth boundary.

2Btg6—62 to 80 inches; gray (2.5Y 5/1) very gravelly clay loam; moderate very fine subangular blocky structure; very firm; common very fine and fine roots; common fine interstitial and tubular pores; common fine distinct clay films and common fine prominent iron stains on faces of peds; common fine manganese accumulations; 40 percent chert gravel; slightly alkaline.

Range in Characteristics

Depth to bedrock: More than 60 inches
Thickness of the mollic epipedon: 21 to 30 inches

Btg horizon:
Color—hue of 10YR or 2.5Y and value of 3 to 5

2Btg horizon:
Color—value of 5 or 6
Texture—silty clay loam, clay loam, or their gravelly or very gravelly analogs

Gatewood Series

Depth class: Moderately deep
Drainage class: Moderately well drained
Landform: Upland
Parent material: Colluvium over clayey residuum from dolostone
Slope range: 3 to 35 percent

Taxonomic classification: Very-fine, mixed, active, mesic Oxyaquic Hapludalfs

Typical Pedon

Gatewood very gravelly silt loam, 15 to 35 percent slopes, stony; USGS Oak Hill topographic quadrangle; UTM—Zone 15, Easting 637400, Northing 4223360.

A—0 to 3 inches; dark brown (10YR 3/3) very gravelly silt loam, light brownish gray (10YR 6/2) dry; weak fine and medium subangular blocky structure; friable; many fine and medium roots; many very fine tubular pores; 35 percent chert gravel; moderately acid; clear smooth boundary.

E1—3 to 8 inches; yellowish brown (10YR 5/4) very gravelly silt loam; moderate fine and medium subangular blocky structure; friable; common fine and medium and few coarse roots; common very fine tubular pores; 45 percent chert gravel; strongly acid; gradual smooth boundary.

E2—8 to 13 inches; yellowish brown (10YR 5/4) very gravelly silt loam; moderate fine and medium angular blocky structure; friable; few fine and medium roots; few very fine tubular pores; 55 percent chert gravel; strongly acid; gradual smooth boundary.

2Bt1—13 to 17 inches; red (2.5YR 4/6) gravelly clay; moderate fine and medium prismatic structure parting to strong fine and medium angular blocky; firm; few fine and medium roots; few very fine tubular pores; many continuous prominent brown

(10YR 5/3) clay films on faces of peds; 15 percent chert gravel; strongly acid; clear wavy boundary.

2Bt2—17 to 21 inches; red (2.5YR 4/6) clay; moderate fine and medium prismatic structure parting to strong fine and medium angular blocky; firm; few fine and medium roots; few very fine interstitial pores; many continuous prominent brown (10YR 4/3) clay films on faces of peds; strongly acid; clear smooth boundary.

2Bt3—21 to 30 inches; brown (10YR 4/3) gravelly clay; moderate fine and medium prismatic structure parting to strong fine and medium angular blocky; very firm; very few fine and medium roots; few very fine interstitial pores; many discontinuous prominent dark grayish brown (10YR 4/2) clay films on faces of peds; common discontinuous distinct manganese or iron-manganese stains on faces of peds; 20 percent dolostone gravel and 10 percent chert gravel; neutral; clear smooth boundary.

2R—30 inches; dolostone bedrock.

Range in Characteristics

Depth to bedrock: 20 to 40 inches

A horizon:
Color—value of 3 to 5 and chroma of 2 or 3
Texture—gravelly silt loam or very gravelly silt loam

E horizon:
Color—value of 4 to 6 and chroma of 2 to 4
Texture—gravelly or very gravelly analogs of silt loam or loam

2Bt horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 to 6, and chroma of 3, 4, 6, or 8
Texture—clay, silty clay, or their gravelly analogs

Glensted Series

Depth class: Very deep
Drainage class: Poorly drained
Landform: Upland
Parent material: Loess over residuum from cherty dolostone
Slope range: 1 to 3 percent

Taxonomic classification: Fine, smectitic, mesic Vertic Albaqualfs

Typical Pedon

Glensted silt loam, 1 to 3 percent slopes; USGS Leasburg topographic quadrangle; UTM—Zone 15, Easting 649540, Northing 4216910.

Ap1—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure parting to weak fine granular; friable; many very fine and fine roots; common very fine and fine high continuity tubular pores; neutral; abrupt smooth boundary.

Ap2—4 to 10 inches; dark grayish brown (10YR 4/2) silt loam; weak medium subangular blocky structure; friable; many very fine and fine roots; many very fine and fine high continuity tubular and common medium low continuity tubular pores; few distinct very dark gray (10YR 3/1) manganese or iron-manganese stains throughout; few fine and medium spherical weakly cemented black (10YR 2/1) iron-manganese concretions throughout; 2 percent chert gravel; neutral; abrupt smooth boundary.

Eg1—10 to 16 inches; light brownish gray (10YR 6/2) silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots; common fine, medium, and coarse high continuity tubular pores; common distinct dark yellowish brown (10YR 4/4) manganese or iron-manganese stains throughout; 2 percent chert gravel; neutral; abrupt smooth boundary.

Eg2—16 to 19 inches; light brownish gray (10YR 6/2) silt loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; common fine and medium high continuity tubular pores; common distinct dark grayish brown (10YR 4/2) organic coats on faces of peds; common distinct dark yellowish brown (10YR 4/4) manganese or iron-manganese stains throughout; 2 percent chert gravel; moderately acid; abrupt smooth boundary.

Btg1—19 to 26 inches; gray (10YR 5/1) silty clay; moderate fine prismatic structure parting to moderate medium angular blocky; firm; few very fine and fine roots; few very fine and fine low continuity tubular pores; many faint clay films on faces of peds; few pale brown (10YR 6/3) iron depletions throughout; common prominent red (10R 4/6) manganese or iron-manganese stains throughout; very strongly acid; clear smooth boundary.

Btg2—26 to 36 inches; dark grayish brown (10YR 4/2) silty clay; weak fine prismatic structure parting to weak medium angular blocky; very firm; few very fine and fine roots; few very fine and fine low continuity tubular pores; many faint clay films on faces of peds; common distinct dark yellowish brown (10YR 4/6) manganese or iron-manganese stains throughout; 2 percent chert gravel; very strongly acid; clear smooth boundary.

2Btg3—36 to 44 inches; dark gray (10YR 4/1) silty clay; moderate medium prismatic structure parting to weak medium angular blocky; very firm; few very fine and fine roots; common very fine and fine moderate continuity tubular pores; many distinct clay films on faces of peds; few light gray (10YR 7/2) iron depletions throughout; common distinct dark yellowish brown (10YR 4/4) manganese or iron-manganese stains throughout; 10 percent chert gravel; very strongly acid; clear smooth boundary.

2Btg4—44 to 50 inches; dark gray (10YR 4/1) gravelly silty clay loam; moderate medium prismatic structure; very firm; few very fine and fine roots; common fine and medium moderate continuity tubular pores; many distinct clay films on faces of peds; common distinct dark yellowish brown (10YR 4/4) manganese or iron-manganese stains throughout; 25 percent chert gravel; very strongly acid; abrupt smooth boundary.

2Btg5—50 to 58 inches; dark gray (10YR 4/1) gravelly clay; moderate coarse prismatic structure; very firm; common very fine and fine moderate continuity tubular and few medium moderate continuity tubular pores; many prominent clay films on faces of peds; common continuous prominent dark reddish brown (5YR 3/4) and yellowish brown (10YR 5/6) manganese or iron-manganese stains throughout; 25 percent chert gravel; strongly acid; clear smooth boundary.

2Btg6—58 to 70 inches; gray (10YR 5/1) gravelly clay loam; moderate coarse prismatic structure; very firm; common very fine and fine moderate continuity tubular pores; common prominent clay films on faces of peds; common prominent reddish brown (5YR 4/4) manganese or iron-manganese stains throughout; 30 percent chert gravel; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

Ap horizon:
Color—value of 3 or 4

Eg horizon:
Color—value 5 or 6

Btg horizon:
Color—value of 4 or 5 and chroma of 1 or 2

2Btg horizon:
Color—value of 4 or 5
Texture—silty clay loam, clay loam, silty clay, clay, or their gravelly analogs

2Cg horizon (where present):
Color—hue of 10YR, value of 4 or 5, and chroma of 1
Texture—silty clay loam

Goss Series

Depth class: Very deep
Drainage class: Well drained
Landform: Upland
Parent material: Colluvium over residuum from cherty dolostone
Slope range: 3 to 50 percent

Taxonomic classification: Clayey-skeletal, mixed, active, mesic Typic Paleudalfs

Typical Pedon

Goss very cobbly silt loam, 15 to 50 percent slopes, extremely stony; USGS Viburnum West topographic quadrangle; UTM—Zone 15, Easting 661120, Northing 4178610.

A—0 to 6 inches; dark grayish brown (10YR 4/2) very cobbly silt loam, light brownish gray (10YR 6/2) dry; friable; common very fine and fine roots; 5 percent chert stones, 15 percent chert cobbles, and 15 percent chert gravel; very strongly acid; clear wavy boundary.

E—6 to 12 inches; light yellowish brown (10YR 6/4) very gravelly silt loam; weak fine subangular blocky structure; friable; few medium, common fine, and many very fine roots; 5 percent chert stones, 5 percent chert cobbles, and 30 percent chert gravel; very strongly acid; clear wavy boundary.

Bt1—12 to 23 inches; 75 percent reddish yellow (7.5YR 6/6) and 25 percent red (2.5YR 5/8) very gravelly silty clay loam; weak fine angular blocky structure; friable; few fine and common very fine roots; few discontinuous faint clay films on faces of peds; 5 percent chert stones, 10 percent chert cobbles, and 30 percent chert gravel; strongly acid; abrupt wavy boundary.

2Bt2—23 to 31 inches; 95 percent red (2.5YR 4/8) and 5 percent strong brown (7.5YR 5/8) very gravelly clay; strong fine and medium angular blocky structure; firm; few fine and common very fine roots; common continuous distinct clay films on faces of peds; 5 percent chert stones, 5 percent chert cobbles, and 30 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt3—31 to 40 inches; 90 percent red (2.5YR 4/8) and 10 percent strong brown (7.5YR 5/8) gravelly clay; moderate fine and medium angular blocky structure; firm; common very fine and fine roots; common continuous distinct clay films on faces of peds; 5 percent chert stones and 15 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt4—40 to 55 inches; 50 percent strong brown (7.5YR 5/6) and 50 percent red (10R 4/6) gravelly clay; moderate medium prismatic structure parting to weak medium angular blocky; firm; common very fine and fine roots; common continuous distinct clay films on faces of peds; 15 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt5—55 to 67 inches; 80 percent strong brown (7.5YR 5/6) and 20 percent red (10R 4/6) gravelly clay; moderate medium prismatic structure parting to weak medium angular blocky; firm; few very fine and fine roots; common continuous prominent clay films on faces of peds; 20 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt6—67 to 80 inches; 80 percent red (2.5YR 4/8) and 20 percent strong brown (7.5YR 5/8) gravelly clay; moderate medium prismatic structure parting to weak medium angular blocky; firm; few very fine and fine roots; common continuous distinct clay films on faces of peds; 15 percent chert gravel; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

A horizon:
Color—value of 3 or 4 and chroma of 2 or 3
Texture—gravelly silt loam or very cobbly silt loam

E horizon:
Color—value of 5 or 6 and chroma of 3 or 4
Texture—gravelly silt loam or very gravelly silt loam

Bt horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 5 or 6, and chroma of 6 or 8
Texture—very gravelly or extremely gravelly analogs of silt loam or silty clay loam

2Bt horizon:
Color—hue of 10R, 2.5YR, 5YR, or 7.5YR, value of 3 to 5, and chroma of 3, 4, 6, or 8
Texture—gravelly, very gravelly, extremely gravelly, or very cobbly analogs of clay or silty clay

Gravois Series

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Upland
Parent material: Loess over residuum from dolostone
Slope range: 3 to 15 percent

Taxonomic classification: Fine-silty, mixed, active, mesic Aquic Paleudalfs

Typical Pedon

Gravois silt loam, 3 to 8 percent slopes; USGS Tiff topographic quadrangle; UTM—Zone 15, Easting 697560, Northing 4221410. (This pedon is from Washington County.)

A—0 to 3 inches; dark brown (10YR 3/3) silt loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure; friable; many very fine and fine and common medium roots; very strongly acid; clear smooth boundary.

E—3 to 8 inches; brown (10YR 4/3) silt loam; moderate fine and medium subangular blocky structure; friable; many very fine and fine and common medium and coarse roots; common distinct silt coats on faces of peds; very strongly acid; clear smooth boundary.

Bt1—8 to 14 inches; strong brown (7.5YR 4/6) silt loam; moderate fine and medium subangular blocky structure; friable; common fine, medium, and coarse roots; few distinct clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt2—14 to 19 inches; strong brown (7.5YR 4/6) silty clay loam; moderate fine and medium subangular blocky structure; firm; common very fine, fine, medium, and coarse roots; common distinct clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt3—19 to 25 inches; strong brown (7.5YR 5/6) silty clay loam; weak fine prismatic structure parting to moderate fine and medium subangular blocky; firm; common fine, medium, and coarse roots; common distinct clay films on faces of peds; few fine distinct dark grayish brown (10YR 4/2) clay depletions; very strongly acid; clear smooth boundary.

Bt4—25 to 33 inches; strong brown (7.5YR 4/6) silty clay loam; weak fine prismatic structure parting to moderate fine and medium subangular blocky; firm; common very fine and fine roots; common distinct clay films on faces of peds; many fine distinct dark grayish brown (10YR 4/2) and light brownish gray (10YR 6/2) clay depletions; few strong brown (7.5YR 5/8) masses of iron-manganese accumulation; very strongly acid; abrupt smooth boundary.

2Btx1—33 to 37 inches; strong brown (7.5YR 5/6) very gravelly silt loam; moderate fine subangular blocky structure; very firm; 30 percent brittle; few distinct clay films on faces of peds; common continuous light brownish gray (10YR 6/2) clay depletions; 55 percent chert gravel; very strongly acid; abrupt smooth boundary.

2Btx2—37 to 48 inches; 60 percent yellowish red (5YR 4/6) and 40 percent strong brown (7.5YR 5/6) extremely gravelly loam; moderate fine subangular blocky structure; very firm; 30 percent brittle; few discontinuous clay films on faces of peds; common prominent light brownish gray (10YR 6/2) clay depletions; 65 percent chert gravel; very strongly acid; abrupt smooth boundary.

3Bt1—48 to 62 inches; 90 percent dark red (10R 3/6) and 10 percent red (2.5YR 4/6) gravelly clay; moderate coarse prismatic structure parting to strong fine angular blocky; very firm; few fine and medium roots; many continuous clay films on faces of peds; 15 percent chert gravel and 5 percent barite gravel; very strongly acid; gradual smooth boundary.

3Bt2—62 to 80 inches; dark red (10R 3/6) gravelly clay; moderate coarse prismatic structure parting to strong fine angular blocky; very firm; few fine and medium roots; many continuous clay films on faces of peds; 5 percent chert cobbles and 15 percent chert gravel; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragic layer: 18 to 40 inches

A or Ap horizon:
Color—value of 3 or 4 and chroma of 2 or 3

E horizon:
Color—value of 4 or 5 and chroma of 3 or 4

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4, 6, or 8
Texture—silt loam or silty clay loam

2Btx horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 2, 3, 4, or 6
Texture—silty clay loam or gravelly, very gravelly, or extremely gravelly analogs of silt loam or loam

3Bt horizon:
Color—hue of 10R, 2.5YR, 5YR, or 7.5YR, value of 2 to 6, and chroma of 4, 6, or 8
Texture—clay or gravelly or very gravelly analogs of silty clay loam, silty clay, or clay

4Bt horizon (where present):
Color—hue of 10R, 2.5YR, 5YR, or 7.5YR, value of 2 to 6, and chroma of 4, 6, or 8
Texture—clay, cobbly clay, or very cobbly clay

Hartville Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Landform: Footslope
Parent material: Colluvium
Slope range: 3 to 8 percent

Taxonomic classification: Fine, mixed, active, mesic Aquic Hapludalfs

Typical Pedon

Hartville silt loam, 3 to 8 percent slopes; USGS Ebo topographic quadrangle; UTM—Zone 15, Easting 676565, Northing 4210550. (This pedon is from Washington County.)

Ap—0 to 5 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; weak very fine and fine subangular blocky structure parting to moderate very fine and fine granular; friable; many very fine and fine roots; many very fine and fine interstitial and tubular pores; common continuous distinct silt coats on faces of peds; common discontinuous distinct manganese or iron-manganese stains on faces of peds; common discontinuous distinct iron stains on faces of peds; 5 percent subangular chert gravel; strongly acid; clear smooth boundary.

BE—5 to 10 inches; pale brown (10YR 6/3) silt loam; moderate very fine and fine subangular blocky structure parting to weak fine granular; friable; common very fine and fine roots; many very fine and fine interstitial and tubular pores; common continuous distinct silt coats on faces of peds; few distinct manganese or iron-manganese stains on faces of peds; common discontinuous distinct iron stains on faces of peds; 5 percent subangular chert gravel; strongly acid; clear smooth boundary.

Bt1—10 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; moderate very fine and fine subangular blocky structure; friable; few very fine and fine roots; many very fine and fine interstitial and tubular pores; common continuous distinct clay films and silt coats on faces of peds; few distinct manganese or iron-manganese stains on faces of peds; few distinct iron stains on faces of peds; 2 percent chert gravel; strongly acid; abrupt smooth boundary.

Bt2—15 to 21 inches; 60 percent yellowish brown (10YR 5/4) and 40 percent grayish brown (10YR 5/2) silty clay; moderate fine and medium angular blocky structure; firm; few very fine and fine roots; many very fine and fine interstitial and tubular pores; few continuous distinct clay depletions and many continuous distinct clay films on faces of peds; few discontinuous distinct dark yellowish brown (10YR 4/6) manganese or iron-manganese stains on faces of peds; very strongly acid; clear smooth boundary.

Bt3—21 to 31 inches; 65 percent yellowish brown (10YR 5/4) and 35 percent grayish brown (10YR 5/2) silty clay; moderate fine prismatic structure; very firm; few very fine and fine roots; many very fine and fine interstitial and tubular pores; many continuous distinct clay films on faces of peds; few discontinuous distinct dark yellowish brown (10YR 4/6) manganese or iron-manganese stains on faces of peds; strongly acid; clear smooth boundary.

Bt4—31 to 42 inches; 60 percent yellowish brown (10YR 5/4) and 40 percent grayish brown (10YR 5/2) silty clay; weak fine prismatic structure parting to moderate fine subangular blocky; very firm; few very fine and fine roots; common very fine and fine interstitial and tubular pores; many continuous distinct clay films on faces of peds; few discontinuous distinct dark yellowish brown (10YR 4/6) manganese or iron-manganese stains on faces of peds; neutral; clear smooth boundary.

Bt5—42 to 51 inches; brown (10YR 5/3) silty clay loam; weak fine prismatic structure parting to moderate very fine and fine angular blocky; firm; common very fine and fine interstitial and tubular pores; common continuous distinct clay films on faces of peds; few distinct brownish yellow (10YR 6/6) manganese or iron-manganese stains on faces of peds; few distinct dark yellowish brown (10YR 4/6) iron stains on faces of peds; neutral; clear smooth boundary.

2Bt6—51 to 58 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent yellowish brown (10YR 5/4) silty clay loam; moderate very fine and fine subangular blocky structure; firm; common very fine and fine interstitial and tubular pores; common continuous distinct clay films on faces of peds; common discontinuous distinct manganese or iron-manganese stains on faces of peds; few fine irregular carbonate concretions between peds; slightly alkaline; clear smooth boundary.

2Bt7—58 to 73 inches; pale brown (10YR 6/3) silt loam; moderate fine and medium subangular blocky structure; firm; common very fine and fine interstitial and tubular pores; common continuous distinct clay films on faces of peds; few distinct yellowish brown (10YR 5/6) manganese or iron-manganese stains on faces of peds; 5 percent chert gravel; moderately alkaline.

Range in Characteristics

Depth to bedrock: More than 60 inches

Ap horizon:
Color—value of 4 or 5 and chroma of 2 or 3

BE horizon:
Color—value of 5 or 6 and chroma of 3 or 4

Bt horizon:
Color—value of 4 to 6 and chroma of 2 to 4
Texture—silty clay loam or silty clay

2Bt horizon:
Color—value of 5 or 6 and chroma of 3, 4, or 6
Texture—silt loam or silty clay loam

Haymond Series

Depth class: Very deep
Drainage class: Well drained
Landform: Flood plain
Parent material: Coarse-silty alluvium
Slope range: 0 to 3 percent

Taxonomic classification: Coarse-silty, mixed, superactive, mesic Dystric Fluventic Eutrudepts

Typical Pedon

Haymond silt loam, 0 to 3 percent slopes, frequently flooded; USGS Leasburg topographic quadrangle; UTM—Zone 15, Easting 650350, Northing 4211680.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure parting to weak fine and medium granular; friable; many very fine and fine roots; many very fine and fine interstitial and tubular pores; slightly acid; clear smooth boundary.

Bw1—7 to 19 inches; brown (10YR 4/3) silt loam; weak fine and medium subangular blocky structure; friable; common very fine and fine roots; many fine and medium interstitial and tubular pores; few distinct silt coats in root channels and pores; slightly acid; gradual smooth boundary.

Bw2—19 to 34 inches; brown (10YR 4/3) silt loam; weak fine and medium subangular blocky structure; friable; common very fine and fine roots; many fine and medium interstitial and tubular pores; common discontinuous distinct silt coats on faces of peds; slightly acid; gradual smooth boundary.

Bw3—34 to 57 inches; brown (10YR 4/3) silt loam; weak fine and medium subangular blocky structure; friable; common very fine and fine roots; many fine and medium interstitial and tubular pores; few distinct silt coats on faces of peds; slightly acid; clear smooth boundary.

Ab1—57 to 76 inches; very dark grayish brown (10YR 3/2) silt loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; many fine and medium interstitial and tubular pores; slightly acid; clear smooth boundary.

Ab2—76 to 80 inches; dark brown (10YR 3/3) silt loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; many fine and medium interstitial and tubular pores; slightly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

A or Ap horizon:
Color—value of 3 or 4 and chroma of 2 or 3

Bw horizon:
Color—value of 4 or 5 and chroma of 3 or 4

Ab horizon:
Color—chroma of 2 or 3

2C horizon (where present):
Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—fine sandy loam

Higdon Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Landform: Stream terrace and footslope
Parent material: Silty alluvium
Slope range: 0 to 5 percent

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

Typical Pedon

Higdon silt loam, 0 to 3 percent slopes, occasionally flooded; USGS Cyclone Hollow topographic quadrangle; UTM—Zone 15, Easting 675860, Northing 4225190. (This pedon is from Washington County.)

Ap1—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, 70 percent light gray (10YR 7/2) and 30 percent light brownish gray (10YR 6/2) dry; weak fine subangular blocky structure; very friable; many very fine and fine roots; many very fine and fine vesicular and tubular pores; very strongly acid; clear smooth boundary.

Ap2—6 to 10 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine subangular blocky structure; very friable; many very fine and fine roots; many very fine and fine vesicular and tubular pores; few prominent iron stains on faces of peds; moderately acid; clear smooth boundary.

E—10 to 19 inches; light brownish gray (10YR 6/2) silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots; many very fine and fine vesicular and tubular pores; many continuous prominent silt coats on faces of peds; few prominent iron stains on faces of peds; slightly acid; gradual smooth boundary.

Bt1—19 to 27 inches; 60 percent dark yellowish brown (10YR 4/4) and 40 percent grayish brown (10YR 5/2) silt loam; weak fine prismatic structure parting to moderate fine subangular blocky; friable; few very fine and fine roots; common very fine and fine vesicular and tubular pores; few discontinuous distinct clay films and common faint dark grayish brown (10YR 4/2) clay depletions on faces of peds; few prominent iron stains on faces of peds; slightly acid; gradual smooth boundary.

Bt2—27 to 35 inches; 70 percent dark yellowish brown (10YR 4/4) and 30 percent grayish brown (10YR 5/2) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; firm; few very fine and fine roots; few very fine and fine vesicular and tubular pores; common discontinuous distinct clay films and common faint dark grayish brown (10YR 4/2) clay depletions on faces of peds; few prominent manganese or iron-manganese stains on faces of peds; neutral; gradual smooth boundary.

Bt3—35 to 43 inches; 75 percent dark yellowish brown (10YR 4/4) and 25 percent grayish brown (10YR 5/2) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; firm; few very fine and fine roots; many very fine and fine vesicular and tubular pores; common discontinuous distinct clay films and common faint dark grayish brown (10YR 4/2) clay depletions on faces of peds; few prominent manganese or iron-manganese stains on faces of peds; neutral; gradual smooth boundary.

Bt4—43 to 57 inches; 60 percent dark yellowish brown (10YR 4/4) and 40 percent grayish brown (10YR 5/2) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; many very fine and fine vesicular and tubular pores; common discontinuous distinct clay films on faces of peds; common prominent manganese or iron-manganese stains on faces of peds; neutral; clear smooth boundary.

Bt5—57 to 70 inches; brown (10YR 5/3) silty clay loam; moderate very coarse prismatic structure; firm; many very fine and fine vesicular and tubular pores; common discontinuous prominent clay films on faces of peds; common prominent manganese or iron-manganese stains on faces of peds; neutral; clear smooth boundary.

Bt6—70 to 80 inches; 80 percent yellowish brown (10YR 5/4) and 20 percent grayish brown (10YR 5/2) silty clay loam; moderate very coarse prismatic structure; firm; many very fine and fine vesicular and tubular pores; common discontinuous distinct clay films on faces of peds; few prominent manganese or iron-manganese stains on faces of peds; many prominent iron stains on faces of peds; neutral.

Range in Characteristics

Depth to bedrock: More than 60 inches

E horizon:
Color—value of 5 or 6

Bt horizon:
Color—value of 4 or 5 and chroma of 2 to 4
Texture—silt loam or silty clay loam

2Bt horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 4
Texture—silt loam, silty clay loam, or their gravelly analogs

Hildebrecht Series

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Upland
Parent material: Loess over residuum weathered from dolostone
Slope range: 3 to 15 percent

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

Hildebrecht silt loam, in an area of Rueter-Hildebrecht complex, 3 to 15 percent slopes, stony; USGS Onondaga Cave topographic quadrangle; UTM—Zone 15, Easting 662255, Northing 4209750.

A—0 to 5 inches; brown (10YR 5/3) silt loam, light brownish gray (10YR 6/2) dry; weak fine subangular blocky structure parting to weak fine granular; friable; many fine and medium roots; very strongly acid; gradual smooth boundary.

Bt1—5 to 12 inches; light yellowish brown (10YR 6/4) silt loam; weak fine subangular blocky structure; friable; common fine and medium and few coarse roots; few discontinuous faint clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt2—12 to 19 inches; strong brown (7.5YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; common fine and medium roots; many continuous distinct clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt3—19 to 25 inches; strong brown (7.5YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; common fine and medium roots; many continuous distinct clay films on faces of peds; common clay depletions on faces of peds; very strongly acid; clear smooth boundary.

2Btx1—25 to 30 inches; 80 percent yellowish brown (10YR 5/4) and 20 percent gray (10YR 6/1) extremely gravelly silt loam; moderate coarse prismatic structure parting to moderate fine subangular blocky; very firm; 70 percent brittle; few fine, medium, and coarse roots between peds; many discontinuous faint clay films between peds; 5 percent chert cobbles and 65 percent chert gravel; very strongly acid; clear wavy boundary.

2Btx2—30 to 39 inches; 55 percent light yellowish brown (10YR 6/4), 35 percent strong brown (7.5YR 5/6), and 10 percent gray (10YR 6/1) extremely gravelly silty clay loam; strong very coarse prismatic structure; very firm; 70 percent brittle; many discontinuous faint clay films between peds; 5 percent chert stones, 5 percent chert cobbles, and 65 percent chert gravel; very strongly acid; gradual wavy boundary.

3Bt1—39 to 50 inches; 60 percent yellowish brown (10YR 5/6), 25 percent yellowish red (5YR 4/6), and 15 percent red (2.5YR 4/6) very gravelly clay; strong medium prismatic structure; very firm; few fine and medium roots; many continuous prominent clay films on faces of peds; 5 percent chert cobbles and 30 percent chert gravel; very strongly acid; gradual wavy boundary.

3Bt2—50 to 60 inches; 55 percent yellowish brown (10YR 5/6), 35 percent dark yellowish brown (10YR 4/6), and 10 percent brownish yellow (10YR 6/8) very gravelly clay; strong medium prismatic structure; very firm; many continuous prominent clay films on faces of peds; 5 percent chert cobbles and 50 percent chert gravel; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 24 to 36 inches

A horizon:
Color—value of 4 or 5

E horizon (where present):
Color—hue of 10YR, value of 5, and chroma of 3 or 4
Texture—silt loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3, 4, or 6
Texture—silt loam or silty clay loam

2Btx horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 5 or 6, and chroma of 1, 2, 3, 4, or 6
Texture—gravelly, very gravelly, extremely gravelly, or stony analogs of silt loam or silty clay loam

3Bt horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 to 6, and chroma of 3, 4, 6, or 8
Texture—clay, very gravelly clay, or extremely gravelly clay

Hobson Series

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Upland
Parent material: Colluvium over residuum
Slope range: 3 to 15 percent

Taxonomic classification: Fine-loamy, siliceous, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

Hobson silt loam, 3 to 15 percent slopes; USGS Huzzah topographic quadrangle; UTM—Zone 15, Easting 658560, Northing 4199750.

A—0 to 2 inches; brown (10YR 4/3) silt loam, light brownish gray (10YR 6/2) dry; weak fine subangular blocky structure parting to moderate very fine granular; friable; many fine roots; many very fine tubular pores; very strongly acid; abrupt smooth boundary.

E—2 to 7 inches; brown (10YR 4/3) silt loam; moderate very fine subangular blocky structure; friable; many fine and few medium roots; many very fine tubular pores; very strongly acid; clear smooth boundary.

Bt1—7 to 11 inches; yellowish brown (10YR 5/4) silt loam; moderate fine subangular blocky structure; friable; common fine roots; common very fine tubular pores; few discontinuous distinct clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt2—11 to 17 inches; dark yellowish brown (10YR 4/6) silty clay loam; weak fine prismatic structure parting to moderate very fine subangular blocky; friable; few fine and medium roots; common very fine tubular pores; common discontinuous distinct clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt3—17 to 22 inches; dark yellowish brown (10YR 4/6) clay loam; moderate fine prismatic structure parting to moderate very fine subangular blocky; friable; few fine and medium roots; common very fine tubular pores; common discontinuous distinct clay films on faces of peds; very strongly acid; clear smooth boundary.

2Btx1—22 to 26 inches; dark yellowish brown (10YR 4/6) loam; weak fine prismatic structure parting to moderate very fine subangular blocky; firm; 30 percent brittle; few fine and medium roots; few very fine tubular pores; common discontinuous distinct clay films on faces of peds; common dark grayish brown (10YR 4/2) iron depletions; very strongly acid; abrupt smooth boundary.

2Btx2—26 to 39 inches; 40 percent dark grayish brown (10YR 4/2), 40 percent yellowish brown (10YR 5/4), and 20 percent grayish brown (10YR 5/2) extremely gravelly loam; moderate very coarse prismatic structure parting to weak very fine subangular blocky; very firm; 70 percent brittle; few fine roots; few very fine tubular pores; few discontinuous distinct clay films on faces of peds; 65 percent chert gravel; very strongly acid; abrupt smooth boundary.

2Btx3—39 to 45 inches; yellowish brown (10YR 5/6) gravelly clay loam; weak fine platy structure parting to weak medium subangular blocky; very firm; 80 percent brittle; few fine roots; common very fine tubular pores; common discontinuous distinct clay films on faces of peds; common grayish brown (10YR 5/2) iron depletions; common strong brown (7.5YR 5/8) and dark red (2.5YR 3/6) iron stains on faces of peds; 30 percent chert gravel; very strongly acid; clear smooth boundary.

3Bt1—45 to 64 inches; 80 percent yellowish brown (10YR 5/6) and 20 percent weak red (2.5YR 5/2) very cobbly clay; moderate very fine angular blocky structure; firm; few fine roots; common very fine tubular pores; common discontinuous distinct clay films on faces of peds; common dark red (2.5YR 3/6) iron stains on faces of peds; 20 percent chert cobbles and 30 percent sandstone cobbles; very strongly acid; clear smooth boundary.

3R—64 inches; fractured sandstone bedrock.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 18 to 27 inches

A horizon:
Color—value of 3 to 5 and chroma of 2 or 3

E horizon and BE horizon (where present):
Color—value of 4 or 5 and chroma of 3 or 4
Texture—silt loam

Bt horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4 or 6
Texture—silty clay loam, silt loam, loam, or clay loam

2Btx horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2, 3, 4, or 6
Texture—sandy clay loam, loam, clay loam, fine sandy loam, or their gravelly, very gravelly, or extremely gravelly analogs

3Bt horizon:
Color—hue of 10R, 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 to 6, and chroma of 2, 3, 4, 6, or 8
Texture—clay, clay loam, sandy clay loam, or their gravelly, very gravelly, cobbly, or very cobbly analogs

Horsecreek Series

Depth class: Very deep
Drainage class: Well drained
Landform: Stream terrace
Parent material: Silty alluvium
Slope range: 0 to 3 percent

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

Typical Pedon

Horsecreek silt loam, 0 to 3 percent slopes, occasionally flooded, wet substratum phase; USGS Onondaga Cave topographic quadrangle; UTM—Zone 15, Easting 661420, Northing 4208050.

Ap—0 to 8 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine granular structure; friable; many very fine and fine roots; many fine interstitial and tubular pores; neutral; clear smooth boundary.

Bt1—8 to 15 inches; brown (7.5YR 4/4) silt loam; weak fine subangular blocky structure parting to weak fine granular; friable; common very fine, fine, and medium roots; many fine interstitial and tubular pores; few distinct discontinuous clay films on faces of peds; neutral; gradual smooth boundary.

Bt2—15 to 40 inches; strong brown (7.5YR 4/6) silt loam; weak medium subangular blocky structure; friable; few very fine and fine roots; common very fine and fine interstitial and tubular pores; common discontinuous prominent clay films on faces of peds and in pores; common distinct silt coats on vertical faces of peds; few distinct manganese or iron-manganese stains on faces of peds; neutral; gradual smooth boundary.

Bt3—40 to 52 inches; strong brown (7.5YR 4/6) silt loam; weak medium subangular blocky structure; firm; few very fine and fine roots; common very fine and fine interstitial and tubular pores; common discontinuous distinct clay films on faces of peds; common distinct silt coats on vertical faces of peds; few distinct manganese or iron-manganese stains on faces of peds; neutral; gradual smooth boundary.

Bt4—52 to 60 inches; dark yellowish brown (10YR 4/6) silt loam; weak medium subangular blocky structure; friable; common very fine and fine interstitial and tubular pores; few discontinuous distinct clay films on faces of peds; common fine and medium distinct grayish brown (10YR 5/2) iron depletions; few distinct manganese or iron-manganese stains on faces of peds; neutral; gradual smooth boundary.

Bt5—60 to 80 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; firm; common very fine and fine interstitial and tubular pores; few discontinuous distinct clay films on faces of peds; common fine and medium distinct grayish brown (10YR 5/2) iron depletions; few distinct manganese or iron-manganese stains on faces of peds; neutral.

Range in Characteristics

Depth to bedrock: More than 60 inches

A or Ap horizon:
Color—chroma of 2 or 3

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 or 6 (2 in lower part)

Huzzah Series

Depth class: Very deep
Drainage class: Well drained
Landform: Flood plain
Parent material: Loamy alluvium
Slope range: 0 to 3 percent

Taxonomic classification: Coarse-loamy, siliceous, superactive, mesic Cumulic Hapludolls

Typical Pedon

Huzzah silt loam, 0 to 3 percent slopes, frequently flooded; USGS Onondaga Cave topographic quadrangle; UTM—Zone 15, Easting 661360, Northing 4220540.

A1—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; friable; common very fine and fine roots; many very fine and fine tubular pores; neutral; clear smooth boundary.

A2—6 to 25 inches; dark brown (10YR 3/3) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; friable; few fine roots; many very fine and fine tubular pores; slightly acid; gradual smooth boundary.

A3—25 to 38 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; friable; few fine roots; many very fine and fine tubular pores; slightly acid; clear smooth boundary.

Bw1—38 to 46 inches; dark yellowish brown (10YR 3/4) loam; moderate fine and medium subangular blocky structure; friable; few very fine and fine roots; many very fine and fine tubular pores; neutral; gradual smooth boundary.

Bw2—46 to 56 inches; dark yellowish brown (10YR 3/4) fine sandy loam; weak fine subangular blocky structure; very friable; few very fine and fine roots; many very fine and fine tubular pores; neutral; clear smooth boundary.

Bw3—56 to 63 inches; dark yellowish brown (10YR 3/4) fine sandy loam; weak fine and medium subangular blocky structure; very friable; few very fine and fine roots; many very fine and fine tubular pores; neutral; clear smooth boundary.

Bw4—63 to 80 inches; dark brown (10YR 3/3) silt loam; weak fine and medium subangular blocky structure; friable; few very fine and fine roots; common fine and medium tubular pores; slightly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Thickness of the mollic epipedon: 24 inches to more than 50 inches

A horizon:
Color—chroma of 2 or 3

Bw horizon:
Color—value of 3 or 4 and chroma of 3 or 4
Texture—silt loam, loam, or fine sandy loam

Kaintuck Series

Depth class: Very deep
Drainage class: Well drained
Landform: Flood plain
Parent material: Loamy alluvium
Slope range: 0 to 3 percent

Taxonomic classification: Coarse-loamy, siliceous, superactive, nonacid, mesic Typic Udifluvents

Typical Pedon

Kaintuck fine sandy loam, in an area of Kaintuck-Relfe complex, 0 to 3 percent slopes, frequently flooded; USGS Meramec Springs topographic quadrangle; UTM—Zone 15, Easting 630500, Northing 4199465.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) fine sandy loam, grayish brown (10YR 5/2) dry; weak moderate subangular block structure; friable; many very fine, fine, and medium roots; common fine interstitial and tubular pores; moderately acid; clear smooth boundary.

C1—4 to 17 inches; 60 percent light yellowish brown

(10YR 6/4) and 40 percent brown (10YR 4/3) stratified sand and fine sandy loam; single grain; loose; common fine and medium roots; common fine interstitial and tubular pores; slightly acid; gradual smooth boundary.

C2—17 to 28 inches; 70 percent dark brown (10YR 3/3) and 30 percent yellowish brown (10YR 5/4) stratified sand and fine sandy loam; single grain; loose; few fine and medium roots; common very fine and fine interstitial and tubular pores; slightly acid; clear smooth boundary.

C3—28 to 43 inches; 60 percent brown (10YR 4/3) and 40 percent light yellowish brown (10YR 6/4) stratified loam and fine sandy loam; single grain; loose; few fine and medium roots; few very fine and fine interstitial and tubular pores; slightly acid; clear smooth boundary.

C4—43 to 49 inches; yellowish brown (10YR 5/4) sandy loam; massive; loose; very few fine roots; few very fine and fine interstitial and tubular pores; slightly acid; clear smooth boundary.

C5—49 to 60 inches; 70 percent dark yellowish brown (10YR 5/4) and 30 percent brown (10YR 4/3) stratified silt loam and fine sandy loam; single grain; loose; very few medium roots; few very fine and fine interstitial and tubular pores; slightly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

A or Ap horizon:
Color—value of 3 or 4 and chroma of 2 to 4

C horizon:
Color—value of 3 to 6 and chroma of 3 or 4
Texture—stratified fine sand to silt loam

Lecoma Series

Depth class: Very deep
Drainage class: Well drained
Landform: Footslope
Parent material: Loamy colluvium
Slope range: 1 to 8 percent

Taxonomic classification: Fine-loamy, siliceous, active, mesic Typic Paleudalfs

Typical Pedon

Lecoma silt loam, 1 to 8 percent slopes; USGS Davisville topographic quadrangle; UTM—Zone 15, Easting 663830, Northing 4193275.

A—0 to 4 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine subangular blocky structure; many very fine and fine roots; many very fine and fine interstitial and tubular pores; slightly acid; clear smooth boundary.

BE—4 to 8 inches; brown (7.5YR 4/4) silt loam; moderate fine subangular blocky structure; many very fine and fine roots; many very fine and fine interstitial and tubular pores; neutral; clear smooth boundary.

Bt1—8 to 16 inches; brown (7.5YR 4/4) silt loam; weak fine subangular blocky structure; common very fine and fine roots; many very fine and fine interstitial and tubular pores; few distinct clay films on faces of peds and in pores; neutral; clear smooth boundary.

2Bt2—16 to 24 inches; yellowish red (5YR 5/6) loam; weak fine subangular blocky structure; few very fine and fine roots; common very fine and fine interstitial and tubular pores; few distinct clay films on faces of peds and in pores; few prominent manganese or iron-manganese stains on faces of peds; neutral; gradual smooth boundary.

2Bt3—24 to 35 inches; yellowish red (5YR 5/6) loam; moderate fine subangular blocky structure; few very fine roots; few very fine and fine interstitial and tubular pores; few distinct clay films on faces of peds and in pores; few prominent manganese or iron-manganese stains on faces of peds; neutral; clear smooth boundary.

2Bt4—35 to 42 inches; yellowish red (5YR 5/6) loam; weak fine subangular blocky structure; few very fine and fine interstitial and tubular pores; few distinct clay films on faces of peds and in pores; few prominent silt coats on faces of peds; slightly acid; clear smooth boundary.

2Bt5—42 to 60 inches; yellowish red (5YR 5/6) sandy clay loam; weak fine subangular blocky structure; few very fine and fine interstitial and tubular pores; few distinct clay films on faces of peds and in pores; 10 percent chert gravel; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

A or Ap horizon:
Color—value of 3 or 4 and chroma of 3 or 4

BE horizon:
Color—value of 4 or 5 and chroma of 4 or 6

Bt horizon:
Color—value of 4 or 5 and chroma of 4 or 6

2Bt horizon:
Color—hue of 5YR or 7.5YR, value of 4 to 6, and chroma of 4 or 6
Texture—loam or sandy clay loam

Lily Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Upland
Parent material: Residuum from sandstone
Slope range: 3 to 15 percent

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

Typical Pedon

Lily loam, in an area of Lily-Bender complex, 3 to 15 percent slopes; USGS Indian Springs topographic quadrangle; UTM—Zone 15, Easting 632245, Northing 4202400.

A—0 to 3 inches; dark brown (10YR 3/3) loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; common very fine and fine roots; common fine and medium interstitial and tubular pores; very strongly acid; clear smooth boundary.
E—3 to 7 inches; light yellowish brown (10YR 6/4) loam; moderate medium subangular blocky structure; friable; common fine and medium roots; common fine and medium interstitial and tubular pores; very strongly acid; clear smooth boundary.
Bt1—7 to 11 inches; strong brown (7.5YR 5/6) silt loam; moderate medium subangular blocky structure parting to moderate fine subangular blocky; friable; many very fine, fine, medium, and coarse roots; common fine and medium interstitial and tubular pores; few discontinuous faint clay films on faces of peds; very strongly acid; gradual smooth boundary.
Bt2—11 to 18 inches; strong brown (7.5YR 4/6) silty clay loam; strong medium subangular blocky structure; firm; many very fine, fine, and medium roots; common fine and medium interstitial and tubular pores; few continuous distinct clay films on faces of peds; very strongly acid; gradual smooth boundary.
Bt3—18 to 23 inches; strong brown (7.5YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm; common fine and medium roots; common fine and medium interstitial and tubular pores; common continuous distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt4—23 to 30 inches; strong brown (7.5YR 4/6) gravelly loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; few very fine and fine roots; common fine and medium interstitial and tubular pores; common continuous distinct clay films on faces of peds; common discontinuous prominent grayish brown (10YR 5/2) silt coats on faces of peds; few masses of iron-manganese accumulation; 2 percent sandstone cobbles and 30 percent angular sandstone gravel; strongly acid; clear smooth boundary.
R—30 inches; sandstone bedrock.

Range in Characteristics

Depth to bedrock: 20 to 40 inches

A or Ap horizon:
Color—value of 3 to 5 and chroma of 2 or 3
Texture—loam or fine sandy loam

E horizon and BE horizon (where present):
Color—value of 4 to 6 and chroma of 2, 3, 4, or 6
Texture—silt loam, loam, or fine sandy loam

Bt horizon:
Color—hue of 5YR or 10YR, value of 4 to 6, and chroma of 3, 4, 6, or 8
Texture—silty clay loam, silt loam, loam, clay loam, fine sandy loam, sandy clay loam, or their gravelly analogs

C horizon (where present):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4, 6, or 8
Texture—gravelly or cobbly analogs of loam or fine sandy loam

Moko Series

Depth class: Very shallow and shallow
Drainage class: Well drained
Landform: Upland
Parent material: Residuum weathered from dolostone
Slope range: 3 to 90 percent

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

Typical Pedon

Moko very gravelly clay loam, in an area of Sonsac-Moko-Rock outcrop complex, 15 to 50 percent slopes, extremely stony; USGS Ebo topographic quadrangle; UTM—Zone 15, Easting 678580, Northing 4219360. (This pedon is from Washington County.)

A1—0 to 8 inches; very dark brown (10YR 2/2) very gravelly clay loam, very dark gray (10YR 3/1) dry; strong medium granular structure; friable; many fine and medium and common coarse roots; common fine interstitial and tubular pores; 45

percent chert gravel; neutral; clear smooth boundary.

A2—8 to 14 inches; very dark gray (10YR 3/1) extremely gravelly silt loam, very dark grayish brown (10YR 3/2) dry; weak fine subangular blocky structure; friable; common fine and medium roots; common fine interstitial and tubular pores; 60 percent dolostone gravel; neutral; abrupt wavy boundary.

R—14 inches; dolostone bedrock.

Range in Characteristics

Depth to bedrock: 4 to 20 inches

A horizon:

Color—value of 2 or 3 and chroma of 1 or 2

Texture—gravelly, very gravelly, extremely gravelly, cobbly, very cobbly, extremely cobbly, or extremely channery analogs of silty clay loam, sandy clay loam, sandy loam, fine sandy loam, loam, clay loam, or silt loam

Plato Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Landform: Upland
Parent material: Loess over clayey residuum weathered from dolostone
Slope range: 1 to 8 percent

Taxonomic classification: Fine, mixed, active, mesic Aquic Fragiudalfs

Typical Pedon

Plato silt loam, 1 to 3 percent slopes; USGS Oak Hills topographic quadrangle; UTM—Zone 15, Easting 640275, Northing 4222820.

A—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; thin platy and moderate fine and medium subangular blocky structure; friable; few very fine and many fine roots; many very fine vesicular pores; slightly acid; clear smooth boundary.

Bt1—9 to 16 inches; dark yellowish brown (10YR 4/4) silty clay; moderate medium subangular blocky structure; firm; common very fine roots; common very fine vesicular pores; many continuous distinct clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt2—16 to 27 inches; 60 percent dark yellowish brown (10YR 4/4) and 40 percent dark gray (10YR 4/1) silty clay; moderate medium subangular blocky structure; firm; common very fine roots; common very fine vesicular pores; many continuous prominent clay films on faces of peds; extremely acid; clear smooth boundary.

2Btx1—27 to 36 inches; 60 percent brown (10YR 4/3), 30 percent grayish brown (10YR 5/2), and 10 percent gray (10YR 6/1) silt loam; moderate medium and coarse prismatic structure; very firm; 60 percent brittle; few very fine roots in vertical seams; many very fine and fine vesicular pores; common continuous faint clay films in vertical seams; very strongly acid; clear wavy boundary.

2Btx2—36 to 47 inches; brown (10YR 5/3) extremely gravelly loam; moderate coarse prismatic structure; extremely firm; 70 percent brittle; many very fine vesicular pores; few continuous faint clay films on faces of peds; 70 percent chert gravel; strongly acid; clear wavy boundary.

3Bt1—47 to 58 inches; strong brown (7.5YR 5/8) very gravelly clay; moderate medium subangular blocky structure; firm; common very fine vesicular pores; many continuous prominent clay films on faces of peds; few red (2.5YR 4/6) iron stains on faces of peds; 10 percent chert cobbles and 40 percent chert gravel; strongly acid; clear wavy boundary.

3Bt2—58 to 80 inches; 70 percent dark red (2.5YR 3/6) and 30 percent yellowish brown (10YR 5/6) very cobbly clay; moderate medium and coarse subangular blocky structure; firm; many very fine vesicular pores; many continuous prominent clay films on faces of peds; gray (10YR 6/1) clay depletions; 20 percent chert cobbles and 20 percent chert gravel; moderately acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 20 to 36 inches

A or Ap horizon:

Color—chroma of 2 or 3

Texture—silt loam or silty clay loam

Bt horizon:

Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 1, 2, 3, 4, or 6

Texture—silty clay or clay

2Btx horizon:

Color—value of 4 to 6 and chroma of 1, 2, 3, 4, or 6

Texture—silt loam, loam, clay loam, or their gravelly, very gravelly, or extremely gravelly analogs

3Bt horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3 to 5, and chroma of 6 or 8
Texture—clay, gravelly clay, very gravelly clay, cobbly clay, or very cobbly clay

Poynor Series

Depth class: Very deep
Drainage class: Well drained
Landform: Upland
Parent material: Residuum weathered from dolostone
Slope range: 1 to 15 percent

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

Typical Pedon

Poynor very gravelly silt loam, in an area of Poynor-Bendavis complex, 1 to 8 percent slopes; USGS Beulah topographic quadrangle; UTM—Zone 15, Easting 589680, Northing 4162100. (This pedon is from Phelps County.)

A—0 to 5 inches; dark brown (10YR 3/3) very gravelly silt loam, light gray (10YR 7/2) dry; weak fine granular structure; very friable; many very fine and fine, common medium, and few coarse roots; 5 percent sandstone cobbles and 30 percent chert gravel; very strongly acid; clear smooth boundary.
E—5 to 11 inches; yellowish brown (10YR 5/4) very gravelly silt loam; weak very fine and fine subangular blocky structure; very friable; common very fine and fine and few medium and coarse roots; 50 percent chert gravel; moderately acid; clear wavy boundary.
Bt1—11 to 17 inches; strong brown (7.5YR 5/6) very gravelly silt loam; weak fine subangular blocky structure; friable; common very fine and few fine and medium roots; common faint and few prominent clay films on faces of peds; 40 percent chert gravel; strongly acid; clear wavy boundary.
2Bt2—17 to 28 inches; 55 percent yellowish brown (10YR 5/4) and 45 percent yellowish red (5YR 5/6) clay; moderate fine and medium subangular blocky structure; firm; common very fine and few fine and medium roots; many prominent continuous clay films on faces of peds; 10 percent chert gravel; very strongly acid; gradual wavy boundary.
2Bt3—28 to 41 inches; 40 percent dark yellowish brown (10YR 4/6), 30 percent yellowish brown (10YR 5/4), and 30 percent red (2.5YR 4/6) clay; weak very fine subangular blocky structure; firm; common very fine and few fine and medium roots; many prominent clay films on faces of peds; 10 percent chert gravel; very strongly acid; gradual wavy boundary.
3Bt4—41 to 60 inches; 45 percent strong brown (7.5YR 5/8), 35 percent yellowish red (5YR 4/6), and 20 percent yellowish brown (10YR 5/6) extremely gravelly clay; weak very fine and fine subangular blocky structure; firm; few very fine roots; common faint and few prominent clay films on faces of peds; 15 percent sandstone cobbles and 45 percent chert gravel; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

A horizon:
Color—value of 3 to 5 and chroma of 3 or 4

E horizon:
Color—value of 5 or 6 and chroma of 3 or 4

BE horizon (where present)
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 or 6
Texture—gravelly silt loam or very gravelly silt loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4, 6, or 8
Texture—very gravelly silt loam or very gravelly silty clay loam

2Bt horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3 to 5, and chroma of 4, 6, or 8
Texture—clay, silty clay, or their gravelly analogs

3Bt horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3 to 5, and chroma of 3, 4, 6, or 8
Texture—clay, very gravelly clay, or extremely gravelly clay

Racoon Series

Depth class: Very deep
Drainage class: Poorly drained
Landform: Stream terrace
Parent material: Silty alluvium
Slope range: 0 to 3 percent

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

Typical Pedon

Racoon silt loam, in an area of Racoon-Freeburg complex, 0 to 3 percent slopes, occasionally flooded; USGS Leasburg topographic quadrangle; UTM—Zone 15, Easting 648335, Northing 4211935.

Ap—0 to 6 inches; grayish brown (10YR 5/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine subangular blocky structure parting to weak fine granular; friable; many very fine and fine roots; few fine tubular pores; few fine dark yellowish brown (10YR 4/6) masses of iron-manganese accumulation between peds; neutral; clear smooth boundary.

Eg1—6 to 11 inches; grayish brown (10YR 5/2) silt loam; moderate fine subangular blocky structure; friable; many very fine and fine roots; common fine tubular pores; few continuous distinct clay depletions on faces of peds; few strong brown (7.5YR 4/6) masses of iron-manganese accumulation between peds; slightly acid; gradual smooth boundary.

Eg2—11 to 24 inches; light brownish gray (10YR 6/2) silt loam; moderate medium subangular blocky structure; friable; common fine roots; many fine interstitial and tubular pores; many continuous prominent clay depletions on faces of peds; few fine black (10YR 2/1) iron-manganese concretions between peds; few fine yellowish brown (10YR 5/6) masses of iron-manganese accumulation between peds; slightly acid; clear smooth boundary.

Btg1—24 to 34 inches; 60 percent grayish brown (10YR 5/2) and 40 percent light gray (10YR 7/1) silt loam; moderate medium subangular blocky structure parting to moderate fine subangular blocky; friable; few fine roots; many fine interstitial pores; common discontinuous faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common continuous prominent clay depletions on faces of peds; few fine black (10YR 2/1) iron-manganese concretions between peds; common fine dark yellowish brown (10YR 4/6) masses of iron-manganese accumulation between peds; slightly acid; gradual smooth boundary.

Btg2—34 to 44 inches; 75 percent dark grayish brown (10YR 4/2) and 25 percent gray (10YR 6/1) silty clay loam; moderate medium subangular blocky structure; firm; common fine interstitial pores; common continuous distinct clay films on faces of peds; few discontinuous prominent clay depletions on faces of peds; common fine black (10YR 2/1) iron-manganese nodules between peds; common fine dark yellowish brown (10YR 4/6) masses of iron-manganese accumulation between peds; slightly acid; gradual smooth boundary.

Btg3—44 to 52 inches; 60 percent grayish brown (10YR 5/2) and 40 percent light gray (10YR 7/1) silty clay loam; moderate medium subangular blocky structure; firm; many fine interstitial pores; common continuous distinct clay films on faces of peds; few discontinuous prominent clay depletions on faces of peds; few fine black (10YR 2/1) iron-manganese nodules between peds; few fine strong brown (7.5YR 4/6) masses of iron-manganese accumulation between peds; 5 percent chert gravel; neutral; gradual smooth boundary.

Btg4—52 to 63 inches; grayish brown (10YR 5/2) silty clay loam; moderate coarse subangular blocky structure; firm; many fine interstitial pores; many continuous faint clay films on faces of peds; few discontinuous prominent clay depletions on faces of peds; few fine black (10YR 2/1) iron-manganese concretions between peds; few fine yellowish brown (10YR 5/6) masses of iron-manganese accumulation between peds; slightly acid; gradual smooth boundary.

Btg5—63 to 80 inches; grayish brown (10YR 5/2) silty clay loam; moderate coarse subangular blocky structure; firm; many fine interstitial pores; many discontinuous faint clay films on faces of peds; few fine black (10YR 2/1) iron-manganese concretions between peds; few fine yellowish brown (10YR 5/6) masses of iron-manganese accumulation between peds; slightly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

Ap horizon:
Color—value of 4 or 5

Eg horizon:
Color—value of 5 or 6

Btg horizon:
Color—value of 4 to 7 and chroma of 1 or 2
Texture—silt loam or silty clay loam

Razort Series

Depth class: Very deep
Drainage class: Well drained
Landform: Stream terrace
Parent material: Loamy alluvium
Slope range: 0 to 3 percent

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

Typical Pedon

Razort silt loam, 0 to 3 percent slopes, occasionally flooded; USGS Leasburg topographic quadrangle; UTM—Zone 15, Easting 652490, Northing 4208835.

Ap—0 to 7 inches; dark yellowish brown (10YR 3/4) silt loam, brown 10YR 5/3 dry; weak fine granular structure; friable; many very fine and fine roots; many very fine and fine interstitial and tubular pores; moderately acid; clear smooth boundary.

AB—7 to 13 inches; strong brown (7.5YR 4/6) silt loam, light yellowish brown (10YR 6/4) dry; weak medium subangular blocky structure; friable; few very fine, fine, and medium roots; many very fine and fine interstitial and tubular pores; slightly acid; clear smooth boundary.

Bt1—13 to 23 inches; brown (7.5YR 4/4) silt loam; moderate medium subangular blocky structure; friable; few very fine and fine roots; common very fine and fine interstitial and tubular pores; common discontinuous prominent clay films on faces of peds; common distinct silt coats on vertical faces of peds; neutral; gradual smooth boundary.

Bt2—23 to 35 inches; strong brown (7.5YR 4/6) silt loam; moderate medium subangular blocky structure; firm; few very fine and fine roots; common very fine and fine interstitial and tubular pores; common discontinuous distinct clay films on faces of peds; common discontinuous distinct silt coats on vertical faces of peds; neutral; gradual smooth boundary.

2Bt3—35 to 43 inches; brown (7.5YR 4/4) sandy clay loam; weak medium subangular blocky structure; friable; common very fine and fine interstitial and tubular pores; few discontinuous faint clay films on faces of peds and in pores; 5 percent subangular chert gravel; neutral; gradual smooth boundary.

2Bt4—43 to 55 inches; strong brown (7.5YR 4/6) sandy clay loam; weak fine subangular blocky structure; friable; few very fine and fine interstitial and tubular pores; few discontinuous distinct clay films on faces of peds; 1 percent subangular chert gravel; neutral; gradual wavy boundary.

2Bt5—55 to 67 inches; dark brown (7.5YR 3/4) gravelly sandy clay loam; weak fine subangular blocky structure; firm; few very fine and fine interstitial and tubular pores; common discontinuous distinct clay films on faces of peds; 25 percent subangular chert gravel; neutral; gradual wavy boundary.

2Bt6—67 to 80 inches; dark brown (7.5YR 3/4) gravelly sandy clay loam; weak fine subangular blocky structure; firm; few very fine and fine interstitial and tubular pores; common discontinuous distinct clay films on faces of peds; 30 percent angular chert gravel; neutral.

Range in Characteristics

Depth to bedrock: More than 60 inches

Ap horizon:
Color—chroma of 2 to 4

AB horizon:
Color—hue of 7.5YR or 10YR and chroma of 4 or 6

Bt horizon:
Color—chroma of 4 or 6

2Bt horizon:
Color—value of 3 or 4 and chroma of 4 or 6
Texture—sandy clay loam, loam, or their gravelly analogs

Relfe Series

Depth class: Very deep
Drainage class: Excessively drained
Landform: Flood plain
Parent material: Gravelly alluvium
Slope range: 0 to 3 percent

Taxonomic classification: Sandy-skeletal, siliceous, mesic Mollic Udifluvents

Typical Pedon

Relfe extremely gravelly sandy loam, in an area of Kaintuck-Relfe complex, 0 to 3 percent slopes, frequently flooded; USGS Huzzah topographic quadrangle; UTM—Zone 15, Easting 658140, Northing 4202590.

A—0 to 7 inches; dark brown (10YR 3/3) extremely gravelly sandy loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure; very friable; few fine roots; 70 percent chert gravel; slightly alkaline; gradual smooth boundary.

C1—7 to 19 inches; dark yellowish brown (10YR 4/4) extremely gravelly sandy loam; single grain; very friable; few very fine roots; 75 percent chert gravel; slightly alkaline; gradual smooth boundary.

C2—19 to 33 inches; dark yellowish brown (10YR 4/4) extremely gravelly sandy loam; single grain; very friable; 75 percent chert gravel; slightly alkaline; gradual smooth boundary.

C3—33 to 51 inches; 60 percent dark yellowish brown (10YR 4/6) and 40 percent brownish yellow (10YR 6/6) extremely gravelly sandy loam; single grain; very friable; 80 percent chert gravel; slightly alkaline; gradual smooth boundary.

C4—51 to 63 inches; 60 percent yellowish brown (10YR 5/6) and 40 percent dark yellowish brown (10YR 4/6) very gravelly sandy loam; single grain; very friable; 55 percent chert gravel; slightly alkaline; clear smooth boundary.

2Ab—63 to 70 inches; dark brown (10YR 3/3) loam; moderate medium subangular blocky structure; friable; 10 percent chert gravel; neutral.

Range in Characteristics

Depth to bedrock: More than 60 inches

A or Ap horizon:
Color—chroma of 2 or 3
Texture—very gravelly sandy loam or extremely gravelly sandy loam

C horizon:
Color—value of 4 to 6 and chroma of 4 or 6
Texture—very gravelly or extremely gravelly analogs of sandy loam or loamy coarse sand

2Ab horizon:
Color—chroma of 2 or 3
Texture—loam, sandy loam, or their gravelly analogs

Rosati Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Landform: Upland
Parent material: Loess over residuum weathered from dolostone
Slope range: 1 to 5 percent

Taxonomic classification: Fine, mixed, active, mesic Aquic Fragiudalfs

Typical Pedon

Rosati silt loam, 1 to 5 percent slopes; USGS Rosati topographic quadrangle; UTM—Zone 15, Easting 625380, Northing 4209700. (This pedon is from Phelps County.)

Ap—0 to 9 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak very fine and fine subangular blocky structure; very friable; common very fine, fine, and medium roots; few very fine and fine tubular pores; slightly acid; abrupt smooth boundary.

Bt—9 to 14 inches; 60 percent brown (10YR 5/3) and 40 percent reddish brown (5YR 4/4) silty clay; weak fine prismatic structure; firm; common very fine and fine and few medium and coarse roots; few very fine and fine tubular pores; many distinct clay films on faces of peds; few fine iron-manganese concretions; very strongly acid; clear wavy boundary.

Btg1—14 to 20 inches; grayish brown (10YR 5/2) silty clay; moderate very fine and fine subangular blocky structure; friable; common very fine, fine, and medium and few coarse roots; few very fine and fine tubular pores; many distinct clay films on faces of peds; few fine iron-manganese concretions; common fine and medium prominent red (2.5YR 4/6) iron accumulations; very strongly acid; clear wavy boundary.

Btg2—20 to 29 inches; 55 percent grayish brown (10YR 5/2) and 45 percent dark grayish brown (10YR 4/2) silty clay; moderate fine and medium prismatic structure; firm; common very fine and few fine, medium, and coarse roots; few very fine and fine tubular pores; many distinct clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) iron accumulations; very strongly acid; clear wavy boundary.

2Btx1—29 to 36 inches; 40 percent grayish brown (10YR 5/2), 30 percent light brownish gray (10YR 6/2), and 30 percent yellowish brown (10YR 5/4) silt loam; moderate very coarse prismatic structure parting to weak thin and medium platy; very firm; 75 percent brittle; light brownish gray (10YR 6/2) 1/2-inch wide seams between prisms; few very fine and fine roots between prisms and common medium and few coarse roots in mat at top of horizon; few very fine tubular pores; common faint clay films on faces of peds; 10 percent chert gravel; strongly acid; abrupt wavy boundary.

2Btx2—36 to 41 inches; 45 percent yellowish brown (10YR 5/4), 40 percent light brownish gray (10YR 6/2), and 15 percent grayish brown (10YR 5/2) silt loam; moderate very coarse prismatic structure parting to weak thin and medium platy; very firm; 60 percent brittle; light brownish gray (10YR 6/2) 1/2-inch wide seams between prisms; few very fine and fine roots between peds; few very fine tubular pores; few faint clay films on faces of peds; 10 percent chert gravel; strongly acid; clear wavy boundary.

3Bt1—41 to 50 inches; 50 percent yellowish brown (10YR 5/6), 25 percent grayish brown (10YR 5/2), and 25 percent light brownish gray (10YR 6/2) silty clay loam; weak coarse prismatic structure;

firm; few very fine roots; few very fine and fine tubular pores; few faint clay films on faces of peds; common discontinuous black (10YR 2/1) manganese or iron-manganese stains on faces of peds; 10 percent chert gravel; moderately acid; gradual wavy boundary.

3Bt2—50 to 66 inches; 40 percent yellowish brown (10YR 5/6), 40 percent brown (10YR 5/3), and 20 percent light brownish gray (10YR 6/2) silty clay loam; weak medium and coarse prismatic structure; friable; few very fine roots; few very fine and fine tubular pores; few faint clay films on faces of peds; common discontinuous black (10YR 2/1) manganese or iron-manganese stains on faces of peds; 10 percent chert gravel; moderately acid; gradual wavy boundary.

3Bt3—66 to 80 inches; 50 percent yellowish brown (10YR 5/8), 25 percent pale brown (10YR 6/3), and 25 percent grayish brown (10YR 5/2) gravelly silty clay loam; weak coarse prismatic structure; firm; few faint and few distinct clay films on faces of peds; common discontinuous black (10YR 2/1) manganese or iron-manganese stains on faces of peds; 15 percent chert gravel; moderately acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 20 to 35 inches

Ap horizon:
Color—value of 2 or 3 and chroma of 2 or 3

Bt horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 3 to 5, and chroma of 3 or 4
Texture—silty clay loam or silty clay

Btg horizon:
Color—value of 4 to 6 and chroma of 1 or 2
Texture—silty clay loam or silty clay

2Btx horizon:
Color—value of 4 to 6 and chroma of 2 to 4

3Bt horizon:
Color—value of 4 to 6 and chroma of 1, 2, 3, 4, 6, or 8
Texture—silty clay loam, silty clay, or their gravelly analogs

Rueter Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Landform: Upland
Parent material: Gravelly colluvium over residuum weathered from dolostone
Slope range: 3 to 65 percent

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

Typical Pedon

Rueter very gravelly silt loam, 15 to 35 percent slopes, very stony; USGS Berryman topographic quadrangle; UTM—Zone 15, Easting 670835, Northing 4204560. (This pedon is from Washington County.)

A—0 to 3 inches; brown (10YR 4/3) very gravelly silt loam, pale brown (10YR 6/3) dry; weak very fine subangular blocky structure; very friable; many very fine and fine roots; many very fine and fine interstitial and tubular pores; common distinct organic stains on faces of peds; 5 percent chert cobbles and 40 percent chert gravel; very strongly acid; clear smooth boundary.

E—3 to 14 inches; light yellowish brown (10YR 6/4) extremely gravelly silt loam; weak fine subangular blocky structure parting to moderate very fine subangular blocky; very friable; many very fine and fine and common medium and coarse roots; common very fine and fine interstitial and tubular pores; common prominent silt coats on faces of peds; 5 percent chert cobbles and 60 percent chert gravel; very strongly acid; gradual wavy boundary.

Bt1—14 to 23 inches; yellowish brown (10YR 5/4) extremely gravelly loam; moderate very fine subangular blocky structure; friable; common very fine and fine roots; common very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; many prominent silt coats on faces of peds; 10 percent chert cobbles and 55 percent chert gravel; moderately acid; gradual wavy boundary.

Bt2—23 to 32 inches; yellowish brown (10YR 5/4) extremely gravelly silt loam; weak fine subangular blocky structure parting to moderate very fine subangular blocky; friable; few very fine and fine roots; common very fine and fine interstitial and tubular pores; common prominent clay films on faces of peds; many prominent silt coats on faces of peds; 5 percent chert stones, 20 percent chert cobbles, and 40 percent chert gravel; strongly acid; gradual smooth boundary.

Bt3—32 to 53 inches; 60 percent brownish yellow (10YR 6/6) and 40 percent strong brown (7.5YR 4/6) extremely gravelly silt loam; moderate very fine subangular blocky structure; friable; few very fine and fine roots; few very fine and fine interstitial and tubular pores; few distinct clay films on faces of peds; common prominent silt coats on faces of peds; 5 percent chert stones, 10 percent chert cobbles, and 70 percent chert gravel; very strongly acid; gradual wavy boundary.

2Bt4—53 to 67 inches; red (2.5YR 4/6) very gravelly silty clay loam; moderate coarse subangular blocky structure parting to moderate very fine subangular blocky; firm; few very fine and fine roots; few very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; common distinct silt coats on faces of peds; 10 percent chert stones, 10 percent chert cobbles, and 20 percent chert gravel; very strongly acid; gradual smooth boundary.

3Bt5—67 to 80 inches; red (2.5YR 4/6) gravelly clay; moderate medium subangular blocky structure parting to moderate very fine subangular blocky; very firm; few very fine and fine roots; few very fine and fine interstitial and tubular pores; common distinct clay films and common distinct silt coats on faces of peds; 5 percent chert cobbles and 15 percent chert gravel; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

A horizon:
Color—value of 3 to 5 and chroma of 2 or 3

E horizon:
Color—chroma of 3 or 4
Texture—very gravelly silt loam or extremely gravelly silt loam

Bt horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 to 6, and chroma of 4, 6, or 8
Texture—very gravelly, extremely gravelly, cobbly, very cobbly, or extremely cobbly analogs of silt loam or loam

2Bt and 3Bt horizons:
Color—hue of 2.5YR, 5YR, or 7.5YR, value of 4 to 7, and chroma of 4, 6, or 8
Texture—gravelly, very gravelly, cobbly, very cobbly, or extremely cobbly analogs of clay loam, silty clay loam, or clay

Scholten Series

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Upland
Parent material: Colluvium over residuum weathered from dolostone
Slope range: 3 to 15 percent

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

Typical Pedon

Scholten very gravelly silt loam, 3 to 15 percent slopes; USGS Palmer topographic quadrangle; UTM—Zone 15, Easting 682670, Northing 4190475. (This pedon is from Washington County.)

A—0 to 3 inches; dark grayish brown (10YR 4/2) very gravelly silt loam, light gray (10YR 7/2) dry; moderate very fine subangular blocky structure; friable; many very fine and fine and few medium and coarse roots; many very fine and fine interstitial and tubular pores; 35 percent chert gravel; very strongly acid; clear smooth boundary.

E—3 to 10 inches; pale brown (10YR 6/3) very gravelly silt loam; moderate fine platy structure parting to moderate very fine subangular blocky; friable; many very fine, fine, medium, and coarse roots; many very fine and fine interstitial and tubular pores; 5 percent chert cobbles and 45 percent chert gravel; very strongly acid; gradual smooth boundary.

Bt1—10 to 15 inches; light yellowish brown (10YR 6/4) extremely gravelly silt loam; moderate very fine subangular blocky structure; friable; common very fine and fine and few medium and coarse roots; many very fine and fine interstitial and tubular pores; few distinct clay films and common distinct silt coats on faces of peds; 10 percent chert cobbles and 65 percent chert gravel; very strongly acid; clear smooth boundary.

Bt2—15 to 20 inches; strong brown (7.5YR 5/6) extremely gravelly silt loam; moderate medium subangular blocky structure; friable; few very fine and fine roots; common very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; 10 percent chert cobbles and 65 percent chert gravel; strongly acid; clear smooth boundary.

2Btx1—20 to 23 inches; 70 percent strong brown (7.5YR 5/6), 20 percent reddish brown (5YR 5/4), and 10 percent gray (10YR 6/1) extremely gravelly silt loam; weak coarse prismatic structure parting to moderate very fine platy parting to weak very fine subangular blocky; very firm; 60 percent brittle; few very fine and fine roots; few very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; 10

percent chert cobbles and 65 percent chert gravel; very strongly acid; clear smooth boundary.

2Btx2—23 to 29 inches; 60 percent strong brown (7.5YR 5/6), 25 percent light yellowish brown (10YR 6/4), and 15 percent light brownish gray (10YR 6/2) extremely gravelly silt loam; moderate coarse prismatic structure parting to moderate very fine subangular blocky; very firm; 65 percent brittle; few very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; 15 percent chert cobbles and 60 percent chert gravel; very strongly acid; clear smooth boundary.

2Btx3—29 to 40 inches; 55 percent yellowish red (5YR 5/6), 30 percent reddish yellow (7.5YR 6/6), and 15 percent light brownish gray (10YR 6/2) extremely cobbly silty clay loam; moderate coarse prismatic structure parting to moderate very fine subangular blocky; very firm; 60 percent brittle; few very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; 30 percent chert cobbles and 40 percent chert gravel; strongly acid; clear smooth boundary.

3Bt1—40 to 54 inches; red (2.5YR 4/6) very gravelly clay; moderate fine angular blocky structure; very firm; common very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; 5 percent chert cobbles and 40 percent chert gravel; very strongly acid; gradual smooth boundary.

3Bt2—54 to 67 inches; red (2.5YR 4/6) extremely gravelly clay; moderate fine angular blocky structure; very firm; common very fine and fine interstitial and tubular pores; common distinct clay films on faces of peds; 10 percent chert stones, 10 percent chert cobbles, and 40 percent chert gravel; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 18 to 27 inches

A horizon:
Color—value of 4 or 5

E horizon:
Color—value of 5 or 6 and chroma of 2 or 3
Texture—very gravelly silt loam or extremely gravelly silt loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 or 6
Texture—very gravelly or extremely gravelly analogs of silt loam or silty clay loam

2Btx horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 5 or 6, and chroma of 1, 2, 3, 4, or 6
Texture—gravelly, very gravelly, extremely gravelly, cobbly, very cobbly, or extremely cobbly analogs of silt loam, clay loam, or silty clay loam

3Bt horizon:
Color—hue of 2.5YR or 5YR, value of 3 or 4, and chroma of 6 or 8
Texture—very gravelly or extremely gravelly analogs of clay or clay loam

Sonsac Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Upland
Parent material: Colluvium over residuum weathered from cherty dolostone
Slope range: 3 to 50 percent

Taxonomic classification: Clayey-skeletal, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Sonsac extremely gravelly silt loam, in an area of Sonsac-Moko-Rock outcrop complex, 15 to 50 percent slopes, extremely stony; USGS Ebo topographic quadrangle; UTM—Zone 15, Easting 678580, Northing 4219385. (This pedon is from Washington County.)

A—0 to 3 inches; very dark grayish brown (10YR 3/2) extremely gravelly silt loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure parting to moderate very fine subangular blocky; friable; many fine, medium, and coarse roots; many fine, medium, and coarse interstitial and tubular pores; 5 percent chert stones, 10 percent chert cobbles, and 45 percent chert gravel; moderately acid; clear smooth boundary.

E—3 to 6 inches; yellowish brown (10YR 5/4) extremely gravelly silt loam; weak fine subangular blocky structure parting to moderate very fine subangular blocky; friable; many fine, medium, and coarse roots; many fine, medium, and coarse interstitial and tubular pores; 10 percent chert cobbles and 50 percent chert gravel; moderately acid; clear smooth boundary.

Bt1—6 to 10 inches; brown (10YR 4/3) very gravelly silty clay loam; moderate very fine and fine subangular blocky structure; friable; common fine, medium, and coarse roots; many fine, medium, and coarse interstitial and tubular pores; few discontinuous distinct clay films on faces of peds; 5 percent chert cobbles and 45 percent chert gravel; neutral; clear smooth boundary.

2Bt2—10 to 19 inches; 50 percent brown (7.5YR 4/4) and 50 percent yellowish red (5YR 4/6) very gravelly clay; weak medium prismatic structure parting to moderate fine subangular blocky; very firm; common fine and medium roots; common fine, medium, and coarse interstitial and tubular pores; many continuous distinct clay films on faces of peds; few discontinuous distinct manganese or iron-manganese stains throughout; few discontinuous distinct organic stains in root channels and/or pores; 10 percent chert cobbles and 35 percent chert gravel; neutral; gradual smooth boundary.

2Bt3—19 to 28 inches; 80 percent brown (7.5YR 4/4) and 20 percent dark yellowish brown (10YR 4/4) gravelly clay; weak medium prismatic structure parting to strong fine subangular blocky; very firm; common very fine and fine roots; common fine and medium interstitial and tubular pores; many continuous distinct clay films on faces of peds; common discontinuous distinct manganese or iron-manganese stains throughout; 5 percent chert stones, 5 percent chert cobbles, and 20 percent chert gravel; neutral; clear wavy boundary.

2Bt4—28 to 32 inches; 80 percent dark yellowish brown (10YR 4/4), 10 percent strong brown (7.5YR 4/6), and 10 percent strong brown (7.5YR 5/6) gravelly clay; strong medium prismatic structure; very firm; common very fine and fine roots; common very fine and fine interstitial and tubular pores; many continuous distinct clay films on faces of peds; few discontinuous distinct organic stains in root channels and/or pores; 5 percent chert stones, 5 percent chert cobbles, and 15 percent chert gravel; neutral; abrupt wavy boundary.

2R—32 inches; dolostone bedrock.

Range in Characteristics

Depth to bedrock: 20 to 40 inches

A horizon:

Texture—silty clay loam or gravelly, very gravelly, or extremely gravelly analogs of silt loam

E horizon:

Color—value of 5 or 6 and chroma of 3 or 4

Texture—very gravelly, extremely gravelly, cobbly, very cobbly, or extremely cobbly analogs of silt loam

Bt horizon:

Color—value of 4 or 5 and chroma of 3, 4, or 6

Texture—gravelly, very gravelly, cobbly, very cobbly, or extremely cobbly analogs of silt loam, silty clay loam, or silty clay

2Bt horizon:

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3 to 5, and chroma of 4, 6, or 8

Texture—clay, gravelly clay, very gravelly clay, extremely gravelly clay, stony clay, very stony clay, or extremely stony clay

Sturkie Series

Depth class: Very deep
Drainage class: Well drained
Landform: Stream terrace
Parent material: Silty alluvium
Slope range: 0 to 2 percent

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

Typical Pedon

Sturkie silt loam, 0 to 2 percent slopes, occasionally flooded; USGS Leasburg topographic quadrangle; UTM—Zone 15, Easting 648770, Northing 4211775.

Ap—0 to 6 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine granular structure; friable; many very fine and fine roots; common very fine and fine tubular pores; neutral; clear smooth boundary.

A1—6 to 16 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; common very fine and fine roots; common very fine and fine tubular pores; neutral; clear smooth boundary.

A2—16 to 27 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak medium subangular blocky structure; friable; few very fine and fine roots; common very fine and fine tubular pores; neutral; gradual smooth boundary.

Bw1—27 to 42 inches; 60 percent dark brown (10YR 3/3) and 40 percent brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; few very fine and fine roots; common very fine and fine tubular pores; neutral; gradual smooth boundary.

Bw2—42 to 52 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; common very fine and fine tubular pores; common discontinuous distinct silt coats on faces of peds and in pores; few discontinuous distinct very dark gray (10YR 3/1) manganese or iron-manganese stains on faces of peds and in pores; neutral; gradual smooth boundary.

Bw3—52 to 62 inches; brown (10YR 4/3) silt loam; moderate medium subangular blocky structure parting to moderate fine granular; friable; common very fine and fine tubular pores; common discontinuous distinct silt coats on faces of peds and in pores; neutral; gradual smooth boundary.

Bw4—62 to 71 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure parting to moderate fine granular; friable; many very fine and fine tubular pores; common discontinuous faint silt coats on faces of peds and in pores; slightly acid; gradual smooth boundary.

Bw5—71 to 81 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure; friable; many very fine and fine tubular pores; common discontinuous faint silt coats on faces of peds and in pores; moderately acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Thickness of the mollic epipedon: 24 inches to more than 50 inches

Ap and A horizons:
Color—chroma of 2 or 3

Bw horizon:
Color—value of 3 or 4 and chroma of 3 or 4
Texture—silt loam or silty clay loam

Swiss Series

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Upland
Parent material: Clayey residuum
Slope range: 3 to 15 percent

Taxonomic classification: Fine, mixed, semiactive, mesic Oxyaquic Hapludalfs

Typical pedon

Swiss gravelly silt loam, 3 to 15 percent slopes, stony; USGS Fredericksburg topographic quadrangle; UTM—Zone 15, Easting 610288, Northing 4268522. (This pedon is from Osage County.)

A—0 to 3 inches; dark brown (10YR 3/3) gravelly silt loam, pale brown (10YR 6/3) dry; weak very fine granular structure; very friable; common very fine, fine, and medium roots throughout; common very fine and fine vesicular pores; 5 percent subrounded sandstone cobbles and 25 percent subrounded chert gravel; strongly acid; clear smooth boundary.

E—3 to 9 inches; light yellowish brown (10YR 6/4) gravelly silt loam; weak fine granular structure; friable; common very fine, fine, and medium roots throughout; common very fine and fine vesicular pores; 5 percent subrounded sandstone cobbles and 25 percent subrounded chert gravel; very strongly acid; clear smooth boundary.

2Btl—9 to 16 inches; yellowish red (5YR 5/6) clay; moderate very fine subangular blocky structure; firm; common very fine, fine, and medium roots between peds; few very fine vesicular pores; few distinct discontinuous clay films on faces of peds; common fine irregular reddish brown (2.5YR 4/4) soft masses of iron accumulation between peds; 5 percent subrounded sandstone cobbles; very strongly acid; clear smooth boundary.

2Bt2—16 to 20 inches; 50 percent yellowish red (5YR 5/6) and 50 percent reddish brown (2.5YR 4/4) clay; moderate fine subangular blocky structure; firm; common fine and medium roots between peds; few distinct discontinuous clay films on faces of peds; 5 percent subrounded sandstone cobbles; very strongly acid; clear smooth boundary.

2Bt3—20 to 26 inches; red (2.5YR 4/6) clay; moderate medium angular blocky structure; firm; few very fine and fine roots between peds; common distinct discontinuous clay films on faces of peds; common fine prominent very pale brown (10YR 8/2) and grayish brown (10YR 5/2) irregular iron depletions between peds; common fine irregular yellowish red (5YR 5/6) soft masses of iron accumulation between peds; 5 percent subrounded sandstone cobbles; very strongly acid; gradual smooth boundary.

2Bt4—26 to 32 inches; weak red (10R 5/2) clay; weak fine prismatic structure parting to strong fine subangular blocky; very firm; few very fine and fine roots between peds; common distinct discontinuous clay films on faces of peds; common fine prominent very pale brown (10YR 8/2) irregular iron depletions between peds; common irregular yellowish brown (10YR 5/6) soft masses of iron accumulation between peds; 5 percent subrounded sandstone cobbles; very strongly acid; gradual smooth boundary.

2Bt5—32 to 40 inches; 50 percent very pale brown (10YR 8/2) and 50 percent weak red (10R 5/2) silty clay; weak fine prismatic structure parting to strong fine subangular blocky; very firm; few very fine and fine roots between peds; common distinct discontinuous clay films on faces of peds; 5 percent subrounded sandstone cobbles; very strongly acid; gradual smooth boundary.

2Cd—40 to 80 inches; weak red (10R 5/2) clay loam; common fine distinct very pale brown (10YR 8/2) irregular mottles between fracture planes; massive with angular fracture planes 1 to 2 centimeters apart; extremely firm; few very fine and fine roots between fracture planes; 5 percent subrounded sandstone cobbles; moderately acid. (This horizon consists of hard weathered fire clay.)

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to dense material: 40 to 80 inches

A or Ap horizon:
Color—value of 3 to 5 and chroma of 2 or 3

E horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 or 4
Texture—gravelly, very gravelly, or extremely gravelly analogs of silt loam

2Bt horizon (upper part):
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 to 6, and chroma of 3, 4, 6, or 8
Texture—clay, silty clay, clay loam, or their gravelly or cobbly analogs

2Bt horizon (lower part):
Color—hue of 10R, 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 to 8, and chroma of 2, 3, 4, 6, or 8
Texture—clay, silty clay, silty clay loam, clay loam, or their gravelly or cobbly analogs

2Cd horizon:
Color—hue of 10R, 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 to 8, and chroma of 1, 2, 3, 4, 6, or 8
Texture—silty clay loam, clay, clay loam, or their cobbly analogs

Tonti Series

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Upland
Parent material: Colluvium over residuum weathered from cherty dolostone
Slope range: 1 to 8 percent

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

Typical Pedon

Tonti silt loam, in an area of Viburnum-Tonti complex, 1 to 8 percent slopes; USGS Steelville topographic quadrangle; UTM—Zone 15, Easting 646370, Northing 4193220.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure parting to moderate fine subangular blocky; friable; many fine and medium roots; many fine and medium tubular pores; 10 percent chert gravel; very strongly acid; clear smooth boundary.

BE—4 to 10 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; many fine, medium, and coarse roots; many fine and medium tubular pores; 5 percent chert gravel; very strongly acid; clear smooth boundary.

Bt1—10 to 17 inches; yellowish brown (10YR 5/4) gravelly silt loam; weak medium subangular blocky structure; friable; common fine, medium, and coarse roots; many fine and medium tubular pores; few discontinuous faint clay films on faces of peds and in pores; 25 percent chert gravel; very strongly acid; gradual smooth boundary.

Bt2—17 to 22 inches; yellowish brown (10YR 5/6) gravelly silt loam; weak medium subangular blocky structure; friable; common fine and medium roots; many fine tubular pores; few discontinuous faint clay films on faces of peds and in pores; 5 percent sandstone gravel and 10 percent chert gravel; very strongly acid; clear wavy boundary.

2Btx—22 to 29 inches; brown (10YR 5/3) very gravelly silty clay loam; weak medium and coarse prismatic structure; very firm; 70 percent brittle; few fine roots; many fine, medium, and coarse vesicular pores; few discontinuous faint clay films on faces of peds; few fine grayish brown (10YR 5/2) iron depletions throughout; 5 percent sandstone gravel and 30 percent chert gravel; very strongly acid; clear wavy boundary.

3Bt1—29 to 45 inches; dark grayish brown (10YR 4/2) gravelly clay; moderate medium prismatic structure parting to weak fine angular blocky; very firm; few very fine roots; few fine interstitial and tubular pores; many continuous prominent clay films on faces of peds; few fine reddish yellow (7.5YR 6/8) and red (2.5YR 4/8) masses of iron accumulation; 10 percent chert gravel and 10 percent sandstone gravel; extremely acid; clear wavy boundary.

3Bt2—45 to 60 inches; brownish yellow (10YR 6/8) extremely gravelly clay; weak coarse prismatic structure; very firm; few very fine roots; few fine interstitial and tubular pores; common discontinuous prominent clay films on faces of peds; few fine light brownish gray (10YR 6/2) iron depletions throughout; few fine red (2.5YR 4/8) masses of iron accumulation; 10 percent sandstone gravel and 70 percent chert gravel; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 18 to 25 inches

A horizon:
Color—value of 3 or 4

BE horizon:
Color—value of 4 or 5 and chroma of 3 or 4

Bt horizon:
Color—value of 4 or 5 and chroma of 4 or 6
Texture—silty clay loam, gravelly silty clay loam, or gravelly silt loam

2Btx horizon:
Color—value of 4 to 6 and chroma of 2 to 4
Texture—very gravelly, extremely gravelly, cobbly, very cobbly, or extremely cobbly analogs of silty clay loam or silt loam

3Bt horizon:
Color—value of 4 to 6 and chroma of 2, 3, 4, 6, or 8
Texture—clay, gravelly clay, very gravelly clay, or extremely gravelly clay

Union Series

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Upland
Parent material: Loess over residuum weathered from dolostone
Slope range: 1 to 8 percent

Taxonomic classification: Fine, mixed, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

Union silt loam, 3 to 8 percent slopes; USGS Oak Hill topographic quadrangle; UTM—Zone 15, Easting 639170, Northing 4225370.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular and weak fine platy structure; friable; many very fine roots; many fine tubular pores; slightly acid; clear smooth boundary.

Bt1—7 to 16 inches; strong brown (7.5YR 5/6) silty clay; moderate fine and medium subangular blocky structure; firm; common very fine roots; common fine and medium vesicular pores; common discontinuous distinct clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt2—16 to 24 inches; 60 percent dark yellowish brown (10YR 4/4) and 40 percent strong brown (7.5YR 5/6) silty clay; moderate medium subangular blocky structure; firm; common very fine roots; common fine and medium vesicular pores; common discontinuous distinct clay films on faces of peds; very strongly acid; clear wavy boundary.

2Btx1—24 to 29 inches; 65 percent yellowish brown (10YR 5/4) and 35 percent light brownish gray (10YR 6/2) silt loam; weak medium and coarse prismatic structure; very firm; 65 percent brittle; few very fine roots between peds; many fine and medium vesicular pores; few discontinuous faint clay films on faces of peds; very strongly acid; clear wavy boundary.

2Btx2—29 to 38 inches; 80 percent yellowish brown (10YR 5/6) and 20 percent light brownish gray 10YR 6/2) extremely gravelly loam; weak very coarse prismatic structure; very firm; 80 percent brittle; common very fine and fine vesicular pores; few discontinuous faint clay films on faces of peds; 10 percent quartzite cobbles and 65 percent chert gravel; very strongly acid; clear wavy boundary.

2Btx3—38 to 44 inches; 60 percent light yellowish brown (10YR 6/4), 20 percent brownish yellow (10YR 6/6), and 20 percent strong brown (7.5YR 5/6) extremely gravelly silt loam; weak coarse prismatic structure; very firm; 60 percent brittle; many very fine vesicular pores; few discontinuous faint clay films on faces of peds; few light red (2.5YR 6/8) iron accumulations; 20 percent quartzite cobbles and 55 percent chert gravel; strongly acid; clear wavy boundary.

3Bt1—44 to 61 inches; 80 percent yellowish red (5YR 5/6) and 20 percent reddish yellow (7.5YR 6/6) clay; moderate medium prismatic structure; very firm; few fine roots; many very fine vesicular pores; many continuous distinct clay films on faces of peds; 3 percent chert gravel; strongly acid; clear smooth boundary.

3Bt2—61 to 80 inches; reddish yellow (7.5YR 6/8) clay; moderate medium prismatic structure; very firm; many very fine vesicular pores; many continuous distinct clay films on faces of peds; few discontinuous prominent black stains on faces of peds; slightly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 18 to 36 inches

A or Ap horizon:
Color—value of 3 to 5 and chroma of 2 or 3

E horizon (where present):
Color—value of 4 or 5 and chroma of 3
Texture—silt loam

Bt horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 2, 3, 4, or 6
Texture—clay loam, silty clay loam, or silty clay

2Btx horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 1, 2, 3, 4, or 6
Texture—silt loam, loam, or their gravelly, very gravelly, extremely gravelly, cobbly, very cobbly, or extremely cobbly analogs

3Bt horizon:
Color—hue of 2.5YR, 5YR, or 7.5YR, value of 3 to 6, and chroma of 4, 6, or 8
Texture—silty clay loam, silty clay, clay, or their gravelly, very gravelly, or extremely gravelly analogs

Useful Series

Depth class: Deep
Drainage class: Moderately well drained
Landform: Upland
Parent material: Loess over residuum weathered from dolostone
Slope range: 3 to 35 percent

Taxonomic classification: Fine, mixed, active, mesic Oxyaquic Hapludalfs

Typical Pedon

Useful silt loam, in an area of Useful-Courtois complex, 8 to 15 percent slopes, eroded; USGS Meramec State Park topographic quadrangle; UTM—Zone 15, Easting 665900, Northing 4225320. (This pedon is from Washington County.)

A—0 to 6 inches; brown (10YR 4/3) silt loam, very pale brown (10YR 7/3) dry; weak fine subangular blocky structure parting to moderate very fine subangular blocky; friable; many very fine and fine roots; many very fine and fine interstitial and tubular pores; moderately acid; clear smooth boundary.

Bt1—6 to 12 inches; strong brown (7.5YR 4/6) silty clay loam; moderate fine subangular blocky structure parting to moderate very fine subangular blocky; friable; common very fine and fine roots; common very fine and fine interstitial and tubular pores; common discontinuous distinct clay films on faces of peds; moderately acid; gradual smooth boundary.

Bt2—12 to 19 inches; strong brown (7.5YR 4/6) silty clay; weak fine prismatic structure parting to moderate fine subangular blocky; firm; common very fine and fine roots; common very fine and fine interstitial and tubular pores; common discontinuous distinct clay films on faces of peds; few fine spherical masses of iron-manganese accumulation throughout; moderately acid; gradual smooth boundary.

Bt3—19 to 26 inches; 90 percent yellowish red (5YR 4/6) and 10 percent strong brown (7.5YR 5/6) silty clay; moderate fine prismatic structure parting to moderate fine subangular blocky; very firm; common very fine and fine roots; common very fine and fine interstitial and tubular pores; common discontinuous distinct clay films on faces of peds; few fine spherical masses of iron-manganese accumulation throughout; moderately acid; gradual smooth boundary.

Bt4—26 to 34 inches; 70 percent yellowish red (5YR 4/6) and 30 percent brown (7.5YR 5/4) silty clay; moderate medium prismatic structure parting to moderate very fine angular blocky; very firm; common very fine and fine roots; common very fine and fine interstitial and tubular pores; many continuous distinct clay films on faces of peds; few fine and medium spherical masses of iron-manganese accumulation throughout; moderately acid; clear smooth boundary.

2Bt5—34 to 41 inches; 85 percent red (2.5YR 4/6) and 15 percent brown (7.5YR 5/4) silty clay; moderate medium prismatic structure parting to moderate very fine subangular blocky; very firm; common very fine and fine roots; common very fine and fine interstitial and tubular pores; many continuous distinct clay films on faces of peds; common fine and medium spherical masses of iron-manganese accumulation throughout; 2 percent chert gravel; moderately acid; gradual smooth boundary.

2Bt6—41 to 51 inches; red (2.5YR 4/6) silty clay; moderate medium prismatic structure parting to moderate very fine subangular blocky; very firm; common very fine and fine roots; few very fine and fine interstitial and tubular pores; many continuous distinct clay films on faces of peds; few distinct brown (7.5YR 5/4) iron stains; common fine and medium spherical masses of iron-manganese accumulation throughout; 2 percent chert gravel; moderately acid; clear smooth boundary.
2Bt7—51 to 59 inches; 90 percent red (2.5YR 4/6) and 10 percent brown (7.5YR 5/4) clay; moderate medium prismatic structure parting to moderate very fine subangular blocky; very firm; few very fine and fine interstitial and tubular pores; many continuous distinct clay films on faces of peds; few fine and medium spherical masses of iron-manganese accumulation throughout; 5 percent chert gravel; neutral; abrupt wavy boundary.
2R—59 inches; Eminence dolostone bedrock.

Range in Characteristics

Depth to bedrock: 40 to 60 inches

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 or 3

Bt horizon:
Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4 or 6
Texture—silt loam, silty clay loam, or silty clay

2Bt horizon:
Color—hue of 2.5YR, 5YR, or 7.5YR, value of 3 to 5, and chroma of 4 or 6
Texture—silty clay, clay, or their gravelly or very gravelly analogs

2Bt/Cr horizon (where present):
Color—hue of 2.5Y or 5Y, value of 5 to 7, and chroma of 2, 3, 4, 6, or 8
Texture—silty clay loam

Viburnum Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Landform: Upland
Parent material: Loess over clayey residuum weathered from dolostone
Slope range: 1 to 8 percent

Taxonomic classification: Fine, mixed, active, mesic Aquic Paleudults

Typical Pedon

Viburnum silt loam, in an area of Viburnum-Tonti complex, 1 to 8 percent slopes; USGS Maples topographic quadrangle; UTM—Zone 15, Easting 604360, Northing 4162600. (This pedon is from Phelps County.)

A—0 to 4 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; weak very fine and fine subangular blocky structure; very friable; common very fine and fine roots; 5 percent chert gravel; very strongly acid; clear wavy boundary.
BE—4 to 7 inches; brown (7.5YR 5/4) silt loam; weak very fine and fine subangular blocky structure; friable; many very fine, fine, and medium roots; 5 percent chert gravel; very strongly acid; clear wavy boundary.
Bt1—7 to 13 inches; brown (7.5YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; common very fine, fine, and medium roots; common distinct clay films on faces of peds; 8 percent chert gravel; very strongly acid; clear wavy boundary.
2Bt2—13 to 20 inches; brown (7.5YR 4/4) gravelly silty clay loam; moderate very fine and fine subangular blocky structure; friable; common very fine, fine, medium, and coarse roots; common distinct clay films on faces of peds; 28 percent chert gravel and 5 percent sandstone gravel; very strongly acid; clear wavy boundary.
3Bt3—20 to 24 inches; 60 percent yellowish brown (10YR 5/4) and 40 percent yellowish brown (10YR 5/6) gravelly clay; moderate very fine and fine subangular blocky structure; friable; common very fine and fine and few medium roots; common distinct clay films on faces of peds; few fine distinct light brownish gray (10YR 6/2) iron depletions; 28 percent chert gravel and 5 percent sandstone gravel; very strongly acid; gradual wavy boundary.
3Bt4—24 to 40 inches; 55 percent yellowish brown (10YR 5/6) and 45 percent red (2.5YR 4/6) gravelly clay; moderate medium prismatic structure; firm; common very fine and few fine roots; many prominent clay films on faces of peds; common fine and medium prominent light brownish gray (10YR 6/2) iron depletions; 15 percent chert gravel; very strongly acid; gradual wavy boundary.
3Bt5—40 to 52 inches; 60 percent gray (10YR 6/1), 20 percent yellowish brown (10YR 5/6), and 20 percent red (2.5YR 4/6) gravelly clay; moderate medium prismatic structure; firm; common very fine and few fine and medium roots; many

prominent clay films on faces of peds; 20 percent chert gravel; extremely acid; gradual wavy boundary.

3Bt6—52 to 60 inches; 40 percent gray (10YR 6/1), 30 percent red (2.5YR 4/6), and 30 percent yellowish brown (10YR 5/6) very gravelly clay; weak fine and medium prismatic structure; firm; common very fine and few fine and medium roots; many prominent clay films on faces of peds; 35 percent chert gravel and 10 percent chert cobbles; extremely acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

A or Ap horizon:
Color—value of 3 to 5

BE horizon:
Color—value of 4 or 5 and chroma of 3 or 4

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—silty clay loam or silty clay

2Bt horizon:
Color—value of 4 or 5 and chroma of 2, 3, 4, or 6
Texture—silty clay loam or gravelly silty clay loam

3Bt horizon:
Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 4 to 6, and chroma of 1, 2, 3, 4, 6, or 8
Texture—clay, gravelly clay, or very gravelly clay

Waben Series

Depth class: Very deep
Drainage class: Well drained
Landform: Footslope and alluvial fan
Parent material: Gravelly colluvium
Slope range: 3 to 8 percent

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

Typical Pedon

Waben gravelly loam, 3 to 8 percent slopes; USGS Cook Station topographic quadrangle; UTM—Zone 15, Easting 636920, Northing 4192390.

Ap—0 to 6 inches; brown (10YR 4/3) gravelly loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; friable; many very fine and fine roots; many fine tubular pores; 25 percent chert gravel; moderately acid; clear smooth boundary.

Bt1—6 to 13 inches; strong brown (7.5YR 4/6) very gravelly loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; common fine tubular pores; few discontinuous faint clay films on faces of peds; few distinct organic coats on vertical faces of peds; 45 percent chert gravel; slightly acid; clear smooth boundary.

Bt2—13 to 23 inches; yellowish red (5YR 4/6) very gravelly loam; moderate and strong medium subangular blocky structure; firm; common fine roots; common very fine and fine tubular pores; common continuous distinct clay films on faces of peds; 40 percent chert gravel; slightly acid; gradual smooth boundary.

Bt3—23 to 36 inches; 70 percent yellowish red (5YR 4/6) and 30 percent brown (7.5YR 4/4) gravelly silt loam; moderate and strong medium subangular blocky structure; firm; few fine roots; few very fine and fine interstitial pores; common continuous distinct clay films on faces of peds; 20 percent chert gravel; slightly acid; gradual smooth boundary.

Bt4—36 to 46 inches; 60 percent yellowish red (5YR 4/6) and 40 percent brown (7.5YR 4/4) silt loam; moderate fine prismatic structure parting to moderate and strong medium subangular blocky; firm; few fine roots; few very fine and fine interstitial pores; common continuous distinct clay films on faces of peds; 10 percent chert gravel; slightly acid; gradual smooth boundary.

Bt5—46 to 61 inches; 50 percent yellowish red (5YR 4/6) and 50 percent brown (7.5YR 4/4) loam; moderate fine prismatic structure parting to moderate and strong medium subangular blocky; firm; very few fine roots; few very fine interstitial pores; common continuous distinct clay films on faces of peds; few medium manganese or iron-manganese stains on faces of peds; 10 percent chert gravel; moderately acid; gradual smooth boundary.

Bt6—61 to 80 inches; 70 percent brown (7.5YR 4/4), 20 percent yellowish red (5YR 4/6), and 10 percent yellowish brown (10YR 5/4) loam; moderate medium subangular blocky structure; firm; very few fine roots; few very fine interstitial pores; common continuous distinct clay films on faces of peds; few medium manganese or iron-manganese stains on faces of peds; 10 percent chert gravel; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

Bt horizon (upper part):
Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4 or 6
Texture—very gravelly or extremely gravelly analogs of silt loam, loam, or silty clay loam

Bt horizon (lower part):
Color—hue of 5YR, 7.5YR, or 10YR, value of 4 or 5, and chroma of 4 or 6
Texture—silt loam, loam, silty clay loam, clay loam, or their gravelly analogs

The Waben soils in Crawford County are taxadjuncts to the Waben series because they are Paleudalfs instead of Hapludalfs. This difference, however, does not affect the use and management of the soils.

Yelton Series

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Upland
Parent material: Loess over colluvium weathered from sandstone
Slope range: 3 to 15 percent

Taxonomic classification: Fine-loamy, siliceous, active, mesic Typic Fragiudults

Typical Pedon

Yelton silt loam, 3 to 8 percent slopes; USGS Indian Springs topographic quadrangle; UTM—Zone 15, Easting 633425, Northing 4201190.

A—0 to 4 inches; yellowish brown (10YR 5/4) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; friable; common fine, medium, and coarse roots; many very fine, fine, and medium tubular pores; 5 percent chert gravel; extremely acid; clear smooth boundary.

E—4 to 8 inches; light yellowish brown (10YR 6/4) silt loam; weak medium subangular blocky structure; friable; common fine, medium, and coarse roots; many very fine and fine interstitial and tubular pores; few medium cylindrical worm casts throughout; very strongly acid; clear smooth boundary.

Bt1—8 to 16 inches; brown (7.5YR 4/4) silt loam; moderate medium subangular blocky structure parting to weak fine subangular blocky; friable; common fine and medium and few coarse roots; many fine and medium interstitial and tubular pores; common faint clay films on faces of peds and in pores; common faint silt coats on faces of peds and in pores; 5 percent chert gravel; very strongly acid; gradual smooth boundary.

Bt2—16 to 26 inches; brown (7.5YR 4/4) loam; moderate medium subangular blocky structure parting to moderate fine prismatic; firm; common very fine, fine, and medium roots; many fine tubular pores; common faint clay films on faces of peds and in pores; 10 percent chert gravel; very strongly acid; abrupt smooth boundary.

2Btx1—26 to 35 inches; yellowish brown (10YR 5/4) extremely gravelly fine sandy loam; moderate coarse prismatic structure; very firm; 60 percent brittle; light brownish gray (10YR 6/2) seams between peds; few very fine roots; few very fine interstitial and tubular pores; common distinct clay films on faces of peds and in pores; 5 percent sandstone cobbles, 5 percent chert gravel, and 50 percent sandstone gravel; very strongly acid; gradual wavy boundary.

2Btx2—35 to 44 inches; 85 percent strong brown (7.5YR 5/6) and 15 percent dark red (2.5YR 3/6) very gravelly fine sandy loam; strong very coarse prismatic structure; very firm; 70 percent brittle; light brownish gray (10YR 6/2) seams between peds; few very fine roots; few very fine interstitial and tubular pores; common distinct clay films on faces of peds and in pores; 5 percent sandstone cobbles and 50 percent sandstone gravel; extremely acid; gradual wavy boundary.

3Bt1—44 to 50 inches; yellowish red (5YR 5/6) very gravelly loam; moderate medium subangular blocky structure; firm; few very fine interstitial and tubular pores; common discontinuous distinct clay films on faces of peds and in pores; 20 percent chert gravel and 30 percent sandstone gravel; very strongly acid; gradual wavy boundary.

3Bt2—50 to 60 inches; reddish yellow (5YR 6/8) very gravelly loam; moderate medium subangular blocky structure; firm; few very fine interstitial and tubular pores; common discontinuous distinct clay films on faces of peds and in pores; 10 percent chert gravel and 30 percent sandstone gravel; extremely acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 18 to 27 inches

A or Ap horizon:
Color—value of 3 to 5 and chroma of 3 or 4

E horizon:
Color—value of 5 or 6 and chroma of 3 or 4

Bt horizon:

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 or 4

Texture—loam, silt loam, or silty clay loam

2Btx horizon:

Color—hue of 2.5YR, 5YR, 7.5YR, or 10YR, value of 3 to 6, and chroma of 2, 3, 4, or 6

Texture—loam, very gravelly fine sandy loam, or extremely gravelly fine sandy loam

3Bt horizon:

Color—value of 5 or 6 and chroma of 6 or 8

Texture—loam, gravelly loam, or very gravelly loam

Table 21.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Aaron	Fine, mixed, active, mesic Oxyaquic Hapludalfs
Alred	Loamy-skeletal over clayey, siliceous, semiactive, mesic Typic Paleudalfs
Bender	Loamy-skeletal, siliceous, active, mesic Typic Hapludults
Bloomsdale	Loamy-skeletal, mixed, superactive, mesic Typic Hapludalfs
Caneyville	Fine, mixed, active, mesic Typic Hapludalfs
Cedargap	Loamy-skeletal, mixed, superactive, mesic Cumulic Hapludolls
Coulstone	Loamy-skeletal, siliceous, semiactive, mesic Typic Paleudults
Courtois	Fine, mixed, active, mesic Typic Paleudalfs
Crider	Fine-silty, mixed, active, mesic Typic Paleudalfs
Deible	Fine, mixed, active, mesic Typic Albaqualfs
Fourche	Fine-silty, mixed, active, mesic Glossaquic Paleudalfs
Freeburg	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Frenchmill	Loamy-skeletal, mixed, active, mesic Typic Paleudults
Gabriel	Fine-silty, mixed, superactive, mesic Typic Argiaquolls
Gatewood	Very-fine, mixed, active, mesic Oxyaquic Hapludalfs
Glensted	Fine, smectitic, mesic Vertic Albaqualfs
Goss	Clayey-skeletal, mixed, active, mesic Typic Paleudalfs
Gravois	Fine-silty, mixed, active, mesic Aquic Paleudalfs
Hartville	Fine, mixed, active, mesic Aquic Hapludalfs
Haymond	Coarse-silty, mixed, superactive, mesic Dystric Fluventic Eutrudepts
Higdon	Fine-silty, mixed, active, mesic Aquic Hapludalfs
Hildebrecht	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
Horsecreek	Fine-silty, mixed, active, mesic Mollic Hapludalfs
Huzzah	Coarse-loamy, siliceous, superactive, mesic Cumulic Hapludolls
Irondale	Loamy-skeletal, mixed, active, mesic Typic Hapludults
Kaintuck	Coarse-loamy, siliceous, superactive, nonacid, mesic Typic Udifluvents
Knobtop	Fine-silty, mixed, active, mesic Aquic Hapludults
Lecoma	Fine-loamy, siliceous, active, mesic Typic Paleudalfs
Lily	Fine-loamy, siliceous, semiactive, mesic Typic Hapludults
Moko	Loamy-skeletal, mixed, superactive, mesic Lithic Hapludolls
Ocie	Loamy-skeletal over clayey, mixed, semiactive, mesic Oxyaquic Hapludalfs
Racket	Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls
Racoon	Fine-silty, mixed, superactive, mesic Typic Endoaqualfs
Razort	Fine-loamy, mixed, active, mesic Mollic Hapludalfs
Relfe	Sandy-skeletal, siliceous, mesic Mollic Udifluvents
Rosati	Fine, mixed, active, mesic Aquic Fragiudalfs
Rueter	Loamy-skeletal, siliceous, active, mesic Typic Paleudalfs
Scholten	Loamy-skeletal, siliceous, active, mesic Typic Fragiudults
Sonsac	Clayey-skeletal, mixed, active, mesic Typic Hapludalfs
Sturkie	Fine-silty, mixed, superactive, mesic Cumulic Hapludolls
Taumsauk	Loamy-skeletal, mixed, active, mesic Lithic Hapludults
Tiff	Clayey-skeletal, kaolinitic, mesic Rhodic Paleudalfs
Tonti	Fine-loamy, mixed, active, mesic Typic Fragiudults
Useful	Fine, mixed, active, mesic Oxyaquic Hapludalfs
Viburnum	Fine, mixed, active, mesic Aquic Paleudults
*Waben	Loamy-skeletal, siliceous, active, mesic Typic Paleudalfs
Wrengart	Fine-silty, mixed, active, mesic Fragic Oxyaquic Hapludalfs
Yelton	Fine-loamy, siliceous, active, mesic Typic Fragiudults

Formation of the Soils

This section relates the soils in the survey area to the major factors of soil formation.

Soil forms through processes that act on deposited or accumulated geologic material. The characteristics of the soil at any given location are determined by the physical and mineralogical composition of the parent material; climate under which the soil material accumulated; plant and animal life on and in the soil; relief, or lay of the land; and the length of time that the forces of soil formation have acted on the soil material. Human activities also affect soil formation.

Climate and plant and animal life are active factors of soil formation. They act on the parent material that has accumulated through the weathering of rocks and slowly change it to a natural body that has genetically related horizons. Relief conditions the effects of climate and plant and animal life. The parent material affects the kind of soil profile that is formed and, in extreme cases, determines it almost entirely. Finally, time is needed to change the parent material into a soil that has distinct horizons. Generally, a long time is required for the formation of distinct horizons.

Parent Material

Parent material is the unconsolidated mass in which a soil forms. The formation or the deposition of this material is the first step in the development of a soil profile. The characteristics of the material determine the chemical and mineralogical composition of the soil. The parent materials in Crawford County are alluvium (material deposited by water), colluvium (material transported by gravity), loess (silty material deposited by wind), and residuum (material weathered from bedrock).

The soils on the flood plains in Crawford County formed in alluvial deposits ranging in thickness from about 5 feet to more than 30 feet. These soils differ widely in texture and chemical composition, reflecting a diversity of origin, varying floodwater velocity, distance traveled down the watershed, and various kinds of primary source material.

The Meramec River, Huzzah Creek, and Courtois Creek flood plains formed mainly in silty alluvium. Tributary streams are progressively coarser in texture upstream. The gravelly Bloomsdale and Cedargap soils are on narrow upstream reaches, and the silty Haymond and loamy Huzzah and Kaintuck soils dominate the broader flood plains farther downstream. The abundance of loess as a source material and predictable decreases in stream velocity and gradient along descending watercourses cause this gradation in material sizes.

Gravity, water, and temperature fluctuation on steep slopes influence colluvial material deposition. Soil creep or mass movement directly influences soil profile development and limits structural development. The composition of the colluvial material is directly related to the material on the higher slope from which it developed. Soils like Alred, Bendavis, and Rueter on upper slopes and Lecoma on footslopes are colluvial influenced.

Loess probably once covered all of the survey area. It was deposited during the most recent post-glacial period. The sources of this material were the flood plains along the Mississippi and Missouri Rivers and their tributaries. Filled with sediment deposited by glacial meltwater and nearly barren in the still frigid climate, these valleys were the focus of violent dust storms. These windblown deposits blanketed the landscape to depths that were greatest on the river hills and decreased with distance from the source.

Erosion removed the loess at widely varying rates. It apparently kept pace with deposition on the steep, sun-warmed south and west exposures where stripping has been complete. North and east aspects, in contrast, remained frozen longer and retained an appreciable amount of the loess, as did the ridgetops.

Stable landforms farther from the Missouri River only retain 20 to 40 inches of loess. The upper solum of Crider, Fourche, Glensted, Gravois, Hildebrecht, Plato, Union, and Yelton soils formed in loess. The pattern of loess distribution indicates that no major alterations of landforms have occurred since the loess was deposited (Brown, 1981).

Most of the residuum in Crawford County is derived from dolostone and sandstone formations of the Pennsylvanian, Ordovician, and Cambrian Systems

(Howe, 1961). Generally, the mantle rock, or regolith, forms the surface appearance of the land. The thickness of the bedding, degree of cementation, chemical composition, and proximity to geologic faulting have affects on the rate of residual weathering. Depth to bedrock can vary from less than 10 inches to over 10 feet.

There are six major geologic formations contributing to the makeup of residual soil materials in Crawford County. They are listed from youngest to oldest with the dominant soil(s) that formed in them.

The youngest residual parent materials in the county are Pennsylvanian age. They are primarily cherty clays. The Beemont soils formed in this material.

The Jefferson City Formation is composed of finely crystalline dolostone. The Gatewood soils formed in this material.

The Roubidoux Formation is primarily quartzose sandstone. The moderately deep Bender soils formed in this geologic material.

The Gasconade Formation is composed of thinly bedded dolostone and chert. The lower subsoil of the Alred and Rueter soils formed in this geologic material.

The Eminence Formation is dominated by beds of dolostone with small amounts of chert. The Sonsac soils formed in this material.

The Potosi Formation is dominated by massive beds of dolostone with an abundance of quartz druse, also called mineral blossom. The Goss, Moko, and Sonsac soils dominate these areas.

Climate

Climate has been an important factor in soil formation. Geologic erosion, the kinds of plant and animal life, and the parent materials of the soils have been directly affected by the climate.

Soil formation was greatly affected by climatic changes. Thousands of years of cold temperatures alternating with moderate temperatures apparently produced the glaciers that moved into north Missouri (Buol and others, 1980). The advent of warmer weather patterns caused the glaciers to recede. Meltwaters made the atmosphere more humid and volatile. The unprotected bed load from the glacier was easily blown by relentless winds generated by the climate change. The windblown material was carried to the southeast, gradually depositing the loess mantle that covered much of the county. The climate at that time was cool and moist, and the native vegetation was woodland. A subsequent period of significantly lower rainfall caused small prairies to develop. The present climate favors encroachment of forests, but prior to settlement, wildfire played a crucial role in maintaining prairies by killing woody seedlings intruding in the grasslands and stimulating the growth of fire-tolerant warm-season grasses.

In addition to influencing native vegetation, the climate has a direct physical influence on the soil. The present subhumid midcontinental climate has distinct temperature fluctuations and predictable rainfall distribution with the seasons. Freeze-thaw cycles are very effective in promoting the gradual disintegration of exposed bedrock. Any crevice that is large enough for water to enter is subject to more fracture when the water freezes. South-facing slopes are subject to more of these cycles because sunlight warms them more during the day than corresponding north-facing slopes.

Clay-sized particles form throughout the soil through mechanical weathering and synthesis of primary minerals. Moisture deficits in the summer contribute to cracking, which is instrumental in the development of argillic horizons in the subsoil. Rainfall percolating through the soil disperses clay-sized particles in the upper layers of the soil, which move down into the cracks carried by percolating water. As the water is absorbed into the dry soil along the cracks, the clay particles are left on the surface of the cracks and create clay films that define the aggregation of the soil and gradually increase the content of clay. Eventually, much of the clay leaves the surface layers and migrates into the subsoil by this mechanism. The degree and depth of this translocation is an indicator of the age of the soil. Most of the upland soils in Crawford County show evidence of this clay movement.

Surplus moisture in the spring and late fall creates zones of saturation in some soils and influences the color of the subsoil. In general, gray colors are indicative of wetness because of reduction of iron in the soil. Conversely, brown or red colors are associated with oxidation in the soil and indicate free movement of both air and water through the soil. Some soils, such as Deible, Gabriel, and Racoon, have a continuous water table beneath their upper boundary. Other soils, such as Gravois, Plato, Union, and Viburnum, have noncontinuous zones of saturation that occur because of subsoil horizons that temporarily hold the water up. These zones are referred to as a perched water table. Some soils that are saturated for long periods support indicator plant species, such as smartweed, sedges, silver maple, or cottonwood. This saturation affects suitability for some agricultural crops that are sensitive to wetness, such as alfalfa. The effective length of the growing season in cultivated areas is delayed by the seasonal wetness.

The influence of the regional climate on soil formation is modified in many places by local conditions. For example, the Moko soils on south- and west-facing slopes formed under the influence of a microclimate that is warmer and less humid than north- and east-facing slopes.

Living Organisms

The living organisms that influence soil formation include plants, burrowing animals, worms, insects, bacteria, and fungi in the soil. Among the soil properties affected are the content of organic matter and nitrogen, reaction, color, structure, and porosity.

The composition of plant communities is variable depending on the climate, depth, fertility level, available water capacity, and drainage class of the soil. Indigenous organic matter at the surface of soils that formed under forest vegetation is derived mainly from leaves, twigs, and logs, which decompose at the surface. These materials tend to be acidic. The resulting forest soils have a thin, dark surface layer and often have a leached subsurface layer. Alred, Bender, and Gravois soils are examples of soils that formed under these conditions.

In contrast, the natural organic matter at the surface of soils that formed under prairie grasses is derived mainly from the decay of grasses and forbs. These plants are very effective in the uptake of bases, have a greater proportion of root mass, and have a comparatively short life span, resulting in a surface layer that is darker, thicker, and less acidic than that of soils that formed under forest vegetation.

The soils that formed under grasses in Crawford County are not extensive. Because the rainfall was adequate for forest vegetation, prairie grasses were limited to areas that were too wet or too dry for trees. Gabriel soils on bottomlands and Moko soils on grassy upland glades formed on such sites. Some areas have been dominated by grass vegetation periodically but not for long enough periods to leave a permanent signature, such as a dark surface layer.

Worms, insects, burrowing animals, large animals, and humans all affect and disturb the soil. Earthworms pass through their bodies as much as 15 tons of dry earth per acre each year (Buckman and Brady, 1972). The digestive enzymes and grinding action contribute significantly to the mixing and aeration of the soil, the breakdown of mineral and organic matter, and the increased availability of plant nutrients. Other higher animals affect the soil primarily by the mechanical mixing they produce. However, actinomycetes, bacteria, and fungi contribute more to the formation of soils than do animals; and under favorable conditions, these organisms may comprise as much as 2 tons of mass in the plow layer of each acre. These micro-organisms cause rotting of organic materials, improve tilth, and fix nitrogen in the soils. The population of soil organisms is directly related to the rate of decomposition of organic matter in the soil. Differences in vegetation influence the kinds and populations of organisms and their activity.

Since the time of settlement, human activities have affected soil formation. Some of these effects have been drastic. Removal of trees, intensive cultivation, and overgrazing have resulted in severe erosion and loss of the productive topsoil in many areas. Much of the sloping cropland and some poorly managed pastures are still eroding at a rate in excess of what is considered tolerable to sustain production. Some prime farmland has been covered by urban and residential areas. In addition to displacing productive land, these urban areas increase the rate of runoff because of roofs, roads, parking lots, and other structures that prevent water infiltration. Poor site selection and design of sewage systems and other waste disposal have degraded water quality in some areas. Responsible land use is needed that respects future generations as well as the present. This soil survey can help people to implement wise use of our natural resources.

Relief

Relief refers to the degree of variance in the surface of the earth, the changes in elevation, and the nature of the slopes between one elevation and another. It is an important factor in determining the pattern and distribution of soils on a landscape because of its influence on drainage, runoff, erosion, and microclimate.

Relief results from natural forces that create unevenness in the land surface. In Crawford County, the streams that carry runoff from the flanks of the Ozark uplift have incised through dolostone and sandstone bedrock, creating entrenched and meandering stream valleys. Smaller streams branch toward the uplands, dissecting the side slopes that intervene between long interconnected ridgetops.

The amount of water entering and passing through the soil depends upon the steepness and shape of the slope, permeability of the soil material, type and density of vegetative cover, and the amount and intensity of rainfall. On steep soils, runoff is rapid and very little water passes through the soil.

Consequently, distinct horizons are slow to develop. The removal of weathered products by geologic erosion may nearly equal the rate of accumulation on some sites. Moko soils, for example, formed under these conditions. On gently sloping or nearly level upland soils, runoff is slow, erosion is minimal, and more of the water passes through the soil. Leaching, the translocation of clay, and other soil-forming processes are intensified in these areas. As a result, these soils show maximum profile development. Hildebrecht, Tonti, and Viburnum soils formed under these conditions. Because of runoff from adjacent hillsides and geologic seep, footslope areas receive an extra increment of water in addition to direct rainfall. Deible, Hartville, and Higdon soils are examples of soils in these positions.

Concave areas are generally wetter than other slopes because as runoff converges in these areas, the water flow is concentrated and the volume that goes over and through the soil is greater. Convex areas are drier because the divergent water flow pattern disperses the water, resulting in a smaller volume going over and through the soil.

South-facing slopes receive more direct sunlight, which contributes to faster warming and drying of the soil and differences in native vegetation. This topographical position is also characterized by more freeze-thaw cycles than corresponding north-facing slopes that tend to stay frozen longer.

Time

The degree of profile development reflects the length of time the parent material has been in place and subjected to weathering processes. Young soils show very little profile development or horizon differentiation. Older soils show the effects of the movement of clay and leaching and have distinct horizons that are readily observable.

The youngest soils in Crawford County are those that formed in alluvium. Relfe soils, for example, do not show any profile development. Alluvial material is added to the surface nearly every year. Deible, Freeburg, Gabriel, and Racoon soils are the oldest alluvial soils. They are on high flood plains and show moderate profile development.

The oldest soils in the survey area formed in cherty residuum on upland side slopes. Long periods of time were necessary for the bedrock matrix to weather and for the cherty residuum, in which Gatewood, Goss, and Sonsac soils formed, to accumulate.

Many areas reflect dual chronologies. In Crider, Fourche, Glensted, Gravois, Hildebrecht, Plato, Union, and Yelton soils, for example, the underlying material is older than the upper part of the profile and has strongly expressed horizons. This older material is covered by younger loess, which has in turn developed horizons of its own.

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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.

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.

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 geomorphic component that forms the steepest inclined surface and principal element of many hillsides. Backslopes in profile are commonly steep, are linear, and may or may not include cliff segments.

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.

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.

Bottomland. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. The steep and very steep broken land at the border of an upland summit that is dissected by ravines.

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.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

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 is, 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.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

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.

Coarse fragments. Mineral or rock particles larger than 2 millimeters in diameter.

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 is 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.

Compressible (in tables). Excessive decrease in volume of soft soil under load.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

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.

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.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

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.

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.

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.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth’s surface.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fast intake (in tables). The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, or clay.
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.
First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.
Flaggy soil material. Material that is, 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.
Flooding (in tables). Soil flooded by moving water from stream overflow or runoff.
Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.
Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.
Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).
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.
Fragile (in tables). A soil that is easily damaged by use or disturbance.
Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.
Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.
Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.
Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.
Graded stripcropping. Growing crops in strips that grade toward a protected waterway.
Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.
Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.
Gravelly soil material. Material that is 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 out. To form a flower head.
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.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Infrequent flooding (in tables). Flooding occurs at an interval that limits riparian plant species.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. 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.

Ksat. Saturated hydraulic conductivity. (See Permeability.)

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

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 adsorption (in tables). Low amounts of cations are adsorbed from wastes applied to the soil.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

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.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. 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.

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.

Oxbow. The horseshoe-shaped channel of a former meander, remaining after the stream formed a cutoff across a narrow meander neck.

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.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward 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:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

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.

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.

Poor outlets (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

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.

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.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Salinity. The electrical conductivity of a saline soil. It is expressed, in millimhos per centimeter, as follows:

Nonsaline	0 to 4
Slightly saline	4 to 8
Moderately saline	8 to 16
Strongly saline	more than 16

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.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

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.

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.

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.

Seasonal wetness (in tables). The soil may be wet during the period of desired use. This usually 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.

Sedimentary uplands. Land areas of bedrock formed from water- or wind-deposited sediments. They are higher on the landscape than the flood plain.

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.

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.

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 or 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 or 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.

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/erodibility (in tables). A combination of slope and susceptibility to water erosion may be restrictive in the use of this soil.

Slow intake (in tables). The slow movement of water into the soil.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the 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.

Stickiness (surface) (in tables). The soil is slippery and sticky when wet and slow to dry.

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.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the E horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

Subsurface layer. Any subsurface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. A general term for the top, or highest level, of an upland feature, such as a hill or mountain. It commonly refers to a higher area that has a gentle slope and is flanked by steeper slopes.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

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 textural classes 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 are *WB—weathered bedrock and UWB—unweathered bedrock.* 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, PCN—parachannery, PCNV—very parachannery, SR—stratified, ST—stony, STV—very stony, and STX—extremely stony.*

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The outermost inclined surface at the base of a hill; part of a footslope.

Too acid (in tables). The soil is so acid that growth of plants is restricted.

Too arid (in tables). The soil is dry most of the time, and vegetation is difficult to establish.

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.

Toxicity (in tables). Excessive amount of toxic substances, such as sodium or sulfur, that severely hinder establishment of vegetation or severely restrict plant growth.

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.

Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.

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.

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 ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.